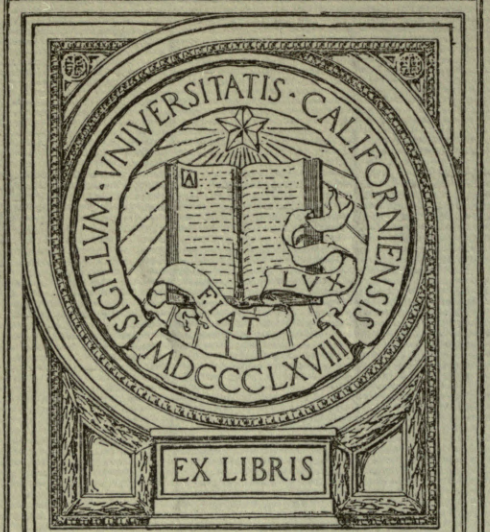


Technological Museum, Sydney, N.S.W.

R. T. BAKER,
Curator.

: 82280 SYDNEY: WILLIAM APPLEGATE GULLICK, GOVERNMENT PRINTER.—1910.

TECHNICAL EDUCATION SERIES NO. 17.

AMONGST AUSTRALIAN PLANTS THE WARATAH IS UNSURPASSED IN DECORATIVE ART.

TECHNOLOGICAL MUSEUM, SYDNEY.

DEPARTMENT OF PUBLIC INSTRUCTION.

Hon. G. S. BEEBY, M.L.A.,
Minister.

TECHNICAL EDUCATION BRANCH.

J. W. TURNER, Superintendent.

of Romanesque to the necessities and materials of the present day. There are three main floors 15 feet high, divided transversely into bays 16 feet wide, which, while providing separate compartments to facilitate the classification of the exhibits into groups, and simplify the study by visitors of the different kinds of specimens, afford a large amount of wall space (on the cross-partitions) for the exhibition of diagrams, &c. The amount of floor space on each floor is 9,000 square feet, and of wall space 17,000 feet, making in all 26,000 square feet respectively.

Objects of the Museum.

1. To assist in every way the development of the natural resources of this State in particular, and the Commonwealth in general, by bringing together for comparison, instruction, &c., collections of our raw products, such as wool, timber, minerals, essential oils, &c.

2. To scientifically investigate these products and so ascertain the various economic purposes to which they can be put or for which they are suitable.

ESSENTIAL OILS COURT.

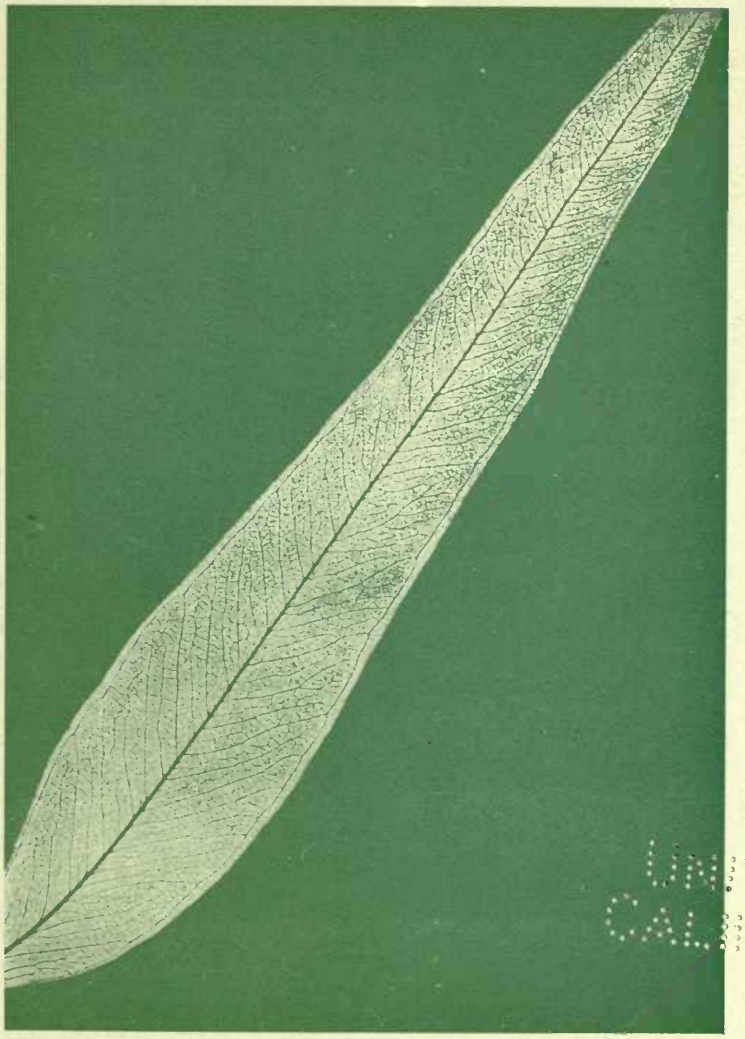
M. F. Connelly, Photo. *Nat. Size.*

Leaf of Eucalyptus dives, Schau.

The venation indicates a predominance of phellandrene in the oil together with the peppermint ketone.

Oils obtained from Eucalyptus species having this venation are now extensively used in the Mining industry for concentrating the sulphides in tailings, &c., by flotation process.

(*From* "A RESEARCH ON THE EUCALYPTS.")



M. F. Connelly, Photo. *Nat. Size.*

Leaf of Eucalyptus Smithii, (R. T. BAKER).

The venation indicates that the oil contains Eucalyptol together with pinene, and that phellandrene is absent.

Only Eucalyptus Oils obtained from species having this venation will meet the requirements of the British Pharmacopœia.

(*From* "A RESEARCH ON THE EUCALYPTS.")

3. To publish these results for the benefit of the commercial world.

4. To furnish correspondents and visitors with information on their own and Museum specimens.

5. To collect and exhibit the various economic products of the world, and to gather, as far as possible, all information relating to them.

6. The specimens are available to illustrate the lectures in the local Technical Colleges, and nature study in the Public Schools.

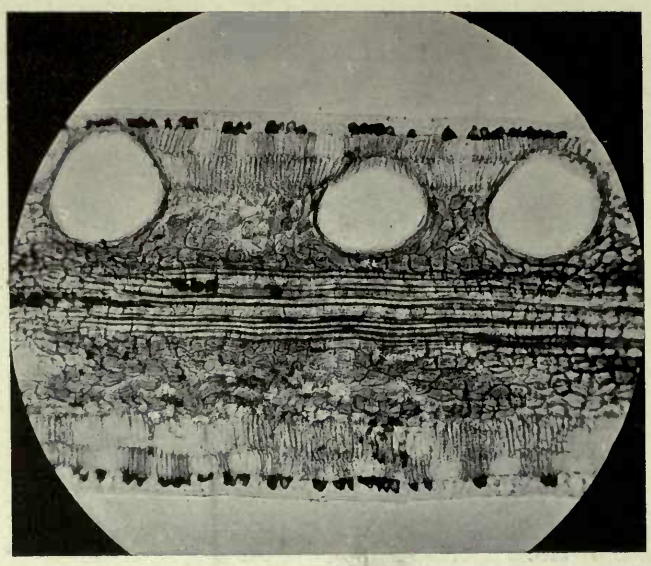
In the endeavour to fulfil the objects of the Museum as enumerated above, a very large amount of original research has been undertaken on the Economics of the State of New South Wales in particular, and on those of Australia in general, and over 200 original papers and books bearing on these subjects have been published by the Scientific Staff since its inception. Some of these works have received the highest commendations from the scientific world, particularly the "Research on the Eucalypts," published in 1902. This book contains the botanical and chemical investigation of nearly the whole of the species of Eucalyptus growing in New South Wales and Eastern Australia. The work succeeded in concentrating the knowledge concerning this wonderful group of trees, and brought to light several economics previously unknown, as well as scientific peculiarities of considerable importance. As, for instance, the discovery of the relation between the venation of the leaf and the oil constituents has now become of practical economic value (see plates of leaves).

