

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

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Senator Steddy

Clerk of the Senate.

7-3-17.

R E P O R T

together with

Minutes of Evidence

relative to the proposed

EXTENSION of the POSTAL STORES BUILDING, HARBOUR STREET, SYDNEY.

1917.

COMMONWEALTH OF AUSTRALIA.

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PARLIAMENTARY STANDING COMMITTEE  
ON PUBLIC WORKS.

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R E P O R T

TOGETHER WITH

MINUTES OF EVIDENCE

RELATIVE TO THE PROPOSED

EXTENSION OF THE POSTAL STORES BUILDING,  
HARBOUR-STREET, SYDNEY.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

(First Committee.)

EDWARD RILEY, ESQUIRE, M.P., Chairman.

*Senate.*

Senator the Honorable John Henry Koating  
 Senator Edward Needham\*  
 Senator Patrick Joseph Lynch, Vice-Chairman.†  
 Senator William Harrison Story.

*House of Representatives.*

James Edward Fonton, Esquire, M.P.  
 William Fyfe Finlayson, Esquire, M.P.  
 The Honorable Henry Gregory, M.P.  
 Sydney Sampson, Esquire, M.P.  
 William Henry Laird Smith, Esquire, M.P.†

\* Appointed 14th December, 1916.

† Gazed to be a member of the Committee 14th November, 1916.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

EXTENSION OF THE POSTAL STORES BUILDING,  
HARBOUR-STREET, SYDNEY.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, to which the House of Representatives referred for consideration and report the question of the extension of the Postal Stores Building, Harbour-street, Sydney, for Store Purposes, and for Telephone and Telegraph Workshops, has the honour to report as follows :—

INTRODUCTORY.

1. On the 15th January, 1914, the Commonwealth acquired for postal purposes a block of land having a frontage of 128 ft. 4 in. to Harbour-street, by a depth of 77 ft. 6 in. along Factory-street, together with the eight-storey brick building thereon, which had been rented for about eight months by the Commonwealth as a Postal Store. The amount of compensation money paid for this property was about £24,500.

2. On the 30th June, 1914, the Commonwealth acquired an adjoining area, comprising about 35½ perches, and having a frontage to Harbour-street of 129 ft. 6½ in., by a depth along Little Hay-street of 75 ft. 1 in. The buildings on this area were of an inferior description, and were demolished. The compensation money paid in respect of this property amounted to £13,400.

DESCRIPTION OF PROPOSED WORK.

3. The present proposal is to erect on the area of 35½ perches referred to, as an extension of and in harmony with the existing structure, an eight-storey building of modern fireproof construction, with brick external walls, and steel stanchions and beams, encased in concrete, supporting reinforced concrete floors.

The proposed extension is designed to provide 55,002 square feet of floor space, exclusive of cartways, lifts, stairs, lavatories, and men's and women's retiring accommodation, made up as follows :—

Ground floor	..	..	..	5,766	square feet
First floor	..	..	..	8,316	..
Second floor	..	..	..	8,316	..
Third floor	..	..	..	8,162	..
Fourth floor	..	..	..	8,162	..
Fifth floor	..	..	..	8,236	..
Sixth floor..	..	..	..	8,044	..
				55,002	..

On the assumption that the building would be primarily used for store purposes, the several floors have been calculated to carry the following dead weights :—

Ground floor	..	..	..	Solid
First floor	..	..	..	5 cwt. per square foot
Second floor	..	..	..	4 ..
Third floor	..	..	..	3 ..
Fourth floor	..	..	..	2 ..
Fifth floor	..	..	..	2 ..
Sixth floor..	..	..	..	2 ..
Seventh floor	..	..	..	1½ ..

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES.

No. 127 of 14th DECEMBER, 1916.

8. PUBLIC WORKS COMMITTEE—REFERENCE OF WORKS—POSTAL STORES, ETC., BUILDING, SYDNEY.—  
Mr Spence moved, pursuant to notice, That, in accordance with the provisions of the *Commonwealth Public Works Committee Act 1913-1914*, the following work be referred to the Parliamentary Standing Committee on Public Works for their report thereon, viz. :—

Extension of Postal Stores Building, Harbour-street, Sydney, New South Wales, for Store Purposes, and for Telephone and Telegraph Workshops.

Mr. Spence having laid on the Table plans, &c., in connexion with the proposed works—

Question—put and passed.

### REASONS FOR THE PROPOSAL.

4. It has been represented by the Postmaster-General's Department that the necessity has arisen for considerable increased accommodation for Stores and for Telephone and Telegraph Workshops in Sydney. At present large sums are being paid annually for rented buildings, and the Departmental requirements are increasing every year. In 1914 it was stated that the Electrical Engineer then required 27,375 square feet for the accommodation of his Branch, and that the Stores Branch required 2,000 extra square feet. It was estimated that in five years from that time (1919) 58,470 square feet would be required to accommodate those Branches, and in ten years' time (1924) 81,650 square feet. In fifteen years' time it was suggested that it would be impracticable to concentrate the main store any further, but that by that time the Electrical Engineer's Branch would require 76,800 square feet.

### ESTIMATED COST.

5. The summarized estimate of cost of the proposed building, inclusive of all accessories, excepting furniture and fittings, is as follows:—

	£	s.	d.
Foundations .. .. .	3,824	18	8
Superstructure, with steel frame construction, lifts, machinery, &c. .. .. .	63,907	16	9
Travelling crane .. .. .	300	0	0
Thermostatic fire alarm .. .. .	500	0	0
<b>Total .. .. .</b>	<b>68,532</b>	<b>15</b>	<b>5</b>

and the time fixed for completion, two years from date of commencement.

### COMMITTEE'S INVESTIGATIONS.

6. The Committee visited Sydney, and inspected the site of the proposed building, the adjoining Postal Store, and the premises rented for Telephone and Telegraph Workshops in Lyell Scott's Building, in Pier-street. Visits were also paid by the Committee to the Defence Store at Darling Island, Sydney, and to the new Postal Store, Melbourne, for the purpose of acquainting itself with the Commonwealth system of dealing with stores.

In addition to calling witnesses from Commonwealth and State Government Departments, the Committee examined also the managers of extensive private business establishments in Sydney and Melbourne, for the purpose of informing itself of the methods adopted of ordering, storing, and handling materials by mercantile firms, and comparing such systems with those obtaining in Commonwealth Departments.

### ALLOCATION OF ACCOMMODATION.

7. It was stated in evidence that if this building be erected the intention is to allocate to the Stores Branch the ground, first, and second floors, and to utilize the third, fourth, fifth, and sixth floors as Telephone and Telegraph Workshops. The seventh floor will contain men's dining-room, women's dining-room, kitchen, women's retiring-room, men's lavatory, women's lavatory, elevator motor rooms, &c.

The floors proposed to be allocated to the Telephone and Telegraph Workshops will provide ample accommodation for the 221 hands who are at present accommodated in rented premises, and, in addition, will permit of expansion of operations, and increase of staff to a limited extent.

It is estimated, however, that in seven years' time from now (1924) the workshop staff will have increased to 360, and in seventeen years' time (1934) to 540, so that, as time goes on, it is the intention to gradually absorb the whole of this building for workshop requirements.

### FOUNDATIONS.

8. The Committee was informed that the foundations of the proposed building present a serious problem as the site has been reclaimed from what was originally a creek discharging into Darling Harbor. Bores have been driven, and it is found that rock exists between 20 to 30 feet below the present surface, and filling, silt, and clay are superimposed.

### ALTERNATIVE SCHEMES.

9. In investigating this proposal, three systems of construction were considered, namely:—

(a) Brick external walls, steel stanchions, and beams encased in concrete supporting concrete floors .. .. .	estimated cost	£68,533
(b) Brick external walls and reinforced concrete in lieu of steel work .. .. .	estimated cost	56,499
(c) Brick external walls and all internal framing of hardwood .. .. .	estimated cost	45,196

### FIRE RISK.

10. Attention was given to the question of the danger of the loss of the building or contents by fire, but the Committee was informed that such steps were being taken as would reduce the risk to a minimum.

Although the Committee was somewhat apprehensive in regard to risk of fire by reason of the fact that workshops are to be accommodated in a building, which is also used for the storage of materials, it was stated by the Chief Officer of Fire Brigades, New South Wales, that in view of the proposal that the windows are to be of reinforced glass, with steel frames, that the openings connecting the two buildings are to be provided with fireproof sliding doors, which close automatically on an outbreak of fire, that provision is made for sprinklers and thermostatic fire alarms, and, provided proper precautions are taken, there should be no undue risk of a large outbreak of fire even if the internal framing be of hardwood.

It was also reported by the Fire Brigade authorities that the time taken for motor fire engines to travel from Head-Quarters, No. 2 Station George-street West, and No. 38 Station Pyrmont, to the Harbour-street Postal Stores during the busy part of the day, with the conditions of the road very bad on account of the slippery condition of the wood blocks, was as follows:—

Motor engine from Head-Quarters, Castlereagh-street, 3 mins. 6 secs.
Motor engine from No. 2 Station, George-street West, 4 mins. 8 secs.
Motor engine from No. 38 Station, Pyrmont, 7 mins. 7 secs.

### WATER SUPPLY.

11. Information was obtained that 6-inch water mains run along Harbour-street and Little Hay-street, which bound the Commonwealth property, and also along Dixon-street and Hay-street, in the vicinity, with a maximum water pressure of about 57 lbs. to the square inch, which would be equivalent to a pressure head of 131 feet, sufficient to supply the building with water, including a sprinkler installation.

### COMMITTEE'S RECOMMENDATIONS.

12. After careful consideration of the question of storage accommodation, the Committee is of opinion that no necessity exists for the provision of further space for purely storage purposes for the Postmaster-General's Department in Sydney.

The amount of stock carried is in an unreasonably high proportion to the annual output, and, as a consequence, excessive storage space is in use. Under present conditions the Committee fears there is grave danger of an accumulation of dead stock and that no adequate facilities exist for disposing of same. The Committee is aware that in the State of Victoria no large departmental store exists, notwithstanding which the various State Government Departments, with the exception of the railways, are supplied with their requisites without difficulty. In the case of supplies manufactured in Australia which, it is understood, are increasingly used in the Postal Department, there should be little necessity for storage, so that the Committee considers that a re-organization of the methods of purchasing and storing departmental requirements should materially reduce the necessity for storage accommodation.

In regard to the accommodation required for Telephone and Telegraph Workshops, the Committee agrees with the principle that Commonwealth employees should be housed in Commonwealth buildings. The present workshop premises are held on a short lease and provide sufficient room only for a limited period. As it is becoming increasingly difficult to obtain suitable rented premises within a reasonable distance of the General Post Office, Sydney, and as it is claimed that considerable advantage would result from having all the various workshops' employees housed under the one roof and adjacent to the building from which they obtain material for stores, &c., the Committee approves of the erection of a building for Telephone and Telegraph Workshops.

In view of the fact that the interest on the proposed capital expenditure is in excess of the rental paid under the present arrangements, inquiry was made as to the advisability of reducing the height of the building to five storeys, with a view to lessening the cost, but it was pointed out that any surplus space could, as a temporary measure, be conveniently used for storage pending re-organization, or other Commonwealth requirements, and the extra cost of adding additional storeys at some future period would more than counterbalance the interest on capital expenditure now saved. The Committee, therefore, approves of the provision of the eight-storied building suggested.

In view of the high price of steel at the present time, however, the Committee is not prepared to recommend the large expenditure necessary to permit of the erection of the building with steel stanchions and beams encased in concrete supporting concrete floors, as originally suggested, at an estimated cost of £68,533.

Moreover, experience has shown that even where large fires have occurred, internal hardwood beams, &c., if of sufficiently large section, have withstood fire and water even better than steel, unless the latter be thickly encased in concrete; and as the Fire Brigades Board is satisfied that, with the construction proposed and suitable precautions taken, there is no undue risk of fire in such a building, the Committee recommends that the structure be erected with brick external walls and all internal framing of hardwood at an estimated cost of £45,196.

#### FOUNDATIONS.

13. The matter of the foundations was carefully considered by the Committee, and it was shown that, to obtain any foundation that can be trusted, it will be essential to go down to the solid rock. The advantages of erecting the building on piling, as compared with concrete piers, was duly weighed, and the Committee recommends the adoption of solid concrete piers as being eminently suitable, and cheaper than piles to the extent of approximately £1,000.

#### FIRE RISK.

14. The Committee notes with satisfaction the precautions now taken in the Stores Branch, of the senior officer of each floor reporting at the close of each day's work that all windows and doors are closed, that no person has been left on any particular floor, and that all is safe from fire. It is considered that if that practice be carefully followed, that a watchman be employed to patrol the exterior of the building outside working hours, that the air passages between the floors and walls be eliminated, that the openings in the floors for staircases and elevators be enclosed by brickwork or other fire-resisting material, that the undersides of the floors be covered with asbestos or other fire resistant, and that thermostatic fire alarms and sprinklers be installed—the building may be considered as practically free from danger of fire.

#### WATER SUPPLY.

15. The water in the vicinity is at present supplied by low-pressure mains, and, although under most circumstances that should be sufficient, it is recommended that the Metropolitan Board of Water Supply and Sewerage, Sydney, be urged to extend their high-pressure main from the corner of Liverpool and Kent streets, in order that no doubt whatever may arise as to the pressure or volume of water being adequate to meet any demand which may be made upon the water service in that locality.

#### FUTURE REQUIREMENTS.

16. The Committee recognises that, in the event of the Government deciding at any future time to manufacture, to any large extent, articles required for telephone or telegraphic purposes, the forecasts which have been made as to the growth of workshop requirements may be materially altered. In that event, however, the Committee is of opinion that the present and proposed buildings will be still of use for departmental purposes, as any large factory would be more economically erected on cheaper land in a less central position.

#### ACQUISITION OF LAND.

17. In connexion with this matter, it is noted that although the site was acquired on 30th June, 1914, the proposal for the erection of the building was not referred to the Committee until 14th December, 1916.

Apart from the question of the loss of interest on capital when sites are acquired any considerable time in advance of their use for Commonwealth purposes, it is considered most inadvisable that the Committee should run the risk of being in any way influenced in its decision as to the erection of any building by the fact that an expensive site has already been acquired by the Commonwealth for such building.

In most cases there should be little difficulty in obtaining an option over any site suggested for a building forming the subject of reference to the Committee, and, in any case, the Commonwealth is amply protected by the provisions of the *Lands Acquisition Act 1906* from any unreasonable demands which might be made in respect of land required for Commonwealth purposes.

In the opinion of the Committee, however, it is quite as important that full inquiries should be made and Parliament duly informed of any large expenditure on land, as it is in the case of works, and it is strongly recommended that in the case of any proposal for the acquisition of land for Commonwealth purposes, where the estimated cost of the land would exceed £25,000, or the estimated cost of a site for a building plus the cost of the building proposed to be erected thereon would exceed £25,000, the matter should be referred to the Parliamentary Standing Committee on Public Works for investigation and report prior to acquisition.

#### DECISION.

18. The decision arrived at by the Committee is shown in the following extract from its Minutes of Proceedings, namely:—

Mr. Finlayson moved: That the Committee approve of the extension of the Postal Stores Building in Harbour-street, Sydney, for store purposes and for telephone and telegraph workshops.

Seconded by Senator Needham.

The Committee divided on the motion—

Ayes (4).

Mr. Finlayson,  
Senator Needham,  
Mr. Riley,  
Senator Story.

Noes (4).

Mr. Fenton,  
Mr. Gregory,  
Senator Keating,  
Mr. Sampson;

and the Chairman, having given his casting vote in favour of the motion, it was resolved in the affirmative.

*Edward Riley*  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
120 King-street,  
Melbourne, 20th February, 1917.

# MINUTES OF EVIDENCE.

(Taken at Sydney.)

TUESDAY, 16th JANUARY, 1917.

Present:

Mr. RILEY, Chairman;  
 Senator Keating, Mr. Finlayson,  
 Senator Needham, Mr. Gregory,  
 Senator Storey, Mr. Sampson,  
 Mr. Fenton,

George John Oakeshott, F.I.A., Works Director for New South Wales, Department of Works and Railways, sworn and examined.

1. To the Chairman.—I am prepared to give evidence with respect to the proposal under consideration by the Public Works Committee for the extension of the postal stores building at Harbor-street for store purposes, and for telegraph and telephone workshops. Perhaps I had better begin by reading the following statement to the Minister, prepared by the Director-General of Works, Colonel Owen, and covering a general description of the building. The members of the Committee will better understand the proposal if, as I strongly recommend, they visit and inspect the site of the proposed building. This is the statement which was submitted to the Minister:—

EXTENSION OF POSTAL STORE BUILDING, HARBOR-STREET, SYDNEY. NEW SOUTH WALES, FOR STORE PURPOSES AND FOR TELEGRAPH AND TELEPHONE WORKSHOPS.

Plans and detailed estimates of cost are submitted herewith.

NECESSITY FOR THE WORK.—It has been represented by the Postmaster-General's Department that the necessity has arisen for considerable additional accommodation for stores and for telephone and telegraph workshops. At present large sums are being paid annually for rented buildings, and the departmental requirements in this direction are increasing every year.

In 1914 the Deputy Postmaster-General, New South Wales, reported that his Electrical Engineer then required 27,375 super. feet for accommodation, as follows:—

Staff .. .. .	5,500 sup. ft.
Construction Branch .. .. .	4,475 "
Telegraph workshop .. .. .	9,900 "
Telephone workshop .. .. .	8,400 "
Total .. .. .	27,375 "

Also that the Stores Branch required 2,000 extra super. feet. He further estimates that in five years' time from that date—1914—38,470 super. feet would be required to accommodate these branches, and in ten years 81,650 super. feet.

In fifteen years, it is his opinion that it would be impracticable to concentrate the main store any further, but that the Electrical Engineer's Branch would require 76,800 super. feet.

ACCOMMODATION PROPOSED TO BE PROVIDED.—The plans provide for an eight-story extension of the existing building on land required for that purpose, at a cost of £13,300. The additional net floor space for storage afforded by the extension, exclusive of cartways, lifts,

stairs, lavatories, and men's and women's retiring accommodation, will be 55,002 super. feet, disposed on the several floors as follows:—

Ground floor .. .. .	5,796 sq. ft.
First floor .. .. .	8,316 "
Second floor .. .. .	8,316 "
Third floor .. .. .	8,102 "
Fourth floor .. .. .	8,102 "
Fifth floor .. .. .	8,236 "
Sixth floor .. .. .	8,044 "
	55,002 "

The several floors have been calculated to carry the following added weights:—

Ground floor .. .. .	Solid floor.
First floor .. .. .	5 swt. per sup. ft.
Second floor .. .. .	4 "
Third floor .. .. .	3 "
Fourth floor .. .. .	2 "
Fifth floor .. .. .	2 "
Sixth floor .. .. .	2 "
Seventh floor (lunch-rooms &c.) .. .. .	1 1/2 "

CONSTRUCTION.—The building is proposed to be erected with modern fire-proof construction, with brick external walls and steel stanchions and beams encased in concrete supporting reinforced concrete floors. At present, however, steel framework construction is very high in price, and, therefore, it may be necessary to consider an alternative construction of reinforced concrete. In the latter case, the alternative scheme would not involve any alteration to the outside walls, which would still be of brick, the only alteration being in the stanchions and beams.

The foundations of the proposed building present a serious problem, as the site has been reclaimed from what was originally a creek discharging into Darling Harbor. Bores have been driven, and it is found that rock exists between 20 and 30 feet below the present surface, and filling, silt and clay are superimposed.

The Board of Fire Commissioners were consulted, and the whole of the suggestions set forth in their report have been included in the design.

Investigations are still proceeding as to these foundations, and full data will be prepared in readiness as evidence before the Public Works Committee. On existing data, however, it is recommended that concrete piles under each stanchion be built down to solid rock, and the estimate has been prepared on this basis.

COST.—The summarized estimated cost, inclusive of all accessories except furniture and fittings, is as follows:—

Foundations .. .. .	£3,824 18 8
Superstructure, with steel frame construction, lifts, machinery, &c. .. .. .	63,907 16 9
Travelling crane .. .. .	300 0 0
Thermo-latic fire alarm .. .. .	500 0 0
Total .. .. .	£68,532 15 5

To this statement is attached a skeleton copy of quantities showing how the estimate is arrived at. I have prepared alternative schemes in full detail as to quantities and specifications for construction of reinforced concrete, and also of ironbark and hardwood, which I submit to the Committee for consideration. At your convenience, I am prepared to submit the fullest details as regard the foundations, as to the concrete piers, and what I recommend should be carried out. I have had a trial pile driven on the site for your inspection, and also a trial hole sunk that you may be able to see the different strata, and see for yourselves

the depth at which the solid rock is reached. I should be glad if the members of the Committee would inspect the existing building at Harbor-street in order that they might know the type of building to which it is proposed to make this extension. It was upon the statement of the Director-General of Works, which I have just read, that the proposition came before Parliament, and was subsequently referred to the Committee. I produce the estimates laid on the table in Parliament, and on which the estimate was prepared. The statement which I have read was submitted to the Minister on the 12th December, 1915. You will have before you two sets of plans, three sets of specifications and quantities, and three estimates.

2. *To Mr. Stanupon.*—This extension is proposed for postal stores and for telegraph and telephone workshops, and not for the use of any Department other than that of the Postmaster-General. I have never been asked to consider the establishment in one building of a stores department for all Commonwealth purposes. The postal stores department is expanding enormously, and I am disposed to think that it would be better to keep it separate from the stores departments of the other public Departments. If the war continues, and armament is increased at the present rate, the defence stores will require to be dealt with separately. We built a store at Darling Harbor, half of which was intended to be used for defence stores, and the other half for postal stores, but before we had it finished the Defence Department gave us notice that they would require the whole building, and they took it over. I have not thought out a scheme for the accommodation of the stores of all the public Departments in one building, and am in a position to express an opinion as to whether it would be found economical and in other respects satisfactory.

(Taken at Sydney.)

WEDNESDAY, 17th JANUARY, 1917.

Present:

Mr. RILEY, Chairman;

Senator Keating,     |     Mr. Finlayson,  
 Senator Needham,   |     Mr. Gregory.  
 Mr. Fenton.

George John Oakeshott, F.I.A., Works Director for New South Wales, further examined.

3. *To the Chairman.*—On details as to accommodation required submitted to me by the Postmaster-General's Department, I prepared plans to meet the requirements. These plans were submitted to the Postmaster-General's Department, and approved by them. I was not consulted as to the site of the proposed building. That, I understand, was settled by the Lands and Property Branch. With respect to the proposed extension, it might be as well if I described the foundations which are common to all three proposals suggested. In his statement to the Minister, the Director-General of Works said that the foundation of the proposed building presents a serious problem, as the site has been reclaimed from what was originally a creek discharging into Darling Harbor. I produce a section of borings that were made to show the Committee exactly the formation of the land, and it will be seen from these sections that it is impossible to do anything there but go down to the solid rock. The

soft clay is affected by the water—tidal water principally—and there is some seepage. This difficulty has to be met whether we adopt a system of piling or of the construction of concrete piers down to the solid rock. I have said that a trial pile has been driven at the site, and I produce a description of the test of that trial pile. You saw upon your inspection of the site yesterday that at the corner of Harbor-street and Hay-street a shaft has been sunk, and this has proved that it will be quite a simple matter for us to construct a solid concrete foundation. The water that collects can be easily held in check. It does not accumulate so rapidly as to make it impossible to put in the concrete. One proposal is for a steel frame construction, connected with which there would be concrete piers under each stanchion. If we do not have a steel frame construction the concrete piers will still be put down, but will be arched over just below the surface, and the brick wall built on top of the foundation so made. I might say that in the existing building this was not done. The solid concrete was put in down to the rock for the outside wall, but that does not seem to be necessary. If we have sound concrete piers and arch them over, that will be sufficient to meet all requirements. I should reinforce the concrete for the piers and arches. The result of the eight bores put down showed that the solid rock is reached at a depth varying from 23 ft. 6 in. to 30 ft. 6 in. below the surface. In driving the test pile we obtained the services of the Harbor Trust pilot. The pile is 21 ft. 9 in. in length, 11 inches in diameter at the foot, and 12 inches in diameter at the top. Before the pile was driven, a hole 6 ft. 9 in. was sunk through the made ground, and a money sack was used to cut it out, with the money sack resting on it the pile sank to a depth of 8 ft. 4 in. from the surface, while the rigging was being completed. It therefore sank to a depth of 1 ft. 7 in. without a blow. It is clear from this that to obtain any foundation that can be trusted, we must go down to the solid rock. I think that the eight bores which have been sunk supply a sufficient test for the whole of the block. I have had two drawings prepared to show the system that would be followed if we adopted piling in connexion with the foundation. The piles would in every case be driven down to the rock surface. The top of each pile would be sawn off 3 feet below the surface of the land, and around the top of the piles there would be a mass of concrete which would vary in accordance with the number of piles driven, and which would form the base of each stanchion. For instance, for every set of nine piles the mass of concrete would average about 8 ft. 3 in. by 7 ft. 6 in. by about 5 feet in depth. The number of piles to be driven in each place and the mass of the concrete to be used depend in each case upon the weight to be superimposed above. In the centre of the building in each case there would be a group of nine piles, while the outside wall would be supported at the angles by four or five piles, and in the length of the wall by five or six piles. Each group of piles would be treated as one unit, and with a mass of concrete at the top. On the top of the concrete there would be a grillage of rolled steel joists to spread the thrust on to the concrete, and above that would be rolled steel joists placed immediately under the base of the stanchion. That is all shown in detail on the drawings I submit. We should use tar-pentine piles, which, in my opinion, would last probably as long as the building.

4. *To Mr. Fenton.*—It would not be necessary to treat the piles in any way before sinking them.

5. *To the Chairman.*—If the piling system were adopted, the cost of the foundations up to the basis of the stanchions may be roughly stated in this way: 162 rolled steel joists, £744 3s. 9d.; 18 concrete bases, 8 ft. 9 in. by 7 ft. 6 in. by 5 ft. £318 15s.; 5 concrete bases, 4 ft. 10 in. by 4 ft. 10 in. by 5 feet, £55; 13 concrete bases, 7 ft. 6 in. by 3 ft. 9 in., by 5 feet, £203; 496 cubic yards excavation to head of piles, £210 16s.; 260 piles, average 23 feet long (6,980 cubic yards), £2,930, or a total of £4,831 14s. 9d. Against that I have prepared plans and estimates of excavations such as you saw on the site yesterday to be filled with solid concrete for the concrete piers. The estimate of the cost of the foundations, if this system were adopted is included in the original estimate of £68,532 15s. 6d. for the proposed extension. That is in accordance with the plan which has been laid on the table in Parliament, and the estimate shows that the foundations if that plan were adopted would cost about £1,000 less than if the system of piling were adopted. I strongly recommend that that plan should be followed, and that we should put in concrete pier foundations. These foundations, as shown in one of the quantities attached to the Minister's report to you, would cost £3,824 18s. 8d., or, as I have said, practically £1,000 less than the piles would cost. As a practical man I say that the concrete would be undoubtedly better than the piling. Once it is down it is everlasting. The pressure of the surrounding surfaces would prevent any liability to cracking or crushing of the concrete piers, and, in my opinion, the result would be far more satisfactory than the piling. You could not be assured of getting on to the rock, and you would have to pile up to the level of the external walls of the building, and the same principle in construction generally will be followed as that of the building to which this is to be an extension. The outside walls will be of brick and with steel frame construction, the stanchions carrying the weight would be encased in brickwork, and between each two stanchions there would be an enclosing wall. The construction would be carried out on the American principle, the walls carrying no weight in themselves. That system has also been proposed for the reinforced concrete construction, but in the case of the wood construction, which I am proposing later on, the brickwork would have to carry its fair share of weight. The estimates of the cost of the building under the three systems of construction suggested are:—Cost of building, including steel framing, £68,532 15s. 6d.; cost of building with reinforced concrete in lieu of steel work, £56,498 10s. 7d.; cost of building with external walls constructed with brickwork and all internal framing with hardwood, £46,195 17s. 7d. If the building were erected on a foundation of extra cost for each scheme will be £1,000. The whole matter hinges on whether you feel disposed to recommend the construction of an absolutely fireproof building, or of a building that will be reasonably fire-resisting. In my opinion, in view of the efficiency of the fire brigade service, a reasonably fire-resisting building with the assistance of thermosatic alarms and sprinklers would reduce the danger of a serious outbreak of fire to the minimum. I think that that is a reasonable proposition. I recommend a building with concrete pier foundations, ironbar stanchions and beams, and hardwood joists and floorings. The underside of the joists to be covered with either reinforced cement sheets or corrugated iron. One of the objects of the latter provision is to check the outbreak of fire by protecting the danger spot, which

is the square of flooring exposed between the beams. The beams and stanchions, being of ironbar, would constitute no danger, as it has been shown by many outbreaks of fire, that ironbar will stand the application of tremendous heat for a considerable time without any serious diminution of its strength. Should a fire break out in the material stored in the building, the Grinnell sprinklers, which would be installed, would probably be sufficient to put it out; but, in addition, there would be an installation of thermosatic alarms which would bring the fire brigade to the building within a few minutes. With this form of construction the actual danger from fire would be very little, and as you will have seen by the estimates of costs submitted, would, if adopted, result in a saving of over £23,000, as compared with the cost of the building with steel frame construction. I have made inquiries as to the difficulty of obtaining the material which would be required, and the principal merchants likely to be concerned inform me that they see no difficulty in obtaining the material. I was doubtful whether we could readily obtain the considerable scantlings that would be necessary to carry the heavy weight required on the lower floors. The postal stores people want to be able to carry 5 tons per square foot. That is very heavy weight, and would require stanchions very heavy in section. The merchants I consulted assured me that there would be no difficulty in obtaining the ironbar stanchions required within a reasonable time. If the Committee decided to recommend steel construction there would be no trouble in securing the necessary material. In order that a good idea might be obtained as to the cost, I have actually called for tenders for the steel work, and I can supply the Committee with the prices quoted for the steel sections, so that if the steel frame construction were decided upon the order for the material might be put in hand at once.

6. *To Mr. Fenton.*—I cannot say how long the prices quoted by the tenderers would continue in force, but I feel sure that the quotations received from actual tenderers would cover a reasonable time, say, a month or six weeks.

7. *To the Chairman.*—We have been advised by the Postmaster-General's Department that the proposed extension is one of urgency, and should be carried out with as much despatch as possible. We have reached a stage in the preparation for the work which, if the Government decide to go on with the matter, will enable us to make a start at once.

8. *To Mr. Fenton.*—There is some objection to the erection of a building of reinforced concrete throughout as an extension to the existing building of brick, for such a building could not be constructed more cheaply than that which is proposed, which is more in keeping with the construction of the existing buildings.

9. *To Senator Needham.*—I could later inform the Committee of the price paid for the existing building to which the extension is proposed to be made.

