

Nathan A.  
**COBB**  
A Bibliography



*NATHAN AUGUSTUS COBB*  
*PLANT PATHOLOGIST*



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PLANT PATHOLOGIST

A Bibliography of his Work

by

*Dirk H.R. Spennemann*

{ retro | spect }

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# *Preface*






he end of the 19th century saw agricultural research in the various Australian colonies being formalised in government departments. Scientists were hired to research various aspects and to recommend courses of action. One of the most influential individuals at the time was the American Nathan Augustus Cobb, (1859-1932) working for the New South Wales Department of Agriculture from 1890 to 1905. He published widely, both in the academic journals and in agricultural magazines, such as the *Agricultural Gazette* with a distribution of over 5000 copies.

This bibliography has been compiled as part of a project to document t

Institute, Mauritius), Rita Seifert (Archivist, Friedrich Schiller Universität Jena, Germany), June Sutherland (Wagga Wagga); Rosanne Walker (Librarian, Adolph Basser Library, Australian Academy of Science).

Above all I am indebted to my wife Jane Downing, for her endurance throughout the ‘Cobb marathon’ and for commenting on previous drafts. 

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# *Introduction*

**N**athan Augustus Cobb was a prolific writer. From the time he completed his PhD in 1888 to his death in 1932 Cobb published more than five hundred papers, mainly on nematodes and aspects of plant pathology. He was particularly prolific during his Australian period when he was employed as ‘vegetable pathologist’ by the New South Wales Department of Agriculture.

A common feature of Cobb’s Australian publications was the republication and reprinting of his articles in various Government journals. To a great extent Cobb was involved in activities that in today’s terminology constitute extension work—the systematic spread of information from the research establishment to the user via letters, newspaper articles, public lectures and demonstration projects, and via special publications. He regularly published in the *Agricultural Gazette of New South Wales* right from its inception in 1890 until his departure to Hawaii in 1905. Since the *Agricultural Gazette* was published monthly and distributed free of charge to all “bona fide settlers and agriculturalists, to all educational institutions, agricultural societies and other bodies” its message was carried far and wide, and those publishing in “The *Gazette*” received almost immediate fame amongst the farming fraternity.


Over and above the normal copies of the *Agricultural Gazette*, the Department of Agriculture produced formal Government reprints of each contribution to the *Gazette*. Furnished with an attractive cover these pamphlets contain variations in images and content. In addition, at least during his Australian period, Cobb seems to have published a number of articles in newspapers as well as giving extensive interviews.

It is sobering to note how few of Cobb’s articles, which had been reprinted as *Department of Agriculture, New South Wales Miscellaneous Publications*, actually survive in the various Government and university libraries in Australia and abroad—a fate common to much of the early Government extension work.

In addition to the formal publications listed in this Bibliography, there are other, unattributed pieces of Cobb's writing. Unable to find a position during his first year in Australia, Cobb became a salesman for the American importer Chipman. Cobb wrote the advertising copy for products such as Colgate Cashmere Bouquet Soap, St. Jacob's Oil and Waterbury Pocketwatches. Especially for the two latter products, the advertising copy changed on a weekly basis. 

### *Sources*


The list of Cobb's publications has been compiled from a number of sources among them Blanchard (n°582), Huettel and Golden (n°586) Golden and Ellington (n°585), and Sayre (n°595), as well as national bibliographies such as Ferguson (1963) and Mitchell Library (1968). Copies of a card index were made available by Morgan Golden (USDA). Searched were the catalogues of the National Library of Australia, various Australian state libraries, the US Library of Congress and the UNILINC and OCLC library systems as well as various US, British and continental European university library catalogues available on the World Wide Web (through Z39.50, OPAC or Telnet). A number of bibliographies, catalogues to periodical literature, and contemporary compilations of books in print, as well as antiquarian book catalogues and lists posted on the World Wide Web have also been consulted.

While every possible effort has been made to arrive at a complete list of his works, there is every indication that the extent of the compilation is not complete. It would appear that Cobb also published several articles in newspapers. In the absence of comprehensive indices for these papers, such contributions are notoriously difficult to compile. 