An even more extensive work has just been completed, bearing on the economics of the Australian Pines, a work which has been in progress during the last ten years. The publication of the results of this investigation has added considerably to the knowledge of these indigenous trees, and new avenues of economic production are suggested. The plates illustratingthe enlarged stained micro-sections are a feature of this work.

Many other discoveries have been made with Australian groups of trees such as the Melaleucas (yielding, in one species, a new Cajuput); *Leptospermum*, giving a new citral-yielding oil; *Darwinias*, from which the valuable alcohol Geraniol may be obtained; as well as the *Cinnamomums*, and many other important genera now being investigated.

In the Economic Botanical Section the investigation of New Timbers for special work has recently brought to light several species which for carriage construction are specially useful, and fulfil the requirements of the carriage-builder admirably. These specimens are displayed on the first floor.

In the Economic Geology Section a most extensive collection of Marbles and Building Stones has been got together, and are displayed on the ground floor. From the study of this collection it will be seen that New South Wales is exceedingly rich in material of this character, and a book has been published by the Curator illustrating, by the three-colour process, the beauty of the marbles and granites of this

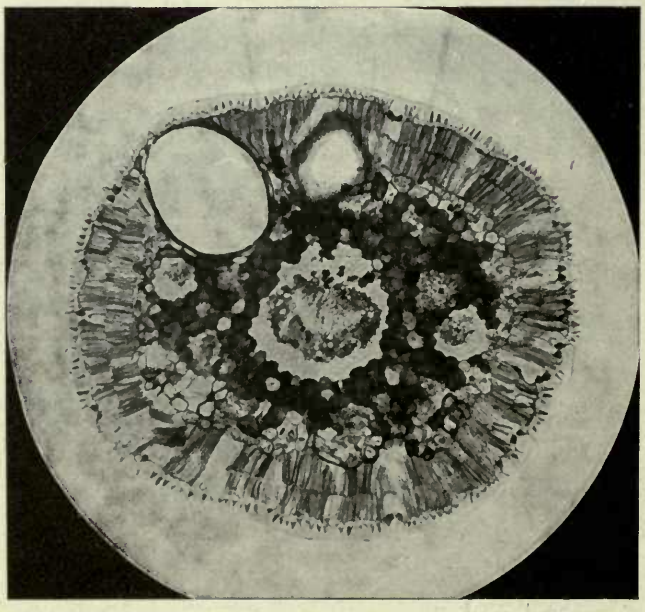


TEA TREE.

Melaleuca uncinata, Sm.

Longitudinal section showing portion of acicular leaf. The three circular spaces are empty oil glands.

[*From* one of the Papers on *Melaleucas*.



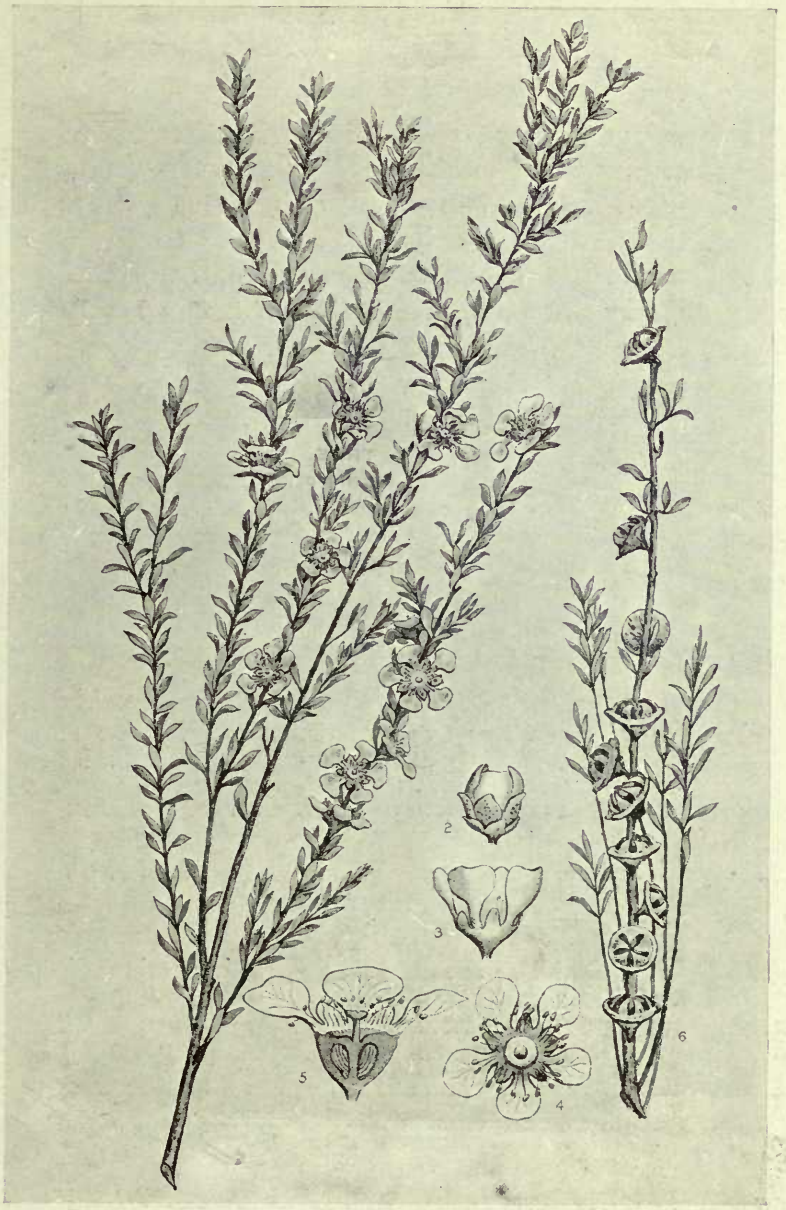
TEA TREE.

Melaleuca uncinata, Sm.

Transverse section of acicular leaf, showing one oil gland.

[*From* one of the Papers on *Melaleucas*.]

State. That the photographs are faithful representations of the characters of these polished marbles can be seen from the accompanying reproductions taken from the book above mentioned. The get-up of this publication has been much admired.



R. T. Baker, del. ad Nat.

LEMON-SCENTED TEA-TREE.

(*Leptospermum Liversidgei*, R.T.B. *et* H.G.S.)

[A myrtaceous plant yielding citral.]

[*From* one of the papers on *Leptospermums.*]

Research Work.

As showing the line of Economic and Scientific Research carried out by the Technological Museum, the following are the titles of some of the original works published during the last twelve years.

On a new genus of the Natural Order Myrtaceæ. *Proc. Linn. Soc. N.S.W. Vol. XIII, 2nd series.* Nov. 1898.

On Myrticolorin, the Yellow Dye Material of Eucalyptus Leaves. *Trans. Chem. Soc.* 1898.

On two new species of Casuarina. *Proc. Linn. Soc. N.S.W., Vol. XIV, 2nd series.* Oct. 1899.

On a new Apocynaceous Plant yielding large Edible Tubers. *Proc. Linn. Soc. N.S.W., Vol. XIV, 2nd series.* July, 1899.

On the Darwinias of Port Jackson and their Essential Oils. *Proc. Roy. Soc. N.S.W.* November, 1899.

On a Eucalyptus Oil containing 60 per cent. of Geranyl-acetate. *Proc. Roy. Soc N.S.W.* November, 1900.

On a new Aromatic Aldehyde occurring in Eucalyptus Oils. *Proc. Roy. Soc. N.S.W.* December, 1900.

On a new species of Angophora. *Proc. Linn. Soc. N.S.W.* April, 1900.