10. *To Mr. Gregory.*—I do not consider that there are any extraordinary external fire risks at the site proposed for this building. The actual brickwork would be absolutely fireproof. The only danger would be in the openings, and it is proposed that the windows shall be of reinforced glass—that is to say, glass made with wire netting embedded in it. The only danger would be on the frontage to Kimber-lane, which I think is 10 feet wide, but, as I have said, the openings would be protected by the best English wired glass. The window frames would be of steel, and I think that



sufficient provision is made for protection against danger from fire from external sources. With respect to the provision against the risk of fire from the existing building, the plans show that in every case the openings connecting the two buildings are provided with fire-proof sliding doors. Should any fire occur, the fire-resisting doors are automatically closed. The staircases of the proposed building would be of brickwork, and the staircases of reinforced concrete. This would apply to the scheme put forward for wood construction. We would not carry the wood construction into the staircases. There will be a passenger elevator and passenger stairs on the Harbor-street front, also stairs at the Harbor-street and Little Hay-street corner, and two goods elevators on the Kimber-lane front. All of these would be protected from fire, and may be used as emergency exits. It is proposed that the new building shall be used partly for postal stores and partly for telegraph and telephone workshops. It is hardly within my province to question whether it is wise to have workshops in which carpenters, electrical engineers, and braziers are to work in the same building as that used to accommodate stores of considerable value, but I may say that so long as reasonable precautions are taken, and the work supervised there should be no danger from fire with the provision made for sprinklers and thermostatic alarms which would bring the fire brigade to the spot immediately upon the outbreak of a fire. I have no idea of the value of the stock stored by the Postal Department, but I know that it is intended that the building shall accommodate large and valuable stores. I am still of opinion that it would be quite safe to have the workshops in the same building if the reasonable precautions now adopted are continued. Most of the power used in the workshops will be little danger of an outbreak of fire from them. I have heard of buildings being burnt down as the result of the fusing of electric cables, but with wires properly insulated there should be no great risk of an outbreak of fire from this source. I do not anticipate any danger from fire as the result of the use of a portion of the proposed building for telegraph and telephone workshops. With respect to the use of hardwood stanchions instead of steel, which is proposed is that the stanchions, beams, joists, and flooring should be of hardwood, and I have said that the estimate of the cost of this construction represents a saving of over £23,000 as compared with the cost of a steel frame construction. Construction with reinforced concrete in lieu of steel work would cost about £12,000 less than the steel frame construction, and the wood construction proposed would cost about £23,000 less. The Post and Telegraph Department recently rented a building in Pier-street for telegraph and telephone workshops, the leasing was arranged through the Lands and Property Branch. I had nothing to do with it. I understand that the lease is for two years, from the 13th October, 1916, with the option of renewal, at a rental of £1,400 per annum, plus rates. I could not say what its cost to instal the workshops there. The erection of postal workshops as a separate building is a matter of postal administration which I do not care to criticise. It is proposed to accommodate the workshops on the upper floors of the new building. If steel were at ordinary prices, as a matter of preference I should recommend steel construction against the hardwood, because naturally it would be stronger. I think that the present increase in the price of steel above normal prices must be 75 per cent., and the

market is continually varying. I do not anticipate that normal prices of steel will be quoted immediately after the war. There will be such an enormous demand on the continent for steel work for rebuilding and repairing the devastation which the war has caused that prices for steel must continue very high for a considerable time. Some of the sections required for the proposed extension must be imported. We are not, I think, making very big steel sections here.

11. *To Senator Needham.*—Johns and Waygood are increasing their workshops, and are really doing wonders. One cannot speak too highly of the work of the firm.

12. *To Mr. P. Vinlayson.*—I have explained three methods of construction suggested. In the first two the flooring would be of concrete, and in the third of hardwood. I should not like to get concrete flooring with the wood construction proposal. I would not like to mix the two. I have never seen it done. The existing stores building has cast-iron stanchions, hardwood beams, and Oregon joists. I do not like that method of construction. I do not like the cast-iron stanchions. I do not think it would be detrimental to have the new building adjoining the old building, in view of the fact that fire-proof doors are provided for, and there will be a solid brick partition wall between the two buildings. I cannot say what is the age of the existing building. I have examined its construction generally, and have satisfied myself that it can be properly associated with the extension proposed. That is not to say that there are not many details of the existing building which I should like to have different. In my view, splendid opportunities were lost in the lighting of the existing building, and what is called the fenestration of the proposed extension will be a great improvement upon the existing building in that respect. I am very keen upon providing plenty of light for stores. There is no provision made for a staircase on the Kimber-lane front. An emergency staircase might be provided at the angle of Little Hay-street and Kimber-lane, but I think you are forgetting the provision for goods lifts on the Kimber-lane front. I consider they would be very useful in case of fire. It would be a simple matter to get a rope down one of those lifts. I could only from hearsay estimate the number of men and women who will be employed in the completed building. I understand that there will be about 200. There is an iron stairway provided as an outside fire escape on the existing building, but there is no provision for such an outside stairway on the proposed extension. There is, however, provision made in the proposed extension for an absolutely fire-proof escape stair built on the theatre principle. There is an advantage in having stairways and lifts closely associated. Lifts frequently require to be stopped for repairs and it is an advantage to have a stairway in nearly the same position as the lift. A good deal had to be done to the existing building, which was known as Bridges' Building, after it was taken over by the Commonwealth. We put in the thermostatic alarms and constructed the outside fire escape to which you have referred, and sheathed the soffits of the stair cases with iron. This was done to prevent the danger from fire in that building considerably. I intend, also, to recommend that sprinklers should be installed in that building. I see no reason why the same building should not combine stores and workshops. The wooden flooring proposed will tend to the comfort of the men engaged in the workshops. A concrete floor would be too cold, and if that were adopted a wooden platform would

have to be constructed for workmen. My estimates have been based on the construction of the proposed extension under departmental supervision, and, provided that everything goes well, and the war has caused that prices for steel the building should be completed within about two years from the time it is started. There is no doubt in my mind as to the superior value of concrete piers for the foundations of this building as against wood piles, in view of the nature of the site.

13. *To Senator Needham.*—I have said that I do not like the cast-iron stanchions in the existing building. My objection to them is that should a fire occur and the stanchions become extremely hot, water discharged against them by the firemen would cause them to break and crack. I do not like the use of cast-iron stanchions at all, but if they are used they should be encased with brickwork or concrete, or some other fire resisting material.

14. *To Mr. Fenton.*—The floor space provided for telegraph and telephone workshops in the proposed extension is very much greater than that provided in the building now occupied for telegraph and telephone workshops. If the rock on the site of the proposed building were near the surface the cost of the foundations would be a very small item, as practically all that would be required would be the leveling for the foundations of the building, but owing to the formation of a basement the cost of the concrete pier foundation proposed is estimated to run up to £3,825. This does not represent a great percentage on the total cost of £45,000. I presume that in the purchase of the land consideration was paid to the treacherous foundation. The fact that it is made land prohibits the putting in of a basement. A basement could, of course, be put in, but it would not pay to take such precautions as would be necessary to make it damp proof. I should not personally approve of a basement for stores, even if the foundation were good. It would mean that very heavy stuff would have to be lowered from and afterwards raised to the ground floor, which would be a great disadvantage. On the ground floor of these stores there will be some extremely heavy material, such as submarine cabling, and it will be a great advantage to be able to avoid unnecessary hauling and lifting of such heavy material. I have suggested fire-cement slabs or ordinary corrugated iron for ceilings. The idea is that the material should be screwed up to the soffit of the joist only to act as a fire check. The great purpose is to gain time upon the outbreak of a fire, to check the advance of the fire, or localize it until the firemen reach the spot. The construction proposed is first the flooring boards, then the floor joists, and then the sheathing of corrugated iron. We have practically no stores for the Works and Railways Department here. All I have is a little store at Circular Quay which is temporarily used for ladders, wheelbarrows, and such like plants. When bricks are required we are instructed to get them from the State brickworks. In the case of timber, I get monthly quotations from the merchants, and order on monthly tenders direct to the job in course of construction. When you suggest that if we had our own store we might stock a number of lines of materials that are always used you open up a rather tremendous question. I do not think it would be advisable to have such a store installed unless day labour were the fixed policy of the Commonwealth and we could undertake to store all the material required in a large store under proper organization and supervision. If a different policy were adopted by a succeeding

Ministry all that organization would be thrown out of gear, the men employed in connexion with it would be discharged, and by another change of policy the whole thing might have to be worked up again. Under existing conditions we keep practically no stocks of material at all. We get prices as required monthly, and the materials ordered are taken right on to the job. The consideration of the establishment of amalgamated stores and workshops for the different public departments involves a complicated question, to which I have so far given no attention. There is absolutely no insurance of departmental buildings. It has been considered that it is better to make such buildings fireproof as far as possible, and then to exercise the greatest precaution against an outbreak of fire, and so save the payment of insurance premiums. I am convinced that the fire brigade authorities would be satisfied with the provision against fire under the first two schemes for the construction of this building, and I have consulted Mr. Sparks in relation to the third scheme of construction proposed. I did so in order to make sure that if you called him a witness he would raise no objection to the adoption of that scheme. I did not put the hardwood proposal before him, but I know that he is partial to the use of ironbark stanchions and beams. In the proposed extension the height of the ceilings from the floors is determined, of course, to a great extent by the conditions in this respect of the building to which it is to be an extension. There will be no space between the two buildings at all.

15. *To the Chairman.*—All the available accommodation for store purposes is fully utilized. I could not answer personally for the Defence Department, as at present it is of course difficult to learn what are the conditions in connexion with that Department.

Alexander Alfred Dircks, electrical engineer for New South Wales Postmaster-General's Department, sworn and examined.

16. *To the Chairman.*—I have control of the mechanical branches of the Department in this State. I have no control over the store branch, which is an independent branch of the Department. At the present time our workshops are situated at Darling Harbor in a rented building known as Lyell Scott's building. We have been in occupation of that building now for about six months. Prior to that the shops were divided. The telegraph workshops were in a rented building near Circular Quay, and the telephone workshops in a rented building near the Haymarket. The carpenters' workshop was in spare rooms of the post-office at the Haymarket. It was very inconvenient to have the workshops separated in that way. It is much more economical and makes for better supervision to have the three workshops combined in the one building. Prior to moving into the building now occupied we were paying £425 per annum for the telephone workshop recently occupied, £450 per annum for the telegraph workshop, and we were debited with £295 per annum for the use of two floors in the post-office at the Haymarket. At the time it was decided to remove the workshops to the Lyell Scott's building it was in contemplation to rent another floor for the telegraph workshop at a further cost of £260 per annum, and to provide additional accommodation for the telephone workshop at a cost of £130 per annum. If what was

contemplated prior to our moving into the premises we now occupy had been carried out we would have been paying a rental of £1,679 per annum to accommodate our workshops. We are paying now for Lyell Scott's Building £1,400 per annum, plus rates and taxes estimated to cost £220 per annum, or a total of £1,620 per annum. There has been no saving of rental upon the existing previous conditions, but we now have equal accommodation and have the three previously separated workshops in the one building, which is a very great advantage. The advantages to be secured by the present arrangement were set out at the time as follows:—More accommodation and better ventilated workshops; concentration of telephone, telegraph, and carpenters' workshops under one roof, with consequent increase of efficiency and economy in working; close proximity to the general stores, effecting economy by the abolition of the existing sub-store of the telephone workshop, saving of £158 10s. proposed to be expended at that particular time to improve the telephone workshops. By the abolition of the sub-store we were able to save £384 per annum in salaries for the stormen employed there. The fact that the present workshops are so close to the general postal stores has made it unnecessary to continue the maintenance of the sub-store of the telephone workshops. We are now within 60 or 80 yards of the postal stores, and can secure the material we require much more quickly than was possible under the old arrangement. Some time prior to the assembly of the workshops as described, a request was made for better accommodation for the Electrical Engineer's branch of the Department. I have seen the plans prepared for workshops in the proposed extension of the postal store building, and they are suitable for what we require. There are sixty men employed in the telegraph workshop, and 158 in the telephone workshop, or a total of 221. The intention is to extend the operations of the workshops considerably in the direction of making the smaller switchboards of 200 numbers and less. Up to the present, we have had no room in which to develop that particular work. The intention is, in future, to make these small switchboards for New South Wales and Queensland. This extension of the work of these workshops will alone involve an increase of fifty in the number of hands employed. The plans now before the Public Works Committee make adequate provision for that expansion of our work. They provide for three floors in the new building for workshops at the present time, and a fourth floor to be held in reserve. I think that by the time the building is erected, say two years, or two and a half years from the present time, we shall require more than three floors for our accommodation. The probabilities are that, by the time the building is erected, we shall need the four floors provided by the plans for workshop purposes. The work of my Department is materially affected at the present time by the war. Should pre-war conditions be resumed, it would be necessary for us to employ more men immediately. The adoption of the automatic system will add to the number of mechanics required for the maintenance of the switchboards, but they will be accommodated at the exchanges themselves. There will be no workshops at City North on the establishment of the automatic exchange the same as those at Darling Harbor, but merely a mechanical staff to maintain that switchboard installed there. I made inquiries as to whether there was any intention in connexion with that building to establish workshops there, and I was informed that three floors of the building will be required for

the automatic exchange purposes, and the remaining three floors for electrical engineers—administrative staff. The light provided for the workshops in the plans of the extensions now under consideration by the Committee is, I consider, splendid. There is one small difficulty in connexion with the plans which occurred to me, but which I suppose can be easily overcome. I think there may be some difficulty in getting up to any of the floors occupied for workshops longer lengths of timber than the lifts, as designed, will accommodate. The difficulty could be overcome by the use of outside hoists. With that exception, I consider the plans before the Committee provide suitable accommodation for the carrying on of our work. So far as the risk of fire is concerned, some of the materials we handle are of a fairly dangerous character. We use dry timber, and a carpenter's shop is always a fair fire risk. We are handling cables treated with paraffin, and if there were an outbreak of fire, there would be a fair amount of inflammable material in the workshops. Still I think with ordinary precautions the risk of fire would not be extraordinarily great.

17. *To Mr. Gregory.*—Personally, I should like to see the carpenters' shop separated from the telephone and telegraph workshops. I think that both the carpenter's shop and the blacksmith's shop should be situated on the ground floor. We would not use the whole of the ground floor of the proposed building to accommodate them. I am aware that the Controller of Stores wants the ground floor of the building for the storing of material, and to avoid lifting it up and lowering it from the higher floors. It is undoubtedly very desirable that that should be avoided, but I still think that it would be desirable to have the blacksmith's shop and the carpenter's shop on the ground floor as well. I have been given to understand that we could not have both there, but I think that when the building is erected it may be possible to arrange with the Controller of Stores to store timber on the ground floor. If this were done it would reduce the fire risk.

18. *To the Chairman.*—We get timber in lengths up to about 14 feet. Special kinds of timber are required for switchboard manufacture, and it is necessary that the timber should be held for some time in order that it may be thoroughly seasoned. I was not consulted about the site of the proposed building. That was dealt with long before I came here. I consider the locality suitable enough for the purpose of departmental workshops. It may be an advantage from the point of view of the stores branch that the building should be situated close to the Darling Harbor railway station, but from the workshop point of view that is of no special advantage. The accommodation provided by the plans fairly meets all our requirements. The lift and lavatory accommodation is ample, and having the roof reserved for luncheon room purposes will be a great advantage to the workshops generally.

19. *To Mr. Finlayson.*—The ideal position for the telegraph and telephone workshops is that they should be sufficiently near to the postal stores to facilitate frequent and easy communication between them. Such a lot of material is passing to and fro between the stores and the workshops for repairs that there must be easy communication between them. Should the new building be ultimately required for stores, the workshops should still be situated very close to the stores. The hands employed in the workshop live all over the city area. The site is convenient to the railway and trams. In this respect the site might be equally convenient for the workmen, but I should say it is an advantage to the stores to be near the

Darling Harbor railway station. There would be very little, if any, advantage from the point of view of the workmen in having the building on a railway line from which a siding might be run into it. But that should be a decided advantage to the stores branch. We may, I think, assume that direct railway communication to the site of the proposed extension is out of the question. There are a good many Chinese in the immediate neighborhood of the site, but the character of the locality is rapidly improving. I have not inquired whether a suitable and convenient site for workshops could be secured in this locality should the proposed building be ultimately required entirely for the stores branch. The best position for the work shops is alongside the stores wherever they may be situated. In view of the quantity and variety of materials constantly passing between the workshops and the stores, that is the ideal location for the workshops to insure economy and good working. If they were situated across a lane or narrow street, and connected with the stores by a bridge between the upper storeys, that might meet the requirements. I can scarcely offer an opinion as to whether the stores could not be better located than they are at present. I anticipate the expansion of operations in the three Departments I control. They will grow proportionately with the development of the telegraph and telephone systems. I could prepare a statement of anticipations with regard to the expansion of the work shops and the increase of the telephone work and of the output of the shops to guide you in estimating future requirements. We are now doing more of our own work than we previously did, and we are likely in the future to do still more than we are doing now. It is the intention of the Department to extend the operations of these shops. Apart from this, we have to deal with the growth of the service generally. The blacksmiths are accommodated on the ground floor of the leased building now in occupation. There has so far been no definite layout made of the workshops in the proposed extension. I suppose the blacksmiths will have to be accommodated on one of the upper floors in the telegraph workshops. They do not do heavy blacksmithing work—chiefly the preparation of cable frames and work of that character associated with telephone switchboards. I have suggested that the blacksmith's shop should be on the ground floor only from the stand-point of safety. I think it would be safer to have the blacksmith's shop on the ground floor. A section of the ground floor might be partitioned off for the blacksmith's shop, so long as that would not seriously interfere with the accommodation required by the stores branch.

20. *To Senator Neelham.*—So long as the building is properly protected, I see very little reason why the blacksmith's shop should not be located on the ground floor, or on any other floor of a building in which valuable stores are concentrated. With ordinary precautions there should be no danger. We had a blacksmith's shop for many years at the telegraph workshop at Circular Quay, and also at the telephone workshop at the Haymarket. In both cases the blacksmith's shops were upstairs, but we never experienced any trouble on that account. I cannot say that it would be better to have the blacksmith's shop in an entirely separate building. It is more convenient to have it in close proximity to the other branches of the workshops. There would not be much objection to its establishment in an adjoining building, but the maximum of convenience would be secured by having it in the same building. To have to go from one building to another to fit

a frame or small portions of iron work would be very inconvenient. If we had the blacksmith's shop established just across a lane from the other shops, that would reduce the inconvenience to some extent, but it would still be inconvenient compared with the other plan. There would be an increase of safety at the cost of a decrease in convenience. Convenience should be first considered in this case, and the blacksmith's shop located, if possible, in the same building as the other branches of the workshops. I do not put convenience before safety, but in this case, I think the increase of convenience would outweigh the decrease of safety.

21. *To Mr. Fenton.*—We use coal for the blacksmith's shop, and have an ordinary coal forge. The telegraph mechanics have a gas forge also. The coal forge is on the ground floor of the building we are at present occupying. Judging from the character of the proposed extension, and especially in view of the provision made for lighting, I am inclined to think that the building was primarily designed for workshops and not for stores. The same ample provision for lighting would not be necessary for stores. I cannot say whether it is the intention of the Department eventually to use the building as a store or as a workshop. I have formed an estimate of the length of time over which the accommodation provided by the new building will meet the requirements of the workshops. I believe that the four floors allotted for the telegraph and telephone workshops will satisfy our requirements for five years from the time the building was completed. It may then be necessary to add two more floors to the building to carry on the workshops for another ten years, or until seventeen and a half years from the present time. I believe the erection of two additional storeys to the building has been considered. I have seen reports in connexion with the requirements of the stores branch indicating that they will not require further storage accommodation in the building. That might throw some light on the question. I expect that the workshops will be in permanent occupation of the building in view of the scheme outlined when it was designed. The number of hands at present employed in the work shops is 221. I anticipate in the near future an increase of fifty in the staff, but the proposed building will accommodate that increase. I have said that I anticipate a considerable expansion of our work should there be a return to pre-war conditions. Judging from the experience of the past, there will be a gradual growth of work in every line. I anticipate that, after the war, we shall be thrown more and more upon our own resources for some time. That will naturally lead to an increase in the number of employees that we shall require. Whether they are in the city or outside the ideal position for the workshops is in close association with the stores branch. The business of the Department may grow to such an extent as to justify the establishment of two workshops. That for repairs and apparatus should be closely associated with the stores, whilst the purely manufacturing workshops might be established anywhere outside the city. There would be very little inconvenience in having workshops used entirely for manufacturing purposes located outside the city. We have never had any trouble from a hurried notice to quit any of the rented premises occupied by us. The establishment of a fairly big workshop for manufacturing purposes outside the city is a probable development of the future, but that is looking ahead a great number of years. I expect the building now under your consideration to be the home of our workshops for a good many years to come.

If it is not erected, or some other building provided for our workshops, we must continue to rent premises in which to carry on our operations.

**22. To Senator Keating.**—We have been for four months in the premises we now occupy. I do not think the number of hands employed has increased during that time. I have never said that the premises we now occupy are unsuitable for our workshops. The request for new premises was made years before the present premises were leased. The building at present occupied has been found quite suitable so far as we have gone, but it is even now scarcely big enough. The members of the Committee have seen for themselves that the carpenter's shop is too congested. There is room for limited expansion on some of the upper floors. I have said that the rent of these premises is £1,400 per annum, plus rates and taxes estimated at £220 per annum, or £1,620 a year in all. I realize that interest on a capital expenditure of £68,000 for the proposed new building with steel frame construction, or of £45,000 under the alternative scheme of construction proposed, would amount to more than the rent now being paid for the premises occupied by the workshops. But it must be remembered that the workshops will occupy only a portion of the proposed new building, and the rentals now being paid for stores premises must also be taken into consideration. There are postal stores in Alma-street, and it is the intention to vacate those stores when this building is available. The Controller of Stores will be able to give you more information on this point. The stores kept at Alma-street are very largely second-hand stores. There is a quantity of second-hand switchboards and telephones kept in the Alma-street stores. They are not obsolete. Many of them are being repaired, and the remains of many others available portions will be taken from them, and put into new boards and telephones. Some are perhaps growing obsolete, but they are still quite usable for small exchanges. There is very little obsolete material in either the Bridges' building or the Alma-street stores. I believe that stores and material are gone through regularly with the object of casting out obsolete material, but that is a matter upon which the Controller of Stores could give you definite evidence. Most of the work done in our workshops at present is in the nature of repairs. But we hope with the accommodation now available in the present workshops to begin more vigorously upon the construction of the smaller telephone switchboards to which I have referred. I am making inquiries at present with regard to the manufacture of retardation coils and small switches. We called for tenders for these, but could not get them except at exorbitant rates. I am sure that we can make them in our workshops at a much more reasonable rate than outside contractors have quoted. Developments of this kind would increase the number of hands to be employed. The establishment of automatic exchanges will eventually lead to additional work, but the workshops so far have been filled upon only to maintain those exchanges. That is principally done within the exchanges themselves. The establishment of automatic exchanges has had no great effect so far as the accommodation required for the workshops is concerned. The instalment of automatic exchanges has resulted in a number of small switchboards coming into the workshops. They are being repaired and sent to smaller districts. This work will continue, and there is much of it still on hand. As telephone development goes on instead of being able to put in secondhand boards.

we shall have to put in new boards which we hope to manufacture ourselves. I do not think I can say that there will be a definite time when the work of overhauling and repairing switchboards that come in to us as the result of the establishment of automatic exchanges will stop, because, as a matter of fact, we are only overhauling and putting into use such switchboards as are required. We have not overhauled those that have come in to such an extent as to enable us to put switchboards into stock ready for issue. I could supply the Committee later with an estimate of the probable expansion of output, and increase in the number of employees required during the period of seventeen and a half years from the present time, to which I have already referred. Though I do not say that the premises at present occupied for workshops are unsuitable, I believe that, in view of future development and expansion, it is desirable that some provision such as is now under your consideration should be made for our accommodation. The advantage or disadvantage of the location of the present workshops is a matter of comparison. It is a great improvement upon the previous location of the workshops, but not so good as would be the proposal now under your consideration, because, as I have said, the closer the workshops are to the stores the more economically they can be worked.

**23. To Mr. Gregory.**—If a switchboard in a country town gets out of order it is sent to the postal stores, and then direct to the workshops. It is put through what is called the sifting process. The material is examined by mechanics, and if it is found that it is fit to be repaired, and made good for further use. If it is found to be good, it is put on one side to be proceeded with. If it is considered useless, it is put with the scrap material, and dealt with as such. The first process with material referred to the stores is to sift it, and see whether it is worth repairing. When returned material is repaired, it goes back to the postal stores, and is put into stock for re-issue. This is one of the main reasons why it is economical to have the stores and the workshops adjacent to each other. If a telephone out of order is sent down from the country, it is immediately replaced with a good one. The old one is then repaired, and may be issued to another part of the State. We need the workshops close to the stores for convenience in the transfer backwards and forwards between the workshops and stores of material to be repaired. I could not say how many tons of material are thus passed between the stores and the workshops. The tonnage of material sent in for repairs would perhaps be small, and might be brought to the workshops without difficulty in a motor lorry. But the inconvenience is not in the weight of the material to be shifted, but in the number of items and the frequency with which they are passing between the stores and the workshop. The difference between a distance of 100 yards and a distance of half-a-mile between the stores and the workshops would not be of much account where a motor lorry was used, in the case of one trip by the motor lorry. There might be some danger of fire if carpenters, braziers, and blacksmiths are working in the same room with some of the material kept in the postal stores. But there would be no special danger if they were not working in the same room. There is no insurance upon the stock in the postal stores. If the stores were insured, I can say how the insurance would be affected by such a condition of affairs as you have referred to. It was estimated to cost £370 to remove our workshops from the three different buildings previously occupied to the building we now occupy. That estimated

covered the whole cost of taking down, removing, and re-installing the machinery and plant in the new building. Adding half the cost of removal to the rent of the building for each year of the term for which it has been leased would bring the rental up to £1,800 per annum. But I must remind you that by the removal we saved in one item an annual expenditure of £380. We also saved another £456, which was about to be spent in the way of repairs to one of the buildings we previously occupied. We covered more than the cost of removal by the saving effected in one year. When I am asked whether, as a business man, carrying on the workshops on my own account, the building we now occupy is the class of building I should take, and whether I would be prepared to pay £1,800 a year for the use of it, I can only say that what has been done seemed to me to be the most economical arrangement that could be effected at the time. I had to take into consideration what we were paying, and expected to have to pay, prior to the removal. I think the new building was proposed for workshops rather than for increased stores accommodation. But I cannot speak definitely as to that. When I am asked whether we could not do better than pay £2,800 a year for our accommodation in the proposed new building—half the interest at 7½ per cent. on the estimated cost with steel frame construction—I say that 7 per cent. is a high rate to quote. This may represent 5 per cent. interest on the money and 2 per cent. depreciation, and though I am aware that the Government are offering 4½ per cent. free of income tax for war loan, I might say that 3½ per cent. is what we usually reckon on. It would appear reasonable to allow 3 per cent. for depreciation in the case of the workshops. The proposal now made may involve the payment of a good deal of money to have the workshops near the stores, but you have to bear in mind the rental we are paying now, and the fact that the new building will give us very much more accommodation than we are paying rent for now. If our manufacturing operations expanded sufficiently we could afford to establish a workshop especially for manufacturing purposes, and that could be located outside the city. But the present workshops would have to be continued for repair work. That work is largely of the same character, but there is great variety in detail. As we get new apparatus from year to year that adds to the variety of our repairs. We do not send to the stores for every little article wanted for repairs. We keep a small stock of items continually wanted in the workshops. I should like to correct what appears to be a misapprehension. Having the workshops alongside the stores is desirable, not merely for the purpose of getting parts of apparatus from the stores, but to facilitate the transmission continuously of material sent in for repair between the stores and the workshop. All material sent in for repairs could not be sent direct to the workshops, or they would become a huge store. They are sent to the workshops direct only in certain cases, but in all other cases the materials coming in for repair have to be stored until such time as they can be repaired. For instance, switchboards released when automatic exchanges are installed could not be sent to the workshops to be repaired straight away. They are at present sent to the Alma-street stores, and are taken from there as required, put in order, and sent out to the country exchanges. It is intended when the new building is erected to get rid of the Alma-street stores. We might have workshops established outside the city and building corresponding to the Alma-street stores alongside, to which

all materials for repairs could be sent, but that would perpetuate the existing condition of affairs which the Controller of Stores contends is uneconomical. It is not economical to have a number of stores in different places. I understand a Committee of inquiry recommended that there should be only one stores branch. In that case it is still considered desirable to place the workshops in close proximity to the store. The work we are carrying out now necessitates the workshops being placed in a central position in the city. Telephone repairs to telephones installed round about the city are done by mechanics at the workshops. If the shops were located outside the city the men would have to bring the parts required to be repaired from outside into the city, and that would lead to a great loss of time, and would be very expensive. Telephone installation constitutes a large portion of the work of the workshops at the present time. As I have previously said, if we were going in for manufacturing on a large scale, we could afford to have a distinct workshop for that purpose, and it could, no doubt, be more economically located outside the city, but our present work necessitates the workshop being situated within the city. If it were desired, for instance, to put a telephone into this room, the mechanic going the work to do would bring the material with him from the workshops at Darling Harbor. If he had to start from some point outside the city, it stands to reason that that will involve a considerable loss of time, and that there would be repeated over a number of similar instances every day. The installation work now being performed necessitates the workshops being in the city itself, where the work has to be done. The employees engaged in this work of installation are a section only of the hands employed in the workshops, and while they could be accommodated in the stores building if there were room for them, I am still of opinion that the most convenient and economical arrangement is to have the workshops in the proposed extension of the postal stores building.

(Taken at Sydney).

TUESDAY, 23<sup>RD</sup> JANUARY, 1917.

Present:

Mr. RILEY, Chairman;	Mr. Gregory.
Senator Keating,	Mr. Philpason.
Senator Needham,	Mr. Gregory.
Senator Storey,	Mr. Sampson.
Mr. Fonton.	

Edwin James Young, Deputy Postmaster-General, New South Wales, sworn and examined.

**24. To the Chairman.**—In my capacity as Deputy Postmaster-General, I was consulted about the requirements for the Postal Department, and I have seen the plans for the proposed new building in Harbour-street for the Stores Branch. They are in accordance with my views as to requirements, but of course the final decision with regard to such a proposal rests with the Postmaster-General. The plan before the Committee provide for a building suitable for the departmental needs. It is necessary to have additional stores accommodation, but I would point out that the proposed new building will not be for stores only. In fact, I consider the work will be undertaken mainly to meet the requirements of the mechanical branch of the Telegraph and Telephone sections. Out of the seven floors, only three will be

utilized by the Stores Branch, the other four being set aside for the mechanics' side of the Electrical Engineers' Branch of the Department. We require more accommodation for the Stores Branch. At present we are renting premises in Alma-street, Pyrmont, for which we are paying £550 a year, so when this proposed new building is available we will save that expenditure. We have not yet reached the stage when we should enter more largely into the business of manufacturing, so we do not require this building for manufacturing purposes. If we had that object in view I would hardly favour a building on such an expensive site. For the past seven or eight years the activities of the Stores Branch have been conducted in several places, and we desire, if possible, to concentrate all the stores in one building because this will make for economy of administration and lead to more effective control. With the Mechanical Branch and the Stores in one building there will not be the same waste of time as is now experienced, because stores will be readily obtainable for the mechanics. At present it takes a certain amount of time to obtain material from Lyell Scott's building, which we are renting. The proposed site in Harbour-street is quite suitable, because it is really the centre of the goods traffic in the city of Sydney. We obtain most of our material from overseas, but we have to distribute it by rail throughout the State, and therefore the Harbour-street site is the best. The question of the foundations for such a building does not come within my province. That particular matter would be dealt with by officers of the Home Affairs Department. If they reported a difficulty about getting good foundations, we would not go on with the project. We were primarily responsible for the selection of the locality, and, as I have already said, it would be the duty of the officers of the Home Affairs Department to report with regard to the nature of the foundations. I understand that when the new Telephone Exchange is built the Construction Branch staff, now housed in a rented building in Kent-street, will go there. We have certain accommodation for the Electrical Branch at the Haymarket, costing us £330 a year, and when this scheme came under consideration that debit was taken into account. Then there is the rent and taxes (£1,920) for the Lyell Scott building, and, adding the £550 previously referred to for the Alma-street premises, the total rental which would be saved by the proposed new stores building is £2,500, but as the Electrical Engineering Branch must have more accommodation than at present, it is estimated the total rentals to be saved by this proposal is about £2,300 a year. The Parcel Post premises at the station are fully occupied, and have been for some time. In fact, it is questionable if we will have enough accommodation there before long, as business, largely as the result of the war, is increasing rapidly. There is no further available space at the G.P.O. in Sydney, and I understand the Postmaster-General has had under consideration a proposal to reconstruct that building, but I do not know really what is intended in that direction.