### *Bibliographic entries*

Cobb published several of his articles under summation titles such as 'Letters on the disease of plants,' 'Notes on pests and crops,' and 'Plant diseases and how to prevent them.' These articles are in fact collations of often unrelated smaller papers written by Cobb, often published in monthly instalments of five to six papers. For the purposes of this bibliography, these collections have been broken down into their individual constituents and quoted as such. Items which show the author's name in rectangular brackets have been reserved for those occasions where a paper uses very extensive quotes of

Nathan Cobb's work, or where the entire document is more or less a paraphrasing of his work, with reference to Cobb.


Wherever possible, the entries in the bibliography have been verified against original copies. On several occasions, however, this was not possible. The entries in this bibliography have been arranged by year and within each year by alphabetical order of the title. 

## References

- Anon. (1978) *The National Union Catalog. Pre-1965 Imprints*. London: Mansell.
- Bowker, R.R. (1941) *The American Catalogue 1895-1900*. New York : R. Smith.
- Bradley, Sue (ed.) (1985) *The British Library General Catalogue of Printed Books to 1975*. London : K.G. Saur.
- Cushing, Helen Grant and Morris, Adah V. (1944) *Nineteenth Century Readers' Guide to Periodical Literature. 1890-1899*. New York : H.W. Wilson Co. [and subsequent years]
- Fergusson, John Alexander (1963) *Bibliography of Australia*. Vol. V 1851-1900 A-G. Sydney : Angus and Robertson.
- Fletcher, William I. (1899) *Poole's Index to Periodical Literature 1887-1892*. Boston & New York : Houghton, Mifflin & Co. [and subsequent years]
- International Catalogue of Scientific Literature M. Botany*. London : Harrison and Sons. various years.
- Low, Sampson (1890) *The English catalogue of books. Vol. IV January 1881 to December 1889*. London : Sampson Low (Kraus Reprint 1963).
- Low, Sampson (1901) *The English catalogue of books. Vol. VI January 1898 to December 1900*. London : Sampson Low (Kraus Reprint 1963).
- Mitchell Library (1968) *The Mitchell Library Dictionary Catalog of Printed Books* Vol. 8 Chin-Como. Boston, MA : G.K. Hall & Co.
- NLA (1966) *Checklist to the Matthew's Ornithological Collection of the National Librray of Australia*. Canberra : National Library of Australia.
- Sydney Morning Herald* Microfiche Index People 1900-1904; 1905-1906



*Biographical  
Sketch*

**A**t different times in his career, Nathan Cobb was researcher, university lecturer, sales person, professional illustrator, experimentalist, plant pathologist, agricultural farm manager, educator, biologist, and chemist. There can be little doubt he was a gifted person. 

## YOUTH (1859–1877)


Nathan Augustus Cobb was born at Spencer (Massachusetts, USA) on June 30th 1859 as the only son of Jane A. Brigelow and William H. Cobb. Nathan's father was at various times carpenter, mill-wright, sawmill manager, factory foreman and farmer. Moving from home to home, Nathan's childhood was never spent long at a given place.

Nathan's formal schooling was very limited. At that time it was common for children in rural areas to attend school only during the winter months when their help on the farm was not needed. He was withdrawn from even this schooling at the age of eight.

In 1874, when Nathan was fourteen his father left for California. Nathan was never to see him again. To support himself and his mother, Nathan worked as a labourer on various local farms. In 1876 Nathan took up a position as grounds keeper and stable boy with Charles N. Prouty at Spencer (Mass.) living on the Prouty property. Keenly interested in the environment around him, in the evenings Nathan studied biology by observation and experimentation, using a personal microscope which had cost him about one third of his annual wages.

At seventeen, having sat the examination for teachers in Spencer's public schools, Nathan Cobb was appointed headmaster of Wire Village school (in charge of an assistant) and soon promoted to headmaster of the N<sup>o</sup> 3 Grammar school in Spencer in charge of other teachers.