On our Forests and their Commercial Possibilities. *Read before the Timber and Forestry Laws Conference held in Sydney*, October, 1900.

On the relation between Leaf Venation, and the presence of certain chemical constituents in the Oils of the Eucalypts. *Proc. Roy. Soc. N.S.W.* October, 1901.

On a new species of Distomum, from the Platypus. *Proc. Linn. Soc. N.S.W.* July, 1901.

A Research on the Eucalypts, especially in regard to their Essential Oils. *Royl.* 4to (12 x 10), 300 pp. 46 plates. 1902.

On a new species of Distomum from Sawfish Shark. *Proc. Linn. Soc. N.S.W.* July, 1902.

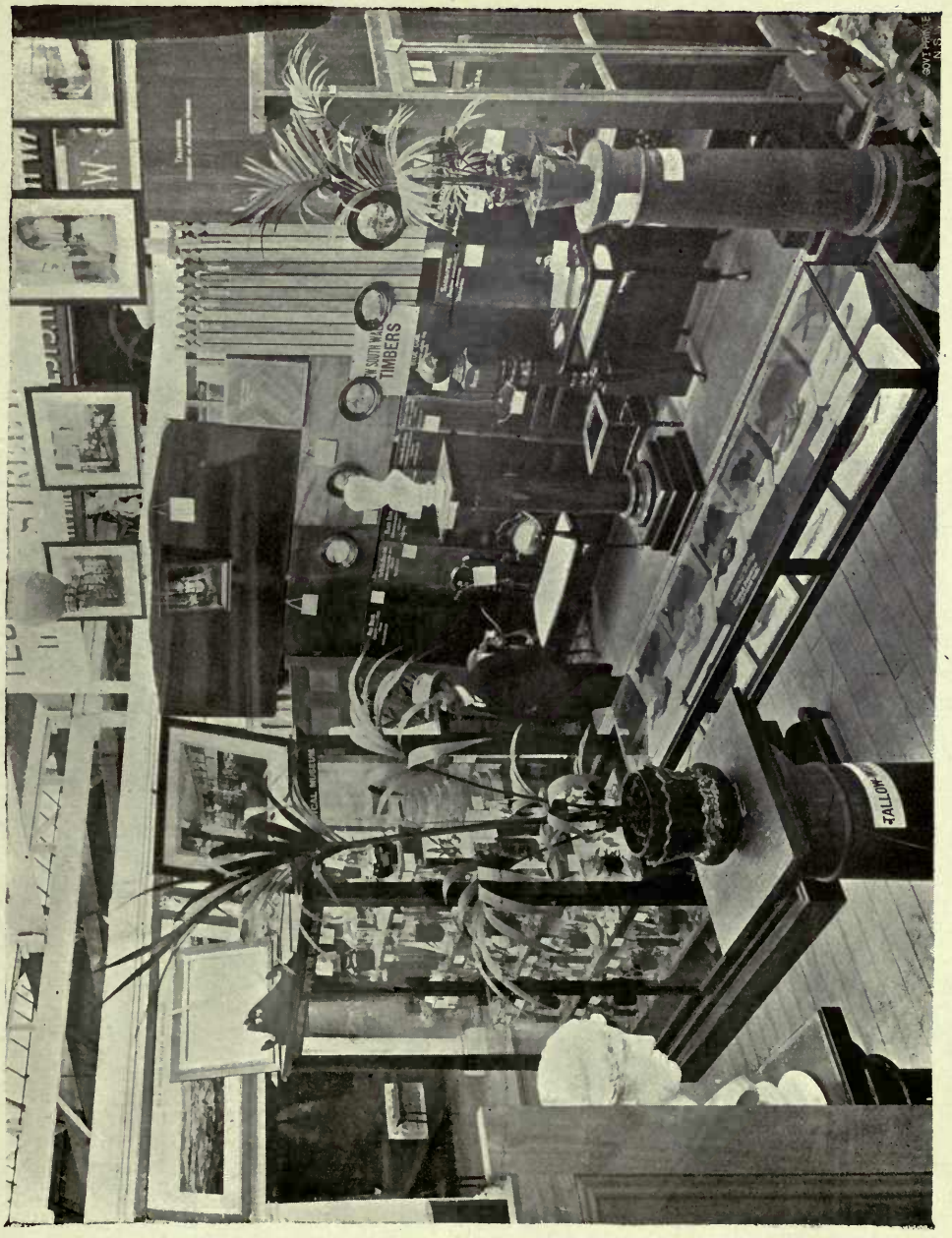
On a new species of Symplocos from N.S.W. *Proc. Linn. Soc. N.S.W.* November, 1902.

Aluminium the chief inorganic element in a Proteaceous Tree, and the occurrence of Aluminium Succinate in trees of this species. (One Plate.) *Proc. Roy. Soc N.S.W.* July, 1903.

On a new species of Callitris from N.S.W. *Proc. Linn. Soc. N.S.W.* November, 1903.

On Eucalyptus Kinos, their value for Tinctures, and the Non-Gelatinization of the product of certain species. *Proc. Roy. Soc., N.S.W.* August, 1904.

On the absence of Gum and the presence of a new Diglucoside in the Kinos of the Eucalypts. *Proc. Roy. Soc. N.S.W.* June, 1904.



TECHNOLOGICAL MUSEUM EXHIBITS, NEW ZEALAND INTERNATIONAL EXHIBITION, 1906.

TIMBER COURT.
[Furniture made from New South Wales timbers.]

On some species of Holostomidæ from Australian Birds. *Proc. Linn. Soc. N.S.W.* April, 1904.

A new Actinotus from Eastern Australia. *Proc. Linn. Soc. N.S.W.* June, 1905.

The Refractive Indices, with other data, of the Oils of 118 species of Eucalyptus. *Proc. Roy. Soc. N.S.W.* August, 1905.

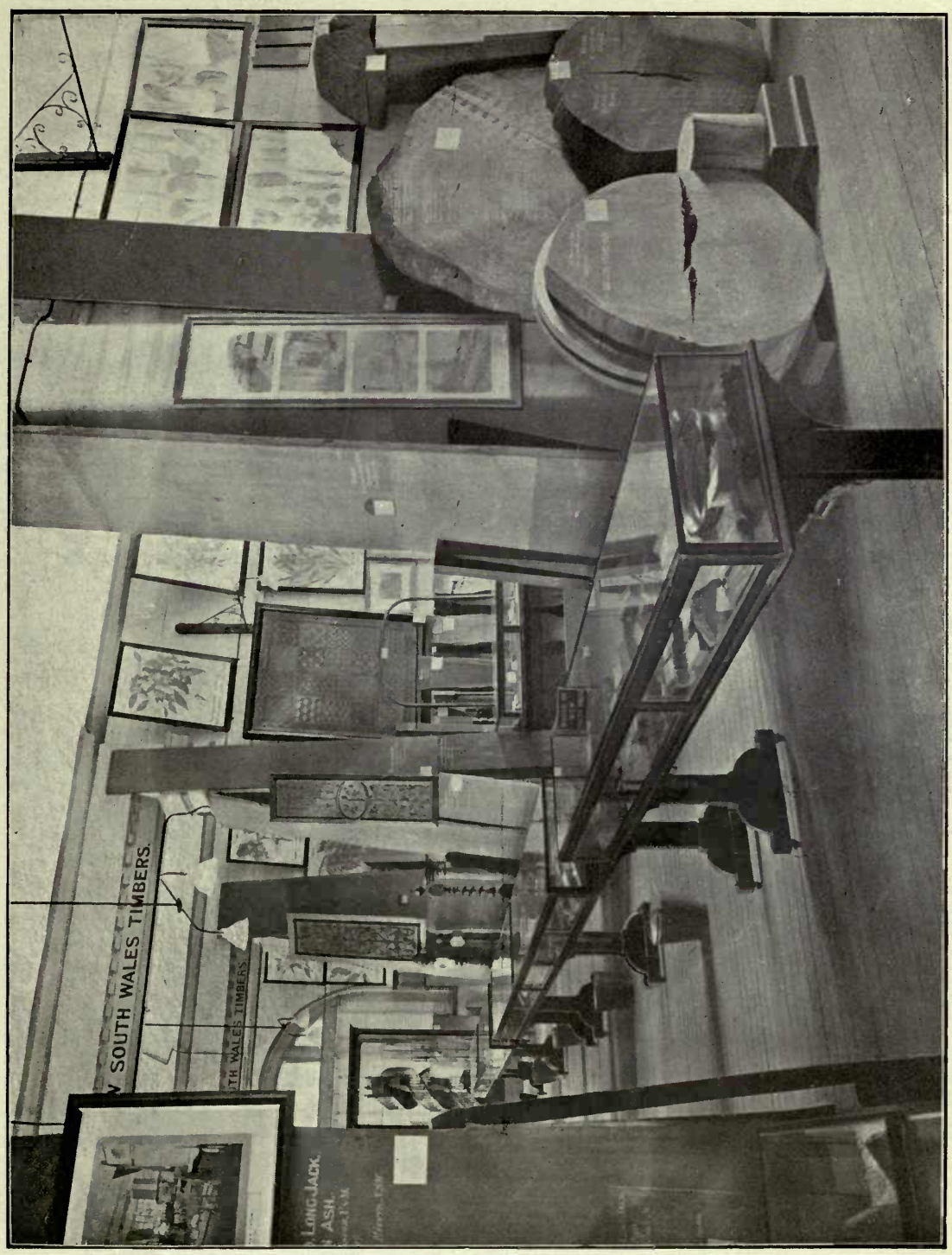
An Investigation on the Barks of four West Australian species of Eucalyptus. *Journ. of Agriculture*, West Australia, April, 1905.