25. *To Senator Needham.*—As I have already indicated, the proposed building will be used both for the stores and the telegraph and telephone mechanics. It should give sufficient accommodation. When the proposal was first made it was estimated the building would take from two to two and a half years to erect, and I expected then that we would be able to occupy all the space straight away, and, allowing for the normal increase in staff, I think it should meet all requirements for eight or ten years. I would

then expect to be able to make more room by removing the Stores Branch from one floor. With the three acres of land held by us at Sydenham we would eventually be able to stock more of the stores material there. I refer chiefly to the heavy stock. Sydenham is convenient, and as the railway is extended from Bankstown to Liverpool, it will be made more convenient. The land referred to is right alongside the railway, and arrangements are being made to put in a siding. Without disturbing the Stores Branch I estimate the proposed new building will meet all requirements for eight or ten years. When I suggested the Harbour-street site I had no idea whatever of the nature of the foundations. In normal times we look for an increase of business amounting to about 7 per cent. in revenue, but in many Departments this increase of late has been as much as 13 per cent. A good deal of this excess business is due to the war.

26. *To Senator Story.*—Sydenham is about four miles from Sydney. It would be inconvenient to have all the stores there, and, as I have already pointed out, the Harbour-street building will serve a double purpose—for stores and the mechanics. Sydenham would not be convenient for the latter, because the men are required to be moving about all day on repair work, and are continuously visiting the stores for material. If they had to travel to Sydenham the administration would not be economical. Sydenham as a store depot would be suitable for the heavy material. I admit that if we engaged ourselves on manufacturing work it would be wise to concentrate at Harbour-street. The accommodation there will be limited, it is true, and, though the land cost £13,000, I do not regard that as expensive. In fact, it is sure to increase in value.

27. *To Mr. Eenton.*—We suggested the site of the proposed building to the Home Affairs Department. In my opinion, it will be the best site for a considerable time to come, as it is better to have the extra accommodation adjoining the present site than in some other locality. The new Telephone Exchange building will relieve us of £330 a year in rent, because the Clerical Construction Branch, now using a building in Kent-street, will then be provided for, but I have no idea when the new exchange will be built. If the Department were to engage in manufacturing, it would probably be advisable to go out to Sydenham, or even beyond that place. At present we do manufacture small switchboards, and there is no reason why, if we had the conveniences, we should not manufacture more extensively. Our manufacturing costs compare favorably with the price of material obtained elsewhere, but I cannot give you the details. Keeping in mind the accommodation required for the mechanics, I urge that the stores should be in a central position. I anticipate later on, that the Stores Branch will be transferred from the first two floors as the necessity arises, to provide greater room for the mechanics. To a limited extent, we provide stores elsewhere. For instance, we have a Stores Branch at Newcastle where we stock material for that locality, instead of in Sydney. We purchase our stores for the whole State in bulk and distribute the material as it is required. It would not be advisable to limit the mechanical staff in the city and keep only limited supplies here, because it is chiefly in the metropolitan area where the demand exists for material and work, and by keeping the stores there they can be used to the best advantage. There is nothing like the same demand for repairs

in the country districts, so it would not be economical to keep up-to-date staffs in country districts. If looked at from a geographical standpoint, the Harbour-street building would not be the most central position in the metropolitan area, but it is the site from which we can most conveniently distribute the material. Later on the value of the land will increase so that if disposed of we will have the money to purchase land further out, and there will be no difficulty about altering the proposed new building to suit other requirements. It is unfortunate that any difficulty exists with regard to the foundations, but I am not prepared to say we should forego the site in favour of the Sydenham property.

28. *To Mr. Gregory.*—I have examined the site. I agree that the building should be fire-proof, but if the cost of such a structure is excessive the proposal as regards a fire-proof building might be modified. The estimate for a fire-proof building (£68,000) appears to be high, but I cannot question it. I think we would be justified in spending that amount for the purposes mentioned. I was not called to give evidence before the Finance Committee on the question of amalgamating the Commonwealth Stores Branches, and I have not seen the report of that Committee. I still think it would be wise to go on with the proposal for the Stores Building in Harbour-street, and, as the occasion demands, establish branch stores, as at Newcastle, and in other places where it might be more economical to provide should it be necessary to have a Sydney head-quarters. I should say it would be the duty of the Central Administration to look into the question of cost regarding a building as now proposed, and see whether the expenditure would be justified, but approval or disapproval rests finally with the Minister. When we take stock we show what material has been left from year to year. Not much old stock is in store now, but probably there is some old stock in the way of telephone instruments, as the result of the installation of the automatic system, which required the introduction of a new type of instrument. During stock-taking one of our own officers examines the stores, and, in addition, an officer from the Auditor-General's Department checks the material, though he does not deal with it from a business stand-point. We can readily discover any stock that is being carried in the store from year to year. During the last year or two the stock has been considerably reduced. If we find we have a surplus of any particular material we advise the other States. I was in the Department under State control. We always had a separate Stores Branch. I notice that, according to the report of the Finance Committee, the issues from the Postal Department store last year totalled £327,000, and that the stock carried represented £23,600, but that does not indicate we are carrying obsolete stores. You must remember our stock is not always procurable at a month's notice, as so much of it has to be imported. If we were to allow it to get down to normal needs there would be times when we would go short. We prepare our estimates for each year, but we cannot buy without Parliamentary authority unless there is a special grant or vote for that purpose. Owing to the peculiar conditions of the Department to be served, I think it is reasonable to hold the amount of stock mentioned. I am not able to say if an amalgamation of the various Commonwealth Stores Departments would be a success or otherwise, as I have not considered that question. If that matter were raised now, it would not be advisable to delay work in connexion with the proposed stores

building, because we could not say how long it would be before the scheme of amalgamation was advanced sufficiently to carry on, and the present policy of paying rent is too expensive. The proposed building will be used chiefly for the electrical mechanics engaged partly in repairing and partly in manufacturing work. With a building occupied by about 200 workmen, as will be the case in Harbour-street, every care must, of course, be taken to guard against robbery; and, in this case, it will practically be a separate building from the present Stores Department. The plans show that while the Stores Branch will at first occupy the ground and the first and second floors of the new building, mechanics will be working on the upper floors. I cannot see any objection to the building on the score that men will be going up and coming down in the building. The details concerning their means of ingress and egress have not yet been settled by the Central Administration. We do not insure the Stores Branch. At present I suppose we have material there to the amount of £100,000. Though there will be a blacksmith's forge in the mechanics' department of the new building, it will be only a hand forge. There will be braziers and carpenters there also, but not heavy supplies of timber, and there is no reason why, if extra timber were needed, it should not be kept on the ground floor. There should be no danger from carpenters' shavings, because these would be collected every night. I should not think the presence of workmen in the building would make much difference to an insurance society if we decided to insure the stock, particularly if we had a fire-proof building. The cost of such a structure (with the land) is set down at £81,000, and 7 per cent. on that is £5,670 a year. That is pretty heavy, but the present position is unsatisfactory owing to the difficulty in obtaining suitable accommodation, and I think the scheme will make for economy. At present the buildings we occupy are separated and more supervision is required, while much time is lost by the men going to and fro. Some men are acting practically as messengers instead of their services being utilized in the work for which they have been trained. Mr. Thomson, from the telegraph section, and Mr. Gardiner, who is practically in charge, should be able to inform the Committee more particularly on this point. I could not give details as to the number of men required specially to do work in the metropolitan area. I do not think it would be possible to have a small workshop in the city for such men as might be required here and have the workshop proper some distance away. Under the circumstances I have mentioned, I think it is a fair proposition to spend the money required for the new building on the Harbour-street site. The work of attending to the telephones in the city has to be done promptly, and, therefore, it would be a distinct advantage to have the men at hand. At Manly we have mechanics stationed to do any repairs, and if they are unable to do any particular work they notify head office. I do not think we have yet reached the stage when we should have the store a couple of miles further out from the city. The more centres established the more expensive will be the administration, as all the suburbs would have to be provided for. A workshop for Manly district would be somewhat unnecessary, as it would be not at Manly, because there would then be only one exchange to deal with. All the repair work does not come to Sydney, as we have mechanics stationed in certain country centres, such as Goulburn, Bathurst, Orange, and other places. When those

men cannot do a job, it is sent to the city workshop. The cost of the proposed building, and not the site, really appears to be the objection. We must have a workshop, and the question is whether we can get it at a reduced cost by substituting wooden stanchions and floors for steel and concrete and still have a building fairly fire-proof. If I were a manufacturer about to build a workshop, I do not suppose I would contemplate erecting a building to cost so much as this will, but would want to reduce the cost. In this case we indicated what was required, and the Works Department has given the estimate for a fire-proof building. I do not think, however, that the £13,000 is an excessive price for the land. We want to be in a convenient situation to enable us to cater properly for public requirements, and if we are not conveniently placed there will be higher expenditures in other directions.

29. *To Mr. Sampson.*—We find that the tramway system of the city and suburbs is a convenience for the conveyance of articles for repairs, but we cannot put goods on the trams for delivery. A mechanic usually reports himself at the shop every morning to see what work he has to do, and then takes out with him whatever material he may require. We have found it cheaper to dispose with the hired vehicle for the transport of the heavier material for repairs, and we are gradually getting our own conveyances. If our workshop were situated a mile or so out of the city, naturally there would be an increase in the cost of transport. If we were manufacturing in the proper sense of the term, I would say it would be better to get further out, but the time occupied in transport would be a charge against the cost. All the important repair work from North Sydney is done in the city workshop. It would not pay to keep up-to-date machinery in branch stores, because it would not be worked up to its fullest capacity as in the case in the city. Though the proposed site is not in the actual centre of the metropolitan area, it is in the locality most convenient to the bulk of our telephone subscribers. If we were to start again, I would still favour the Harbour-street site, as against Petersham, which is about the geographical centre of the metropolitan area. It is rather difficult for me to say if I would have a workshop in the city area at all, if we were starting all over again, because I would have to consider all our probable requirements. This is the first time such a question has been put to me.

I have not in mind any site better than Harbour-street. I think it is advisable that we should carry about £100,000 worth of stock, because the material we require is, as a rule, manufactured expressly for our department, and, consequently, if we bought in small quantities we would have to pay a very much higher price. Moreover, we have to import a large quantity of it, and shipments of small lots would be a good deal more. We always estimate at the beginning of each year what our probable requirements will be, and work on that estimate. If we could rely upon getting our votes passed by Parliament at that particular time we could probably make better arrangements, but very often money intended for our votes on 1st July is not passed till December, and the money not being available, we cannot go on with new works. As a matter of fact, the vote might be reduced by Parliament, and in that case, if we had purchased material, we would be charged with having bought without Parliamentary authority. Even if the money were available, however, I can foresee a good deal of difficulty in a proposal to make contracts twelve months

ahead with a condition for delivery as required. We invite tenders, and, even with agents here, we have to allow them time to communicate with manufacturers at home. We could, of course, arrange for delivery as required from local manufacturers, and thus reduce the stock carried, but we must always have sufficient in hand, otherwise we would be unable to keep faith with the public. We invite tenders for particular quantities at a time, not for a year's supply. I have not given consideration to the question of ordering twelve months' supply with delivery as required, because we are not like a retailer, whose interest it is to oblige the warehouseman to carry the stock. We are practically in the wholesale business, because we have to carry large quantities for distribution, as called for, all over the Commonwealth. It might be possible to order twelve months' supply on these conditions, but I am not in a position to say absolutely that it would prove satisfactory. Local manufacturers get a preference of 15 per cent.

30. *To Senator Needham.*—The New Works and Buildings estimates, when passed with the Supply Bill, do not concern us. We cannot draw on those votes for our ordinary supplies. About six years ago a loan vote was at our disposal, and it enabled us to get out of many difficulties, because we were able to purchase supplies without waiting for the usual Parliamentary authority. Employees when on duty have all tram fares paid for them by the Department.

(Taken at Sydney.)

WEDNESDAY, 24th JANUARY, 1917.

Present:

Mr. RILEY, Chairman;	
Senator Keating,	Mr. Finlayson,
Senator Needham,	Mr. Gregory,
Senator Storey,	Mr. Sampson.
Mr. Fenton,	

Ritchie Eagle, Controller of Stores, Postmaster-General's Department, New South Wales, sworn and examined.

31. *To the Chairman.*—I have held my present position for about five years. During that time the stores branch work has increased considerably. When I assumed my present position we occupied premises in Clarence-street, Sydney, and rented other places in different parts of the city. We vacated the Clarence-street premises about three or four years ago, when we moved into buildings on Darling Island, now occupied by the military authorities. We left Darling Island because the store was too small for our requirements. We had to rent other places in the city, and, in addition, the means of getting in and out at Darling Island were too limited. It was like getting in and out of the neck of a bottle. We then went down to Bridge's Stores, which we rented for about eight or nine months, until the Government could make arrangements to buy it. The Government had the option to purchase when the place was first rented. The site is suitable, about 100 yards from the railway goods shed and half-a-mile from Darling Harbor wharfs. The store now occupied by us is a suitable building.

I consider the workshop should be alongside the stores. All the material in the Harbour-street store is practically usable stock; very little of it is second hand, and this can be worked up and made good for service. The value of the store there totals about £100,000. If the cost of a fire-proof building proved too high, hardwood ceilings could be substituted. I think £29,000 (including land, £13,000), is a bit too much for the proposed building, but before adopting wood construction it would be as well to get an opinion from a representative of the fire brigade. I think such a building, with hardwood beams, and asbestos covering for the ceilings, would be safe enough. At present we take all possible precautions to guard against fire. At 5 o'clock, or when work ceases for the day, the senior officer in charge of each floor makes an inspection to see that all windows and doors are closed, and before he leaves the premises makes a declaration that all is safe from fire, and that no person has been left on his particular floor. In addition, we have chemical fire extinguishers and an automatic fire alarm on the May-Oatway system. We employ a watchman, but he does not come inside the building. He is engaged outside watching continuously from the time the men leave till they start work again. He is employed by our Department and also by Anthony Hordern and Sons, whose bulk stores are about 50 yards from the site. I think the building proposed to be erected will meet our requirements for about eight years, and by that time I estimate that the traffic in Sydney will have increased so much that we will have to decentralize to a certain extent. Provided proper precautions are observed, I can see no objection to a proposed workshop, employing blacksmiths and carpenters, in a building used also as a store. In such circumstances I do not see much reason to fear danger of a fire. As a matter of fact, the blacksmiths' fire will be only a small affair, and not a huge furnace. This building will save us the rent of the Alma-street property (£250), and, in addition, we will save labour, because we will be able to do with fewer men when we have the store and workshop together. I am sure it will lead to economy, because we will save the cost of cartage of material and have more direct supervision of the men in one building.

32. *To Mr. Penton.*—I have given some amount of study to the method of conducting stores in other countries, notably America, and I was engaged on this work in Western Australia for some years. I have not been to America, but I have read American literature on this subject from the Railway Storekeepers' Association of America. The policy has been laid down by the Department that we shall keep nine months' stock in hand. Of course, if we obtained our supplies locally, there would be no need to carry that amount of stock. I have seen some statements in the press relating to the manufacture of copper wire locally; but that matter has not otherwise come under my notice. I have not made it up into that subject, but I should say it would be a question whether we could manufacture it cheaply enough in Australia. In ordinary times we use per annum for New South Wales about 1,500 tons of galvanized iron wire, at £19 a ton, and about 500 or 600 tons of copper wire, at about £70 a ton; and I suppose the requirements of this State represent about one-third of the needs of Australia in this respect. We also import about £100,000 worth of cable in different sizes per annum for this State alone in normal times.

The custom is to call for tenders for certain material for the whole of Australia, and arrange for deliveries about every three months direct to the branch stores in the different States. Naturally, I believe in the policy of making as much material locally as possible. If we could supply all our requirements locally, we could cut our stock down to about three months' needs. There are certain patent rights in regard to telephones; but the Commonwealth Government about a year ago called tenders for the manufacture of telephones in Australia. I presume the response was not satisfactory, as the matter was not gone on with. I understand the work could have been carried out here without infringing patent rights. We have found, however, in some instances, a great difference between the price of articles manufactured locally and those obtained from abroad. For instance, an article imported at about 3d. would cost 1s. 4d. manufactured in Australia, but on the other hand there are some articles in iron-work and locks which are cheaper than imported ones. We do not require to import insulators new; but the local price is about one-third more than the imported articles of Austrian manufacture before the war. The locally-made insulators are now every bit as good as the imported article. If the main stores building were situated at Sydneyham, a lot of material would have to be carted out there and back again, and so add to the general expense. The price is for the contractor to deliver into our stores, and naturally he would charge more if he had to deliver at Sydneyham as against Sydney. I think most of the big private firms of the city would prefer to have their stores close to their business places. Anthony Hordern's, for instance, have a big bulk store within 50 yards of our place. When we bought our present store, we did not pay any more than would have been necessary to acquire land further out, and put a building on it. For the land, 70 feet by 126 feet, and building of 8,000 square feet on each floor, we paid only £24,500. Beside this price the cost of the proposed new building naturally seems high. In view of the fact that the building will be under one control, I see no objection to the scheme to carry out repair work on some of the upper floors. The mechanics will practically be isolated from the store, as they will enter and leave by a separate stairway. I approve of the proposed building, but I think the cost is a bit high.

33. *To Mr. Gregory.*—I have been in the Department for about five years. I am a mechanical engineer by profession, and served my time in the New Zealand railways. Then when Mr. Rotherham was appointed Chief Mechanical Engineer for the Western Australian railways, he brought me over from New Zealand. I drew up the specifications for the machine tools in the Western Australian railway workshops, and later on was appointed chief clerk in the Stores Branch in the Western Australian railways, and was made Controller of Stores in the Postmaster-General's Department to re-organize the Western Australian Stores Branch. Then I was brought over to Sydney to re-organize the Stores Branch here. The New Zealand Government did me the honour of obtaining a loan of my services to assist in re-organizing their Public Works Stores Branch. The cubic space of the present building is about 600,000 feet. I gave evidence before the Finance Committee on the question of stores administration. It did not quite approve of the finding of that Committee

in relation to the amalgamation of the various stores in the Commonwealth, because, in my opinion, where the business of one Department is big enough, that Department should deal with its own stores, so that there need be no delay in the supply of material to the engineers. There could, however, be amalgamation in calling tenders for such material as may be common to all Departments. It is important that tenders should have a sufficient stock of material readily available to carry out works without delay. Imported goods represent about 80 per cent. of the stores required by the Department, and it is the policy of the Department to keep nine months' stock in hand, as against three months' stock of locally-manufactured articles. This policy has been adopted in normal times on the advice of the Chief Electrical Engineer. Frequently it has been found that after material has been delivered it has had to be rejected because it did not come up to specifications; and by the time we have let another contract, and got delivery, our nine months' stock has pretty well all gone. Three or four years ago the increase of business in one year represented 90 per cent.; but that was because we were carrying out orders that the big warehouse firms have their ordinary stores branches close to their business places, and their bulk stores further away. With the installation of sprinklers and automatic fire alarms, I do not think it necessary to spend an additional £30,000 to make the building fireproof, because with ordinary precautions, even if a fire did occur, the loss would probably not exceed a couple of thousand pounds. I do not think the use of hardwood beams would increase the fire risk in the building, because I have seen some hardwood beams that have been through some very big fires, and they have been only charred, while some huge steel "I" or channel beams have buckled up and fallen down. I believe that the workshop should be alongside the store, because a large proportion of the material stored is used by the mechanics in the workshop, and thus no time will be lost in obtaining it. Material for repairs to the extent of about one ton a day passes in and out of the workshop. If the workshop were some distance out, all of this material would not, of course, have to be conveyed to the store, as some of it could go direct to the repair shop. Any stores issued are checked out by two men only, so that we can account for everything that goes out. Although it is proposed to employ a couple of hundred workshops men in the building with a separate stairway, those men will not enter the store at all. Five of the floors of the new building will be used for the Electrical Engineer's men, and on the basis of 7 per cent., the interest on five-eighths of the capital would amount to about £4,000 a year; but I think it hardly fair to debit the Department with that rate of interest. Moreover, it is going to be worth a good bit to have the stores and the workshop together. I estimate we will be able to save three men at once in the Stores Branch at £150 a year each; and I have no doubt the Electrical Engineer will also be able to economize in the same direction. I think it probable that the presence of workmen in the building would increase slightly the rate of insurance; but I do not think a small blacksmith's forge would be regarded as a serious fault. This project should not be delayed till a decision has been arrived at on the question of amalgamating the Stores Departments of the Commonwealth, because the building would be

useful in any case. In Western Australia the railway workshops and stores are close together, the latter building being within 20 yards of the fitting shop.

**34. To Mr. Sampson.**—The amalgamation of all the stores departments of the Commonwealth might effect a slight reduction in the cost of supervision and management, but it would be very little, because so many articles are special to certain departments. I had an experience in this matter in Western Australia. At one time all the stores there were together, but it was found necessary to separate the railway stores from the other departments, because of the delay caused in the delivery of material. It is possible that, with a turnover of 2½ millions in all the Commonwealth departments, some economy in management could be effected by amalgamation, but I do not think the arrangement would prove satisfactory as regards delivery of material to certain departments which really ought to have separate stores. Amalgamation on such a large scale is likely to prove cumbersome, though some advantage would probably accrue if tenders could be called for all material that is common to the different departments and then allow each department to order from the contractor. The big business people of Sydney maintain that in a big business like, say, a hardware, there is a smaller percentage of profit on management than in smaller concerns, which can be more effectively supervised. The policy of making the contractors responsible for the supply of material. From time to time, rather than that the department should carry large stocks, is all right, but in quite a number of instances we have had to reject material, and therefore if a contractor carries a large stock of such rejected goods, we would probably have to accept an article not quite suitable or else hold up the work. I cannot give you any idea of the saving that might be effected by ordering nine months' supply, say, of copper wire, delivery in one shipment, as against the practice of purchasing yearly contracts with delivery as required, but it would not be much. I might point out that before the war broke out we were paying on our contracts £12 per ton for galvanized iron wire, while wire not quite so good was selling in Sydney at £15 a ton. That will give a fair indication of what the merchants would charge. If we made a contract for twelve months' supply, with delivery as required, I should say the merchant would charge 25 per cent. more than for delivery direct, but if a merchant tendered for, say 1,000 tons, with delivery at the rate of 100 tons a month, I daresay he would give it to us a little cheaper. The proportion of locally-manufactured material to imported used by the departments is increasing, but very slightly. We have had some difficulty in getting local manufacturers to do work which we considered they ought to carry out. As an illustration of the wisdom of amalgamation in tenders for the supply of material common to all departments I can quote typewriters. In the Postmaster-General's Department we invited tenders for typewriters, required throughout the Commonwealth, and we paid £14 for Remington machines, while other departments of the Commonwealth have since had to pay from £25 to £26 for the same machines. If all the departments had come in under our contract, they would have been able to buy the machines at £14. We purchased a fair quantity of material under the same contracts, and we find the scheme works out fairly satisfactorily, but we have to pay a little more than if we imported direct, as the merchants charge us for storage and handling. I have had no experience in the handling of navy material.

**35. To Mr. Finlayson.**—If bulk stores are situated three or four miles out of the city there will be a lot of extra cartage for the bulk material. However, I am in favour of having such a store at Newcast. I am in favour of having such a store for some of the material in country centres, but I think Sydney is the proper place for the general distribution of the stores. At present the business would hardly warrant the establishment of stores in the country except in the case of Newcastle, where we are endeavouring to establish a district store. By this per annum through saving about £1,500 or £2,000 more we should be enabled to ship material direct to Newcastle, thus avoiding extra handling, as ships will deliver at Newcastle at practically the same rate as to Sydney. It is an advantage to have our stores alongside the water, but it is also advisable to be handy to the railway station if possible. The Harbours-street site is convenient to Darling Harbour. The question of accommodating telephone mechanics in the proposed new building, as against the Telephone Exchange, is a matter for the Electrical Engineer to determine, but in the case of the switch-board mechanics, it is understood a number of men, from 12 to 16, are employed in the "test room" in case any hitch occurs. Those men at the Telephone Exchange will, generally speaking, be engaged on light running repairs and not on the heavier work. With a lane between the workshop and the stores branch it will be necessary to transport the material from the latter to the former place. If, however, it is only a distance of 10 ft. or 12 ft. there should be much inconvenience. I do not anticipate that eventually the workshop will be removed and the stores branch be in sole occupation of the proposed new premises; because, from the inception of the scheme, the building was intended for the accommodation of the workshops. The matter was discussed first in 1913, at a conference with Mr. Haskett (Chief of Electrical Engineer) and Mr. Okeshott (Works Director), when it was decided that the building was to be mainly a workshop, but that the bottom three floors would be occupied by the stores branch. I consider the two stairways should be placed at diagonal corners in the building, so that in case of fire there would be safer means of exit. I have not found the stairway in the present building inconvenient, but hardly think it worth while, for the use that is made of it, to alter the existing stairway. We make it a practice to keep only small supplies of benzine or kerosene in the present building, the chief supplies of these inflammable oils being kept at Chippendale. We keep the kerosene in the basement, and away in one corner, in an old engine room, which is all bricked up.

**36. To Senator Needham.**—In view of the fact that we have to import so much material, I do not think that we could carry less than nine months' stock. We take stock once a year, on 30th June, and as a rule we do not find much obsolete stock in hand. When I took over the stores, there was some obsolete stock, but we are working it off. Very little danger of fire need be feared from the association of a workshop and a stores branch in one building. I do not see much advantage in the suggestion that one end of the building should be set aside for the workshops, which should be divided from the store by a lane. A fireproof door between the two would be a sufficient safeguard. If Mr. Dircks, in his evidence, informed the Committee that from a workshops point of view, the proposed new building would meet requirements

for about seventeen and a half years, he is allowing for expansion over a greater period than I do. As a precaution against fire, we have a watchman on duty all night, and we have a time clock to record his movements. The operation of the Supply and Tender Board in Western Australia was effective. It is the practice there to invite tenders for the supply of all Departments, but where Departments are large enough, as in the case of the Railway Department, they have their own stores. I think this policy of calling tenders for all supplies common to the different Departments could with advantage be adopted by the Commonwealth.

**37. To Senator Story.**—We do not insure our stock. The building we occupy at present would carry a premium of about £600 a year, so if we insured the proposed new building the total expense would be about £1,200 a year. The disadvantage of a fire escape on the outside is that a burglar might throw a rope up to it, and thus be enabled to climb up and effect an entrance at one of the windows. There is a fire escape on the lane from the inside of the existing store. As a precaution against burglars, we have iron bars and wire over the windows, where the fire escape crosses them.

Adolphus Berkelman, executive member of the Stores Supply Committee, New South Wales, sworn and examined.

**38. To the Chairman.**—I am the chief executive officer of the Department, which is controlled by me. The committee met once a week to deal with certain matters, or any business which I have to bring before them in connection with tenders. We have annual tenders for the greater part of our requirements, and we carry a fair amount of stock in certain lines. It pays us better to import certain goods than to buy from local importers. It is an advantage to have the stores as close together as possible, and in my opinion, as articles of common use should be concentrated in one central store. There are certain Departments for which there would be no necessity for a separate store, so we have one store to deal with all their requests. The Education and Public Works Departments would in a sense be special, but even for those Departments we stock lines that are in common use by other Departments. Stationery and lubricants are big items used by all Departments, so we stock them. The building we occupy was not large enough for us, so recently we had to rent a place down in Foster-street, but that was chiefly for furniture, the supply of which we control. We also buy brown paper in big quantities. Now that the war is on we have to store more in all lines than in normal times, and have to make our contracts a good time ahead to be sure of having the material. The building we occupy in Young-street. We have to consider the question of being convenient to Darling Harbour railway station, or the wharfs, or else being convenient to Public Departments using the store, and we are in the position most convenient to the Departments, which are all around us, so there is no difficulty in delivering to them. We deliver on two days a week, and it does not take long. The goods manufacture a lot of goods for use in the service, and we provide all the material. We control the lighting and heating of Government Departments to a certain extent, and we

have a practical man who understands everything in connexion with gas or electric lighting, and thus we save a lot of money. All requisitions come before me, and I deal with them. We do not try the system of arranging contracts for the supply of material monthly, with the object of saving storage, but, for articles like soap, which is largely used in all the big institutions, we contract for a supply of between 300 tons and 400 tons per annum, to be delivered in four equal lots in the first month of each quarter. That all goes into our store, because it has to be made up to sample, and therefore has to be tested. That soap might remain in the store for about ten days. By contracting in that way we get our soap at bed-rock prices. We also stock a large quantity of drapery, which we import from England three or four times a year, and thus save about 25 per cent. on the cost. We find it pays us to buy in large quantities, even if we have to store it, and besides something might happen and we might not be able to get the material when we wanted it if provided for under ordinary contract conditions. This policy also saves time in the supply of stores when asked for, as the material can be obtained straight away, whereas if it were not available, workmen on the job would know this, and would probably slow down. Tracing-lines is used by all Departments, and so we keep in stock big quantities, for by purchasing in that way we get big rates of discount, though the article does not come out of it. It is the policy of the Government to concentrate stores in one city and distribute them as required to country districts. We are doing a lot of work in this direction for the Federal Government, on a commission basis of 5 per cent., though for certain of our own Departments we charge only 2½ per cent., but the latter does not pay the State Government. The Dockyard draws on us for certain naval stores, and we also supply material to Canberra, Jervis Bay, and to other Federal Departments. Our stores building is not fireproof. The greatest care has to be taken to guard against fire. We have never had a fire since I have been connected with the Department.

39. *To Mr. Fairguson.*—I consider it an advantage to concentrate supplies in one store, and distribute from that; but, at a place like Wentworth, or Broken Hill, for instance, the policy I adopt is to ask for a local quote for any material required there, because the local storekeepers can supply certain lines cheaper than we could from Sydney. The system under which the State Stores Department works is not right, and so the Departments are allowed to take advantage of local circumstances, as in the case of the places I have mentioned. This matter rests entirely with the head of the Department—in this case myself. I use my own discretion when dealing with requisitions. The duty of members of the committee is mainly in connexion with the opening of tenders and discussing any matters that might arise in connexion with the carrying out of a contract. This system of a central Government store in Sydney has been in operation for a great many years, and the tendency is to concentrate authority still more in the Central Stores Department. For instance, if one Department buys away from the contract, the usual result is a regulation tying the hands of the departmental officials for the future. I can quote one case in which brass locks were bought outside the contract, because the contractor said the line was not good enough; and, as a consequence, the Department paid more for the article it obtained. The matter was

looked into, and we found that the sample of locks supplied was not nearly as good as the article provided under the contract. There is a tendency amongst certain officials to get away from the contracts, as they do not like to be compelled to buy under the regulations. I know that some years ago big prices were paid for certain lines, and when the matter was inquired into, it was found that the officer concerned had been getting a pretty big cheque out of the transaction. Under our system, as it is working now, written quotations must be obtained for any requisitions over £5, and these are opened by two officers, initialed and sealed. Thus we get the keenest competition, because all the contractors know they will get a fair deal. If we adopted the policy of allowing stores to be sent direct from the contractors to the country, there would be no one to check the quality, and see that the people in the country were getting a proper article. Therefore, all stores are delivered to the central store, where they may be examined for quality and quantity. The proportion of goods distributed to the country districts is heavier than in the city, as country stores are generally sent away to a fixed timetable, for we do not allow country officials to make requisitions every month. They requisition, as a rule, about every six months, and, therefore, we make up large quantities; but in the city they are not tied down like that, and they may requisition more frequently. We carry about £50,000 worth of stock, and turn over between £200,000 and £400,000 worth annually. The greater quantity of our stores is imported. Disinfectants, which are largely used, are a local product, and lubricants are also compounded locally. Naturally we have to carry heavier stocks of imported than of local goods, the proportion being about three to one. When indenting drapery, we usually order £30,000 or £40,000 worth in about November of each year, thus giving the contractors plenty of time, the first shipment being due to reach Sydney the following June, and the balance of the contract comes in two lots during the next eight months of the year, one-third coming every four months. Just at present, on account of the war, we are not getting our shipments so regularly. We have a buying office in the Agent-General's Department in London, and usually buy twelve months ahead in all lines. It pays us to import a great number of lines of stationery. We buy a couple of tons of pins at a time, and when times are normal we have no trouble in keeping up supplies in all lines. At one time we relied upon getting supplies of serge for uniforms locally; but when the war broke out, the New South Wales mills had to work on war material, and, consequently, could not supply our requirements. If the proportion of locally-made goods increased, we could carry less stock in certain lines. We always have a big stock of lubricants in hand, and when inviting tenders, we do not specify any particular brand. After we have had certain lubricants tested, and found which are the most suitable, we include the analysis of that lubricant in the specifications, and call for tenders without advertising any brand. The lowest tender is then accepted, and we see that we get an article up to the specifications. Frequently we have to reject a lubricant, and the contractors are penalized. In one case we found that a contractor for disinfectant had included no carbolic at all in the contract, and the Government were being robbed, and, moreover, it was dangerous that an

article so much used in hospitals should be without an essential ingredient. We stock heavily in all lines of paper, and get four deliveries in each year. Drapery bought for our store would be passed in England, but would not be paid for until our inspector was satisfied that it was all right. We would pay on the production of the shipping documents. The policy of the Department is to grant preference to everything produced within the British Empire as against foreign goods. We have not had a fire in our store. We do not make any special effort to separate the inflammable from the non-inflammable goods, but we have our stores stocked to suit our own convenience. For instance, stationery is on one floor, general articles are on another floor, and lubricants in the basement. If any fire occurred among the lubricants, it would be a pretty big thing; but we have fire-hoses on every floor.