Though attracted to the idea of going to Harvard in 1878, he attended the Worcester Polytechnic Institute as tuition was free for children from Worcester County. Cobb graduated as head of his class on his 22nd birthday in 1881 with a Bachelor of Science in chemistry—the next closest thing to biology, which was not offered. His thesis ‘Notes on Miller’s system of crystallography,’ which he privately published as *Mathematical Crystallography* in 1931 [552], received much praise by the examiners. This impressed the head of the examination board, Dr. W.J. Fairbans, who, as head of Williston Seminary (at Easthampton, Mass.), was in need of another member of faculty. Nathan was offered a position as teacher in chemistry, which he gladly accepted.

Having been engaged to his childhood friend Alice Proctor since 1877, they married soon after his graduation and job offer. 

## TEACHING & STUDY (1877–1888)

Cobb, initially appointed to teach chemistry and drawing, soon found himself teaching all aspects of the natural sciences. Cobb supplemented his salary by conducting, in his private home laboratory, a variety of analyses for manufacturers in town. This penchant for a fully equipped home laboratory was to stay for the rest of his life.

Since his own mode of learning had been very much based on practical observation, both in the laboratory and the field, Cobb revised the curriculum emphasising the need for field excursions and laboratory practice sessions. He also drew up a small textbook in chemistry [1].

During his stay at Easthampton, Cobb also systematically widened his horizons and studied biology, drawing on text books with little if any other instruction. His extensive botanising and research on the botany of the area led to his first research publication, a species list of plants found around Amherst, Mass. [2, 3].

To further his academic career, Cobb applied for study at the University of Jena (Germany), which, with Professors Ernst Haeckel and Oskar Hertwig, was the leading university in the newly emerging field of microbiology. Haeckel had just described the radiolaria from oceanographic samples collected by the Challenger Expedition of 1872-76, in this work collaborating with the British (Canadian) oceanographer Sir John Murray, who was a visiting researcher in Jena at the time.

In late 1887, the Cobb family, Nathan, Alice and three children (a first child having died at the age of two in 1884), set sail for Germany. Nathan Cobb, with earned and borrowed funds to sustain him and the family for 10 months, hoped to be able to complete his PhD thesis in the (financial) time available. Indeed, after five months of study, he was invited to begin his thesis.

Häckel provided Cobb with a sample of a marine parasitic nematode found by Willy Kükenthal in the stomach of a Beluga whale caught in the Arctic. Cobb analysed and described this new species as *Ascaris kükenthalii* and published it and other species in his doctoral thesis [4]. The thesis was also published as a paper in the *Jenaische Zeitschrift für Naturwissenschaft* of the same year, which ensured a wider distribution [5].

Nathan Cobb's work and thesis were very well received. Sir John Murray, who was most impressed with the research conducted, was instrumental in securing a four months appointment for Nathan Cobb at the table of research at the oceanographic research station of the British Association for the Advancement of Science at Naples [19].



## TO AUSTRALIA (1888-1890)


Cobb was attracted by the research potential presented by Australia and desired to go there before returning to Massachusetts. Cobb used the voyage to collect marine nematodes at various stop-over locations [12, 13]. He went with commendations from his academic mentor Häckel to Baron Ferdinand von Müller, then the Government Botanist of the Colony of Victoria. While von Müller could not assist in Victoria, he gave Cobb letters of recommendation for presentation to colleagues in Sydney, where the family arrived on 7 March 1889.

In April 1889, after four weeks of attempting to find a 'proper' academic or scientific position, Cobb took up work with the American importer Chipman. During his first year in Australia Cobb worked as a salesperson for Chipman, selling St. Jacob's oil, Waterbury watches and Colgate's Cashmere Bouquet soap. He designed the newspaper advertisements, using testimonials (St. Jacob's oil) and his own chemical analyses in his home laboratory (Colgate soap).