On the occurrence of Calcium Oxalate in the barks of the Eucalypts. *Proc. Roy. Soc. N.S.W.* May, 1905.

Some West Australian Eucalypts and their Essential Oils. *Pharm. Journ.*, London. September, 1905.

On an undescribed species of Leptospermum and its Essential Oil. *Proc. Roy. Soc. N.S.W.* December, 1905.

An undescribed Cryptocarya from Eastern Australia. *Proc. Linn. Soc. N.S.W.*, December, 1905.



TIMBER COURTS.

EUCALYPTUS STAIGERIANA THE "LEMON-SCENTED IRONBARK" AND ITS ESSENTIAL OIL. *Pharm. Journ.*, London. March, 1906.

THE AUSTRALIAN MELALEUCAS AND THEIR ESSENTIAL OILS. Part I. *Prox. Roy. Soc. N.S.W.* August, 1906.

VITIS OPACA AND A CHEMICAL INVESTIGATION OF ITS ENLARGED ROOTSTOCK (TUBER). Two Plates. *Proc. Roy. Soc. N.S.W.* August, 1906.

CONTRIBUTION TO A KNOWLEDGE OF THE AUSTRALIAN FLORA. Part V. *Proc. Linn. Soc. N.S.W.* November, 1906.

PROBABLE USES OF EUCALYPTUS OIL CONSTITUENTS IN DENTISTRY. *Read at the Australasian Dental Congress, held in Sydney*, 1907.

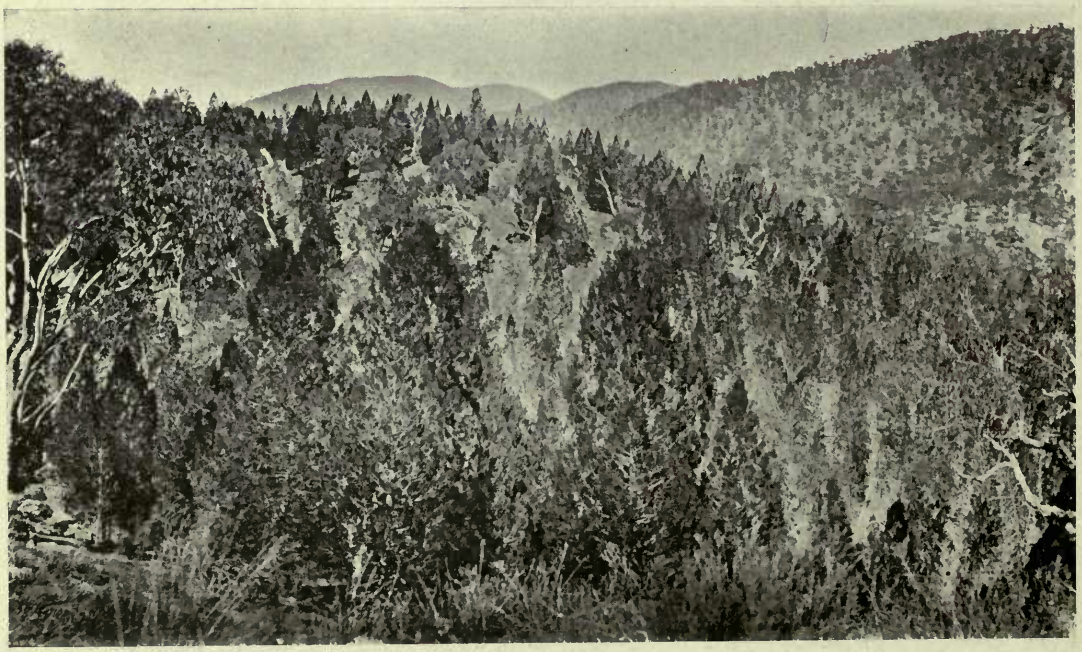
ON THE VALIDITY OF SPECIFIC RANK OF CALLITRIS MORRISONI. *Read before the Roy. Soc. of Victoria.* November, 1907.

THE AUSTRALIAN MELALEUCAS AND THEIR ESSENTIAL OILS. Part II. *Proc. Roy. Soc. N.S.W.* 1907.

ON A NEW SPECIES OF ARDISIA FROM N.S.W. *Proc. Linn. Soc. N.S.W.*

THE AUSTRALIAN FLORA IN APPLIED ART. This is the title of a Presidential address given before the Australian Flora Society.