40. *To Senator Needham.*—We find the departmental Supply and Tender Board system is most effective, and if the same policy were adopted for all the Commonwealth Departments an economy would result, for there would be certain standardization aimed at. We standardize in furniture, and provide a certain kind of table, certain classes of chairs, and so on.

41. *To Senator Keating.*—I have been in my present post since 1922. I think it is very desirable that there should be standardization of certain stores, in order to limit contracts, and so make a better bargain. Different officers have different ideas in regard to articles that might suit them, and so, unless they were checked, needless expenditure might be incurred. It is better, therefore, that the controlling body should settle what classes of goods are to be used. The Service, after finding out by actual experience what gives best results. I can quote pens as an illustration. We stock a certain variety of pens, and if an officer requisitions for some other kind of pen not in the schedule, we consider that, as we have a sufficient variety to cover all reasonable requirements, if he wants any other kind he should pay for them out of his own pocket. In inviting tenders for Government stores, we find that the more we can limit the number of varieties the lower will be the price. Before we took over the control of furniture supplies the Departments used to requisition on the Government architect, and, so long as he had the money, those Departments used to get the furniture they asked for. If a Department wanted a Cutler desk or a pedestal table, it would be supplied, but since we took over control, no Cutler desks or pedestal tables have been supplied, except, perhaps, to a Minister. Revolving chairs and carpets were also supplied at one time to almost any official at a high price. I have full authority to act in regard to requisitions, and I find that in nearly all cases they have to be altered in some respects. By checking requisitions a good deal of unnecessary expenditure can be avoided.

42. *To Mr. Gregory.*—I have no control over the Railway stores. The Railway Department is a huge concern, and its stores run into millions, and besides many of its stores are not used by other Departments, so I think it would be unwise if we amalgamated the Railway stores and had one Stores Department to control the whole of the supplies, because we would then want sub-managers for each branch. There should be a separate Post stores building for articles of a technical nature and used only by the Postal Department. That Department is

a big one, and its requirements are becoming greater every year. With valuable stock in the store it is as well to have a fire-proof building, but this depends a great deal upon what the extra cost would be as against a building of timber construction. So far as our own store is concerned, the Treasury have an insurance fund, but they apportion a considerable amount of the insurance with the insurance companies. We are always fully covered by insurances. If postal stores were burnt out a great deal of inconvenience would be caused. The difference between a building of concrete and steel and a building with hardwood beams and standards (£68,000 as against £45,000) seems too great to justify the expense of the former type of construction, so I would prefer the latter class of building. We have good hardwood beams and supports in our own building, and I do not think they would burn if a fire did occur. If the material is going out pretty freely there ought to be enough room in a building with 600,000 cubic feet of space to allow of an output of £100,000 a year. If I talk stores for the heavier material, such as iron, we go further away from the general store, in a locality where land is not so expensive, it might be advisable to adopt that course in preference to heavy expenditure on new buildings in the city. We did store some of our furniture for a little time in the old Darlinghurst Gaol building. I have seen the plans of the proposed new buildings in Harcourt-street, and if I were asked whether it was advisable to have workshops in which carpenters, blacksmiths, braziers, and engineers were to be employed on the four floors above the stores, I would say it would, perhaps, be better to have the workshops away from the store altogether. Even if the building were of fire-resisting construction, I would hold to this opinion. I do not believe in having workshops in the store itself. We tried it in our furniture repairing shop once, but I had to put a step to it, and now we get this work done elsewhere. We take every precaution to prevent looting from the stores, and very little of the material is taken away. With 200 men employed in the proposed new building there would always be danger of looting if the men had access to the stores in any way. I do not allow any outsiders into my stores at all, and very few of my own officers. This policy is also a precaution against fire, because if men are allowed on the premises they are apt to light their pipes and smoke during lunch-time. I do not allow any smoking in my store at all. I should say it must add to the cost of insurance if workmen were engaged in the proposed new building.

43. *To Mr. Sampson.*—All our purchases are made by one authority, but I think it is better for certain Departments which stock lines not of common use to have their own stores. In this State the Education Department uses very quantities of material, but they do not buy. They draw on our stores. We do all their indenting, arrange all their contracts, and pass their stuff. They refer samples to us, and we authorize the placing of goods into stock. A proposal was made some little time ago to erect a store for the Education Department and one for our Department, and to run each other, but in that case I would not have any control over the Education stores officer, though he would have the use of my office and the services of my men when the supplies came. There might be some advantage if he were under my control, but his appointment is a very good officer. I believe in the concentration of stores, but I think a proposal can be taken too far. I should say that as the distribution of stores to the Commonwealth

Departments in New South Wales runs into about £1,000,000 per annum, it would be as well to have bulk stores somewhere outside the city area, and where land is cheap, and to have repairing shops a little way out. If we had the whole of our drapery shipments delivered in one consignment, we would carry a very great amount of stock, and three-quarters of the capital would be idle money for the time being. Under our system of taking delivery in, say, three shipments, I do not think that we are paying any more than if we received the whole in one lot. The contract, however, is fixed for the whole quantity, and my impression is that we can buy as cheaply under this arrangement as under any other.

44. *To Mr. Fenton.*—The Postal Stores Branch, like the Education stores in our State, requires lines that are not used by any other Department, and therefore, I think, should have a separate store. I have not considered the question of the Commonwealth stores being amalgamated with the State stores, but I dare say a practical scheme could be evolved. I do not know much about the Postal stores themselves, but in the early days we used to arrange the postal contracts, and I think it possible that some expenditure could be saved by a concentration of buying for all stores. I agree, however, that from the point of view of the Postal Department, separate stores are advisable for articles other than those of a character common to other Departments. If such an amalgamation scheme were formulated I would not allow the Postal Department to purchase their material, but would vest this authority in one controlling body, because that is how money may be saved. The Stores Supply Committee of New South Wales is a body very similar in constitution to the Supply and Tender Boards for Western Australia, South Australia, and Victoria.

Richard William Hasselgrove, General Manager, Lassetter and Co. Ltd., Sydney, sworn and examined.

45. *To the Chairman.*—In my capacity as manager for Messrs. Lassetter and Co. I have charge of the stores branch of our business. We employ about 800 hands in the different departments, and our bulk store, which is about 300 feet long by 50 feet wide, is about 400 yards from the railway goods shed. We bought the lease of the land about four years ago, and the building (a one-story structure with brick sides and galvanized iron roof) cost us about £9,000. It is not fireproof. Our other stores are built of stone and brick. We are universal providers and stock everything. We are now having plans prepared for an inflammable oil store at Jones-street, Ulm-st., 440 yards from the old store. The present stores are fitted with fireproof doors, which close automatically upon the outbreak of a fire. We have never had a fire in our premises. Our buildings have wooden floors, wooden joists, and wooden beams. We are fully insured, and naturally our insurance premium is a heavy one, as the stock, valued last month, was about £288,000 in the three stores. We indent in large quantities, and we look to turn our stock over three times a year. We get woolpacks out three times a year, in June, July, and August—if we required to build another store, we would have it as close as possible to our place of business, provided we could get the land.

46. *To Senator Needham.*—We have a 35 years' lease of the land we bought four years ago. It was in the Harris Estate, and we got it at a cheap rental.

46A. *To Mr. Fenton.*—Independent altogether of the cost of the land, I would like the stores to replicate retail stock as close as possible to the business establishment. We have all classes of goods in our stores, and all inflammable materials are kept in the basement, as we consider that is absolutely the safest place. Otherwise our goods are generally mixed in the store. We do a great deal of lawn mower repairing in our Kent-street establishment, where we have stores and workmen in the same building. At times the workmen use forge fires, but, if possible, they do everything by electricity. In a general way it would be safer if men who used forges were in another building, but we have one forge on the top floor only. I would like to have an absolutely fireproof building, but with steel so expensive as at present, I would prefer hardwood, which, after all, is quite as safe as steel. If the stores are situated three or four miles out, a great deal of cartage and double handling would be necessary, and, moreover, pilfering would be noticed, as no matter how careful you may be there is always a certain amount of loss in transit.

47. *To Mr. Finlayson.*—We do not employ more than a dozen men in the bulk store. At Pyrmont we have only six men employed, and we supply a great quantity of piping for the Government Stores Supply Department and the Water and Sewerage Board. We did manufacture at one time, but ceased doing that part of our business. Mechanical tradesmen should be separated from the stores part of the building, but in our case the carpenters heat their glue pots by electricity, so that they do not use any ordinary fire. In the proposed new building for the Stores Branch there ought to be no danger from fire through the employment of 200 men, but it would be better if they were separated from the stores. Our three boilers are just across the street from our business premises. I should say that the site of the new Postal stores is an ideal spot, as it is close to the railway and close to the water. It is undoubtedly an advantage to be close to the railway station, because the railway officials only accept goods between the hours of 8 a.m. and 4 p.m. Our turnover last year was between £800,000 and £900,000, and our stock is now higher than it has been for a long time, because we are now getting some goods which were on order for two years. I should say that our stock is now about 53 per cent. higher than it should be. For drapery and other reasonable goods we order perhaps six months ahead, and arrange for the goods to arrive about a certain date. We take stock in February, and at that time all our departments should have light stocks, because the new goods come in in March or April. Our quantities in the bulk stores vary slightly, but not to any great extent. We take the usual precautions against fire, but comply with all the regulations, and we get our kerosene up each day. When we are about to erect a new building, we inform the Underwriters, who advise us in connexion with fireproof doors, and so on. We have a night watchman continuously on duty outside the building.

48. *To Mr. Gregory.*—If bulk stores were some little distance out of the city, it would be necessary to have them near the railway line. A bulk store should be near the water and the railway. If I were building a store of this description, I would, of course, consider the extra expense incurred to make it absolutely fireproof, and I would

certainly have it fireproof, even at the expenditure of the larger sum of money, which in the case of the Postal stores is £68,000, as against £45,000. I would have my repairing shop as close as possible to the store, but always on the top floor. In our George-street premises, our watchmakers are on the top floor, and at our Clarence-street establishment our lawn mower repairers, carpenters, and plumbers are also on the top floor. They use gas and electricity. With 200 men employed in the new Postal stores, including blacksmiths at a small forge, I would like to have a street dividing them from the store. I understand that the total cost of a fireproof building would be £68,000, and if five-eighths of that amount were chargeable to the workshops, interest on this latter amount at 7 per cent. would be about £2,975 a year. This would represent a high rent, but still there should be ample work for the men to do. If the workshop were placed a couple of miles out, there would be the expense of carting the material to and fro, and also the leakage due to pilfering.

49. *To the Chairman.*—I have had a good deal of experience in this respect with carters, but I have never been able to find out what becomes of some articles. They just disappear somehow or other.

50. *To Mr. Gregory.* The same trouble does not occur in our warehouses. I believe, however, that most of our carters are honest, and we have had some of them for a long time. I should say that, in the long run, it would be cheaper to have the stores and workshops right in the city or at Darling Harbour, though I admit that not many manufacturers in a large way have their workshops alongside their business places. This work is nearly all done outside now. If I were to start a workshop to employ workmen in one of the Postal stores, a couple of hundred men, I would not go a few miles out of the city, because the cost of cartage would be too great. We had a factory a few years ago in which we employed from 200 to 300 men, and it was in the city. If the men in the Postal stores can be kept fully employed, the saving in the cartage of goods of all kinds, as would be necessary in the case of a building a few miles out of the city, would be considerable, and would justify the extra expense of a city workshop. There might be a protest from the fire insurance authorities as regards the blacksmiths' forge, but I do not know that any objection would be taken to carpenters working on the premises. We do not allow any persons in our building after business hours, and I go down every Sunday and walk through the premises to see that all is right. With automatic fire alarms and automatic fireproof doors, I should say that there would be no objection to the employment of a couple of hundred men in the building, while, on the other hand, there would be a distinct advantage in having the workmen under better supervision. As a business man, the proposal to have the clerical staff and the whole of the workmen in one building appeals to me.

51. *To Mr. Simpson.*—I do not think there should be any difficulty in handling in one building the stock received for the New South Wales Commonwealth Departments. In Sydney there are other stores larger than ours, and in my opinion the handling of Commonwealth stock to the extent of £1,000,000 a year is a much easier task than the handling of retail stock of that value, as in our case. At times we make our purchases from 500 tons of iron with delivery extending over eighteen months or two years. We always purchase from 200 to 300 tons of iron at a time,

with the stipulation that it must be shipped in lots of from 50 to 100 tons in one bottom, and in the case of Galvanized iron, we make up 500 bales and arrange for delivery in four monthly shipments of 200 bales. In some of the longer dated contracts made in the United States of America for wire and machinery, we make arrangements for two years ahead, and cable when we require the goods. This works very satisfactorily. Say we purchase 1,000 tons of wire, that would be on a twelve months' contract with deliveries every two months, and we would pay cash against the documents in London. That arrangement suits us, for it enables us to regulate our stock here, and it also suits the manufacturer, who need not carry such large stocks himself. I think that we buy quite as well, if not better, under this arrangement than if we contracted for delivery in one shipment. Knowing the class of material required by the Postal Department and its system of storage and distribution, I would say that the proper place for a Stores Branch is on the water's edge, in the city, so as to save cartage, which would be a considerable item if the store were established a few miles out of the city. I would build such a store close both to water and rail. In our business certain departments have to turn over their stock a certain number of times each year. In the grocery department, for instance, the stock should be turned over eight times a year, and other departments one and a half times. If they are overstocked at the end of the business year the responsible heads are called upon for an explanation. They are allowed a margin of 10 per cent. on the capital value of the stock of the department. In the ironmongery department, what we term "shelf ironmongery" is turned over two and a half times a year, and barbed wire, fencing, wire tanks, jute goods, four or five times a year. Most of our ironmongery is obtained from overseas.

52. *To Mr. Fenton.*—Our automatic fireproof doors were erected by Wormald. If a fire should occur the heat melts the solder, and the doors close automatically. I understand that there has been some little difficulty about the foundations for the proposed new building, but if I had the land available I would certainly erect a building there in preference to any other place.

(Taken at Sydney.)

THURSDAY, 25th JANUARY, 1917.

Present:

Mr. RILEY, Chairman;	Mr. Finlayson,
Senator Keating,	Mr. Gregory,
Sonator Needham,	Senator Story,
Sonator Stead,	Mr. Sampson.
Mr. Fenton,	

Nicholas George Sparks, Chief Officer of the New South Wales Fire Brigade, sworn and examined.

53. *To the Chairman.*—I have inspected the plans of the proposed new Postal stores in Harbourside, and so far as I can ascertain without reading the specifications they conform to the requirements of the Fire Brigades Board. I take it that the proposal is to erect a building on the slow burning or mill construction principle; that is to say, the timber will be rather heavier than



the actual weight bearing strain required to allow for any possible charring in case of a fire, and that wooden girders will rest upon the outer walls and not be secured or pinned down, so that in the event of a fire causing the beams to burn, the walls would not be thrust out. I presume, further, that it is proposed to have the floors themselves of sufficient thickness, the boards tongued and grooved, which is most essential, and laid diagonally if possible; also that air passages between the floors shall be eliminated and that openings in the floors for staircases or elevators shall be inclosed by brickwork or other fire-resisting materials. I understand, further, that any window overlooking other properties will be of wired glass in metal or steel frames and that sprinklers will be installed throughout the building. With these provisions, I see no objection to a store of that description being used for the purposes mentioned. Such a building is the next best to steel and reinforced concrete. I think the water pressure is good at the Harbour-street site, being about 57 lbs., and that the main is of fairly large dimensions. That pressure will be sufficient to throw a jet of water to the height of the proposed new building, which, to be a stand, will be slightly under 100 feet. We have three fire stations—the George-street west, Headquarters, and Pyrmont, all fairly handy to the locality, and all engines could be on the spot within two minutes of each other.

54. *To Mr. Grey.*—Reinforced concrete construction is the latest type of building, but I do not think that it has had any effect in the way of reducing fire premiums. A building of hardwood construction is quite satisfactory, because it will not burn unless there is a continuous flame against it. In an ordinary fire a certain amount of charring of the big timber sets up, but as a rule it does not burn right through. Thus, if timber heavier than required for the actual weight bearing strain is employed in construction, and if a fire occurred, beams 10 inches square would probably char to a depth of 1 inch, thus leaving a weight bearing strain of 9 inches square. This charring really acts as a fire protection to the timber. Armoured doors are built on this principle, the wood being in layers and no nails are needed to secure the ironclad coverings, in the event of a fire, the wood inside chars, but the air being excluded it does not burst into flame. Mr. Rodney Cherry, who has conducted experiments on the comparative combustibility of timbers, shows that any Australian hardwoods are very suitable, and these timbers are quoted by the British Fire Protection Committee. With ordinary precautions, I do not anticipate any danger from fire if the proposed new stores building is used partly as a workshop, especially if the carpenter's *delirium* is cleared up every evening, and waste products are cleared away. Much will depend, of course, upon the supervision or management, and undoubtedly special precautions should be taken, because the building is in a sense of national importance. The installation of sprinklers should prove an adequate safeguard and give early warning of an outbreak of fire; and if the manager or foreman of each floor is held responsible for its safety, these ordinary precautions should be sufficient. I suppose it would be absolutely necessary to have workmen in a building of that description, and that being so, the only thing to do is to take precautionary measures against fire, for after all fire protection is better than fire protection. I do not think it would be difficult to prevent workmen smoking in a workshop, or have them under fair conditions, I suppose a place would be set aside for them in which to smoke, and it

should then be fairly safe. It is important, however, to insist that all ordinary precautions should be observed in their entirety. I would prefer, of course, to keep the workmen away from the stores building, especially from a place in which £100,000 worth of material is stored, but I am not in a position to say whether the insurance premium would be affected by the presence of the workmen, as the insurance companies have their own definite regulations on this point. They do not take one particular risk, but take what is called a block risk. For instance, a building might be perfectly safe as a fire risk, but the premium on the building would be determined by the risks in adjoining buildings of a particular block. I do not know that the small Blacksmith's forge would be specially noted by the insurance companies, but it would be as well to get information on this point from the underwriters' inspector.

55. *To Mr. Finlayson.*—On one side of the building is a narrow lane, and I would not advise the construction of a staircase on that side, because it would be congested, especially in the case of a fire. Still there is another staircase, and one were out off, the occupants could use the other. Assuming there were 100 people in the building, and the carrying capacity of the staircase was 100, one staircase would be sufficient. I do not lay very much stress upon the position of the staircases. I consider staircases along the Harbour-street frontage would meet all requirements; but it would be necessary to comply with the provisions of the Shops and Factories Act; so it would be as well to get an opinion from that Department, to ascertain the position with regard to the outside fire escape. Judging from the plans, there would also be an exit into the next building, which would be much better than coming down an outside fire escape. I think ample provision has been made for the escape of all persons in the building in the event of a fire.

56. *To Senator Story.*—I do not anticipate any risks from fire in a building of the mill construction type, especially if the ceilings are further protected by asbestos sheeting, which, I understand, is proposed. If iron beams are used, they must be protected, or else they will be useless. I was through a building not long ago, and I have no hesitation in saying that if a fire of any magnitude occurred there, the whole place would be down like a pack of cards in no time, because the iron girders and columns are not protected. A building of the mill construction type would be far and away ahead of any structure of steel or iron, unless the girders and columns were protected by reinforced concrete, because any rise in temperature will immediately cause an expansion, thrusting the walls out, and then if a jet of water strikes the girders, they will buckle. We had fires recently at the Public Supply Stores and Gallies, and in the latter case the walls came down within a quarter-of-an-hour of the arrival of the brigade. The walls had not been put up very well, because there was an absence of the hoop-iron bond, which is a very important factor in the stability of a building, and while the columns were, I think, protected, I doubt very much if the girders were. After all, the magnitude of a fire depends on the nature of the contents in a building.

57. *To Mr. Sampson.*—A building with steel girders protected by concrete is the latest type of construction, and, I suppose, may be classed as the best. It would probably be safer than a wooden building, but this really would depend

upon the nature of the contents, because every thing will burn if you have heat enough. We have not had any fires in reinforced concrete buildings over 100 feet in height; but I should say that a building of the mill-construction type under 100 feet, would be quite safe, and would not carry any more risk. Nothing is absolutely fire-proof.

58. *To Mr. Penton.*—In modern buildings the ironclad doors of the style I have described are now regarded as being safer than steel, because the timber only chars, and then becomes fire resistant. I know the water pressure in Harbour-street is good, but I will furnish the Committee with exact information on this point. I will get the pressure taken in the busy part of the day, when there is a big draw-off, and again in the evening when there is very little draw-off. I will also ascertain definitely the size of the mains and the height to which a jet of water can be thrown with a hose, as well as the distance from all stations, and the times the various engines will take to get there.

(Taken at Melbourne.)

TUESDAY, 30TH JANUARY, 1917

Present:

Mr. RILEY, Chairman:

Senator Keating,	Mr. Finlayson,
Senator Nestling,	Mr. Gregory,
Senator Stroom,	Mr. Sampson.
Mr. Penton,	

John Smith Murdoch, Architect, Department of Works and Railways, sworn and examined.

59. *To the Chairman.*—Mr. Oakeshott and I have been in touch in the preparation of the plans for the extension of the postal stores building in Sydney. The plans have been referred several times to the Department of the Postmaster-General, and have been well considered by the Minister and officers of the Postmaster-General's Department and the Department of Works and Railways. Both Departments are agreed upon the utility of the building as proposed. We put before the Committee three schemes of building. In all the schemes the outward appearance of the building will be the same; that is to say, there will be brick walls harmoniously designed with the existing building and the floors will be at the same level as those in the existing building, but the windows in the proposed addition will be larger than those in the old building, though the lines of the windows will be the same. The first proposal is that the beams and stanchions carrying the floors shall be constructed of steel surrounded by solid concrete in order to keep fire from coming into actual contact with the steel in the event of a fire occurring in the building, and that the flooring on which the goods would be actually stored shall be constructed of reinforced concrete. The second method is estimated to cost £38,532. It is the modern method of building first-class stores, but, unfortunately, the cost is now unduly inflated on account of the high price of rolled steel due to the war. All the sections required for a building of this

sort with the heavy weights it will have to carry are not procurable of Australian manufacture, and we know that Great Britain is not in a position to export steel at the present time—in fact, it is asking Australia to spare the steel we have here. So the cost of construction by the first method suggested is, unfortunately, very high. The method we put forward to take the place of steel construction is to have reinforced concrete beams and stanchions, that is to say, to make concrete do the actual work of carrying and supporting, and to add a small percentage of steel where the concrete is weak in the tensile or side of its sectional area. If you have a concrete beam and put weight on it, the stress on it from the centre of the beam to the centre of the beam to the bottom it is a tensile pull. By adding the small percentage of steel we strengthen the tension, the concrete and steel form a homogeneous substance capable of standing the tensile strain. By adopting reinforced concrete beams and stanchions there would be only about 5 per cent. of steel. A few small commercial rods of steel introduced into the mass of concrete would make it do the work of solid girders. But on the other hand, there is the defect as compared with solid steel that more labour would be required. However, even allowing for the extra labour required for reinforced concrete work, the smaller quantity of steel required would mean saving a good deal of money. We have estimated that the cost of the building by this method would be about £56,498. The Department has been asked to economize in every possible way, and Mr. Oakeshott and I think that the possibility of reverting to the old method of using hardwood stanchions and beams, which was the prevailing method adopted in Australia until twenty years ago, is well worth considering. Some of our hardwoods are excellent for the purpose, and where fires have occurred the results have been worse than we now get with modern construction. For all practical purposes hardwood construction is just as good as the modern construction. Each method suggested has been calculated to give the same amount of strength. The question of the comparative area taken up by the stanchions under each method might be neglected. There will not be much difference. With steel construction there must be not less than 2 to 3 inches of concrete all round in order to adequately protect the steel from fire; otherwise the steel would twist and the whole building collapse. We have estimated that by the third method of construction, that is by employing hardwood stanchions and beams, the building can be erected for £45,195. Of course, the average critic would say at once that reverting to the use of wooden beams and stanchions is putting the clock back, but when it is analyzed sensibly, and thoroughly considered, it will be seen that wooden construction will be for all practical purposes as good as either of the other methods, while at the same time it will mean saving a considerable amount of money. If it were my own work I would adopt the wooden construction. The building might be regarded as suffering in appearance, but in a building of this character we are not looking for appearance; it is to be a purely utilitarian building. All that was intended in the way of fire service in the other two methods of construction was to have thermostatic fire alarms, by which if a certain heat is attained by the occurrence of a fire in the building, an automatic fire alarm is set up at the fire-station, and the brigade can be in attendance very speedily. The brigade keeps the appliances

in order for a small annual charge. But in regard to the wooden construction, we have in the estimate included a sum of £2,500 for the provision of sprinklers as an additional safeguard. The cheaper method of construction is just as effective as the other method. The danger will be in regard to the underside of the joists which span between the beams. The floors would be of hard wood, and we would need to mmo the ceilings, that is the underside of the joists, with some fire resisting material. Mr. Oakeshott has proposed to use galvanized iron. That method would be very good, but probably asbestos sheets would be better, but it is a matter we would need to think over. For the moment I favour asbestos sheeting. The cost will be about the same, at the present price of galvanized iron. In fact, the asbestos might be cheaper. I think that we could use the Australian-made article and get the sheeting a little bit thicker than is usually employed, and as to the life of the building, under wooden construction I cannot imagine the end of it if a suitable timber such as iron bark is employed. There is no doubt that the timber would last as long as the brick walls. I have had to do with the construction of warehouses in Brisbane built with hardwood in the method suggested, and they have stood up very satisfactorily. I have also seen the effect of fire upon them and I have never known them to tumble down. The beams would probably char to the depth of about 1 inch, but I have never seen them collapsing, whereas I have seen steel buildings collapse. Of course, there is no reason why a steel building should collapse if the steel is sufficiently protected. When a steel building does collapse the fault is entirely due to insufficient protection. The estimate that I have given for the wooden method of construction is down to bedrock, so far as economy is concerned, while having regard to the necessity for making the building fire proof. There is no doubt as to the probability of getting the hardwood required. The timber getters would be glad to have the work at the present moment. As to the probability of getting the steel that would be required for a steel building, it is wonderful what money will do, we have not yet failed to get anything we required, but the present situation is such that we would have to pay excessively for the steel, and the probability is that we would have to put in all sorts of sections that are not required. The contractor might have to put in bigger sections than would be required, and, of course, we would have to pay for them. I was not consulted in regard to the site of the building. Our Department was simply told the amount of accommodation that the Postal Department required. My opinion about the site is that it is well suited for a stores building. As the present building is there it is desirable to extend it in order to keep all the operations together as much as possible. The question of having a basement was considered. I did not give up the idea without considering it well, but as the site is very wet, the cost of putting down a basement, and making it water-proof, would be out of proportion to its usefulness. After all, a basement is of very doubtful advantage in a bulk store where it would be necessary to lower and elevate heavy weights. I stuck to the idea and let it die hard, but I thought it better to dispense with the basement in a building of this character. In order to have one it would be necessary to have a vertical layer of bitumen and to have bitumen over the floor in order to create a cup to keep out by force the water attempting to get in. The cost of the basement would not

be commensurate with the gain that would be got from it. It is cheaper to build up than to build down. If more room were required I would rather put it on the top. I do not think that the cost of bricks has increased in Sydney. Lime and cement are cheap at the present moment. As to the necessity of the work, the Postmaster General wrote to our Minister three or four months ago, and asked why we were not getting on with it, as the Department was in a great hurry to have the building, but I do not know whether that is the case now.

60. *To Senator Story.*—It is well to take about two years to complete the building if built with steel or reinforced concrete. Building with wooden stanchions and beams we could do the work in eighteen months—it would not be necessary to cover the wooden uprights with fire-proof material. No doubt it would be an extra precaution, but it would add considerably to the expense. If there was any doubt about the strength of the stanchions under fire, I would calculate with a high factor of safety and have extra strong stanchions and beams. In the formula employed in calculating, the factor of safety allows for fires. The uprights should be quite safe without any protection, but they could be protected in a cheap way by painting them well with asbestos paint, which is a good protection for fire to contain point, and it is only up to a point that we need consider in this case, because there is an efficient fire brigade in Sydney, and we would provide efficient means of dealing with an outbreak before the brigade might arrive. I have examined wooden supports and beams in buildings which have been burnt, and I have noticed in one to actually fall down. In the case of one big fire in Brisbane the stanchions and beams were considerably charred, but there was no collapse. This frequently occurs in the case of steel buildings, but only through the false economy of not putting enough concrete around the steel. Some architects put up steel stanchions and wind wire around, and wire lathing, also, and simply plaster it. In the case of a severe fire that method is useless. The steel must be solidly encased in concrete to stand fire. In the case of a very fierce fire I could not imagine an 18 in. by 18 in. ironbark upright being impaired to a greater depth than 1 inch. One could hardly imagine it getting alright. The compact texture of ironbark is very great. Timber would be more easily procurable than steel at present. It would not be very material to secure seasoned timber, though it would be better to have it. Ironbark does not shrink much. We have nothing below 14 ft. lengths, and I do not suppose a beam of that length would shrink more than  $\frac{1}{2}$  inch endways. That would probably suit us very well, because brick walls always settle slightly, and the chances are that the equilibrium of the building would be preserved by the slight shrinkage in the posts. I do not think that there is likely to be any danger in the old buildings and warping. Ironbark gets fairly true. Of course, it would have to be carefully selected. It would be useless putting in a beam from a tree which had a natural defect in it. That is to say, if the grain of the wood took a sharp bend. With care there is no reason why we should not get all the wood that would be needed. In some old buildings in Australia they put up hardwood stanchions with a hardwood corbel lying at across the top, and on that corbel the beam would be put. The beam shrunk and the corbel shrunk. Then from the top of the beam they commenced the next storey post. When you have the corbels and the

beams shrinking for five or six stories it means that all the stories shrink several inches, which is a very bad thing, because it is greater than the settlement in the walls. I do not propose to follow that method. I would butt each story post and keep the posts and girders together. Then in the whole height of the building I would not look for a bigger subsidence than an inch, which would perhaps probably be about true with the settlement of our walls. The walls are bound to subside a little bit. I do not prefer wooden construction to reinforced concrete, but taking into account the saving in cost, I would not hesitate about using timber if it were my own building. For the sake of being modern I might be inclined to go to the extent of a thousand pounds or so additional, but when it is a matter of about £20,000 additional I do not hesitate to recommend the use of timber; and from my experience I say that timber stanchions and beams give the building reasonable safety from the point of view of fire. The old method of construction in this kind of work is just as good as the new, even if it does not appeal to the modern critic. I do not know why in Australia have departed from the old method. Nature has provided us with certain materials for building construction, and probably we are not doing our best with the materials with which we have been provided. In Great Britain they cannot get such good timbers for building purposes. The timber used is pitch-pine or oregon pine, both of which are highly inflammable. At the present price there would be about £21,600 worth of steel in the building if the steel frame construction were adopted. If it stood within its normal value that figure would be reduced by about £10,000. Steel is now about 80 or 90 per cent. higher than it was before the war broke out. I am not frightened about the wooden stanchions or beams from a fire point of view. The only vulnerable thing about the building would be the floors, but we could have ironbark joists, fireproof ceilings and extra thickness of flooring—we ought to go as far as having boards of hardwood  $1\frac{1}{2}$  in. thick—and with the Grinnell sprinklers in addition to the thermostatic alarms, it ought to be a pretty safe proposition. As a professional man, I have no hesitation in recommending this form of construction.