However, the introductions provided by Häckel and von Müller were not without results. Cobb joined the Linnean Society of New South Wales in

1889. In the same year he was appointed *locum tenens* professor at the University of Sydney for the duration of the incumbent's, Professor Haswell's, sabbatical in 1890 and 1891. This position provided Cobb with both reputation and an income, and was a continuation of the career path chosen. Privately, he continued his research into marine nematodes, describing a number of species [12].

In 1890 the New South Wales government established the Department of Agriculture, which was placed under the control of the Minister for Mines and Agriculture. The main aim of the new department, placed under the direction of H.C.L. Anderson, was to engage in the collection and dissemination of information in regard to agriculture and to introduce and distribute new seeds and cuttings. The Department was to analyse soils, investigate orchardry and animal husbandry, and send samples of wheats and other cereals and crops to a number of farmers as field trials. Importantly, the department was also to investigate the plant and stock diseases as well as the insect life of the colony to assess which of the insects were to be classed as pests and which were the 'farmer's friends'. There was an immediate need for variety of scientists with specific expertise in the fields of botany, geology/pedology, orchardry, and fungi.

Almost everything was unknown about plant pathology in New South Wales, and what was known, originated as advice from the United Kingdom. It had become clear that the colonies in Australia could no longer rely on this service and be professional about their own agricultural development; thus local positions had to be created. Nathan Cobb had arrived in the right place and at the right time. He was employed in the (southern) spring of 1890 as a consulting pathologist, mainly to answer letters from farmers and to identify specimens. His position was formally approved in April 1890 when he was appointed full-time as the colony's first vegetable pathologist. 

## PLANT PATHOLOGIST (1890–1901)

One of the major obstacles to the effective functioning of the research laboratories of the incipient Department of Agriculture was the lack of a laboratory as such, a systematic reference collection and system of enquiry. Cobb was involved in building up all these components.

Even though Cobb's head office was in Sydney, from where he answered the correspondence from farmers and others, that office was not properly

equipped as a pathology laboratory as late as 1894. The volume of correspondence was quite substantial. During 1897 Cobb answered 1,000 letters from farmers and almost 1,000 pieces of official correspondence.

Cobb was involved in the departmental research effort on a number of diseases and problems. In the field of grain production he worked on 'Take-all' a disease of the wheat that had received great publicity in the press [100].

He published a number of small papers on plant diseases and their cures. He mainly dealt with fruits, such as mangoes [134], apples [28, 29, 45], pears [40, 46], oranges [30, 193], lemons [148, 149], plums [189], peaches [39, 138], apricots [90] nectarines [138], and strawberries [43, 44, 58], but also vegetable crops such as radishes [32], onions [38], beans [88], potatoes [41, 191], turnips [93], squash [146], pumpkins [94], marsh mallows [42], cabbages [93], and maize [34]. Other agricultural crops such as grape vines [26, 27, 91], linseed [36], and tobacco [38], as well as grass [136], lucerne [33, 51], and timber [198] had to be assessed along with garden flowers [83], especially as roses [95]. In addition he dealt with the application of fungicides [96, 97, 199].

In view of the Australian colonies' aim of exporting apples and other fruit to markets in the United Kingdom, the Department of Agriculture carried out experiments in the cold storage of fruit, assessed the prospects of the English market and reviewed the experience of the rival South African export scheme. Nathan Cobb reviewed the principles of fungal and bacterial attacks on harvested apples [67].

In his paper "The abandoned orchards of Cumberland County" (an area north of Sydney), Cobb depicted scenes of 39 such orchards. He argued that all these "10,000 acres of rotten orchards" were not neutral but posed a problem to the surrounding areas, where other orchards were still productively used, as the abandoned plantations were harbours for plant diseases and disease vectors [207].

He also concerned himself with research into issues of pure curiosity, such as the nature of red incrustation on fence posts [53] or, in a self experiment, whether pinworm eggs would hatch in the human stomach [18]. Some of his work on marine nematodes also continued with the description of specimens from Sydney [220] and New Zealand [334].