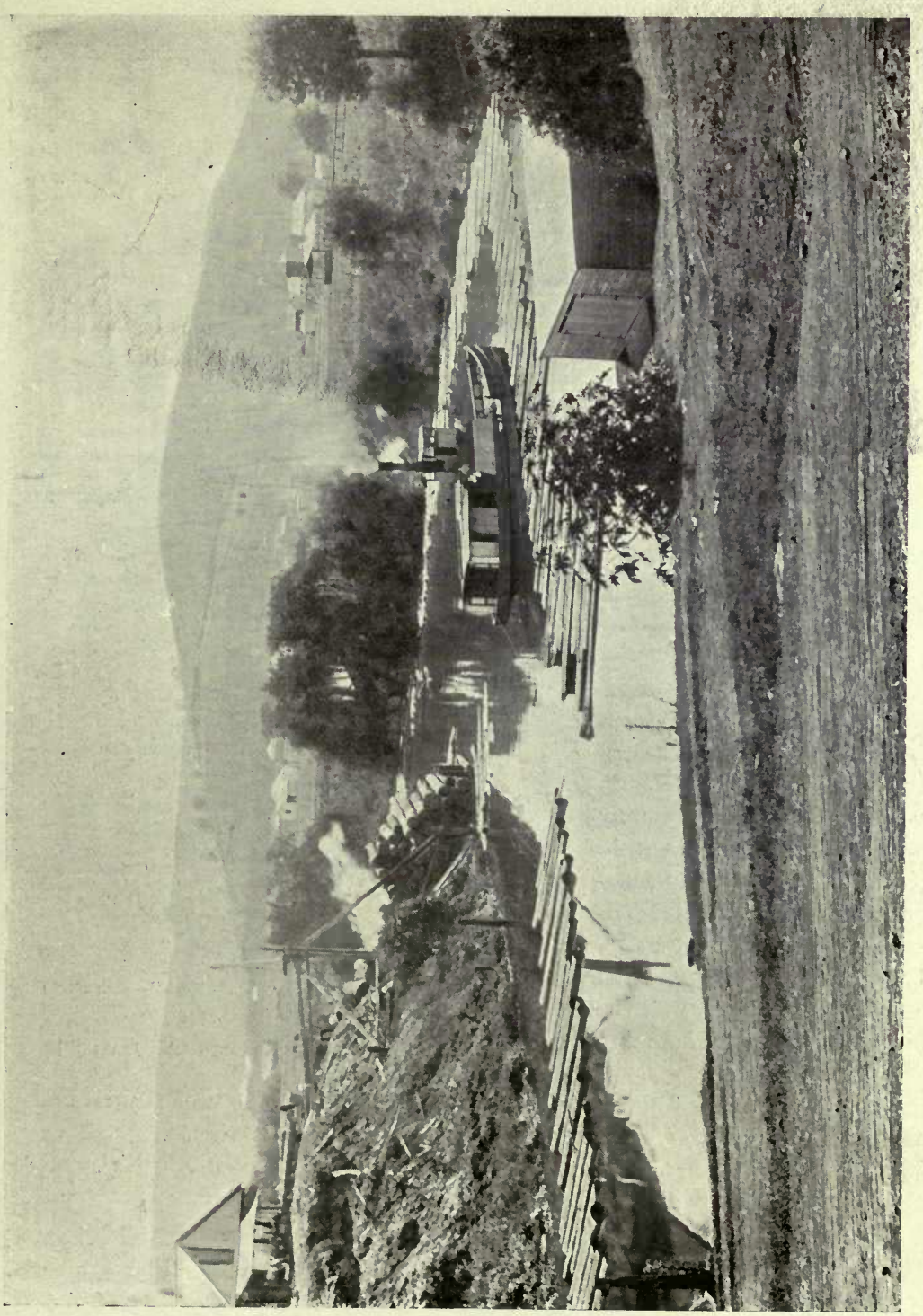
NEW SOUTH WALES TIMBERS SUITABLE FOR COACHBUILDING. *Read before the Australasian Coach and Carriage Builders' Association at the Sydney Congress*, 1908.



A "PINE RIDGE."

(This species is the "Black Pine"—*Callitris Calcarata*, R.Br.)

[*From* "A RESEARCH ON THE PINES OF AUSTRALIA."]



THE PINE TIMBER INDUSTRY OF NEW SOUTH WALES.
Conveying "Hoop Pine" logs by water carriage to mill.
(*Araucaria Cunninghamii*, Ait.)
[*From* "A Research on the Pines of Australia."]

Building and Ornamental Stones of New South Wales. (24 pp. 50 plates, 24 in colour.) 1908.

The Sedimentary Rocks of the lower Shoalhaven River. *Proc. Roy. Soc. N.S.W.*, 1908.

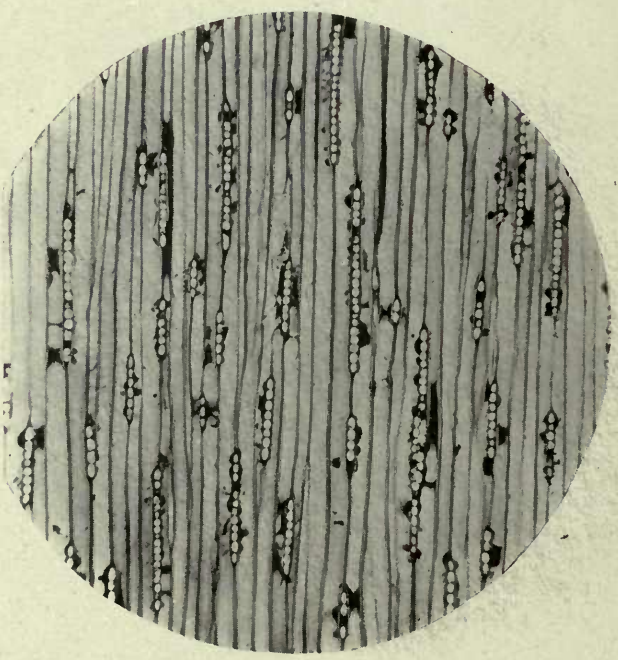
Indiarubber from the Eucalypts, *Proc. Roy. Soc., N.S.W.*, 1908.

Pines of Australia. Part I. 19 plates. *Proc. Roy. Soc., N.S.W.*, 1908.

A Research on the Pines of Australia. Royl. 4to (12 x 10), 458 + xiv pp. 70 whole-page plates, 39 coloured figs. 298 figs. and 3 maps.

During the investigation of the various Callitris species it was found that the bark of the "Black Pine," *C. calcarata*, contained a large amount of an excellent tannin, often exceeding 30 per cent., in the air-dried bark. This species is common on the hills of this State, and has an extensive range. It is thus apparent that in this species of *Callitris* New South Wales has an abundant supply of an excellent tan-bark, even now ready to hand. With care and attention this supply might be made of a permanent nature. Even the bark of the young saplings, not more than 1 inch in diameter, contains much tannin and strips easily, so that the material removed in thinning is of commercial value.

The amount of tannin in the bark of the "White Pine," *C Glauca*, is less than with *C. calcarata*, only containing from 10 to 15 per cent. in the air-dried bark. The species, however, has a wide geographical distribution, occupying the flats generally, and the bark, which can be procured in large quantity, might well be utilised for the preparation of tanning extracts.

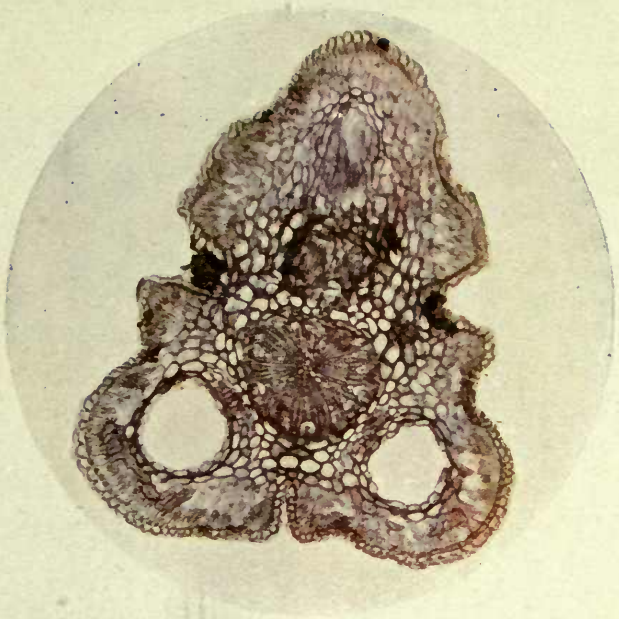


Tangential section of timber of "Hoop Pine"—*Araucaria Cunninghamii*, Ait.

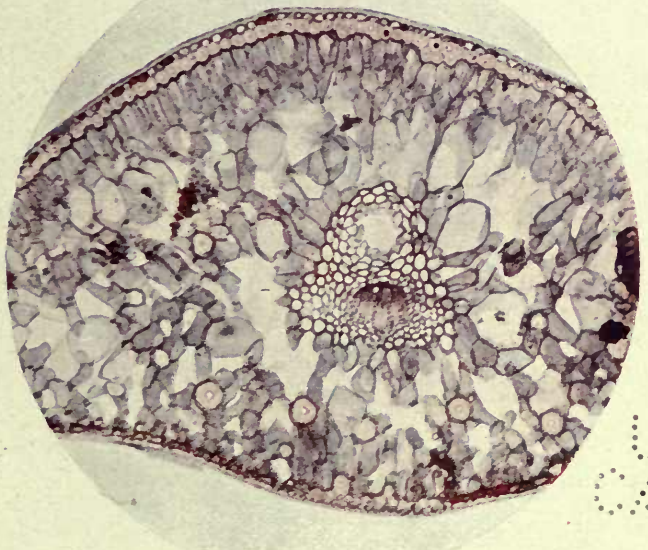
[*From* "A Research on the Pines of Australia."]