61. *To Mr. Finlayson.*—The plans submitted have been finally approved by our central office. We have taken out full quantities and estimates of cost for each item in regard to each of the three methods of construction proposed. It is proposed to have departmental construction except that if the reinforced concrete method were adopted I would be inclined to recommend to the Minister that a contract be let for doing the reinforced concrete work. Otherwise the work would all be done by day labour under the ordinary system of departmental construction. There are big constructing companies in Australia who do nothing but reinforced concrete work. They have become adept at calculating the amount of steel to be put into concrete and the exact positions of the steel members in the concrete. Above all, they employ men who are highly expert in laying down the steel and surrounding it with concrete, a work which is a rather intricate process, requiring considerable skill. If we did not get it put into concrete and the exact positions of the steel members in the concrete, we would have to be content with picking up promiscuous labour not so skilled as that belonging to the companies. By entering into a contract with one of these companies for that part of the work we would probably come out better financially. I might not have a similar job for a long

time, and we could not expect the men to leave the companies and come to us, because, in the meantime, the companies would be training other men, and those we got from them would not make back their jobs when our work was completed. The reinforced work would cover about a third of the second method of construction suggested; that is about £18,000. Of course, if we entered into a contract every provision would be made for the company to follow the conditions laid down by the Commonwealth Government as for labour, and so on. It would be merely a question of who would employ the labour direct. In the event of the wooden construction being adopted, we would do ourselves the amount of reinforced concrete work provided. Where the beams go into the walls we would have reinforced concrete supports, and laterally between the supports we would have reinforced beams to support the next wall. It would be merely a skeleton reinforced concrete in contact with the three brick walls. That would be a very simple proposition, and we could do that work ourselves. No special expert knowledge would be required for it. We could start the building to-morrow if the money were made available. Under the present method of construction in Australia it is not possible to spend more than £30,000 a year on a building. Thus, it would take two years to build in steel or reinforced concrete, but if wooden construction is adopted we could probably put up the building in eighteen months. About 120 men would be employed on the job in addition to those employed by the firm who get the contract for the use of concrete piers for foundations. We put forward the alternative of piling because the State Public Works Department, which put down certain bores in order to discover the depth of the rock, furnished a report showing that the rock lay a depth of 24 feet to 30 feet below the surface, and that water was struck at a cost which, quite a small depth, and was under tidal influence. If that water was under tidal influence we would never be able to get the water subjugated. If we sunk holes with the intention of putting in concrete piers, we could hardly compete with the tides with any pump. We put down a shaft in order to see what would be met with in the way of water, and whether the water that comes in is under tidal influence. I do not think it is, I think it is only seepage. We found that it was quite capable of being dealt with by a pump. That condition of affairs made concrete piers quite feasible. If the water were otherwise, or had there been any difficulty about dealing with it, our only method of construction would have been to pile, because we could not have sent men down. However, as things have turned out, concrete piers will be quite possible, and according to our reckoning they will be £1,000 cheaper than piling. Each method would be good, but had the water been difficult to deal with we would have had to go in for piling, as piers would have been impossible at anything like a reasonable cost. No one can say anything against the concrete piers method, and in the case of this building they will actually cost less than wood piling. The elevators and stairs are enclosed in brick walls from top to bottom. The goods lifts are enclosed in concrete with steel shutters at each floor. There are fire doors where openings occur on the stairways. In the estimate of the cost of construction no allowance is made for the cost of preparing plans or supervising. The estimate is for the actual cost of material and labour.

62. *To Mr. Fenton.*—We will have to go down to an average of 28 feet for our foundations. If

we had rock at the depth of 4 feet, the foundations would cost about one-sixth of what they will cost. If there had been no water difficulties, I would have had a basement. It was my original idea to have one. The Postal Department did not put it forward as a requirement, but I suggested it; but whether we should have one depended on what we found in sinking the bores. What we did find put a basement out of the question as a practical thing. On the other hand, there is something to be said against having a basement in a big store. The bottom floor of the store should be capable of holding unlimited weights—anything up to 20 tons per foot. If we had a basement, the ground floor would have to be built up to carry heavy weights, and it would be costly to build one that would carry more than 7 cwt. or 8 cwt. per foot. A basement floor that would be capable of carrying heavy weight would have to be below the street level, and be badly lighted, and there would be the additional disability that everything that went into it would have to be raised and lowered. By making the ground floor capable of supporting unlimited weight would be most convenient, because the carts could enter the building and load or unload the big weights at the natural street level. If the rock had been nearer the surface, and there had been no water there, and if the spoil to be taken out was reasonably soft, I would have considered the question of having a basement; but I am not so sure that I would have adopted it, because it is desirable to have the main carrying floor at the ground level. Under certain circumstances, a basement could be accessible to a vehicle—that is if one side of the building at the natural level was lower than the other side. In the case of this building, it would be necessary to take away from the ground floor area in order to allow vehicles to get to the basement. You would probably have to sacrifice a space 8 feet wide by 30 feet long. It is hard to say what the rock taken out—should there be any—for the purpose of making a basement could be used for. In any case, it would have to be blasted out. We might get people to cart it away for the sake of the stone, but it could not be used in the building. The material used in the ceiling would be igneous rock. Sandstone would not do for concrete. The floors of the new building will be on the same level as those of the old building, and the external appearance will be the same. Brick work is cheaper than having reinforced concrete throughout, especially under our method of building. I do not think that a reinforced concrete constructing company, if it had the whole building to do, walls and everything else, would be able to come down to the same price as building the walls with brick and using timber for the stanchions and beams, but it would cost the Department a good deal more. Even if we were empowered to employ a contractor to do the work, I do not think we could save any money by building throughout with reinforced concrete. It would certainly cost more in Sydney to build in that way. I do not propose to use asbestos sheeting similar to that employed in the postal building in Melbourne, because it needs to be plastered over. It is an absolutely fireproof material, but it is absorbent, and when the plastering is put on, it really takes up the position of a fireproof lath. The material used in the Melbourne building was imported from America, but I understand that a firm is commencing to make it here. It is only a lath, which has to

be plastered over. Looking at it, one would think it was half blotting-paper and half brown paper; but it is absolutely fireproof, and plaster sticks to it like a leech. It takes the place of steel or wood lathing, and very much less plaster is used on it, because it does not go through. The absorbency of the material becomes the key for the plaster. The plaster remains on it very true, and does not crack, and the whole is very fireproof. In some warehouses, which are crammed full of stores, a tremendous heat during a fire is created; but wooden stanchions and beams are under certain conditions practically as safe as steel encased in concrete.

63. *To Senator Needham*.—I prefer asbestos sheeting to sheet iron for the ceilings; but I take it that the officers of the Department would have liberty to probe fully into the matter before making up their minds absolutely. Some fireproof substance would have to be put on the under side of the joists, and I think that we ought to get locally-made sheets of fibrous asbestos plaster a little thicker than those ordinarily in the market. They would be just as cheap as sheet iron, and just as easy to put up. If we placed a big order, we might get the sheets to the exact size to fill the places in which they would be put. I do not think it will cost more to fix asbestos sheets. I am aware that carpenters and blacksmiths and braziers will be employed in this building, but I do not think that there will be much risk in having them there. The building should be made up exclusively a store, and the mechanical workshops will be removed to some other building. I cannot imagine a building of this size being required for the mechanics. I do not think that the officer who told the Committee that the workmen would eventually push out the stores could have been thinking very seriously about the matter. The weakest floor we are putting into the building is calculated to carry a weight of 2 cwt. a foot, with the idea of the building eventually becoming a store. If we had been designing it for a mechanics' workshop we would not have gone beyond 120 lbs. per foot for some of the floors. The risk of fire, through having the mechanics in the same building with stores is negligible if the men are instructed to see that all their fires are out, and everything made trim for the night before they leave. I think every one will admit that the workshops should be removed entirely from the stores; but, seeing that additional storage room would be required in a few years, it was desirable to make provision for it now on the top of this building, and utilize the additional stories as mechanics' workshops. That is the economic point of view, so far as I understand it. It avoids the necessity of building mechanics' workshops at the present time, having the workshops in another building. The construction required for workshops is different from that required for stores. In this building we provide floors to carry 5 cwt. to the square foot on the lowest floor, and 4 cwt., 3 cwt., 2 cwt., 2 cwt., and 2 cwt. on the floors above. If we were building for workshops

purposes, we would not exceed 120 lbs. per foot for several of the floors. The London County Council regulations for factory purposes provide for 115 lbs. per foot. The whole intention of the building was to provide for stores throughout. If the ultimate destiny of the building is to provide for mechanics, we had better set about reducing the strength of the floors; but the Postal Department gave us the weights that they wished to put on the floors, and those weights were all large weights. I cannot conceive of this building becoming a permanent workshop.

64. *To Senator Keating*.—I accompanied the Committee on its inspection of the site, and I have heard a good deal of the evidence given. I heard it said in evidence that the stores and mechanics should be brought together. I did not understand that it was claimed that it was essential to have the stores and the mechanics not only in the same building, but also, in some respects, on the same floor. What I understood was that it was claimed the buildings should be contiguous. If we could get another site across the lane, and put up mechanics' workshops in eight, nine, or ten years time, we could connect the two buildings by bridges. That would be an ideal system, and would give absolute contiguity. The inclusion of mechanics in the extension of the stores was brought home to our Department before we made our calculations; but we did not understand that the mechanics were to be in permanent occupation of any part of the building. I have always regarded it that in a number of years the stores would require so many extra feet of space, and would gradually push the mechanics out of the other stories, and then we would have to get the mechanics into another building, wherever it might be.

(Taken in Melbourne.)

WEDNESDAY, 31st JANUARY, 1917.

Present:

Mr. RILEY, Chairman;	
Senator Keating.	Mr. Finlayson
Senator Needham.	Mr. Gregory.
Senator Story.	Mr. Sampson.
Mr. Featon,	

John Smith Murdoch, Architect, Department of Works and Railways, further examined.

65. *To Mr. Sampson*.—From time to time I have given the question of handling Government stores a good deal of consideration, though not from the point of view of a stores expert. Naturally in the Department this question has cropped up frequently. It is a subject which has been fostered very largely by Colonel Owen. I think that he was the originator of the idea of having a great common stores department for the Commonwealth. To my knowledge he has been talking about this idea for the last ten or twelve years. From that little beginning of mere talk it has been gone into at times more or less fully. When Mr. Anderson, the business expert, was dealing with our Department a couple of years ago, he also gave a good deal of attention to the

matter, and the idea seemed to appeal to him so much that he called together representatives of the stores branches of the various Commonwealth Departments, and also brought to the meeting the constructional men of our Department, including myself. For two or three hours the subject was debated before Mr. Anderson. While some of the stores officers concerned thought that to some extent economy might be obtained by going in for a comprehensive stores system, other officers saw a good deal of difficulty in the way on account of the purely technical nature of the stores relating to each particular Department. For example, it was pointed out that the Navy used a very large quantity of stores, and that a considerable proportion of them was more or less purely peculiar to the Navy. That is to say, they required stores which no other Department required. The general view which I think the Director of Stores for the Navy took was that anything which would interfere with the direct supply of such stores would probably not be an advantage to the Navy. Similarly the representatives of the Stores Branch of the Military Department had more or less the same idea. They employed stores quite peculiar to their own Department, and that if the existing stores system were removed from the Department the chances were that a good deal of round about method would have to be employed in the working of the stores; that is to say, that it would remove the business from their direct control too much; whereas on the other hand the stores which were common to all Departments—stores such as stationery, papers, pens, pencils, india rubber, and to a certain extent furnishings—might with advantage be embraced in one store. The debate before Mr. Anderson left the whole subject at that. In his report on our Department he considered that notwithstanding all these objections there would be a good deal of advantage in having a common stores system. But whether it would be in the economic interests of the Government—and by economic interests I mean financially economic and economy of time, too—whether it would be a good thing is really a very hard subject, and I do not claim to be a stores expert by any means. Beyond just having an open mind on the question I would be quite prepared to be educated by experts. The stores subject is a very expert one. In Queensland I had an experience of stores in a small way. They had what they called the Colonial Stores, but what is now called, I believe, the Government stores, and they stocked a good deal of stuff. They tried to gauge the probable requirements of the various State Departments for a period of twelve months or so in years. They called for tenders from outside people to supply the stores which probably would be required. They actually lay down stocks, and when Departments require any supplies they requisition on the stores. I would not like to express a positive opinion, but I have an idea that the system leads to the collection of a good deal of stock which is obsolete. It is almost impossible to gauge what a Government's requirements may be. In the Commonwealth we have had an example since the war broke out. The Treasury is tightening its expenditure. You cannot foretell what the policy of the country in regard is going to be. The actual purchasing and laying down of large stocks by the Government is, I should think, rather a risky expedient, because you can never be assured that you will get rid of that supply within the time expected. You may get rid of more or you may get rid of a good deal less. If you get rid of a good deal less it means that you will have stocks on

your hands. In building, our Department is in the habit of buying largely. I can see a reason why we should not introduce a system of ordering supplies for twelve months. I certainly think that the purchasing of stores and stocking them for probable requirements will be a mistake. I consider that it is far better for us to buy in the best market as we go along. Because in that way we avoid the cost of a stores building, the maintenance of a staff, and the bookkeeping which is inseparable from a contract system. In other words we put the onus of stocking and bookkeeping and all the rest of the business on the outside suppliers. Our building work is intermittent and uncertain. In the case of stores ordinarily required in the Departments the demand is not very steady; it is rather fluctuating. For instance, the slightest change of policy in the Defence Department might be the means of upsetting calculations very much. Again, if Parliament should affirm the advisability of adding a ship to the Navy, it would mean a good deal of difference to the stores for the Navy office. In order to avoid the necessity of erecting so many buildings for storage purposes, it would certainly be possible to give an order for supplies for twelve months ahead, as private firms do, and to have the goods supplied monthly or quarterly, and I think that it is done to a degree now. I believe that that system is honeycombed with the actual stocking-up business. I think that in the case of an average Government Department it might be possible to forecast for twelve months what its reasonable requirements might be, to give an order for twelve months, and to receive the supplies as they will be required. I believe that everything is possible, but whether it would be economically advisable is a question which calls for a good deal of serious consideration. Take for instance, the consumption by the Navy of oil, coal, rope, and things of that sort. It is doubtful whether any private firm would take the risk of stocking up to the extent of being able to supply the demands of the Navy. One has always to recognise the possibility of a contractor being unable to supply some sudden demand of the Navy. If the Navy did not have a buffer stock of its own, I am afraid that it would be a very risky thing and lay itself open to the criticism of the public that it was not able to do its duty at the exact moment when action was required. Leaving out the Navy Department, the system of buying ahead would apply to other Departments. The Postal Department would be easier to control in that respect. The New South Wales Government and the Victorian Government have stores contracts of the kind which you suggest to me. Their policy is more or less domestic, as compared with the policy of the Commonwealth Government, as they have not to deal with war and matters of that sort. They carry out the policy of standing contracts to a considerable extent. The State Governments have all been very good to the Commonwealth, at any rate to our Department. When we have a large purchase to make we examine the State contracts, and if we find that we can do better business by employing the State contracts, we buy through the State Government. On the other hand, if we find that for some reason or other their contract prices are higher than the values which outside merchants are quoting, we do not hesitate to go to the latter. But where we can secure an advantage by taking that means we invariably enter into the State contracts, and the States willingly allow us to do it. I think that the State stores used are of a very good quality, but it has not been very serious.

66. *To Mr. Gregory.*—On the contractors for a State Government there is no obligation to extend the contracts to the Commonwealth Government. If a merchant under a contract is supplying things to the State at a loss, and it comes to a question of supplying us, he is naturally within his rights in objecting a bit. However, that has not been serious. We got a lot of things through the State contracts, in New South Wales, especially, such standard things as linoleums and carpets.

67. *To Mr. Sampson.*—In connexion with the purchase and storage of goods for the Commonwealth Government, the cost of a staff is a great consideration too. You know what the public require in the way of accurate book-keeping and coding. It all means the maintenance of a staff. I can only speak with confidence and certainty about the general matters affecting our business of constructing works. I can say distinctly that beyond just a few things—in fact, beyond the stationery which we use—I think that we can continue with advantage to employ the system in use now, that is, to buy in the open market at the time required with occasional purchases from the State Government stores, when it appears to us to be advantageous to buy in that way. I am sorry that I cannot speak with any confidence about how a great central stores system would affect other Departments, such as the Defence Department and the Navy Office. I only have the subject discussed before Mr. Anderson, and he, presumably being an expert, recommended the establishment of these great central stores. Whether it be a good thing or a bad thing calls for a good deal of consideration, I think, before it is embarked upon. Certainly, it would be an expensive thing to do. It would involve the creation of a very large new Department under the Commonwealth Government, and probably the adding of conditions which would lead to delay in the supplying of stores. In other words, if a Department using stores had to requisition another Department it would entail delay in the registering and recording of papers, and all that sort of thing. It would all be getting away from direct methods. It is an axiom that any stores building should be on the spot where it would be most suitable. It should be in such a position that the stores can be readily delivered into it from the places from which they are to come—both from the ships and from the railways. It depends very largely on the nature of the stores whether they come from the ships or from the railways. I do not think that you can take stores as a whole. It would be very desirable, for instance, to have a store for such things as stationery and office requisites near where those stores are to be consumed. That would be near the office—near the General Post Office, the Customs House, and so on. But take other stores, such as bulky stores like telegraph poles, Portland cement, and articles of that sort. Obviously, I think, these stores would be better kept in a suburban place. That is the policy which we are really carrying out. We are building a big telegraph material stores at Sydenham, near Sydney. We also did the same thing in Western Australia, where we erected such stores about twenty miles out of Perth. A big iron store for the Military Department we are now putting down at Keswick, near Adelaide; that is out on a railway where, in the event of mobilization occurring, there would be freedom for getting materials in and out and not hampered in any way by the city conditions. It will be seen that the stores used are of a very good quality. I think that certain classes of stores can be better

kept in the town and other classes outside the town. I do not think that you can generalize and say that one position would be better for the keeping of all stores.

68. *To Mr. Fenton.*—The matter has been dead for a year or two now; but a good deal of consideration has been given to the best place for erecting ordnance stores in Melbourne. I do not remember Broadmeadows being considered, but a place out toward Sunshine, I think, was considered at one time.

69. *To Mr. Gregory.*—The thickness of the brick work at the base of the proposed building is to be 14 inches. The weights of the eight floors are concentrated on the piers. The walls between the piers at every floor level are to be connected by beams huddled in the walls, and these beams will carry the particular piece of wall belonging to that floor. There is a stanchion to go up for the whole height of the building between each set of windows, and under the floor levels beams will connect these stanchions the function of the beams being to support the particular section of wall belonging to each floor. This system enables thin walls to be employed in the construction of the building. Any other system of construction would mean that we would have to start at the bottom of the building with walls about 3 feet thick. That, of course, would occupy a very large space of very valuable ground and floor space all the way up. It would mean a considerable diminution of the effective storage area of the building. This method of construction gives us a greater cubic space within the building than the other method would. Of course, that means a decrease of cost as compared with the other method and of security. The estimated cost of steel building method is £68,000 odd. Under ordinary conditions, with the normal cost of steel, this building, I think, would cost about £10,000 less than that sum. In my evidence yesterday I said that I designed the building as a store, giving increased strength for the purpose of carrying heavy weights. Had the requisition been for the construction of a workshop the cost would have been probably £5,000 less. This scheme is going to provide 55,000 square feet of storage area, under the advice that we gave the Committee we propose to provide that storage area for £245,000. Adding the cost of the land to it and calculating it out, I think it will be found, in fact it is invariably found, that the buildings we construct for our own purposes are cheaper than buildings which we can rent, and they are very much more convenient, because they have actually been planned for the purposes we have in view, and that we cannot expect to get with rented buildings. The Government can command cheaper money than a private man can do, and the Government has a policy of insuring its own buildings by not paying premiums. I think that, if it is calculated out, the cost of erecting our own building in this way will be found a good deal cheaper than the renting of private buildings. That has always been my experience of office buildings. I admit that the Commonwealth must have a less sometimes. When I calculate the probabilities surrounding a building I take the capital cost at the current rate for money, which at present may be, say,  $\frac{1}{2}$  per cent., and then, according to the nature of the building, I add from 1 to  $\frac{1}{4}$  per cent. for repairs. The repairs in the case of a building like this one would, I think, be within 1 per cent. I think that the cost of depreciation, that is, that I add 1 per cent. would liquidate the value of the building in a period between forty and fifty years. The insurance of the building you never take into ac-

count. I admit that from a business stand-point we have to provide something, but I never really calculate the cost of insurance. That is a thing which, of course, is very much in our favor. By insuring its buildings the Government saves a great deal of money every year, and our losses up to now have been practically negligible. I cannot say what loss was involved in the destruction of the Canadian Parliament House, but I should say that it would probably be three-quarters of a million pounds. I have seen the building at Ottawa, but, of course, that building is not a fair criterion. We need not expect a calamity of that sort in Australia. The building at Ottawa was a fair one. I do not think that a fire would get very far in the Parliament House at Melbourne. That is not a complete fireproof structure. From a fireproof stand-point it is not a building quite up-to-date. A stores building is always a big fire risk. If it takes fire, it develops a very fierce heat, and the stores go on smouldering for hours. In a problem of this sort, with the appliances which have been suggested, I think that our risk will really be a minimum. Taking the cost of the cheapest building at £45,000, at 7 per cent., and the land at  $\frac{1}{2}$  per cent., the rental would run out at about £5,770 a year. I suppose that we could not get money at under 5 per cent. now, but with all respect, sir, I do not know that you could look at this proposition in that way. I think that you would have to take the average of the value of money over the life of the building. Five-eighths of the space will be utilized for workshops and two-eighths will be used for stores, giving a rental of £2,356 per annum for workshops. If I were asked to provide a workshop for 200 workmen I could provide a cheaper building than this one. If this were to be a workshop building, only the construction would be much cheaper. The weakest floor in this building is designed to carry 2 cwt. to the square foot. If it had been designed for a workshop several of the floors would have been planned to carry about 120 lbs. per square foot. I think that it may be taken as a certainty that almost any workshops building would be better in one story than to have a one-story building. With the means of vertical transit which we have nowadays, that is, fast travelling lifts, the disability of not having buildings one story is considerably removed. To erect a one-story building in anything like this locality in Sydney would mean a very large area of land. If an equally suitable site could be found within a couple of miles of the General Post Office, where land was cheaper, I would not put up an eight-story building; I would have a lower building. If you had to depart from a one-story building I would have a two-story building. You can always light a one-story building perfectly well. I do not know, sir, whether you have ever seen the woolen mill at Geelong, which covers acres of ground, but in the middle of the building it is as clear as day. These plans make special provision for the workmen in the five floors, leaving the building without having any communication with the store portion. Each floor in the building is designed as a compartment by itself. It may be cut off just by locking the fireproof door. Probably both of the two lifts would be used by the workmen. The two goods lifts might be in use at one time by the Mechanics Branch, or they might be in use at one time for the Stores Branch without disturbing in any way the Department which was not using them. The lifts are to be surrounded by fireproof construction, and goods going to the upper floors to be used in the meantime as workshops can pass through the

stores floors without disturbing them in the slightest way. They will not be seen, and will constitute no danger whatever to the stores floors, because they will all be of fireproof construction. The walls will surround the lifts and the doors giving access to the lifts will be fireproof. As regards the goods going out of a Stores Department there is certainly a very strict rule to have a proper system of check in order to prevent pilfering. With properly organized storekeeping I think that when we have a couple of hundred employees in the same building there will be no danger that men may be able to approach the goods portions of the building. It would be impossible, I think, for any person to go into one of the stores floors without declaring his business straight away. I see no objection from that stand-point, that is, always assuming that honest officers will be controlling the stores. The 200 workmen would include a large number of carpenters and some blacksmiths, and I think that on that account a fire insurance company would load an insurance risk slightly. It ought to be possible where a couple of hundred workmen are employed to insist that there shall be no smoking during working hours. I dare say that breaches might occur sometimes, but it is certainly ought to be possible to prevent smoking. I understand that in all buildings of this description such a rule is in force. I think that the rank and file in the Public Service observe the rule against smoking in the offices. If the erection of one of these buildings is approved we would take two years to complete the steel construction or the reinforced concrete construction. I think that we could do the wood construction in four or five months less. If the work were let to a contractor I do not think that we could get it done more quickly. If you were to ask that the work should be done more quickly, probably you would have to pay a little more. It could be done more economically by contract, perhaps. At the same time, the contractor's profit has to be got out of the work. I think with that coming in the chances are that the amounts would be pretty even. I consider in the case of ordinary buildings there is very little leakage with day labour if there is a good man in charge; that is always a necessity. It must be ten years since the Post Office Store at Darling Harbor was erected, and the cost was from memory something like £70,000. The building was constructed by the Public Works Department of New South Wales, but, of course, we had to approve of the plan. It is a very expensive building. The methods we employ nowadays represent a considerable economy on that, I think.

70. To the Chairman.—The building was put up by contract. It was designed by Colonel Vernon. It was one of the first modern fire-proof constructions in Sydney. I think that there were very few concrete floor buildings in Sydney before that building was erected. I think that Mr. Stewart was the contractor. It was an expensive building, it had an expensive foundation. It was built on piles, and the floors were designed to carry very heavy loads.

71. To Mr Gregory.—The passenger lift at the north-west corner of the proposed postal store building is intended to serve eight floors, to be worked with electric mechanism and to have a capacity for fourteen passengers travelling at the rate of 300 feet per minute, and fitted with dual control. The two goods lifts are designed with a capacity of a 2-ton load travelling at the rate of 150 feet per minute. It is intended that one of the goods lifts should be operated by electricity and the other by hydraulic power. The capital cost of the hydraulic lift will be smaller

£1,300, while the hydraulic lift will cost £200, but the inequality in the capital cost is made up in the running. The electric lift, while it will cost a larger capital, will cost less to run. The capital cost of the hydraulic lift will be smaller, but the annual charge for running the lift will be greater. Both lifts are designed to travel at the rate of 150 feet per minute and to carry a load of 2 tons. I will explain the object of providing one lift with electric power and the other with hydraulic power. In Sydney there are rival claimants for supplying power. One says that its system is more efficient, and the other company says the same thing. However, it suits us better to divide the order, because sometimes the electric supply gets out of hand, with the result that a lift will be idle. Of course, at other times, like all mechanical things, the hydraulic supply may get out of hand. In the event of a breakdown in either case we shall always have one lift at work. Both lifts would be affected by a coal strike, but, ordinarily speaking, I think that the best service can be obtained by dividing our patronage between the companies. We are doing the same thing at the Customs House in Sydney. It is provided with two fast travelling lifts, and we divide the order between the two companies. We have come to very good terms; we have got a long lease from the hydraulic power company for the supply of power to the Customs House on very favorable terms. The Commonwealth has postal stores at the end of Little Bourke-street, in Melbourne, and in Sturt-street, at South Melbourne. From memory I cannot say what the capacity of these stores is. But in the case of the Little Bourke-street store there is land and provision for extending the store indefinitely. It could become a very large store. I do not think that for any Department in Australia it would be necessary to keep £1 worth of stock for every pound's worth issued annually from the Stores Department, but I would not like to say what the proportion should be. I cannot ask the Committee to take my opinion on the stores question as being worth very much, because I am not an expert.

72. To the Chairman.—Before the site was purchased for the proposed store I was not consulted as regards the suitability of the land for building purposes. I do not know whether any officer of the Home Affairs Department was consulted on the subject. I think that before the Postal or any other Department secures land finally they should consult the Home Affairs Department in regard to the suitability of the land for building purposes. I believe that we are consulted on that point in the majority of cases, because, until just lately, the branch of the Government Service which acquires sites was a branch of our Department. When that branch was asked to purchase a site the first thing it did, as a rule, was to refer to the Construction Branch, that is, to ourselves, as regards the suitability of the site from a construction stand-point. So that invariably we have been consulted as to the suitability of sites from the construction stand-point. But now the acquisition of sites has been removed from the Works Department to another Department. I presume that the officers will continue to refer this question to us much in the same way. The proposed building has been designed to meet all the requirements of the Shops and Factories Act. Luncheon accommodations will be provided on the top floor for the employees. There will be retiring rooms for both men and women, and a portion of the flat roof will be given up for an airing space. In that respect I think that the arrangement is pretty complete.

73. To Senator Keating.—Yesterday I spoke in regard to the pillars or columns, and the two sections in which they are made—that is the section which stands the compressive strain and the section which stands the tensile strain. That is not a form of construction of these supports which is recent. It was in existence when the Darling Harbor stores were built for the Postal Department; in fact, it has been understood for generations past. It has been a matter of application and use in regard to stations for an indefinite period. The ground floor of this building will carry an indefinite weight; it will be on the ground, and may be looked to carry more than we could pile on to it, probably. The first floor is designed to carry 5 wt. to the square foot. There is nothing novel in the stations for the proposed building. What I said yesterday about the stations was just a general statement, and had no reference to any thing novel in this proposition. It is a well-understood practice. When I stated yesterday that, in certain instances, I would prefer to build with wood, the answer applied, not to a private house, but to a store purely. It applies to these isolated supports, as to the beams connecting the supports, which, in turn, support the floor that is, having regard to the present price of steel. If this were my personal responsibility, and everything in the building were likely to be mine, I would prefer wood construction; but if the cost were to be equal, or within £1,000 or £2,000 of being equal, I would prefer the other construction. The location of the store on this particular site was affirmed by having the present building there. It has been dictated by that circumstance. But apart from that fact altogether, from my knowledge of the city of Sydney, I do not think that I could find a site which would be more convenient for the purpose than this site. It is convenient for both the stores business itself, and for the staff employed in the building. So far as I know Sydney, I do not think that there is another site of outstanding advantage or superiority. I think that this is quite a convenient site. The present stores at Darling Harbor were designed and constructed when the State Works Department was intrusted with construction work; but the designs were subject to the approval of the Home Affairs Department. It was Colonel Vernon, the Government Architect, who was responsible for the design of the building. There is no such thing as fire-proof material, but it might be called fire-resisting. As a matter of fact, material like metal is very often more dangerous under a great heat than is material which will char like wood, because of the way in which metal becomes distorted or warped, and brings floors down. Naked metal at a comparatively low heat will lose its form—that is, it will get white hot and soft, and distort; but in an ordinary fire-resisting building that condition is averted by surrounding the metal with a layer of concrete. The efficiency of the construction as a fire-resisting construction depends thus on the thickness of the concrete coating surrounding the steel; but it is conceivable that, with a considerable coating of concrete around the steel, if the heat generated becomes great enough, even that construction will melt, thinking of replacing the steel with concrete. The construction by the hardwood construction, as has been suggested in this case, it will be found that the hardwood will resist any degree of heat which is likely to be caused by a fire within the

proposed building, and as efficiently as the steel and concrete construction which is proposed as an alternative.