Some of the papers written by Cobb in 1893 need special mention. The sugar cane plantations in the northern part of New South Wales suffered from a variety of bacterial and fungal diseases. Several studies had been conducted without being able to identify the problem. Upon request, Cobb examined and analysed diseased cane. Subsequently he identified the

bacterial disease, now commonly known as ‘gumming of sugar cane’ (or ‘Cobb’s disease’). His work, carried out for two months in an improvised make-shift plantation laboratory at the Harwood Sugar Mills at the Clarence River, was ground breaking and resulted in a preliminary publication in *Agricultural Gazette of New South Wales* in 1893 [80, 112, 117, 118], which was followed up by a more detailed paper in 1895 [157]. The preliminary results, however, were so significant that they not only found immediate republication in NSW [157, 158], Queensland [116] but also in the *Bulletin of the Botanic Gardens in Kew* [145] and the *Revue Agricole et Journal de la Chambre d’ Agriculture of Mauritius* [127, 129-131].

In addition to sugarcane Cobb worked on other tropical plants, such as bananas [31], pineapples [115] and coffee [147]. Most, but not all, of Cobb’s work found publication in the *Agricultural Gazette*, though not those of marginal relevance to NSW farmers. In 1892, for example, he worked on the blights in sugar cane, bananas, maize and potatoes, which found their way into publication [115], while the research on pineapple blights did not.

While the bulk of his work was concerned with NSW, his work and reputation had attracted the interest of the departments of agriculture of other Australian colonies and overseas. His expertise was much sought after, and in 1892 he was invited to visit Queensland, South Australia and Fiji. Since Cobb could not go to Fiji, nematode-infested root sections of banana plants were sent to Cobb. These were described in the same year [31, 66] and later in more detail [113, 114]. Likewise, he was sent material from South Australia, and diseased coffee from New Caledonia [147].

A major piece of research was the investigation into the nature of the liver fluke infestation of sheep, which was commenced in 1892 at the request of the Chief Inspector of Stock, A. Bruce-Suttor. Most of the work was carried out at BongBong Station, near Moss Vale [106, 213, 233].

One of the most important papers published by Cobb in Australia is his paper on agricultural experiment work, in which he addresses the advantages and disadvantages of various experimental field methods. He discusses the influences of soil variability in a paddock/field, wind, edge effects, insect/nematode distribution, effects of birds and rabbits with respect to bush cover at the edges, moisture differential, weed distribution, distribution of trees prior to the clearance of the land, prior fire regimes, planting history of the plots, agistment histories, presence of a (former) road and the like [162]. The paper was published in a fashion which permitted the lay-farmer to understand the rational and principle of experimental design and would have enabled the reader to design their own experiments on their own farms. ∞

## *Education*

From June to December 1897 Cobb was made responsible for the running of the Wagga-Wagga Experimental Farm, and the Farm School. This resulted in a small number of papers on agricultural education.

He took an interest in the matter well beyond the need to merely manage the farm and agricultural college in a care-taking capacity. In 1898 Cobb formally commented on the state of agricultural education in NSW and made several recommendations to improve the education delivered [215]. While the document was not formally published in New South Wales, it was published in Western Australia seven years later where it was deemed still relevant and topical [329].

In the “Dialogue concerning the manner in which a poisonous spray does its work in preventing or checking blight” of 1891 Cobb’s teaching background comes back to the fore, as he begins his discussion on the combat of the blight in the form of a fictional dialogue between a scientist and a farmer [23, 79].



## *Technology*

Throughout his career Nathan Cobb was keenly interested in the development and continual improvement of laboratory technology and instrumentation, as is attested by his numerous publications on the matter. He developed a device to gradually dessicate and stain nematodes [7]; a camera which allowed him to photograph the field trials by turning a very large ladder into a tripod [240]; improved on the design of spring balances [240]; and designed a machine that would emulate the biting test of the millers [170, 238].

His main emphasis, however, was on the development of microscopes [178] and associated technology such as microscope stands [356, 372] and the camera lucida [356] as well as standard cameras [245].