Australia is rich in indigenous plants containing an abundance of tannin, and the more extensive utilisation of such material is worthy of consideration.

The Museum, which has an entrance from the Technical College Grounds as well as by the main entrance in Harris-street, is divided into three main floors. The ground floor is devoted to the display of specimens relating to the Mineral Kingdom, the first floor to those of the Botanical Kingdom, and those on the second floor to the Animal Kingdom.

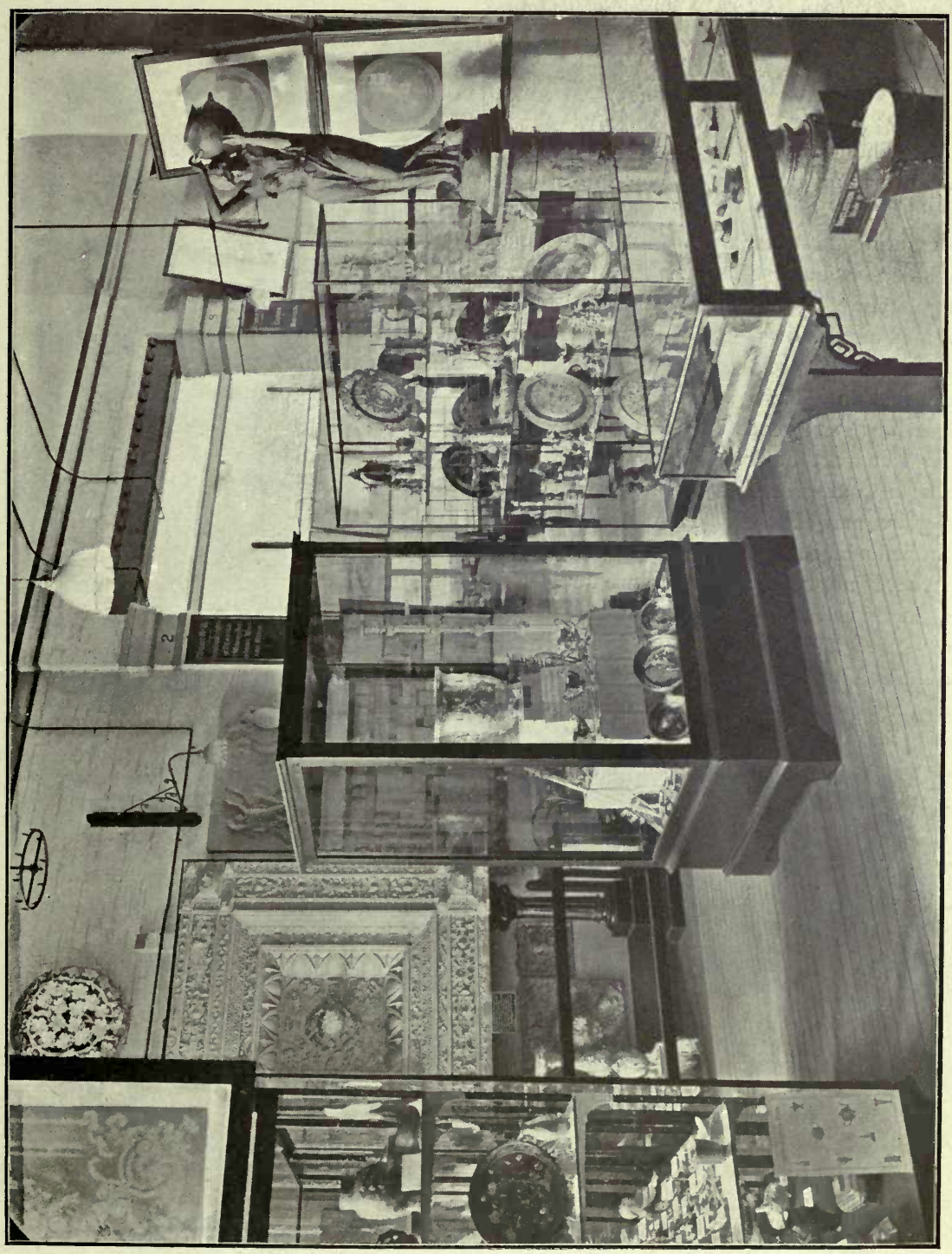


TRANSVERSE section through branchlet and decurrent leaves of a "Cypress Pine," *Callitris rhomboidea*, R. Br., x 25.
One oil gland in each lower leaf is shown. The oil of this species contains over 30 per cent. of geranyl-acetate.



TRANSVERSE section of median portion of a leaf of 'King William Pine," *Athrotaxis selaginoides*, Don., x 80.
One oil gland is seen above the bundle. The oil of this species consists principally of dextro-rotatory limonene.

(*From* "RESEARCH ON THE PINES OF AUSTRALIA.")



ART METAL-WORK COURTS.

Exhibits.

(A)—Mineral Kingdom.

The ground floor is devoted to economic geology, together with metallurgy, art metalwork, and casts in plaster of various objects of Applied art. In the south end of this floor is placed the greater portion of the heavy iron and steel specimens, illustrating both in size and quality the material required for various works, and there will also be found the ores of iron and iron minerals. Models of furnaces used in the manufacture of iron and steel are also shown in this bay. Close by are exhibited various models of engineering work and machinery. In the bay opposite is a complete set of tested specimens of the principal materials used in building and machine construction. Here are also sets illustrating all the stages in the manufacture of various steel goods. Near by will be found the fictiles, or reproductions in plaster of various art objects. The next bay is devoted to the display of sets illustrating the material and processes employed in the preparation of glass, together with specimens of glass manufacture. Here are also displayed the objects of art and metalwork, grouped as far as possible to represent the productions of various countries. Passing eastwards are two bays which are devoted principally to models and furnaces used in the manufacture of pottery and bricks. The next bay is devoted to porcelain, where are exhibited in special cases specimens of some of the world's famous ceramics,—Cauldon, Doulton, Royal Worcester, and Vienna being well represented. In several cases are displayed samples of old china, both English and Continental. In the field of ceramic industry little, or not much, has been attempted in the past, as far as Australia is concerned, although historically it might be said to date back a long way, for it is now known that Sir Joseph Banks, when in Australia with Captain Cook, collected a specimen of clay and submitted it to that prince of potters, Josiah Wedgwood, who made a medallion from it, and stamped upon it Virgil's words, "*Sic fortis Etruria crevit*," thus expressing a hope that Australia would grow strong in ceramics like Etruria. The deposits of kaolin distributed throughout the State have not yet been seriously worked ; but when modern appliances and methods are brought to bear, and our clays are treated in a scientific way, such as obtains in Europe and America, there is no reason why as satisfactory results should not be obtained here. Bay 17 contains some beautiful specimens of New South Wales building and ornamental stones, the collection including numerous large columns of polished marbles, mantelpieces and granites. Bay No. 16 is devoted to the exhibition of specimens illustrating phenomenal geology, &c., for teaching purposes. Bay No. 15 is devoted to rocks, consisting of specimens of sandstone, limestone, granite, diorite, dolerite, &c., and slabs of European marbles cover the walls. The side of the ground floor nearest to the Technical College is devoted principally to mineralogy. Foreign and other marbles, granites, serpentines, &c., decorate the passages on this floor.