74. To the Chairman.—I do not want to add anything to my evidence. I think that the Committee now has all the information which I can give about the matter.

(Taken at Melbourne.)

FRIDAY, 2ND FEBRUARY, 1917.

Present:

Mr. RILEY, Chairman;	Mr. Finlayson,
Senator Keating,	Mr. Gregory,
Senator Needham,	Mr. Sampson,
Senator Storch,	Mr. Feenton,

Ivor Evans, managing director, Briscoe & Co. Ltd., sworn and examined.

75. To the Chairman.—I have been manager and managing director for Briscoe & Co. Ltd. for about eighteen years. It is an old business, about 140 years old. It is, of course, a growing business. We do our indent business on this principle: We roughly take stock practically every three weeks. An indent goes Home to London or New York about every three weeks. We reckon how long it will take the stuff to come out. It may be from six to eight months. So that we really have to have visible and in stock enough to carry us over that period. For every £100,000 of business we are doing we keep about £30,000 in stock. On a year's turnover in our business we have, roughly, one-third in stock and turn it over three times during the year. Even if we know that we would do definitely so many hundred thousand pounds worth of business in one year we should not provide the stock in one lump. The stock does not all go out at once, and does not, therefore, need to come in all at once. It is coming forward at practically the same rate as it is going out. We have seven warehouses in Australia and New Zealand, and are so situated as to be able always to buy in large quantities, and practically up to the maximum. Nearly every business of equal proportions here can buy the maximum quantity necessary to secure the best discounts. Our requirements are practically for maximum quantities. There is an advantage in making yearly contracts with quarterly supplies, but it is not so great as some people think. Everywhere there are so keen to sell their goods that the difference in cost for a big quantity is not very much less proportionately than for what might be called a fair quantity. It should always be remembered that in buying in big quantities the interest outlay must not be overlooked. If money is worth 5 per cent. we must get a better discount than 5 per cent. for a quantity if we are not going to call it during the year. Our warehouse is practically a bulk store, as we do a wholesale business only. Our warehouse is built to combine both the selling and the storing proposition. The advantage of having a store near to wharfs and railways depends upon the cost of the site and of transport. If you can get a cheaper site at some distance from wharfs and railways you have to take into account the extra cost of transport, and, of course, if you can get an equally cheap site close to wharfs and railways it is an advantage.

Ours is not a fireproof building. It was erected before fireproof construction came into vogue. Fireproof construction is still rather in the experimental stage, and we are somewhat doubtful as to how fireproof buildings will turn out. We have steel joists in our buildings, and they are not encased in cement or brick. We recently had a fire with such results that I do not approve of steel joists and girders at all. In our fire they were simply twisted into hieroglyphics. We had a fire in 1912, when half of our premises were burnt. The premises were divided into two buildings, with a fireproof wall in the middle, and in the fire one half of the premises was absolutely burnt to a ground whilst the other was unburned. I was associated with a business in Melbourne some years ago conducted in a building in which there were hardwood supports and girders. A fire took place in that building, and it was found after the fire that the hardwood supports and girders were only charred. We took off about 1½ inches of charred from the hardwood supports and continued using them. Hardwood, without air, does not burn—it merely chars. It will stand a tremendous amount of heat; but, of course, hardwood supports and girders will take up more room than steel supports and girders. I am not an expert in this matter, but I tell you what came under my own notice. I think that hardwood for supports and girders is preferable to steel from the experience I have had of both. I have had no experience of fireproof buildings or fire-resisting construction, but I think they are still in the experimental stage. I have no hesitation in recommending the use of hardwood stanchions and beams in preference to steel. When we rebuilt, after our fire, we did so with steel, for the sake of uniformity; but we put in fire alarms to bring the fire brigade to the scene within five minutes if there should be an outbreak of fire. Everything depends upon not letting a fire get a good hold, and we are relying at the present time upon the precautions taken to prevent this. Our ceilings are wooden ceilings, and the stores are, to a great extent, inflammable. It would seem almost that hardwood stores are especially inflammable, because nearly every fire in a hardwood store burns right out. In our fire cast-iron on some of the floors melted with the heat and poured down into the basement.

76. *To Mr. Gregory.*—We expect to turn over stock three or four times a year. I do not think the Government would be justified in carrying stock to the extent of £1 for £1 of the annual turnover. That would be a waste of interest for one thing. For a turnover of £827,000 in the year to carry a stock of £820,000 would, in my opinion, be ridiculous. I speak, of course, as a private individual; but if I did that I should reckon I was carrying three times the stock necessary. I should have to pay three times the interest on the capital. Stock has to pay interest no matter to whom it is paid. If my interest charge were three times what it ought to be I would not be able to pay dividends on the business. The Postal Department might make provision for nine months' requirements, but they should not have all that stock in the store. They would be justified in having nine months' stock in the store and on order. It would not be inadvisable to make provision for nine months' requirements in stock and on order. I speak of pre-war or normal times, and not of war time. In our business we have eight months supply in stock and on order. If the postal stores had nine months' requirements in stock in the store I should say that that would cover seventeen months' visible stock. When I am asked whether I would consider it a good proposition to pay an interest bill of £2,493 a year

for five-eighths of the accommodation provided by a building of hardwood construction, costing, with the land, £58,000, in order to meet the requirements of repairing workshops, I say that the question is a difficult one to answer. I do not know whether the workshops are required. We have a factory, but it is away from our workshops altogether. I should not approve of having workshops carrying on the work of a factory in our warehouse. That would automatically raise the insurance charges. There is, speaking generally, a good deal of pilfering in storehouses carrying on a wholesale business. It would add to the difficulty of preventing pilfering if a couple of hundred men were employed in it in connexion with the work of a factory. The greater the number of men having access to the stock the greater the danger of loss from pilfering. It would be possible to separate the factory from the stores part of the building by a wall, but it seems to me that a site necessary for stores is almost certain to be too dear a site for the establishment of a factory. Our warehouse is in Little Collins-street. We should never think of establishing a factory on so expensive a site. Our factory is in South Melbourne. You will scarcely find any land occupied for a factory that is worth from £400 to £500 a foot. The land upon which factories are established is generally worth from £20 to £30 a foot outside. The advantage of building a separate store for very heavy stock rather than accommodating it in an extension of the existing stores would depend on the cost of the site proposed for the bulk store and the cost of transport. Where enormous stocks of copper wire and such goods are kept, the building of a separate store is worthy of consideration. It should be erected upon a site that would not be so expensive as would be necessary in the case of a warehouse. One advantage of steel girders is that they do not carry so much room as would hardwood girders require to carry the same weight; but in the case of a fire that gets a proper hold of a building, steel is absolutely useless. If steel is used you must take precautions by the establishment of fire alarms to prevent a fire getting hold of the building. The State Railways Department carries some stock, but the Public Works Department of the State does not carry stock. Recently inquiries were made on the subject, and the secretary to the Tender Board visited the different States in connexion with those inquiries. I believe that he has reported against the keeping of stocks. The method adopted is to make contracts with wholesale houses. They estimate their requirements for their supplies for a year or for two years for their supplies. The added interest is against the carrying of stocks, and there is also the accumulation of bad stock to be considered. We are experts in our business, and yet every year we have to write off quite a large value of stock that has become obsolete. With a Government department I should think that that disadvantage would be intensified very much. They would not write off obsolete stock as a private firm would, but the dead stock would continue to bear interest, though it would be of no use to any one. The fact that the postal stores have a stock valued at £820,000 to meet an annual requirement of £827,000 may indicate the existence of dead stock. I deny the necessity for such a stock. I am sure that they must have dead stock. We have been at our business all our lives, and we find that we cannot avoid the accumulation of bad stock, though we have the whole Commonwealth to sell to, whilst the Postal Department would have only themselves, or one or other Department, to sell their goods to. They cannot prevent dead stock accumulating.

77. *To Mr. Penton.*—Buying in large quantities does not materially affect freight charges. If you were in a wholesale way of business and buying the maximum, as we do, you should be able to ship as cheaply as we can. The freight is not materially affected by an arrangement to land goods at different ports. Of course, freight is dearer to Adelaide and Fremantle than to Melbourne and Sydney. Freight is dearer still to New Zealand ports. Freight to Fremantle and Adelaide is dearer than to Melbourne, although those ports are much nearer to London, but that is due to the volume of trade at the respective ports. As an old-established firm we, no doubt, obtain concessions from the shipping companies as the result of our long experience. I have had a number of fights with them from time to time which more recently established firms do not make. With a continuous customer the freight scales very little difference in regard to the price of goods. I do not think it is necessary to keep nine months' stock in store, but I do think that it is advisable to have nine months' stock on hand. You will see that if a certain amount of goods were not used for six months and goods were coming forward all the time, you would, after that period, have fifteen months' stock of those goods on hand. No private firm could stand that, because of the interest charge. It must be remembered that the State has to pay interest for its money in the same way as a private firm. In normal times the postal stores could get almost anything they required from abroad within three months. There is no reason why they should not make a contract for wire and such goods for a year, with delivery every three months. We supply the Postal Department with copper wire, and we supply both Federal and State Departments with various goods. We have no difficulty in delivering good within the time specified in our contracts. Speaking of normal and not war conditions, it does not take anything like nine months to get things from abroad. If we received an order for £50,000 worth of copper wire for supply to the Postal Department, we could make arrangements for the delivery of the wire in quarterly instalments, and the Post and Telegraph Department importing for itself could make similar arrangements. In normal times there is no more difficulty in importing copper wire and such goods than there is in the case of other classes of goods. I would not approve of having the workshops in the same building as the stores, because of the increase of insurance in the first place, and because workshops should not be established on such costly land as might be required to provide a suitable site for the establishment of stores. When I am informed that the intention is to accommodate workmen who are now provided for in a building costing in rates and taxes £1,620 a year, I have only to say that it comes back to what I said before, and that is that it is a question of relative cost, and, as a rule, stores are established upon more valuable sites than those selected for the establishment of workshops. The fact that a large quantity of the material used in the workshops is obtained from the stores makes the proposition more reasonable. The cost and inconvenience of transporting heavy material from the stores to the workshops must be balanced against the extra cost of the land when workshops might be established upon much cheaper sites. When I am informed that it is estimated that the whole of the accommodation supplied by the proposed extension of the postal stores building will later on be required for the stores alone, it seems to me as a business proposition that it would be better to erect a building with sufficient floors to accommodate the stores

and put the factory on a cheaper site. I think I should build a new place sufficient to accommodate the stores for present purposes, and as the workshops are, I understand, experimental, I would prefer to conduct the experiment somewhere else, upon cheaper land. Factories established upon expensive sites never pay, as interest has to be paid on the value of the land. You would have to sacrifice a little space by using hardwood stanchions and joists rather than steel, but in case of fire, speaking from experience, I back hardwood against steel every time. Mr. Gregory has estimated that there is a difference of £23,000 in the planned cost of the proposed extension in favour of hardwood construction as against steel construction. I would prefer the hardwood proposition. So far from taking undue risks by using hardwood, you would be taking less risks than by using steel. I have been speaking of unguarded steel, but I do not think you can guard it very much. Our building has to carry a cwt to the square foot of floor space, so that the steel supports were very strong. Still the fire twisted them out of all shape. We are hardware merchants, and build all our warehouses to carry 4 cwt. to the square foot. Of course, we like a margin of safety, and I know that all the stores kept by the Postal Department would not be hardware. I know nothing of reinforced concrete buildings. Their advocates say that they will stand anything, but I think that they are still in the experimental stage.

78. *To Senator Story.*—Assuming the position of the Post and Telegraph Department to be that it has already an eight-story building and an adjoining block of land, and requires more accommodation for stores; that at present three floors would give the additional accommodation required, but that probably in eight years' time seven floors would be required. It is explained further that there is another branch of the business, in the shape of telegraph and telephone workshops, which could be temporarily accommodated in four of the floors of the proposed extension not immediately required by the store department, and that if only three stories of the building were erected now, it would be necessary at considerable inconvenience and cost to remove the roof in a few years' time, and add another four stories. When I am asked whether, as a business man, I would recommend the erection of the whole of the building at once, I have only to say that it is all a question of comparative cost. I assume that, if this building is not used for the purpose, the workshops will have to be accommodated elsewhere. All building is at the present time very expensive. The factory seems to be largely experimental, and it occurs to me that it might be established on a cheaper site until its absolute necessity has been demonstrated. In any case, I should estimate the relative cost, but while the factory is experimental I should be inclined to carry on the experiment in a rented property. If you will certainly require the four additional floors in a short time and can demonstrate that the building would not cost you more now than it would cost later, I do not know that I would not be inclined to put up all the floors proposed—but I should certainly separate the manufactory from the warehouse portion of the building. I would not permit any traffic through the warehouse to the factory. My statement of the position differs from that of Mr. Gregory, and in answering you I have had consequently to modify the answer I gave him. When you say that the men engaged in the workshops are repairing postal appliances, and the material they use is kept in the stores, it is natural that you should be prepared

to pay something for having the workshops connected to the stores. If the factory were established in the suburbs on cheaper land, the cost of the transport of the material between it and the stores would have to be taken into account. I agree that something must be allowed for the advantage of having the factory convenient to the stores, but it would be fatal to have the factory hands going through the stock. This difficulty would be met if, as I am informed, there are to be fire-proof doors between the two buildings on each side, and that access to the factory would be by lifts that are encased in brickwork. The employment of carpenters and blacksmiths in a building used for stores would automatically increase the insurance charges, and, in my opinion, that is not affected by the fact that the Government undertake their own insurance. I believe in the use of sprinklers and automatic fire alarms with the object of checking an outbreak of fire. If you carry on a manufacturing business on the upper floors of a building used for stores you must take great precautions to prevent damage by fire that would otherwise be necessary. Such precautions as have been suggested would minimize the fire risk. The trouble arises when a fire gets a hold of a building. If you have sprinklers and automatic fire alarms that will bring the fire brigade to the building in a few moments, that is all that you need. If the fire alarms bring the fire brigade to the building in time there will be no burn out.

79. *To Mr. Finlayson.*—Our factory is supplied with materials from our stores and delivers to the stores the completed articles. We do not find this inconvenient because of the distance of the factory from the stores, because the factory gets in a sufficient supply of the materials it uses to last, say, a week at a time. There is the inconvenience and cost of transport, but these are more than met by the fact that the factory is established on cheap land. We have no railway or water frontages for our business. I think that, with the exception of the firms in the hides and skins business at Kensington, there is scarcely any business in Melbourne that has such a frontage. The disadvantage of the lack of such a frontage is counterbalanced by the advantage of having a better business site. There is only a limited water frontage available in any case, and the inconvenience of the distance of our premises from the wharfs is counterbalanced by the advantage of being established in the city amongst the people. Such a stores building as you have under consideration would not be seriously inconvenienced by having no railway or water frontage. There would only be a little extra cost for cartage.

80. *To Senator Needham.*—I know the location of the site of the proposed extension only in a general way; that is to say that I know that it is near Darling Harbor. I could not express any opinion as to whether £13,000 was too much to pay for it. I am emphatically against the use of steel girders. I have advocated all safeguards to prevent a fire getting a hold in the building. Once a fire reaches that stage steel girders and joists are simply useless. It is unnecessary to protect hardwood against fire, as it only chars. It might interest the members of the Committee to visit James Speer's building, in Lonsdale-street. Although a paper business is being carried on there now the same hardwood pillars are in use that were there when the building was burnt out. I would not advise the use of sheet iron for ceilings. Sheet iron will not check a fire. I am a steel merchant, but I know that as soon as steel or iron gets hot it begins to "talk." It is no good in the case of a fire. You might do as we did with our doors

between the two parts of our building. We had wooden boards with tin sheathing on each side. That stopped the fire going from one part of the building to the other. I think that ceilings of wood with a sheathing of tin or steel would be preferable to sheet iron 3/4 inches thick. Fibro-cement would be preferable to steel. On general principles I am against workshops in the same building as stores. It would be an advantage to have the workshops contiguous to the stores provided you do not have to pay too much for the site. If you have to pay a very high figure for the site it would be cheaper to establish the factory on a cheaper site, and pay the extra cost of transport. For instance, you would never think of establishing a factory in George-street, Sydney. It is better to have the workshops and stores near each other if you can manage it without considerable extra cost, but, as a rule, a factory site need not be in an expensive quarter. It is better to have the workshop contiguous to the stores if possible, and if you are not called upon to pay too much to secure that advantage.

81. *To Mr. Sampson.*—When you tell me that the existing workshops are established within 100 yards of the present postal stores in a building which is leased for £1,620 per annum, with the right of renewal; that the stores building contains a stock valued at about £100,000, and that the requirements for New South Wales are estimated at £100,000 for twelve months, and then ask whether I approve of an expenditure of £58,000 to carry on the business of the stores, I have only to say that, in the circumstances, I do not think the stores department requires any more accommodation, or any more stock. They have too much stock now. As a business man, I should not like to incur an expenditure of £58,000 on the facts you have put before me. If the stores department have accommodation for a year's supply, as you say, then they could cut down their present accommodation considerably. At a low estimate, they have in the stores building now double the stock they need, and are consequently using double the storage room they need. That means that one-half of the existing storage room is wasted. Stock returned owing to the introduction of automatic telephone exchanges when fit for use again goes into the annual turnover of stock, and is, I presume, reckoned in the £100,000 value of stock you have referred to. A concern that knows practically what its requirements are going to be should be able to turn over its stock three or four times a year. With a turnover of £100,000 a year, £50,000 worth of stock is the outside limit of what it should be necessary to keep in the store. I was informed by another member of the Committee that the stores department make provision for nine months requirements, but your statement is that they have twelve months stock in the existing stores building. If that be so, they have stock to the value of over £50,000 that they need not have in the store. I say that they could turn over their stock down from £100,000 to £50,000. In our business, for every £100,000 of our turnover, we keep £35,000, or, roughly, one-third, in stock. Giving a Government Department some latitude, I should say that, with a turnover of £100,000 a year, £50,000 worth of stock would be excessive. Estimating the cost of the proposed extension at £58,000, the interest charge at 5 per cent. would be £2,900 per annum. I do not make any allowance for depreciation. In the case of a very strong building such as is proposed, I do not think it is necessary to make allowance for depreciation. We make no such allowance in the case of our building because the appreciation of the property more

than counter-balance any depreciation. Maintenance is a different matter. Everything spent on the building should be charged to the profit and loss account as working expenses. I have already given evidence on the question of a co-ordination of stores for the supplies necessary for every branch of the Commonwealth service. I was called before the Public Accounts Committee to report to the Chamber of Commerce, and my evidence on that point is on record. I outlined a scheme for that Committee, and I have seen no reason to change the views I then expressed. I have said that I consider the present method very costly. I see no objection to a group of stores under central control for stocks required by all the Departments, but I think that the Government are mistaken in holding stocks at all.

82. *To the Chairman.*—When I am informed that many of the workshops are employed in repairing telephones and such work in the city, and have to be going continually to the stores for materials; then to the workshops to make necessary repairs, and then to the place where the telephone is to be used, I say that, in these circumstances, the workshops should be as near the centre of requirements as possible. I have said that, generally speaking, workshops can be established on much cheaper land than would be suitable for stores, but, other things being equal, it is preferable to have the workshops near the stores.

(Taken at Melbourne.)

TUESDAY, 6th FEBRUARY, 1917.

Present:

Mr. RILEY, Chairman;

Sonator Keating,	Mr. Finlayson,
Senator Needham,	Mr. Gregory,
Senator Story,	Mr. Sampson,
Mr. Ponton,	

John Goldsworthy White, Secretary, State Tender Board, Victoria, sworn and examined.

83. *To the Chairman.*—I have held my present position for six years, but have had thirty years' experience in the office. We have no centralized store system in this State, but have small departmental or subsidiary stores connected with the various Departments. We have no general store except for supplies of stationery. The Tender Board does not do the ordering. I cannot express an opinion on the suitability of the different plans of the buildings proposed for the store extension at Darling Harbor. In Victoria there is a State Tender Board, appointed under Regulations under the Public Service Act. This Board has recently been reconstituted, and consists of five permanent officers of the Department, four of whom are heads of Departments, and I, as secretary, am also a member of the Board. We call for tenders for the State's supplies, in nearly all cases on an estimated quantity. We are furnished with the estimates by the various Departments. These classified and scheduled are submitted to the Board and revised, and for these we call for tenders in most cases on an estimated and not a fixed quantity. The contracts are annual, biennial, or triennial, according to the state of the market at the time tenders are received. One clause in our conditions provides that the contractor may be called on to supply a greater or

less quantity than that stated in the schedule. So far as the State is concerned up to the present we have provided no limit. The contractors must supply the quantities ordered as where required. They also carry all risks. They retain the stocks and supply as they are ordered to the various Departments. The object is to save storage space and re-handling. The question of a centralized system has been discussed in Victoria on several occasions. Two or three Departments have on behalf of Victoria made inquiries in other States, but have reported against the centralized system. When the cost of interest on capital invested, buildings, equipment, redistribution, inspectors, officers, storemen, packers, and cartage inwards and outwards is taken into consideration, it will, in my opinion, be seen that Victoria has the less costly system. It has always been considered that the saving that would result from bringing the stocks in large quantities into a centralized store for redistribution would be more than eaten up by the expense incurred. We are satisfied to throw the whole responsibility of carrying the stocks on the contractors. I have prepared the following summary of the arguments for and against a central store:—

The reasons advanced in favour of central stores generally may be briefly stated—

- (1) Bulk purchases can be made at lower rates.
  - (2) Inspection is uniform, and the substitution of inferior goods is prevented.
  - (3) Uniformity of quality of goods and treatment of Departments is obtained, and costly bids are prevented. The necessity for a number of departmental stores is obviated.
- Against these the following may be given:—
- (1) Bulk lines may be a source of loss instead of gain, and prices are not always lower than those for regular supplies. Market variations affect the position, and over-estimates may result in quantities of high-priced goods being in stock when prices have fallen, and the stocks accumulate. The total quantities required by Departments generally insure wholesale rates being quoted under General Contracts, and the whole of the supplies not being required at one time tends to widen competition.
  - (2) The cost of double handling, loss of time, clerical work, and delivery may be out of all proportion to the service rendered in checking quantities, &c. Most institutions must have their own stores, and direct delivery is in operation in more or less every State. Responsible officers pass supplies, and with ordinary care this practice works well.
  - (3) There is nothing to prevent a Tender Board drawing up its schedules for general contracts in such a manner as to insure uniformity and standardization of supplies, so that "fads" are eliminated. This also tends to economy, and the substitution of lower-class goods is minimized. In practice the number of subsidiary stores is not reduced.
  - (4) Loss by depreciation, handling, and obsolescence is increased.
  - (5) In case of fire a heavy loss would be incurred, or, if insured against, fire premiums would be a considerable charge.
  - (6) Large storage accommodation being necessary, rent of stores or interest on money locked up in land and buildings must be taken into consideration.
  - (7) Loss of interest on the money locked up in the extra stocks carried is also incurred.

With regard to the statement in (3) above, it was discovered on inquiry by myself and Mr. Baker, a qualified accountant of the Treasury Department, that while the Government had a centralized system in New South Wales and South Australia it did not minimize the necessity for having subsidiary stores in the various Departments. There were stores in one or two instances carrying just as heavy stocks as the central store. The large Education and police stores and the public works store in Sydney, the Coast hospital,

and the Parramatta goal and asylum, all carry very large stocks. We came to the conclusion that to introduce a centralized system here in Victoria would be simply to add another store to those already in existence. The Tender Board supplied the Postal Department under the State *regime* prior to Federation. I should say that a store carrying a certain amount of stock is absolutely necessary in most Departments. We have just opened a store in connexion with the Education Department for we found it less costly to send the small parcels away at fixed periods than for teachers in country places to order direct from the contractors. That would apply also to country postmasters. We could not supply samples for quality of goods supplied to all the teachers, and we decided that if we had a central store for the Education Department we could confine the orders to definite periods, and send the parcels away at regular times instead of their going in small quantities as heretofore. The same thing applies to clerks of courts in the country, but there is no occasion to hold heavy stocks for this purpose. I favour a Departmental store for the Postal Department. We have had a good deal of experience with the Post Office in Victoria. That Department of the Commonwealth has been obtaining a fair percentage of their supplies pretty regularly through our State contracts since Federation. They have stored largely by State contracts, and there was no trouble up to the time of the war. Since the war prices have gone up so much that the contractors appealed to be released from the obligation to supply the Commonwealth. Their plea was that as the cost of the raw material had gone up the goods were of an enhanced value. In the present period it is possible for the Commonwealth Postal Department to obtain supplies whenever they called on the contractor without laying in a stock for a very long period. That is done now to a considerable extent for all common lines—that is, lines identical for State and Commonwealth purposes, but the State Board never controlled the Post Office as regards their technical supplies, or the Ordnance Stores, or Navy Department. These were exempt under our regulations from purchase under the State contracts, and they used to call for their own tenders, and enter into contracts on their own behalf. Ordinary lines were, however, obtained through our State contracts through the Tender Board, and an officer of the Postal Department was at that time a member of the State Tender Board. I could not give you the value of the stocks that are carried for the different Departments. They do not carry great quantities. A month or six weeks' supply is purchased. If a store used £100,000 worth of stock each year, I do not think it would be necessary for it to carry that amount of stock. Under the Victorian system you must replenish your stock readily from time to time. We have never had any trouble in getting supplies direct from the contractor. We have arranged, as regards paper for the Government Printing Office, that the contractor must keep three months' stock always on hand. In practice that means that he has to keep about six months' supply, because immediately the Government Printer is supplied with three months' stock the contractor must take steps to get another three months' supply. A good many hands are distributed throughout the stores in the different Departments. These are under departmental control. The lunatic asylums have stores carrying possibly £500 to £500 worth of stock. The secretary in each case is an officer under our Public Service Act authorized by the Commissioner to

accept stores on behalf of the Government. It is solely responsible to the head of the Department and to the Board for the quality and proper custody of those stores. He orders them from time to time. Generally, monthly orders, or half-yearly (for fixed quantities) are sent out. It is not often necessary for him to retain stocks for over a month, and their stores are not very large. At most of our institutions a storekeeper and two officers do the work. In some cases the storekeeper's assistants are employed on other duties, and the cost of store-keeping is not very great. We have no big central staff.

84. To Mr. Samson.—We consider that we got our supplies at just as good rates under our present system as if we were purchasing in bulk. Several comparisons have been made by officers in this State of prices paid by other States with our prices, these officers thinking it would be better to adopt the system of getting fixed quantities and storing them. That was one of the reasons why Mr. Baker and I were sent to investigate. It was stated that a considerable sum would be saved if we indented cotton and other goods direct from England in bulk quantities. These particularly are calicoes, sheetings, linen, and clothing fabrics for the hospitals for the insane and gaols. Two years ago we adopted a system of scheduling the quantities and very large quantities they were, and stating that these supplies were to go direct to Mont Park store for distribution to the hospitals for the insane, half in one half-year, and the second half in the second half-year. At the same time we had also a schedule under which similar articles were to be distributed direct to other institutions, if they could not be stored at Mont Park asylum, where we arranged that a bulk of them should be stored for distribution. We could not make a similar arrangement for the gaols, although they were getting similar goods. We discovered the curious fact that the items to be sent out to Mont Park in bulk were slightly higher in price than those which had to be supplied in small quantities as ordered at indefinite periods. The only reason why we could account for the difference was that the goods to be sent to Mont Park had to have a red and blue stripe woven in the fabric, necessitating a special loom. That is the only case we have had in this State where we have been able to make a comparison in this way. The Commission went into the question of prices here and in other States. I took out thirty lines of prices on the very cotton goods that I have just referred to. Mr. Baker and I when in Sydney examined some of the New South Wales samples, but we found that the articles were of a very different texture and quality, and therefore unfair to each State to make comparisons. We have very special lines of goods of a very strong quality in Victoria for the hospitals for the insane. We find that although we may pay for these we use less material than we otherwise would. We consider that the higher quality gives us the cheapest goods in the long run. I submitted thirty of the samples from Sydney and thirty from South Australia, together with thirty of our own, to experts. Their verdict was that the standard of the Victorian article was higher, which accounted for the difference in price. The total difference in the price was from 5 to 7½ per cent. in favour of the South Australian and New South Wales articles as against the Victorian. The South Australian and New South Wales cost was to the central

store, but did not include the cost of administration and distribution. Although their goods were cheaper, the difference in quality was apparent. A merchant who has to supply on a schedule rate and keep supplies on hand for us to draw from, not knowing the exact quantity that will be required, may make his tender price higher in consequence, but the question is whether that difference would be counterbalanced if we stocked the material in our own stores and paid cost of redistribution and interest on outstanding money. It was argued that if we indented our lines direct from Great Britain or elsewhere instead of getting them through the contractors here, we should get the goods very much cheaper, but we have pretty good proof that the prices of most of the Melbourne suppliers were reasonable in the fact that since the war the firms under the price adjustment arrangement have been allowed to surcharge on goods for which they tendered prior to the declaration of war, provided they could prove to the Board from their invoices that such charges had actually been paid, submitting a declaration to that effect, and presenting their books and papers to the Board for strict examination. That meant an increase on many lines, but the singular thing was the small percentage of profit that they were making on the large quantities of goods they were supplying to the Government. It did not amount to more than 5 to 7 per cent. on all the quantities. If we indented these goods direct, paying the incidental expenses of landing, and put them in a store, it is questionable whether we could do it for the difference. This State considers that we were better advised to allow the contractors to store and take the risk and supply direct to the Government. There are no risks in our system. In the other you must take into account the risk of the obsolescence of goods. In one State we saw quantities of goods that had been on the shelves for years with no chance of getting rid of them. I am certain that in South Australia and New South Wales, in the comparison I referred to, no percentage was allowed for depreciation of stores, or for interest on the cost of the storing, insurance, cost of clerical work, packing, and carting. I have the figures and can supply them if necessary. We do not enter into contracts for specified amounts for printing paper. We have an estimated quantity, but in the case of the Government Printing Office the estimate is practically as good as a fixed quantity. When we enter into a contract we do not go outside it, so that suppliers of paper, for instance, would be able to gauge their supplies as accurately as if it were a fixed contract. Where, however, we have about fifty Departments giving estimates we have considerable difficulty in arriving at an estimate that will be reasonably accurate. It also depends a great deal on the spending power of the Government. That is one objection to estimated quantities. We may get our estimated quantities when things are booming, but before the contract is completed things may become slack and the Departments may not order to anything like the extent of the estimate. We supplied the bulk of the post-office requirements before Federation, except telephones, telegraphs, and such-like stores, instruments and equipment and postal uniforms. Considerable quantities of copper wire were obtained under the State contracts. This Department used to give us large estimates for wire. I do not think there should be any difficulty in getting all the supplies of wire necessary to keep the Department going under the State system. We find, under our system, that the supplies come in

with reasonable certainty. We have very little trouble, but we have very drastic conditions. We have power under one clause if the article is not supplied within forty-eight hours after the order has been given to purchase elsewhere at the contractor's risk by giving twenty-four hours' notice to the contractor. That is very definite and emphatic clause, which has always kept contractors up to their bearings. There have been cases since the war where we have been unable to obtain the particular article outside, but under normal conditions we have had no difficulty. Our State supplies are fairly large quantities. The storekeepers in Victoria are not under the control of the Tender Board. They are departmental officers, responsible to the head of their department, and also responsible, in connexion with the quality of the article received, to the Tender Board to which complaint must be made of any irregularity in delivery or quality of the goods supplied. I have never carried out a system providing for central storage in my thirty years' experience of this work in Victoria. The stores in the different departments are practically depots to bring the goods in for almost immediate distribution and delivery. There was a certain amount of good in the construction of the old Board with thirteen members. For years we had the various heads of departments as members of the Board, and we could always have the head of a department present when his particular supplies were under review. We used at one time to call for tenders for the cloth for post-office uniforms, also for leather bags, canvas, &c., and the Inspector-General of the Post Office, who was a member of the Board, was notified if any of his tenders were to be dealt with by the Board. The general advantage of the new Board of five is that its members are kept in touch from week to week. They are there regularly and know exactly what business has been dealt with at the previous meeting. Under the old system different members might attend different meetings. A Royal Commission, consisting of Messrs. Tweedle, Coohs, and Anderson, appointed by the State Government to inquire into the working of the departments, made the following interesting statement in their recent progress report:—

*Proposed Central Receiving and Distributing Store.*—We have considered the question of the Government establishing a large general store and importing direct abroad such articles as the Departments may require, and which are not manufactured in Victoria, or in the Commonwealth. But, after looking into the matter from all aspects—the abolition of the import profit on the one hand, and the loss to the Government on the other through stores becoming obsolete or deteriorating while in stock, and also being in the hands of direct trade would have to be maintained, or agents employed in England and elsewhere to purchase materials, and that there would also have to be a clerical staff here to deal with the payment of shipping freights, claims against shipping companies for short delivery, payment of import duties, interest on stocks, &c.—we came to the conclusion, speaking generally, that it would not be advantageous for the State to become a direct importer. Moreover, the quantities of stores, &c., to be sent to the Government, which is relatively small, is steadily decreasing owing to new industries being established here and to the policy giving preference to the goods manufactured within the Commonwealth. It is true that in New South Wales the practice of indenting its supplies and maintaining a large stock of stores is followed, but we are satisfied, after considering the evidence of Mr. White, the Secretary to the Tender Board, and Mr. Coohs, who made most exhaustive inquiries on the subject in New South Wales and South Australia, that the adoption of such a system in this State would simply have the effect of largely increasing our expenditures without affording any adequate compensating advantages.