## *Wheat Research*

Much of Cobb’s Australian research focussed on wheat. At Wagga Wagga Cobb laid out experimental plots with the aim of growing the same varieties over and over again to assess their variability, their performance over time under varying climatic conditions, and to assess if the rust resistance (or lack thereof) of the wheat varieties was consistent over time. Further it was



important to ascertain whether the newly crossed varieties kept true to name and what the internal variability of a variety might be [108].

One of Cobb's main works was the compilation of all that was scientifically known about rusts in Australia. In his 'Contributions to the economic knowledge of the Australian rusts', published in eleven instalments from 1890 to 1894, Cobb compiled all that was then known about rust in wheat, including some of his own research [14-16, 70-77, 107-110].

Prior to the 1890s the wheat varieties grown and sold in Australia were not true to name. A single sample of wheat could contain in one drill of twelve feet length five or six different varieties. On occasion it was impossible to ascertain which plants deserved the name under which the sample had been sold. In addition to this uncleanliness, often quite very different wheat varieties were given the same popular name.


To bring order into the chaos, an intercolonial wheat nomenclature committee was established with Cobb as chairman. Under his direction small plots of all wheat varieties available in Australia were cultivated. By eliminating the many duplicates cultivated under different names in the Australian colonies Cobb was able to reduce the number wheat varieties from approximately 600 to 375 by 1892 [115].

Since the wheat to be sown had to be graded by means of hand sieves, Cobb took the opportunity to determine the relative seed size distribution of the different wheat varieties in a sample of wheat. This simple quantitative method permitted the assessment of the relative flour volume of wheat varieties [212]. Cobb continued to compile studies on the value of manuring [230], the advantages of large plump seed wheat as opposed to small shrivelled seed [229, 325], the effect of seed age on germination [227], to compare the threshing capabilities of the various varieties of wheat [166] and to assess the hardness of the grains [170, 173]. Cobb's analyses were clearly carried out on massive scale. In addition to the tests mentioned above, he carried out 14,000 measurements of grains of principal wheat varieties in 1894 [160].

In addition to the physical appearance of the wheat plant and the grain, *ie.* size [154], shape, weight, hardness [170, 173], colour [164], foliage of the plant [260], characteristics of leaves [75-77], and the thickness of bran, he assessed its internal structure [328], aleurone layer, milling qualities [170], and food value and so forth.




*Nathan Cobb examining wheat varieties in a field using his portable microscope and field examination kit. A good example of Cobb's inventiveness and desire to improve instrumentation.*

During his work at the Wagga-Wagga Experimental Farm Cobb experimented with a number of treatments against bunt (stinking smut) with the aim to supplement or surpass the, until then, common treatment of dipping in hot water, or pickling with bluestone. He took up the offer to trial hot air as a proposed alternative but had to recommend against it [172]. 

## WORLD TOUR (1898-1901)

The NSW cabinet, on the request of the Department of Agriculture appointed him for the duration of 30 months (June 1898 to January 1901) as Special Commissioner on Agriculture (in a half-time appointment) with the brief to report on agriculture and other industries in Europe and the USA. In addition, he was reappointed, in advance, as vegetable pathologist to commence duties upon his return from the overseas trip.

Little of his research made during this period found its way into publication. Cobb published papers on grain elevators [251, 262], which also appeared in Queensland [277] and were reprinted in 1906 [377, 378]; a travelogue-like description of the wheat industry in California [266]; and a small item on a horse drawn power source seen in a Danish dairy [294], but most of his writing remained in draft form, even though some of his photographs found a use in publications by others [569-571]. 

## AUSTRALIA AGAIN (1901-1905)

Upon return to Sydney, Cobb found that William Farrer had replaced him as the government's wheat experimentalist and that he was excluded from continuing this line of research. Deeply hurt, Cobb had to concentrate on writing up earlier research, chief among them his 'Universal nomenclature of wheat' [288-291, 327, 351-353], later reprinted in the U.S.A. [386-389] and 'The Tapeworms of Australia' [363-366]. He also wrote two influential papers on the quantitative estimation of disease spores [348] and of bunt in seed-wheat [357]. In his paper 'Parasites as an aid in determining organic relationships' Cobb tried to show that nematodes have a role in biological and ecological research [345].