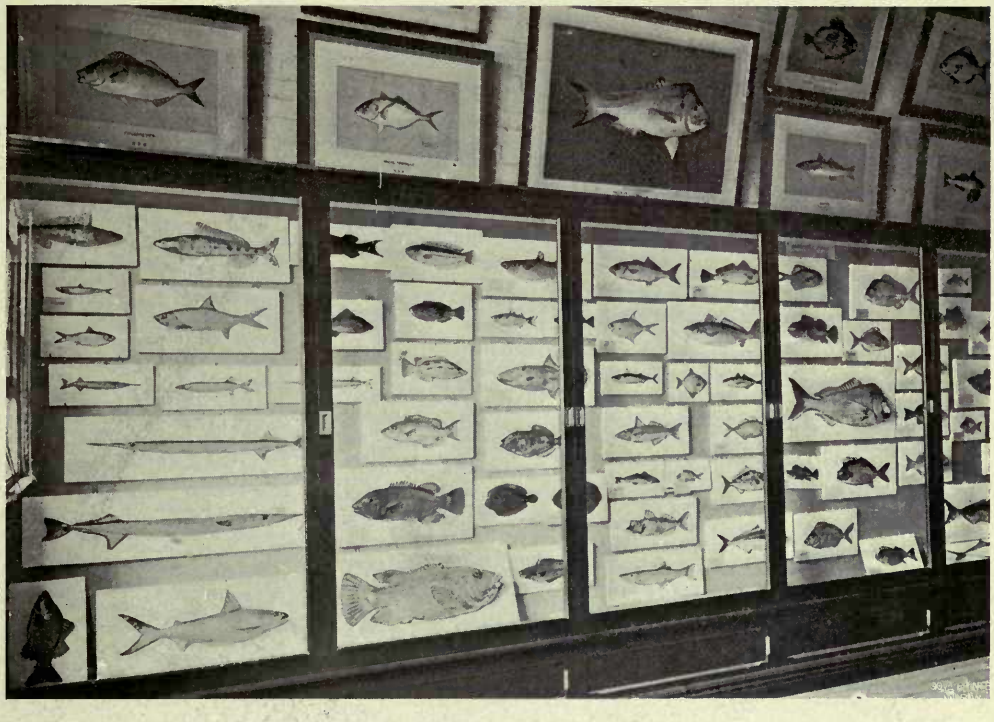
CERAMICS COURT.

(B)—Botanical Kingdom.

On the first floor are grouped in their respective courts or bays the economic products of the vegetable kingdom, and also in juxtaposition, models, diagrams, and agricultural appliances. The number of bays is twenty-two, and eight of these contain timber specimens from all parts of the world, more especially from New South Wales. In Bays 1 and 2 are displayed samples of locally-made as well as foreign historical furniture. Bay 10 is set apart for illustrating the Australian Flora in applied arts. Fourteen cases in Bay 12 are crowded with specimens of hemp, jute, flax, sisal, ramie,

WOOL COURTS.

esparto, and a multitude of other vegetable fibres. Wattle barks form the chief feature of Bay 11. In Bay 13 are models of wine-making apparatus used in the south of Europe, and other agricultural implements. Bay 14 contains cases of pulses, maize, wheat, and other cereals. Bay 15 contains starches, spices, and condiments, narcotic beverages, and Australian native foods. Bay 16 is devoted to seeds and fruits of Australian plants. Bay 17 contains cases of carpological specimens. Bay 18 contains perfumes, fixed and essential oils, and in the centre of the floor will be found cases in which are exhibited essential oils and camphors from material indigenous to Australia, which have been obtained by, and investigated in the Museum.



MODELS OF EDIBLE FISHES OF NEW SOUTH WALES.
[Painted in Natural Colours.

(C)—Animal Kingdom. (Second Floor.)

The wool section is one of the most important features of the Museum, and embraces an extensive collection of representative wools from almost every country. The collection arranged in 8 courts, contains 9,000 specimens of raw wool from the classic stud rams and ewes, flock sheep, and wools in all stages of manufacture.

Bay 9 on the second floor contains a collection of hides and furs. Bay 10 contains further mammalian products in the shape of articles made from bone, hair, bristles, &c. In Bay 11 is a fine collection of plumes, feathers, and other ornithological products. Bay 12 is the fisheries court, the most conspicuous feature in it being a collection of models of food fishes of New South Wales. Bay 13 is devoted to insect products, being almost filled with silk (in many varieties and stages), galls, and woodborers. Bay 14 also contains insects, and the products of all the lower invertebrates, including a fine set of appliances used in connection with bees and beekeeping.

Miscellaneous.

At the entrance bay is a collection of models of ships, boats, &c., illustrating naval architecture in its various branches. Bay 15 contains sanitary appliances. Bay 16 and 17 school furniture and appliances. Bay 19 contains models of machinery

POLISHED COLUMNS OF N.S.W. BUILDING STONES.

Nat. Size.

BORENORE MARBLE (BLUE).

(*From* "BUILDING AND ORNAMENTAL STONES OF N.S.W.")

Half Nat. Size.

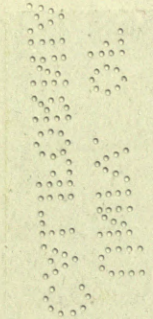
WARIALDA MARBLE.

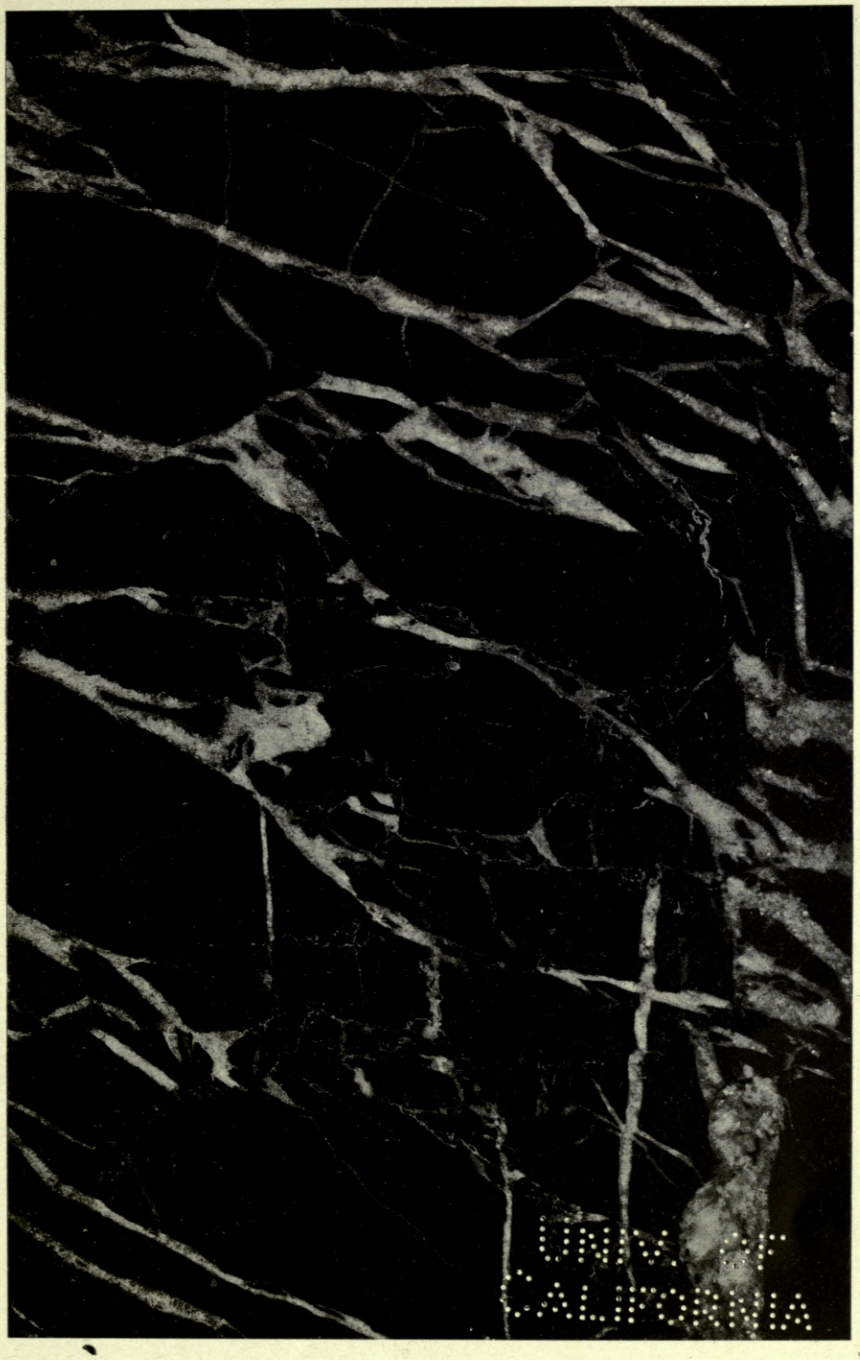
(*From* "Building and Ornamental Stones of N.S.W.")