Mr. Tweedle is a city merchant, Mr. Coohs is Chief Inspector for the Savings Bank, and Mr.



Anderson is Secretary of the Law Department. The Government has never fixed the preference to be given to Australian-made goods, but they allow the Board to recommend up to from 10 to 15 per cent. over and above the Customs duty. Anything over that must be specially submitted to the Cabinet. We have given fairly high preferences to our own goods in Victoria in times gone by, and are resuming the advantage of that to-day. It will be necessary for your Committee to apply to the State Treasurer for a copy of the confidential report containing the comparisons I spoke of with regard to these goods in the different States of Australia.

**85 To Senator Neillan.**—My Board deals with all departments of State except the railways. The State Rivers and Water Supply Commission got their stores wherever practicable under our State contracts by special arrangement with the Government. I have not compared our system with that of Western Australia. I should like to do so. I have no idea of the saving effected by requiring the contractor to hold the stocks instead of our buying and storing them, but I should say, judging from inquiry made in other States, that it would amount to from 5 to 14 per cent. I have always advocated the Tender Board system. It is a question whether the Commonwealth should have departmental tender boards or one general tender board to deal with the supplies for the whole of the Commonwealth. Departments within each State. A general tender board would be a good system for the Commonwealth to adopt if practicable. There would be a certain amount of difficulty with regard to ordnance and other warlike stores, and technical stores of particular departments. The expert officers in a department are the best judges of the general system. Tender stores system would be worth considering for the Commonwealth, leaving out the naval and military departments.

**86 To Mr. Finlayson.**—We have a departmental store in connexion with each of the eight inmate asylums, one in each of four principal gaols, a public works department depot, an education department store, a general stationery store for paper supplies in the Government Printing Office, and what we call a Treasury general stationery store for pens, pencils, and other office requisites, and a large store at the shipyard at Williamstown. One of our largest stores is at Pentridge pool establishment, where a good deal of manufacturing is done. There is a small one at the dredging depot at Footscray-road. We have about eighteen different stores altogether. The departments have no separate stores buildings apart from the institutions for the use of which the stores are required. The stores for the most part are housed in rooms within the Department. The store at Williamstown is in connexion with the shipyard. The functions of the Tender Board and when we have delivered the goods to the departmental stores unless question is raised as to irregularities, but we have a system of annual inspection and audit. The Inspector of Stores inspects the books and stores at regular periods. He is an officer appointed under the provisions of the Public Service Act. By the Tender Board we exercise over general control and obviates overstocking. He reports annually to the Minister and to the head of the department whose store he has inspected. I could get a rough estimate of the value of the stock carried in the eighteen stores if required. In the case of items in common use in all the departments it is better to have them distributed direct from the

contractor to the departments using them. This avoids extra handling. If the shipyard at Williamstown requires a quantity of steel it orders direct from the contractor, or if the Lunacy Department requires a quantity of delf ware it does the same and the contractor delivers direct. As far as possible we standardize the quality of the material. The departmental stores draw their supplies from the contractors specified by the Tender Board.

**87 To Mr. Fenton.**—Without going into the matter fully I should say that nine months' supply would be an excessive stock for goods to keep on hand. Three months is ample in the case of the Government Printer, the contractor retaining three months' supply in case of emergency, and he takes large quantities. When we deal with the Postal Department they used simply to order as they required their material, retaining sufficient in stock to meet emergencies. I do not know what stocks they used to keep. We had nothing to do with their technical supplies. If it could be shown that the Postal Department could do with less than nine months' supplies in stock their storage requirements would naturally be reduced. If six months supply would be enough, it would reduce their storage requirements by one-third. I could not say off-hand whether the departments which store their own goods insure them. I should say that most of their stores would be insured. The paper and other stores for the Government Printer are all supplied by firms in Australia with the exception of certain lines which are imported, and these are imported through local suppliers. We do not order paper direct from any British contractor. The fact that we have given from 10 to 15 per cent. preference to local manufacturers in the past has led to them being able to extend their facilities and to give us more supplies. The Government is reaping the benefit of the preference it has given, especially under conditions such as the present. Where Australian manufacturers can supply, there is less need for keeping large stocks. For instance, it would be absurd to bring our rope supplies from the factory to a central store and redistribute them. We can go to the factory, see that the work is up to the standard, and have it distributed direct to the Departments. The necessity for a centralized system is becoming less and less in Victoria, because we are giving more encouragement to our industries every year. If rope were required for Ballarat the contractor would send the supply direct there. The contractor would deliver it at Spencer-street, and we would then be taken on a departmental consignment note to its destination, the Government paying the freight from Spencer-street. Our prices are based on the condition that the contractor delivers within 6 miles of the General Post Office free, and in the case of country orders they are sent from Spencer-street at the Government's expense. It is a great advantage to be able to deal with local manufacturers when we can obtain goods from them at a reasonable rate. We have found the quality of the Australian article very satisfactory, especially as regards rope, twine, flannels, serges, tweeds, blankets, iron, steel nails, cements, paints, varnishes, leathers and leatherware, paper—writing, printing, and other—wire netting, fencing wire, and many other lines. We find the Commonwealth manufactures compare very favorably with the imported article. My Board has broken down a good deal of prejudice against local manufacturers. We are instructed by Parliament to give effec-

tive and substantial preference to our own industries, and it has been to our advantage to do so. By our system we save in store space and in the wages of employees, particularly when we can obtain goods locally. Even granting 10 to 15 per cent. preference to our own goods, the Government made no attempt to order the goods that we require in Great Britain through or in conjunction with the British Government when it is ordering similar goods for its departments. It was suggested to me, when I was being questioned by the recent Royal Commission, that it would be advisable to indout our cotton goods through the Agent-General's Office, but my argument is that if we are to save only from 5 to 7½ per cent. we are justified in assisting those who are in trade here to that extent. We are quite prepared to assist our employes in factories by giving a substantial preference to locally-made goods. We should, therefore, also protect our own kiln and kiln in our large warehouses. My argument is that we are justified in giving them that protection to the extent of 5 to 7½ per cent. rather than indent from Great Britain or elsewhere direct. If we did our own indenting, I do not think we would pay that amount of men employed in our own country.

**88 To Senator Keating.**—In New South Wales the departmental stores are subsidiary to the central store. In Victoria we have a store at Kew, another at Yarra Bend, and a big store at Pentridge. I enumerated our stores to Mr. Finlayson. The Education Department Store is in the central building, at the other end of the city. Outside the metropolitan area we have a store at the gaol and at the asylum at Ballarat, one at the Sunbury Asylum, for the asylum's use—Sunbury is 24 miles from Melbourne; one at Ararat; another at Beechworth; one at the gaol at Bendigo; and another at the gaol at Castlemaine. They carry supplies for their own particular local requirements. The stores at the Ballarat Hospital for the Insane, for instance, would be for the special needs and use of that hospital. It would not be advisable to carry general stores for the whole of Victoria in one storing place. It is better to decentralize. It would be absurd to take many of the locally-manufactured articles into the central store and redistribute them. New South Wales has several large country centres. It is a very much more extensive State than Victoria. Places like Newcastle and Goulburn, I understand, have large stocks, and are considerably further from Sydney than, say, Sunbury is from Melbourne. It is necessary in New South Wales to have a store in those particular districts. It would not be advisable for Sydney to carry the whole of the stocks for New South Wales, nor do I think that is their idea by any means. It would not be advisable for Albany to have to get all its stores from Sydney. That would be carrying the centralization idea to an extreme. I do not think it advisable to send small tins of paint and bottles of ink from a central to outlying places if they can be purchased cheaper and more cheaply locally, especially when freight has to be paid. We do not get many supplies from inland towns, except considerable quantities of woollen goods from Castlemaine, Geelong, and Ballarat. The Castlemaine woollen mills have just obtained a contract for a large quantity of wool and flannels. If blankets were wanted at Ararat, Castlemaine would send them direct, as Ararat is in the same direction, but if they were wanted at Melbourne and then on to Beechworth, the goods are not sent down to a central store in Mel-

bourne. They simply pass through Melbourne to the place where they are required, that is to say, the supplies go direct. The firms tender on sample held by the Tender Board in most cases. We hold the samples and submit portions of them to the Departments. The contractors supply at regular intervals as and where required. Most of the indent orders for the larger institutions are half-yearly and pass into almost immediate use. The officer who receives the goods is appointed by the Public Service Commissioner. It is his duty to see that the articles supplied are up to the mark and to make it easy for him to see that he is getting the right goods, and to see that wherever possible and standardizing the lines. In many lines we put in the weight of the article. Most of our tenders are on a schedule of rates basis, and the order provides where delivery shall be made. We have no inspector directly appointed to compare the goods delivered at any particular place with the original sample, but we have an Inspector of Stores, who takes stock annually or as often as may be required, and if he discovers anything that is not satisfactory in any institution he immediately reports the circumstance to the Tender Board and the head of the Department concerned. The stock of the various institutions every year. By adopting the principle of direct delivery to the place where required, we lessen our requirements for supplies in Melbourne very considerably. That applies particularly to locally-produced goods. Of course, with a centralized system the inspection is more perfect, but you may pay out of all proportion for centralized inspection. Our inspection system is fairly good. We make the officers whose duty it is to receive the goods responsible, and if any defect or deficiency is discovered in the stores or material the officer concerned is brought to task. He must make himself conversant with the supplies.

**89 To Mr. Gregory.**—The question of Commonwealth Government stores is a big one. There are certain technical supplies, such as warlike stores and some postal requirements, of which the professional officers in the particular Departments are the best judges as to quality and requirements. My own impression is that for a big concern like the Commonwealth to work things satisfactorily, besides having a central Board or controlling body you would require a store in each separate Department. I would have a central Board of stores were under separate control. It would be much wiser for a big Department like the Post Office to have control of their own store for technical and special lines, but up to the present, as regards lines common to both State and Commonwealth, the Government has given the Commonwealth most reasonable facilities for obtaining supplies under the State contracts, and that system could be continued with advantage. By that means the Commonwealth would need to carry much less stock and order direct from the State contractors. For instance, their lines of timber are the same as ours. Most of your Departments now send their orders to the State contractor, and he supplies the timber. If the proposal which your Committee is considering will involve an expenditure of from £60,000 to £80,000 for land and buildings, you will have to make a big saving on the cost of your material cover interest on the outlay for such a large store and equipment. I am not in a position to say what your Sydney requirements are. I could not say offhand and without investigation whether the Postal Department, in carrying stores to the value of £23,000 with an annual output of £27,000,

as shown in the report of the Public Accounts Committee, in carrying an abnormally large stock, but I am inclined to think that it would be, but much depends on the nature of the stock. Interest on the value of the stock and on the cost of the building, which does not appear to be allowed for, would be 4 or 5 per cent. extra. I have had no experience with regard to insurance. In Victoria that is arranged departmentally. It would be a fair thing to allow 3 per cent. for insurance, but my impression is that a great deal of the stocks are not insured. There is also the question of depreciation and obsolescence of goods. On those figures there is a possibility of a good deal of obsolete stock, especially in the cases such as electrical instruments. It would be far better in the case of ordinary stocks to buy from the importer or manufacturer from week to week or month to month, leaving him to take the risk. I have seen stores with considerable shelf and other space filled with obsolete stock. We had experience of that kind of thing in the Victorian Railways in years gone by. It was this that induced the Railways Commissioners to compel the contractors, as far as possible, to supply goods on demand. In my opinion a large proportion of the goods for the Postal Department could be obtained from the manufacturer direct. Methods could be devised to see that inferior goods were not supplied. If necessary, the goods manufactured could be inspected on the premises of the maker. By adopting that system you would not require so much storage room. Adding 6.89 per cent. for expenses, as given by the Public Accounts Committee in their report, 5 per cent. for interest on the cost of building and stock, and 3 per cent. for insurance, you get about 15 per cent. to be charged for administration, and the question is whether you are going to get any compensating advantage under the circumstances. You would also have to take deterioration of stock into account. In making comparisons with South Australia and New South Wales we took into account interest on capital account, insurance, and every other charge.

90. *To Mr. Sampson.*—The Sydney people assured me that there was no depreciation, but there is sure to be depreciation whenever you carry large stocks.

91. *To Mr. Gregory.*—I am convinced, after a good many years' experience, that it will be economical to allow the Postal Department to have control of its own stores.

92. *To Senator Keating.*—The more local productions displace the imported article, the less becomes the necessity for storage room on the part of the Government.

(Taken at Melbourne.)

WEDNESDAY, 7th FEBRUARY, 1917.

Present:

Mr. RILEY, Chairman;	Mr. Finlayson;
Senator Keating;	Mr. Gregory;
Senator Nieldham;	Mr. Sampson;
Senator Story;	
Mr. Fenton;	

Frederick Goldberg, Acting Chief Electrical Engineer, Postmaster-General's Department, sworn and examined.

93. *To the Chairman.*—My permanent position is that of Electrical Engineer for the Postmaster-General's Department in Victoria. I was in Sydney for many years, and am familiar with the site

on which it is proposed to erect these buildings. I also know Bridges' stores. It is necessary at the present time to provide additional stores to meet requirements in Sydney. The stores accommodation there is, I understand, insufficient to meet existing requirements for the storage of material. I do not think that the stores branch will require in a few years time any further accommodation than is at present provided. A large portion of the bulk material now stored in the present building, or proposed to be stored there, can be accommodated at Sydenham, where a site has been acquired, and on which a building is to be created. When the Sydenham building is fully available for the stores branch I do not think that the whole of the proposed accommodation in the new building now under your consideration will be necessary. The ground floor will be required, but the other two floors, in my opinion, can be handed over to the electrical engineer to provide for the expansion of his mechanics' staff. I think that branch will extend to such an extent as to require three or four floors of the new building. It is very difficult to estimate the expansion of the telephone system. My own experience is that we have always under-estimated telephone expansion in Sydney, and, consequently, the telephone provision there has fallen somewhat behind that in Melbourne. In connection with our telephone system we are unaccountably worse off in Sydney than in Melbourne. The wires are not underground to the same extent, and some of the cables that we laid in Sydney years ago, under the impression that they would meet requirements for long periods, are already full. Judging by experience I think that with the expansion of the telephone system not only four but six floors will be required, within the next ten or fifteen years, for the mechanical branch alone. The question of whether that will provide for the manufacture of new material and equipment in the factory itself depends upon the degree of State manufacturing that will be undertaken. It is impossible to forecast what manufactures will be undertaken by the Department after the war. In normal times there is a tendency on the part of the Department to go on expanding the manufacturing branch, but in respect only of certain articles such as switch boards and minor telephone apparatus. I cannot say what is the intention of the Minister, but the departmental officers generally think that at present we cannot manufacture telephones in this country nearly as cheaply as we can import them. Patent rights would also check the Department in the manufacture of telephones. There will be a certain amount of manufacturing carried on in respect of the minor items. Switchboards, which are manufactured in Melbourne at the present time, could be made just as cheaply outside the city area. For the making of switchboards, and the manufacture of the larger requirements of the telephone service, I think it would be cheaper to establish a factory outside the city area, where you could obtain cheaper land, and where a less costly building would meet the requirements. Even if the mechanical staff were confined to those required for repairs, and to deal with repairs in the city, we should require the four floors as at present proposed. I believe that the whole of the new building will ultimately become the mechanics shop. I was in Sydney when the land was purchased, but was not consulted. It is suitable for a workshop, being centrally situated, and possessing the great advantage of being handy to the stores. It might, perhaps, be as well to

say a little more with regard to the advantages which will accrue to having the stores and the workshops under practically the one roof as is now proposed. Such an arrangement will save the handling of material as between the stores and the workshops. All material for the maintenance and repair of telephone apparatus is kept in the departmental stores. The telephone workshops must draw this material from the stores whether it be new or second-hand. For instance, all telephones and line apparatus, as well as the spare parts required for the maintenance of the telephones and telegraph systems, are brought directly to the stores. They cannot be accommodated at the workshops without the provision of the store-rooms there. All second-hand material is examined by officers of the mechanics' branch as soon as it enters the stores. That is what we call the sifting process. The second-hand material suitable for immediate use, without repairs, under this new arrangement can be placed at once on stock in the stores. Then again, all material that needs repairing can, when necessary, be passed straight away into the workshops, while all unusable material can be taken possession of by the Stores Department and put on the scrap heap for sale. This sifting is a daily work. Another consideration is that of expedition in the carrying out of works by the mechanics' staff in consequence of their being able to get the material from the stores. I have read Mr. Eagle's evidence, and he notes that he says he can save the salaries of two men at £150 each by having the workshops adjacent to the stores. The electrical engineer in Sydney, whom I have consulted by telephone, estimates that he can also save at least two men by this arrangement. That will mean a saving of £750 per annum in respect of salaries alone. These then are the principal advantages of having the stores and the workshops under practically the one roof. You tell me that the Committee, rightly or wrongly, has the impression that the stores branch carries too large a stock, and that instead of keeping nine months' stock ahead of works it could have small stocks coming in, at regular intervals, under contract, thus saving a good deal of storage space. I would correct your impression as regards the keeping of nine months' supplies. It was about 1908, or it may be 1910, that the Secretary of the Department, recognising the disabilities under which the engineers were suffering by reason of short supplies, directed that nine months' supplies should be stocked. That direction applied only to engineering material, as far as I know. I do not think it would apply to stationery and such like requirements. It had been found impossible to get engineering supplies in time to prevent serious delays in the construction of works under the old system. When, for instance, insulators were available, wire was not forthcoming, and when wire was available, insulators were out of stock. It was, therefore, impossible to proceed continuously with works, and the secretary consequently directed that a nine months' supply should be kept on hand. The difficulty that the Stores Department experienced was in obtaining the money to purchase material. At that time the Department had to await the passing of Estimates before accepting any contract. Subsequently the Minister remedied that disability. That was after the introduction of the nine months' supply system. When the Minister gave the Department the right to proceed during any financial year with works up to the expenditure for the previous financial year, much of our difficulty in this respect disappeared, and in 1915

instructions were issued by the Secretary, at the request of the Chief Electrical Engineer, that nine months' stock was not to be kept in hand. The previous instructions were cancelled, and a nine months' supply was to be maintained in respect of only comparatively small items such as sulphate of copper, wheatstone tape, and other material which is only manufactured abroad, but constantly used throughout the Commonwealth. Since 1915 the Controllers of Stores in the States should not, and, so far as I know, have not kept nine months' supplies in hand. I think it would be sufficient to keep in hand a three months' supply. I would call for tenders under which supplies would be delivered quarterly, provided there was no difficulty in anticipating the annual requirements. At present we cannot say what money is going to be provided for the expansion of our system. I would qualify the remark I have just made by saying that I do not think it would be advisable to ask for annual supplies of cable and of copper wire. It would be better to do as is done at present—have the engineering proposals for certain works approved before tenders are invited for the material. If that system were generally followed, it would be unnecessary to provide extensive store-room accommodation for a nine months' supply. I think stocks will fall under the new system by which a nine months' supply has not to be kept in hand, but they will not fall sufficiently to enable us to dispense with any portion of this building. I have not an intimate knowledge of the postal stores. It is for the Controller, Sydney, to say what accommodation he requires immediately. The mechanical branch is increasing, and we want more accommodation for it. I have seen the workshops at Darling Harbor, and believe that they are full, or about full, at the present time. You tell me that they were half empty when you visited them, but a number of the men might have been out on duty. The information supplied to me by the electrical engineer there is that he cannot add to his staff at the present time because of want of room. I have not been in the building since the whole staff was housed in it. The danger of having workshops and blacksmith's forges on some of the floors of this new building is, in my opinion, more theoretical than actual. The blacksmith's forge will be a very small one, and with a concrete floor I do not think its presence will mean any additional fire risk. If you had a brick building with hardwood floor joists and floors instead of concrete I think the position would be practically the same; if all precautions were taken the fire risk in a well conducted workshop would be more theoretical than real. I would recommend that certain parts of the floor be covered with fire-resisting material. With that precaution I do not think the fire risk would be great. The question, however, is one for experts in fire risks to deal with. I had the workshops under me, and never saw any risk of fire. I always insisted that everything in the nature of fire risk should be minimized. The men were not, and are not, allowed to smoke in the factory. Even during meal hours they must leave the workshop if they wish to smoke. As a matter of fact a luncheon room in which they may smoke is provided, and it is the duty of the man in charge of the workshops to have the luncheon room examined before he leaves to insure that the benches or other burning materials are lying about.

94. *To Mr. Gregory.*—This building is being erected at the instigation of the electrical branch.

Speaking from memory, the stores branch, learning that we were taking this action, said that it wanted further accommodation. The intention of the electrical branch was to construct a building of fewer stores than the present one—a building just sufficient to accommodate the electrical staff, but with provision for the erection of additional stores. Then the stores branch asked for further accommodation. I estimate that the number of workshops in this building will be a slight increase in ordinary circumstances apart from any question of manufacture. It is the desire of the Department that it shall be wholly a workshop, and I anticipate that the stores branch will be ultimately squeezed out. Since the stores branch has not been accommodated the Home Affairs Department has had to provide for a greater weight carrying proposition than would have been necessary if this building had been designed for use only as workshops. I consider that a lighter construction would meet the requirements of the Department, and that the stores branch should not be put to put its very heavy material aloft. The heavier material should be confined to the ground floor and to the Sydenham stores. I have seen an estimate of the cost of this work, the amount set down being £68,000. A brick fire-proof building is essential for our purposes. I think that a building with wooden floor joists and plaster could be made practically fire-proof. If a workman persists in smoking inside the factory during working hours, the practice is, I think, to fine him. My practice has been first of all to warn a man, and if he offends a second time I recommend that he be fined. If a man persisted in smoking I should be inclined to deal with him more severely, but that is not the point. I am aware that the Commonwealth carries its own insurances. If a building were used partly for workshops and partly for stores, the danger of fire would be increased. The mechanical branch housed by itself would be less liable to the risk of fire than would the mechanical branch combined with the stores. And the stores branch separated from the mechanical branch would likewise be less liable to fire. The fire risk is increased by the employment of mechanics there. I take it that even if the floors were constructed of wood ample provision would be made to prevent a fire extending from the one building to the other by the erection of fire-proof doors and so forth. It is true that great care has to be taken to prevent pillaging in connexion with the stores branch. Workmen employed in the mechanics' branch would not pass through the stores, so that in this respect the risk would not be increased. Provision would also be made so that the workmen in the mechanics' branch would have no association with the stores. We shall save in salaries alone £750 a year by having the mechanical branch and the stores adjoining each other in Sydney, to say nothing of the saving effected in the cost of carrying between the two buildings. At the present time there is a double check, in the workshop and in the stores. With the two branches in the one building the one check will suffice. The Melbourne system, in my opinion, is not preferable to that which is suggested should be adopted in Sydney. The separation of the workshops from the stores has a disadvantage even where, as in Melbourne, there is only a small right-of-way between the two buildings. I would prefer to have the workshops in the same building as the Stores Branch, notwithstanding that the Government carry their own insurances. I would, of course, provide for proper fire resisting doors. According to the estimate I have seen,

this building is to cost £68,000. That is a very high estimate. I do not agree, for instance, with the proposal to have the lower floors of heavy construction. I have not made any suggestion to the Department with regard to it. The estimate has never come before me officially. I was unaware of it until the Committee asked me to attend and give evidence. Allowing for the cost of the land, the total will amount to £81,000. The money will cost, I assess, 5 per cent., and allowing 2 per cent. for depreciation, that would mean £5,670 a year. You say that according to the reports put before the Committee, five-eighths of this building will be used for workshops, so that our share would represent an annual rental of £3,680 a year. I would point out, however, that the top floor is to be used as a luncheon room by both the stores employees and the mechanics. The ground floor and the first and second floors will be occupied as stores. Having regard to the expensive construction of the floors because of the use of the building by the Stores Branch, together with the fact that the top floor as a luncheon room will be common to both branches, I think it would be fair to call upon the Stores Branch to bear half, and not three-eighths, of the cost of the building. The present rental paid by us for workshops is £1,020, and the additional salaries required in consequence of the separation of the workshops from the stores is £750. That gives a total of £2,370, or about 7 per cent. of £31,000 gives us £5,670 per annum. Thus the additional cost, so far as our branch is concerned, will be £465 per annum. It must be remembered that, according to the information given to me from Sydney, the building at present occupied by us is only sufficient for existing requirements. It does not permit of the expansion of the staff and the undertaking of necessary manufacturing work. It is quite probable that the Department would have to pay an additional £300 a year or more after the war for the premises at present rented by us. They were vacated in consequence of war conditions, and the landlord, finding them thrown on his hands, accepted a lower rental than he would have asked, and, no doubt, would have received, prior to the war. I am speaking now of the present workshops.

95. *To Mr. Sampson.*—I think there is a right of renewal of the lease of the present workshops, but that right I believe is limited.

96. *To Mr. Gregory.*—To get the further accommodation required by the Department to carry on manufacturing work, we should have to pay from £300 to £500 per annum. These figures will show even on your own estimate a saving within the next two or three years if not immediately. I put the position thus: In taking 7 per cent. of £81,000. That I do not think is quite right. The £81,000 includes £13,000, the cost of the land. But there can be no depreciation in the land. It will increase in value. That being so, you should take 7 per cent. on £68,000—the estimated cost of the building—and you thus get an annual cost of £4,760, one half of that, which in my opinion is the proper charge to debit to the mechanics section, is £2,380. Allowing for interest at 5 per cent. on the cost of the land, £13,000, which is £650 per annum—our share of that would be £325—the amount chargeable against the mechanics' branch would be £2,705 per annum. That is an increase of between £300 and £400 on the present cost. Thus if we erect a building at the present time we provide for the additional accommodation necessary according to the Electrical Engineer, Sydney, at an increased cost of only £300 or £400

per annum. I would emphasize the point, however, that I do not recommend the erection of this building with the heavy floors for which provision has been made. The cost should be reduced so as to bring it approximately to the present rental costs of the Electrical Branch of the Department. With this new building we should have provision for manufacturing. Everything depends, of course, upon the extent to which manufacturing is entered upon. I cannot say whether Ministerial approval has been given to the policy of the Department manufacturing for its own requirements. But I understand that after the war the Department will be thrown to a large extent upon its own resources. At the present time, with the object of encouraging local manufacturers, in inviting tenders for material we allow 15 per cent. preference in respect of goods of Australian manufacture. Every effort has been made, but without success, with the exception of insulators, to get our requirements manufactured in Australia outside the Department. Insulators are being manufactured locally. You ask whether it would not be possible to have insulators, for instance, sent direct from the manufacturer at regular intervals to the various stores so that we should not have to keep very large stocks. That, I think, is now being done. Copper wire is not being manufactured in Australia, but there is a probability of its being made here. If it is, that will reduce the amount of stores space required. According to the Public Accounts Committee's Report, you tell me the Postal Department has stores of the value of £225,000, and its output for the year is £227,000. That is nearly pound for pound. I am not in a position to say whether it is right that such a large stock should be kept. I think that the Department clears out the whole of its stock every twelve months, and that does not seem to be unreasonable. I am not in a position to say that the further stores accommodation asked for is unnecessary. The central office must largely rely on the Deputy Postmaster-General, Sydney, and the Controller of Stores there. Large stocks of postal stores, of which I have no personal knowledge, are necessary. It would not be economical to have the repairing shops and workshops a couple of miles out of the city, although land there would be cheaper. The workshops, wherever erected, must be of a substantial character and should be practically dustproof. I also think that if you house your workmen in a substantial building—a building that is moderately cool in summer and moderately warm in winter—instead of an ordinary wood and iron building, your output is increased from 5 to 10 per cent. do not think there would be much saving in erecting workshops 2 or 3 miles out of the city area. The repair shops are used by 60 or 70 men working in the actual city area. Others working in the suburbs also use them. The 60 odd men go to and fro from their work in the city, and on the northern side of the harbor to the workshops, that if you had the latter 2 or 3 miles out of town you would save the time of, perhaps, twenty men, but increase the travelling time of 60 or 70 men. That is another reason why I do not think it would be economical to have the repair workshops in the suburbs.

The automatic telephone system will increase the work of our mechanics, although it will decrease the number of attendants.

97. *To Mr. Stenrod.*—I cannot give you the figures as to the actual increase now, but will do so later. So far as the outside staff is concerned, there will not be any increase resulting from the automatic telephone system, but within the exchanges themselves, where the electric apparatus is mechanical instead of being, if I may so put it, human, more mechanics will be permanently employed in the exchange. The automatic system is wholly mechanical. I can give you, later on, figures showing the ratio established between the number of persons employed in a personally operated exchange and one which is mechanically operated. I have a general, but not an intimate, knowledge of the stores in Sydney. I have not gone over each floor to see whether they have excessive stores or excessive space there. I have been through the workshops recently taken over, but not since the whole of the staff was transferred to them. So far as I can gather they are as suitable as any that could be got at the time, yet not altogether suitable for workshops. There is a blank wall on the western side which obstructs the light of the telephone workshop. Under a system of locally produced articles for the Department, the storage space requirement would be reduced. That is, if the Stores Branch would be eventually squeezed out of the lower floors. Even if everything were locally produced we could not dispense with stores in respect either of repairs or distribution. We distribute in small quantities—parcels so small that they can be sent through the mail in some cases. If it is necessary to keep stocks on hand in order that that may be done instead of requisitioning on the manufacturer. It would not be possible to dispense altogether with our stores. It is proposed to provide a subsidiary store at Newcastle. We have also bin stores at all our principal offices in New South Wales. In these we keep small supplies of commonly used materials such as wire, insulators, &c. I agree with you that it would be wasteful to supply Albury from Sydney instead of from Melbourne, but as a matter of fact I think Albury is supplied from Melbourne. The Controller of Stores and I, acting as Electrical Engineer, some time ago went fully into the question of supplying stores from the different State capitals, and we laid down a scheme, which was adopted, by which stores would be supplied to the different country towns from the nearest State capital. For instance, instructions were issued to supply Deniliquin from Melbourne, and Broken Hill from Adelaide instead of from Sydney, as it is cheaper to do so. We have adopted the district rather than the State system of distribution. Speaking generally, I think it would be advisable to establish two or three subsidiary stores, on the main railway routes, for distribution. The Controller of Stores, I think, went fully into this matter, and having regard to freight charges, and the additional handling involved, found that it would only be advisable to establish a store at Newcastle, which would distribute to the northern districts. He found that contractors in Melbourne, or even in the Old Country, would land their goods at Newcastle as cheaply as in Sydney. That was one of the factors in the establishment of a store there, and it was due, of course, to the fact that Newcastle is a port. To the extent that the local manufactures displace imported supplies I think the tendency will be to require such

stores to be supplied to the districts requiring them from the nearest large centre of population. It is a matter of railway freights and cost of handling. For instance, we may be constructing a line from Cooma, which is in the Goulburn district, but to send supplies to Goulburn, and to have them handled again as between Goulburn and Cooma might cost more than if the goods were sent from the central store in Sydney direct to Cooma. The Controller of Stores, I believe, found to his surprise that it would be cheaper and better for the Department to send out stores direct from Sydney instead of establishing district store houses. The establishment of district store houses in various centres of population would involve the holding of larger stocks than would be necessary if the stores were concentrated at Sydney. The Controller of Stores found it would be better to hold them in Sydney and send them out as required. That finding was not based on the assumption that all stores would be imported. In the case of goods required at Goulburn, for instance, we should not save anything by sending them direct from Melbourne, where they were manufactured, instead of sending them from Melbourne to Sydney, and then on to Goulburn. In the case of wire being manufactured in Melbourne, if we proposed to erect a line to Cooma, the contractor here would send, say 5 tons of wire, while another contractor would supply insulators, and still other materials, and so on for the purpose. By the time all these materials had been sent direct from Melbourne—if they come from different centres the position would be worse—there would be much confusion and additional expense. Under the present system a requisition is made on the stores for all the material required, and is drawn any one line, and the storekeeper sends the whole of that material in one parcel to the nearest point. It is true that there is a large supply of insulators in Sydney stores, and that they were manufactured in Melbourne. I do not think there would have been any money saving if those insulators had been requisitioned from the contractors here and delivered on the works on which they were to be used. The contractor would not keep stocks, or manufacture small quantities as required by the Department without compelling the Department to pay for it. We gain, no doubt, by having large supplies manufactured at the same time and delivered to the same place. The whole question resolves itself into one of storage room, and as to whether the Department cannot store as cheaply as the manufacturer. The manufacturer does not stock, because he has practically no customer other than the Department. If he supplied us with goods which subsequently become obsolete, we should have to bear the loss.