Cobb continued to publish a number of small papers on plant pathology, again writing on diseases of fruit trees such as lemons [313], oranges [314], loquats [303], apricots [272], apples [315], passion fruit [270, 309], walnuts [310], quince [318], peaches [317], bananas [300], and cherries [335], on diseases of vegetables such as beans [301], chillies [307], potatoes [306, 311], cabbages [nn], onions [316], tomatoes [286, 341], larkspur [293], and flowers [308] as well as the nature of fungal transmission [336].

Cobb continued to work as the plant pathologist until 1905, but from 1902 onwards, it appears, looked out for opportunities for a better, and less infringed position. The family had intended to complete the education of their children in the USA. Thus Cobb, drawing on the contacts made during the overseas trip, as well as his credentials derived from the concurrent definitive publication of his wheat research, wrote to various U.S. agencies and researchers. The opportunity came in 1905. Nathan Cobb used his accumulated leave of four months to travel to the USA, which resulted in him being offered the position as the sugar planter's pathologist in Hawaii. On the return voyage Cobb found himself again in the position of custom designing a research laboratory for the needs of his own as well as those of his successors. The building was erected ready for use before Cobb actually arrived in Honolulu to start his position.

Several of Cobb's papers certainly challenged common preconceptions held by the Australian (farming) community. Cobb had published a small paper in the *Agricultural Gazette* in the defence of the common crow in 1896 [168] arguing that the damage done by the crow was certainly outweighed by the beneficial aspects. To this many, among them William Farrer, responded angrily. Also worth noting is Cobb's paper on the eucalypts in California and Algeria [259], where he provides an alternative view on the value of Eucalypts, much despised in Australia at the time. In a less contentious 1891 paper 'Maize for the table' [25] Cobb argues that "[we] have heard much about maize as food for pigs, goats and gaol-birds, but how about maize as food for men." In that paper he argues for the making of popcorn, quoting from Longfellow. This was certainly not the kind of reading matter many would have expected in the *Agricultural Gazette*. In 1897 Cobb published a paper on the sheep fluke and its hosts [233], in which he expounds on the benefits of the mudlark. In this paper he also provides the musical scores of the mudlark's songs and 'duets.'



## HAWAII (1905-1907)

His appointment in Hawai'i, to commence in 1905 was always meant to be a temporary one. In view of his earlier research on the gumming of sugar cane, he was asked to establish and head up the Division of Physiology and Pathology of the Hawai'ian Sugar Planters Association Research Station in Honolulu.

Work was carried out in the plantations of the experiment station as well as during field inspections of commercial plantation on the various islands. Cobb could build on his work on sugar cane conducted in northern New South Wales as well as on the work he had conducted on Fijian banana nematodes. Even though the tenure was brief, Cobb wrote and compiled in five bulletins, over 350 pages of material on sugarcane diseases and analysis techniques [358, 360, 367, 371, 375, 379, 385, 391] as well as laboratory technology. He also found time to write brief papers on diseases of the pineapple [381], the germination of rubber plant seeds [382] and on Hawai'ian crop blights [383] and to contribute two articles to the *Cyclopedia of American Horticulture* [380, 384].



## WASHINGTON (1907-1932)

Upon arrival at the Bureau of Plant Industry in Washington, Cobb was given the title 'Agricultural Technologist' and assigned to work on the standardisation of cotton grades and associated issues [399, 401, 411, 413, 420, 438, 455]. He dedicated much of his time devising a method for the storage of cotton standards in a vacuum and to problems inherent in the spinning and milling of cotton. By the end of 1915, without consulting with him or indeed any prior warning, the cotton research was taken away from Cobb, probably because Cobb upset his superiors with ininvited recommendations made at a public meeting of the American Cottongrowers Association. At the next meeting, however, Cobb was formally honoured with a medal.