Nat. Size.

ALBURY DARK GRANITE.

(*From* "BUILDING AND ORNAMENTAL STONES OF N.S.W.")





Nat. Size.

SPRINGHILL MARBLE.

(*From* "BUILDING AND ORNAMENTAL STONES OF N.S.W.")

and examples of architecture. Bay 20 contains interesting models of flying machines, weapons of war, musical instruments.

From the inspection of the exhibits collected from other countries as well as from Australia it will be seen that in raw products New South Wales compares most favourably, and that in special directions it more than holds its own.

At the late exhibition at Christchurch, New Zealand, the Museum prepared extensive collections of Australian raw products. For this display the highest praise was given, and no less than FIVE GOLD MEDALS WITH CERTIFICATES were awarded to this Institution.

At the late Franco-British Exhibition in London, there was displayed even a more extensive collection of the State's Natural Products, and for which exhibit the Museum was awarded the GRAND PRIX AND OTHER TESTIMONIALS.

In this latter connection Messrs. T. A. Coghlan, J. Barling, and J. Davis, Commissioners in London at this Exhibition, in their report on the New South Wales Exhibits, after referring in detail to the Museum collections, conclude as follows :—

> The collection of exhibits sent by the Technological Museum comprised building stones, marbles, and granites dressed for various purposes, illustrations of the use of local stone, granite, and marble in public buildings and works, models of fish, natural pigments, essential oils, and a vast assortment of timbers in the rough and polished, as well as numerous articles made up to demonstrate the uses to which our timbers could be successfully put. The whole exhibit occupied a floor space of 500 square feet, as well as a very considerable wall space. It was, indeed, most creditable to the Curator of the Technological Museum and his Staff. It comprised one of the very finest displays, not only in the Australian Court, but in the whole Exhibition, and was a constant source of interest to visitors of all nationalities. The Commissioners feel that they are only doing bare justice to the Technological Museum when they express their deepest appreciation of the excellent service rendered to the State in preparing so creditable an exhibit.

Besides the work previously enumerated as undertaken by the Museum, it may be mentioned that considerable assistance is rendered day by day to the commercial world of New South Wales and neighbouring States on the development of our natural resources and other materials of commerce, and in this connection hundreds of reports are sent out annually.

Extensive collections of specimens of natural history and economic products are distributed among the Public Schools of the State, besides the naming and classifying of thousands of specimens belonging to the schools themselves.

In addition to the Central Museum, there are local Museums at Bathurst, Goulburn, Newcastle, West Maitland, Albury, and Broken Hill.

Synopsis of Desirable Contents of the Museum, as laid down by the Original Committee of Management, and adopted by Parliament.

ALFRED ROBERTS,
ARCHD. LIVERSIDGE, } *Members of Committee.*
ROBERT HUNT,

ALFRED STEPHEN, Crown Trustee and Chairman.

"It is intended that the following shall be more or less completely represented:—

1. *Animal products, and specimens to show the methods followed in their preparation and manufacture, their uses for clothing, textile fabrics, domestic and ornamental purposes, their applications in pharmacy, dyeing, perfumery, &c.*
2. *Vegetable products, from the raw material through the various stages of manufacture to the finished fabric or other article. This section will include gums, resins, oils, woods, fibres, tans, dyes, drugs, perfumes.*
3. *Waste products, whether of animal, vegetable, or of inorganic origin, with illustrations of their uses.*
4. *Foods, animal and vegetable, their constituents, and their adulterations. Dietary tables, and information concerning the chemical composition, and other important particulars regarding the human foods of the world will be displayed.*
5. *Economic entomology. The specimens will be so arranged as to enable the public to discriminate between insects which are injurious to man and those which work for his benefit, and to show the insects in all stages of growth, and specimens of the materials which they have destroyed or injured. Where it is impossible to exhibit actual specimens, the life history of the insects in question will be illustrated as far as possible by models and diagrams.*
6. *Economic geological specimens, showing the ores of the metals, their manufacture and uses; mineral combustibles; building and ornamental stones; lithographic and other stones; clays, cements; substances employed in the manufacture of glass, pottery, porcelain; pigments of inorganic origin, &c. Architectural and building examples will be associated with this collection; also precious stones, and specimens to illustrate their artificial production and imitation. The uses of many of the specimens in this collection, will be shown practically by incorporating them with the building itself in the form of pillars, doorways, window-sills, by laying down portions of the floor, steps, or inlaying the walls of the Museum.*
7. *Chemical and pharmaceutical products.*

8. *Educational apparatus and appliances, school fittings, books, maps, diagrams, &c.; collections of scientific apparatus and of specimens for high schools and colleges. A collection of this kind is of the greatest possible value to teachers, who can thus see and examine everything required in a school, and can directly compare the merits of the different books, fittings, and appliances as supplied by different makers and recommended by various authorities.*
9. *Sanitary and hygienic appliances and systems, adapted to public works domestic architecture, personal health, clothing, and habits of life.*
10. *Mining, engineering and machinery; models, plans, drawings, tools, machinery and appliances. Metallurgical products.*
11. *Military and naval armaments, ordnance, fire-arms, &c. Models of ships-of-war and mercantile vessels.*
12. *Agricultural tools, appliances, and machinery; also soils, manures, &c. In this section will be included mineral fertilizing substances, e.g., gypsum, phosphate of lime, marls, shells, coprolites, &c., not manufactured.*
13. *Specimens and series of specimens illustrative of miscellaneous manufactures.*
14. *Models, drawings, and descriptions of patents; special attention will be paid to those which are likely to prove of use in the Colonies, or which have been taken out in Australia.*
15. *Ethnological specimens.*
16. *Samples of historical furniture and of artistic workmanship in iron and other metals. Ceramics, pottery, and porcelain, &c. (exclusive of sanitary appliances).*
17. *Photographic, electrotype, plaster, and other reproductions of examples of art workmanship where originals are not to be obtained.*
18. *Exhibition catalogues, trade journals, price lists, and descriptions of new processes or industries. The information afforded to manufacturers, merchants, and tradesmen by a collection of this kind will be of incalculable value. A library and reading-room will constitute important adjuncts to the Museum.*

Sanitary appliances and other apparatus will, whenever practicable, be exhibited in action.

Sufficient concise information will be attached to each exhibit or group to satisfy without wearying the visitor, a full description being given in the catalogues. The prices paid for specimens and their commercial value will be indicated whenever possible, as it is a matter in which visitors usually take very great interest. The value of gifts will never be affixed where donors express wishes to the contrary."

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