98. To Mr. Featon.—You tell me that the evidence of the Stores Branch was that they would push the Mechanical Branch out of this new building, whereas I say that we shall push the Stores Branch out. I have given the Chairman my reasons for thinking that the Stores requirements will contract, especially if we manufacture cables and copper wire in Australia. The stores requirements should contract, while those of the mechanics' staff must go on increasing as the telephone system expands in New South Wales. The requirement as to the keeping of nine months' stock in hand was laid down at a time when work throughout the Commonwealth was suffering because of the inability to obtain supplies. It was cancelled in 1915. Our branch would be quite content to have three months stock in hand, and such a reduction would certainly mean a great

reduction in the storage space required. You must not lose sight of the fact, however, that we are advancing, and that although we might reduce the storage requirements at the present time, a few years hence a supply sufficient to cover three months might be greater than the stock we hold at the present time. I agree with Mr. Eagle that if we could get all our supplies made locally we could cut down our stock to a three months' supply. This locally made equipment, which the Engineering Branch of our Department consists principally of insulators and conduit ducts, formerly we imported all our insulators. They are now made here. In our own workshops we also manufacture small switchboards. That I think comprises all the main articles doing locally for our own use, with the exception of bolts and such like material. There is no reason why cables and copper, and galvanized wire should not be manufactured in Australia. No experiment has yet been made in that direction, although, according to newspaper reports, inquiry on the subject has been made by the Prime Minister and the Postmaster-General. You tell me that Mr. Eagle considered that New South Wales used about one-third of the requirements of the Commonwealth in respect of cable copper and galvanized wire, and that you have set the total down as representing about £480,000. Speaking generally, I think that would be about right. I will get the exact figures for you. While the Stores requirements in the city will decrease, and those of the mechanics staff will increase, I think that the stores should remain as proposed. We shall still require stores to be retained in the city area for our workshops, and no doubt the city will require these buildings for the distribution of postal and other stores in the inner portion of the metropolitan area, and to the North and South coasts, where water carriage can be made use of. When you speak of manufacturing I am not enamoured of the proposal to retain the factory inside the city area—a factory built on expensive land—but I repeat that wherever it is erected it should be substantial and comfortable, and practically dust proof. Dust is one of the contributing factors to inferior insulation in the case of electrical apparatus. We do not retain in our stores large quantities of obsolete material. For some time in New South Wales we have been selling such material. When we conclude that material is obsolete we either scrap it and sell it for what it is worth, or use certain parts of it. Switchboards of certain kinds, for instance, become obsolete, but there are parts of those boards which remain suitable for the manufacture of switchboards in our workshops. That applies to other articles. You say that if this building is ultimately to be used for workshops instead of for stores, it would be better to erect premises costing much less, and which would be equally effective. I agree with that view. £58,000 is, in my opinion, too great a cost to incur. The reduced estimate of £45,000 for a building with wooden floor joists and pillars which, you say, has been furnished, comes more within my view of what should be the cost of a building for workshops. It is essential, of course, that the building should be fireproof. If such a structure can be erected and made, as you say, almost as fire resisting as a building with steel joists and pillars I should say that it would be desirable to proceed with it at a cost of £45,000. I do not think it is necessary to construct the lower floors of this building to carry a weight of something like 500 lbs. per square foot. It will

maintain that our branch will ultimately be the sole occupant of this building, and not the Stores Branch.

99. To Mr. Sampson.—Even setting aside the necessity of providing additional storage space at the present time, I would recommend the construction of this new building for workshops alone, notwithstanding that we lose the use of the existing building with a certain option. I would prefer the erection of buildings in Sydney to be used as workshops at a cost of £58,000 rather than continue to rent the existing premises. It would avoid the inconvenience we are suffering, and would remove obstacles to manufacturing. Under existing conditions we are not suffering any inconveniences in respect of space in our workshops, but there is an inconvenience arising from the fact that the workshops are, as you say, from 60 to 80 yards distant from the stores. Whether the distance is 80 yards or 160 yards, inconvenience arises from taking the material to and from the different buildings. That is a serious factor which has a money value. Even leaving out the question of the Stores Branch altogether, I would recommend the expenditure of £58,000 on new workshops for the Electrical Branch in Sydney. If the Stores Branch does not want this accommodation, then I think a building of four floors and a luncheon room will meet the present requirements. In such circumstances I would reduce the amount necessary to provide workshops. New workshops, however, should be erected forthwith. I would not limit the expenditure to the extent of providing for only cheaply constructed workshops, since they would cost more to operate than would a building such as is now suggested. On the other hand, I would not recommend the construction of a building to be used as workshops without any regard for expenditure. It must not be forgotten that the maintenance of our metropolitan network is involved. If provision for stores had not to be considered, I would recommend that the workshops be placed somewhere in the neighbourhood of the main telephone centre of the metropolitan network. On the central switchboard, Sydney, we have 8,000 or 9,000 subscribers. All these are within a radius of 2 miles of the General Post Office, and have to be attended to. Therefore the proper place to put the workshops for the repair and maintenance of the telephone system is in the telephone centre; that would be within the city area. If I were erecting new workshops for our branch I would make them considerably larger than the present rented building. I would provide for the requirements of not less than ten years hence. The Electrical Engineer in Sydney, in a letter which has just been put before me by your secretary, sets out that the increase in the number of the staff in the telephone workshop during 1916, was nine men, and, in addition, the percentage of increase being 13 per cent. He states further that it is estimated that at the end of two years from the present time the total workshop's staff will have increased from 221 to 270. That in seven years time it will have increased to 360, and in seventeen years time to 540. I would not increase the space for workmen in the same proportion as I would increase the space for the staff. The increase would be about seven-eighths.

100. To the Chairman.—That, of course, is merely guess work. Everything depends on the extent to which we manufacture.

101. To Mr. Sampson.—We have also to take into consideration the advances made in machinery. The war has shown us that there must be very great advances in the manufacture of ma-

chinery for the making of aeroplanes, submarines, and so on. That will have an important bearing on not only our workshops, but the number of men employed. I anticipate that after the war certain machines will be made available for commercial use which will decrease the number of men and increase the output. That is something of which no one can speak with full knowledge at the present time. It is a factor that makes me hesitate to forecast the space required for the next ten or fifteen years. Mr. Dircks, the Electrical Engineer, Sydney, is an older officer than I am, but I do not know whether he has kept that factor in mind in preparing his estimates of expansion. I think that we should not make any provision if we were going to provide only for workshops I should erect a four storeyed building, together with a luncheon room, but make provision for any necessary additions to it.

102. To Senator Story.—You ask whether it would be economical to erect a three or four storeyed building on this valuable land. We do not want an eight storeyed building at the present time, and if we constructed a three or four storeyed building, and provided for an additional three or four storeys being erected later on, that, I think, would be economical. This work in my opinion is urgent, because with the present limited accommodation we cannot carry on the manufacture of switchboards and other apparatus. The unnecessary expense is incurred in transporting our material to and from between the workshops and the stores, and the probability of our rent being increased after the war are all factors to be considered. The urgent need for this building relates more to the workshops than to the stores.

I am speaking, however, without full knowledge of the Stores Branch, and therefore may be wrong with its local conditions of which I am not aware, and which has led the Controller of Stores to ask for this additional accommodation. I do not know whether the Works Department had before it, when the plans now before you were drawn, the information I have given you as to the likelihood of the building being used ultimately for workshops alone. I should say that it did not have the information, otherwise it would not have provided for heavily constructed floors below. I take it that it was informed that the first three floors would be required for storage purposes. Floors used for workshop purposes alone should be constructed to carry from 150 lbs. to 200 lbs. per square foot. The carrying capacity of the stores floors must, of course, depend upon the character of the stores to be stacked there. The floors in the big wool stores in Sydney are constructed to carry up to as much as 300 lbs. per square foot. I am aware that the first floor in the building is to be so constructed as to carry about 500 lbs. per square foot, the second storey floor 400 lbs., and so forth. I think the cost of this work could be materially reduced if the plan were so altered as to give sufficient stability for the workshops above, while making use of the ground floor area for heavy stores. That, however, is a matter for the architects to discuss with you. I have said that if the floor joists had pillars of wood instead of steel, and were made fireproof, it would be satisfied. I would put a permanent adhesive fire resisting material, such as asbestos, plaster, or something of the kind, around them, or attach asbestos cloth to the beams and under the floors. That again is a matter for an architect and not for an electrical engineer to discuss with you. As to the workshops being near to the centre of the telephone system in the metropolitan district that would

probably mean that it would be some distance from the exchange. The telephone development, for instance, extending out Parramatta way would not be so dense as that about Redfern, Glebe, and other suburbs near the Central Exchange, so that the centre of the developmental centre would probably be somewhere between the General Post Office and Redfern or the Glebe. The site on which it is proposed to erect the buildings, in my opinion, is suitable, and is as convenient as any that could be obtained.

(Taken at Melbourne.)

THURSDAY, 8th FEBRUARY, 1917.

Present:

Mr. RILEY, Chairman;	
Senator Needham,	Mr. Finlayson,
Sensor Story,	Mr. Gregory.
Mr. Fenton,	

John Smith Murdoch, architect, Department of Works and Railways, further examined.

103. *To the Chairman.*—The whole scheme for these postal stores was evolved at a meeting of the postal storekeeping officers of the different States, and the Postal Department itself specified the strength of floors that would be required. Apparently, since that time, an idea has been formed in the Department that the destiny of the building will be changed in the course of time from a combined workshop and stores to a workshop only. That would mean that a certain number of the lower floors would be used as stores for the first few years. Therefore, the first three or four floors should be constructed to carry fairly heavy loads. When I was informed last night of the possible change in the purpose of the building, I got into consultation with other men in the Department, with a view to estimating the effect of reducing the three upper floors from a capability of carrying 2 cwt. per square foot to a capability of carrying only 120 lbs. per square foot. We agreed upon approximate figures. If steel construction be adopted, such a reduction of the upper floors would mean a saving of probably £1,000.

With reinforced concrete construction, the saving would be under £300, and with timber construction, under £200. We were of opinion that, even if the capability of the floors were reduced to 120 lbs. per square foot, the joists and the flooring boards, which constitute the bulk of the timber employed, could not be reduced at all. The same 13-in. flooring, and the same joists, would be required. In calculating the size of joists, one considers, not altogether what weight the joist has to bear, but also the importance of obtaining rigidity. Unless the joists are of a certain thickness, there would be vibration in the floor when a load was being moved across a bay. Therefore, the reduction of timber in the reduced floors would be confined to the vertical supports—the stanchions, and the horizontal supports—the beams. If the whole building, from the basement to the top floor, were erected in timber as a workshop, the approximate saving to be effected by the suggested reduction of the floors would be £500. In my opinion, it is doubtful if it would be wise to adopt reduction. The witnesses who appear before the Committee to-day may enunciate a certain policy as to the future of the building, but who can guarantee that policy will be carried out? In a few years, other people may lay down another

policy for the building which may be required to be used entirely as stores, and if the building were not suitable for that purpose, there would be disappointment. I would suggest that the strength of the floors be left as proposed in the plan, especially having regard to the fact that, in timber construction, the saving by a reduction of the floors would not be very great.

104. *To Mr. Finlayson.*—We could not reduce the walls.

105. *To Mr. Gregory.*—I will prepare immediately an estimate of the cost of a five-storeyed workshop, without provision for stores, which will be capable of being raised to eight storeys ultimately, if necessary. The very latest authority I can find upon the strength of floors of workshops is the enactment of the London County Council that ordinary workshop floors must be capable of bearing 112 lbs. per square foot. I infer that that regulation refers to workshops for a light class of construction. We have no evidence as to what class of manufacture will be carried out eventually in these postal workshops. The Department may commence the manufacture of motor cars and motor cycles, and other activities, entailing a good deal of forge work. Therefore, having regard to our lack of knowledge as to the ultimate destiny of the building, and having regard also to the small saving that might result from a reduction of the walls, I think we would do well to build the floors at full strength.

106. *To Mr. Fenton.*—The plans for this building were prepared after consultation with the postal authorities. We asked the Postal Department what weights the floors would be required to carry, and, to the best of my recollection, they stipulated the strengths which have been provided for in the plan.

107. *To Mr. Finlayson.*—The Postal Department asked for a building which would combine stores and workshops. I have always understood that the whole building would be ultimately required for stores. If I were building a workshop of the magnitude of the proposed new building and the old one combined, I would not proceed on these lines. I do not think the proposed building will be an economical workshop, but it will be an economical store in respect of both position and arrangement. The whole basis of my calculation has been that this will be a store building.

(Taken at Melbourne.)

WEDNESDAY, 14th FEBRUARY, 1917.

Present:

Mr. RILEY, Chairman;	
Senator Keating,	Mr. Finlayson
Sensor Needham,	Mr. Gregory,
Sensor Story,	Mr. Sampson.
Mr. Fenton,	

Andrew Little, Controller of Stores, Postmaster General's Department, Victoria, sworn and examined.

108. *To the Chairman.*—I have visited the postal store at Sydney, but I have not had any experience there. I understand that the new building is to be erected next door to the present store in Harbour-street. I was in Sydney on business on one occasion, and inspected the present store. In a general way, I took notice of the quantity of stock carried there, but I would not

care to express an opinion as to whether the store were overstocked or not. I have had twenty-two years' experience with regard to stores, viz., eighteen years in the Victorian Railway service, and four years in the postal service. Since I became connected with the postal stores, there has been practically no increase of the business, it has remained about the same. I was not connected with the postal stores before the erection of the new premises was started. The arrangements in connexion with the new building had all been completed before I joined the service. The work was just about to be started when I came across from the Railway Department.

It was employed in the old building. It was not a store; it was merely an apology for a store. The new building is adequate for all requirements. In that particular building £144,000 worth of stores is carried; at Power-street, South Melbourne, £47,000 worth is carried; in Sturt-street, South Melbourne, £92,500 worth is carried; the pole stocks throughout the State are valued at £12,700; and then in three district stores, namely, Ballarat, Bondigo, and Geelong, we have £3,800 worth, fairly evenly proportioned, making a total of £230,000. The actual turnover for last year was £254,292. Some of the stock is turned over every month; and some is turned over quarterly, while some of it is turned over once a year. We have a proportion of fairly dead stuff, but the £47,000 worth of stock at Power-street, South Melbourne, is practically all cable which we obtain principally from Great Britain. From the time that we start to invite tenders until the cable is delivered here, a period of about nine months elapses. My stock of cable at the present time is low, and its value, as I have said, is £47,000. I am asked whether I would have any trouble by ordering to get my shipments to arrive once a quarter. It is not a matter of shipments. It is really a matter of the works which we undertake. Estimates are prepared, and after they have been approved, and probably passed by Parliament, the works are put in hand, and we must have the material here to carry them out, because once we started a cable job of any magnitude to be done in any one year, we could not arrange after that to get the stuff here. It is quite true, as business men have told the committee, that they order stock only three months ahead. But those witnesses were speaking very largely of shelf goods. Their heavier lines, such as iron and steel, they do not turn over so readily. The same thing applies to cables; it is one of the dearest lines that we have. At the time I joined the Stores Department it was a standing direction that we should carry a nine months' stock. That direction has been amended, and we are not supposed to carry more than a three months' supply of such lines as can be readily obtained. Of the locally obtained stuff, we carry about a month's supply, that is, if we know that any man has the stuff on his shelves, we do not stock it. But with regard to cable, I may mention that there is not one of the electrical houses that carries any stock. We use cable for repairs, but we do not require a big stock for that purpose. The cable is stored in a yard, not in a store at all. There is certainly cable in our store, but it is a mere handful of switchboard cable. The particular bit of cable which the members of the Committee saw must be held in as dry a place as possible, because otherwise it would deteriorate. The insulation drops with moisture, so that the cable must be specially stored. But that is only switchboard cable; it is the lead-covered cable which is used underground. In giving evidence before the

Public Accounts Committee, I pointed out that our system is faulty in regard to our method of dealing with estimates. I think that we would be better off if we had a straight out stores suspense account, the same as is kept in the Victorian Railways, against which to buy stores. At the present time, we have to wait on Parliament to vote the money, and that must, to some extent, be responsible for our system of stocking. I do not say that it is wholly responsible, but to some extent it is.

109. *To Mr. Gregory.*—I see from the plan on the wall that the three floors of the proposed new store at Sydney are to be devoted to stores purposes, and the remainder to workshops in connexion with the telephone branch. We have a repairing workshop adjacent to our store here. As a storekeeper, I do not approve of having workmen in the building in which stores are carried, that is, with access to the stores. Provided that there were fireproof doors between the two buildings, and also in connexion with the lifts, so that there would be no possibility of workmen entering any part of the stores, I would not find any objection. We do not insure our stores. I consider that with proper fireproof doors between the two places the security would be all right. I understand clearly that the three bottom floors of the proposed building are to be used as stores. If the building is to be used partly as stores and partly as workshops, I see no objection. There will be an added risk to fire by having carpenters and engineers working in the same building, but I do not think that the risk will be great, and it could be met by storing the less inflammable articles in a particular portion of the building. For instance, I would store the wire, spindles, and metal goods in that portion. In fact, I would take all precautions that would be possible. In order to prevent pilgaging, we have a strict rule in regard to anybody going into or out of the store. I believe that we have some pilgaging in connexion with our stores. I do not think that the fact of the workmen employed in the proposed building meeting in the diningroom on the roof would have any effect in that regard if you had the store building itself properly protected, but I would not like anybody to roam about a store. I do not think that it would add to the danger of pilgaging to allow the employees to join together in the diningroom. In 1915-16 we carried £230,000 worth of stock; in 1914-15, £271,577; in 1913-14, £259,754; and in 1912-13, £225,138. I understand that the Public Accounts Committee has recommended that in each State of the Commonwealth there should be a central store under one control. I understand, too, that it has reported that the Postal Department carried £823,000 worth of stock in Australia, and that the issues amounted to £827,000. As a storekeeper, I think that the margin of stocks in hand is very heavy, considering our issues from the post, locally manufactured supplies, we send them, as far as possible, direct to the works. We have a little storeroom as possible for goods which are manufactured in Australia. I think that I ought to state here that the £823,000 worth of postal stock which the Public Accounts Committee found in Australia is probably a legacy from the post.

Take, for instance, my own stock. I quoted the case of £47,000 worth of cable, but not long ago the figure was £80,000. I had not bought any of that stock, and I would not like to say that the same position did not apply in other States. It may not be known to the members of this Committee that the Postal Department only re-organized its stores administration within about the last

five or six years, and that there is only one controller to-day in a position that was here six years ago. I understand that the Committee is asked to recommend the expenditure of £13,000 on the purchase of land, and probably £25,000 on the erection of a building. If the Commonwealth has to expend £81,000 for the building, and £223,000 for stocks, the interest on the total expenditure at 5 per cent will come to £45,250, and on our issues of £827,000 that amount will represent nearly 5 per cent. I understand that the new building in Little Bourke-street cost £90,000, but I take it that I am not to be blamed for that expenditure. I have tried to indicate to the Committee that we are endeavouring to decrease the stocks. It is necessary to keep cable in stock quite apart from repairs. I think that the real trouble we are up against is that action was taken to obtain stock for projected works, but these works were not carried out.

110. To the Chairman.—The stocks increased in spite of us.

111. To Mr. Fenton.—A nine months' supply of postal stores would undoubtedly be an excessive stock if it applied to everything. It is absolutely essential in the case of cable, because there are certain lines on which we should carry nine months' stock. Cable is one of the worst items which we have to handle. I should say that we ought to carry about the same stock of copper wire and iron wire. I suppose that I have £25,000 worth of copper and iron wire in addition to the £17,000 worth of cable which I mentioned at the beginning of my evidence. Roughly, about £80,000 I should think, is covered by the lines. I should say that, out of our stock of £230,000 worth, we would require a nine months' supply of £80,000 to £100,000 worth at least. As regards the remaining £150,000 worth, a considerable reduction is being made. We have not an undue space of store room taken up with goods which may be regarded as obsolete. I have some space taken up in that way. We make some use of that material for other purposes. My opinion on the question as to whether unnecessary stores are kept in the building at Sydney would not be of any value to the Committee, because I have not gone into the question. In our building we have about 63,000 square feet of floor space. I understand that the additional building at Sydney is to be of about the same size as our building here. In the case of Power street, we pay a rent to the State Government for the land. It is only a tin shed in a yard. It is really not a store. At Sturt street, there is a yard used for poles, and we have some workshops on the land, which is Commonwealth property. At Ballarat, Bendigo, and Geelong, we have in the Post office yard only a small wooden-framed iron building. In these three centres it is advantageous to us to keep a small stock on hand. We have a fairly large workshop at each place, and it supplies the district. At Melbourne, the country right through Warrnambool, and out to Hamilton. Ballarat supplies the whole of the Western District to the border, and down to Portland. Bendigo supplies all the north and north-west country. We find it an advantage to have these three stores in the country, and to work from them. Take, for instance, Ballarat. I can send a ton truck of wire to Bendigo at the lowest rate which is charged on the railways, and from Bendigo it goes out in carts. To send this wire from Melbourne, I would have to pay the highest rate on carts over the whole year. As regards the £170,000 worth of stock to which I referred, I think that I can reduce that amount without in

any way interfering with the efficiency of the service and the supply of goods. By reducing that amount considerably, I would reduce the floor space. As time goes on that will be reduced, and what applies to Victorin will apply to New South Wales, I think. It was only during the last five or six years that we started to reorganize our department, and in that time we have made considerable improvement. A good deal of my cable stock was here when I took over the business. In the four years we have given an order for cables, but we use cables of various capacities. Some of the capacities which were here when I joined are still with me. We have not ordered any new supplies of the same sizes in the meantime. We have had sufficient to go on with.

112. To Mr. Finlayson.—The postal store in Little Bourke-street is our central store. In addition to supplying Victoria, we supply the Riverina, in New South Wales. I have a say in placing the orders and fixing the times of delivery. I am responsible if there is any overstocking. Each year the engineer for Victoria supplies me with an estimate of what he is going to use in the ensuing year. I am generally supplied with this information in the period from December to February, and it is my business to get the goods. I get the goods without consultation with any other stockkeeper in the Commonwealth. That applies also to the oversea stocks. I order the goods for Victoria without consultation with anybody else. I make arrangements to secure deliveries at stated periods, so that I can handle the supplies conveniently. The oversea stuff is obtained by means of competitive tenders. These tenders provide for certain deliveries. We say that we will use so much in six or nine or twelve months, and a tender has the option of tendering in regard to those particular dates, or other dates, which he submits. When the tenders are received, they are submitted to a tender board consisting of the electrical engineer, the accountant, and myself, and we decide as to which tender shall be recommended to the Deputy-Postmaster-General for acceptance. As a matter of fact, I control now the periods of my shipments. It is the estimated requirements which affect the tenders. The store space we do not worry about. Since we removed to the new building, we have always had sufficient supplies for our requirements. I certainly think that the new building is likely to meet our needs for some period ahead. We shall be decreasing our stocks in certain directions, and in other directions our stock will be slightly increasing. But, to my mind, there will be ample accommodation in the building for probably ten years. We do not write off anything for dead stock. I would not say that a quantity of the obsolete stock on our books is of no value, but it is possible that some of the stuff is not worth to the Department what it stands at in the books. We always try to get rid of obsolete stock. You cannot say that you are going to clean out a third of the space. You can only unload the slowly moving stuff from day to day. I think that there is some hope of enlarging the space for new stock by clearing out old stock, but the process will be gradual. You cannot absorb all the dead stuff in any one year. You must spread it over a period. I could only guess at the value of the dead stock which goes out annually, and the figure would be valueless.

113. To Mr. Sampson.—We had £230,000 worth of stock in all our stores last year, and the total output was £254,000. We have about £141,000 worth of stock in the new building. I can forward to the Committee this afternoon a

statement showing the proportion of output from this stock in a year. I have been informed that the cost of the new building, with 63,000 square feet of floor space, was £40,000. I think that we should keep in stock a nine months' supply of cable, iron wire, and copper wire. There is a great difficulty in obtaining these goods, particularly cable, because, generally speaking, it is manufactured after we give an order. It is the practice of the Department to give the tenderer, for all oversea stuff a period of three months in which to submit a tender. That enables men to communicate in writing with houses in the Old Country, and submit all the specifications, &c., which we issue. I have complaints from the business houses that this notice is not long enough. My tendency is to clip it. Every one of our big contracts is for split deliveries. In normal times there was an uncertainty about the delivery of goods oversea. I do not say that the deliveries in pre-war times were as bad as they are now, but they certainly were not good. We do make contracts with reputable firms, as we know them, but every reputable firm does not seem to think that it is necessary to carry out its contract. In every contract we provide for penalties, but we do not enforce the provision in every case. The penalties provided in a contract are severe, but they are not enforced generally. In my opinion, the reason why the contracts were not carried out, I think that where a firm is allowed to have its time for delivery extended generally speaking it has a very good excuse. Every case is dealt with on its merits. I dare say that the demand for cable and wire in England during the last four or five years has been something on the question of prompt deliveries here, but not about two years' experience of pre-war deliveries. I cannot suggest any means by which the Commonwealth could compel contractors to carry out their contracts. We have ample provision in our contracts at the present time. There has been a real inquiry made as to the reason why contractors have not carried out their contracts. Every case, as I said, is inquired into on its merits. I do not know of any substantial reason why a contract should not be carried out. Cables are not supplied by one firm only. I think that, in my time, we have had dealings with all the principal cable-making firms in the world, and with six big manufacturing firms. There are five or six big manufacturers, excluding the German manufacturers. The latter were engaged in this business very largely when I first joined the Postal Department. We get our supplies of cable mostly from Great Britain. Speaking of shelf goods only, I see no difficulty about supplying the annual output with three months' stock. We cannot make contracts for periods extending over twelve months, because funds are only available for a year. It is not an uncommon thing for the Department to arrange for deliveries to extend over a period of nine, twelve, and even fifteen months. I think that, as regards the heavy lines, we are carrying on our business in the same way as private firms do. We are in a different position from a trader. The worst which can happen to a trader if he does not have the stock is that he cannot make a sale. If we had only a three months' stock, we would not be in the same position as a trader. We could not put out up to three lines, whereas he would only lose the purchase of an article. When I was connected with the Victorian Railway Department, I dealt with all the biggest firms in Victoria, and I know pretty well their practice. I know how often business houses have been absolutely out of stock. We purchase everything possible under contract, and in the contracts provision is made for special

deliveries and split deliveries. As a rule, the deliveries are satisfactory. I do not believe that the system of purchasing supplies would be improved by establishing a Supply and Tender Board. I do not think that the Board would affect the stocks at all. The Department has in operation at the present time a Tender Board. Electrical material and telephone stocks are not stored here by electrical houses the same as ironmongery is stocked by ironmongers. We operate on whatever contracts are in existence with the State Tender Board. We order in exactly the same way as they do. We order the stuff to be delivered directly to the job.

114. To Secretary Reading.—I could not give the Committee any idea of the proportion of stock which every year becomes obsolete. Steps are being taken to ascertain what the proportion is. We are now supplying to the central office a yearly statement of articles which have not moved in the last six months. In addition to actual obsolete stock, there is, in the Department, what is called obsolescent stock. The quantity of the latter will appear in the same list. The stuff which is obsolete or obsolescent is not necessarily removed from the rest of the stock. If it were taken out of the store, it would have to be put somewhere else. Where we provide storage accommodation, it is found to be for goods which are perishable goods. If these goods were put out in an open yard the asset would disappear. We put them in stores of an inexpensive character by removing them to the South Melbourne side. Perhaps I should mention here that the lists which we supply to the Central Administration are circulated throughout the Commonwealth, with the view to using up what might be seen there, say, New South Wales. On account of new inventions, there is a tendency to accumulate stock which is either obsolete, or is not suitable for the best purposes, such, for instance, as telephone material. A great deal of the stock which, perhaps, is obsolete so far as Melbourne and Sydney are concerned, may be used in small localities or districts. That applies to telephones. All this is being attended to. My experience is that the requirements of the Postmaster-General are becoming supplied with more Australian produced articles than they used to be. That tendency is quite apparent. I do not think it would be possible to adopt wholly a system under which a contractor who happened to be a local manufacturer could supply the article directly to the Department, and thus obviate the necessity for storage. We are doing that at the present time as far as we can, I think, but there is a weakness to be kept in mind. If the suggestion were applied wholly in our Department a very fair proportion of goods which ought to be subjected to a close inspection would be going out without any inspection at all. The proposal is dangerous in that regard. That is a very serious criticism to level at such a system.

115. To Secretary Reading.—I do not think that a departmental Supply and Tender Board possesses any advantages over our present system. It seems to be just a revival of our present system. It is a case of appointing another Board to deal with what we are dealing with efficiently at the present time. I only claim to know about the Supply and Tender Board in Victoria, and the method of dealing with the purchase and supply of stores to the Victorian Railways, and to the Postal Department in Victoria. I have no knowledge of the working of the Departmental Supply and Tender Board in Western Australia. I do not think that such a Board is needed here. My knowledge is limited to the three places in Victoria which I mentioned.

*The Committee decided that the following communication dated 17th February, 1917, from Mr. Andrew Little, Controller of Stores, Postmaster-General's Department, might be printed as an appendix to his evidence:—*

In connexion with stores accommodation—I have to inform you that the value of material stored at Little Bourke Street amounts to £144,000, whilst the issues for twelve months amount to £142,200.

Included in the material on hand is wire valued at £34,262, the issues from which during the twelve months amounted to £11,400 only. Also spindles, the stock of which was valued at £9,061, whilst the issues amounted to £3,000 only.

The stock also included 16,178 telephones valued at £33,015, and, of this number, about 6,000 were telephones received from all States for repairs and now held for issue as required by the various States.

Omitting from the "Stock on Hand" and "Issues" the items "Wire" and "Spindles" and allowing for the telephones mentioned above and valued approximately at £12,000, the figures are—Stock on Hand, £58,077; Issues, £127,800.