Various overseas trips also afforded him the opportunity to collect marine nematode samples, such as in Jamaica in December 1909 [432].

He also obtained specimens from the Shackleton Polar Expedition which he described [412]. In 1916 Cobb submitted a grant proposal to establish a specialised nematological research laboratory [565].



*Nathan Cobb in the late 1920s*

In 1918 he published a laboratory manual 'Estimating the nema population of the soil' which set the standards for methodology and apparatus in nematological research [447]. Cobb successfully argued that nematology be recognised as a scientific field of research separate from helminthology, but failed to have his choice of 'nema' widely accepted over the established term 'nematode' [555].

Cobb's nematode work for the USDA included research into nematodes affecting cotton [441], potatoes [441], peaches [463], citrus [415], sugar-beet [447], pines [545], various trees [483], and flowers [509, 567]. Work was also carried out for Carribean governments, as in the case of the bananas [432, 450] and coconuts [469, 476].

Much work was carried out on marine nematodes in order to advance the knowledge of nematode morphology. He published papers on nematodes as parasites in shells [544], fishes [526, 531], grasshoppers [489], beetles [465] and earthworms [528]. Some work was carried out on parasites feeding on nematodes [493]. An example of pure research is a paper on nematodes in beer mats [463].


In addition, he continued his research and publication of nematode sampling [402] and specimen processing [515], laboratory technology [458, 460], mainly microscopes [423, 437], and the problems of lighting [493].

In 1929, at the age of 70, Cobb decided to review the achievements made. In his Presidential Address at the American Society of Parasitology Cobb reported on his examination of about 2500 zoological and biological textbooks published in English language and argued that despite the enormous strides the science of nematology had taken, the textbook treatment of the topic had retrograded. Much needed to be done to popularise the science and make it relevant to mainstream biology [551, 553].


In 1931, to commemorate 50 years of research, he privately published his BSc. thesis completed at Worcester Technical Institute in 1881 [552].

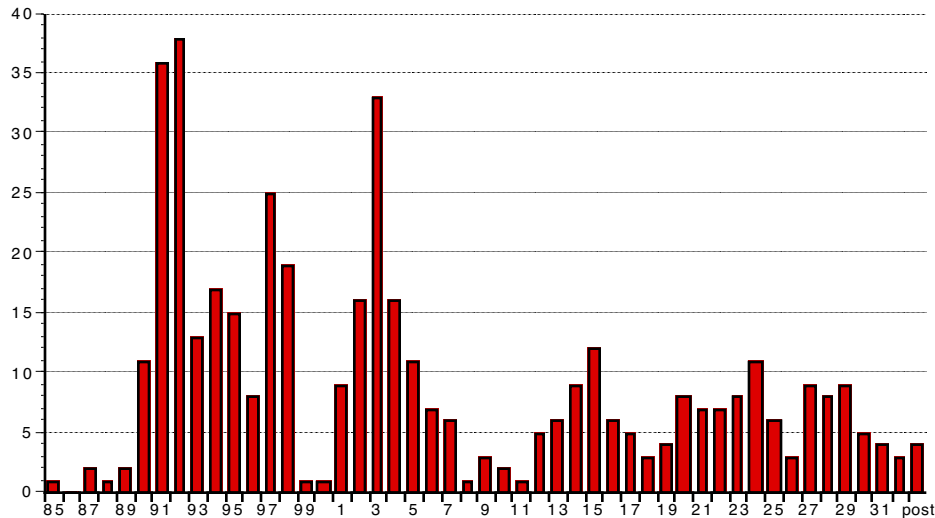
On 4 June 1932 Nathan Cobb died of a heart attack at Johns Hopkins Hospital, Baltimore, MD, where he had been admitted to undergo his annual check up. He was survived by his wife and five children.

Cobb's death was widely reported in newspapers (cf. *Evening Star* [Washington DC] [575]) and especially in academic journals which published obituaries, such as the *Transactions of the American Microscopical Society* [576]; *Journal of Parasitology* [577, 578]; *Collecting Net* [579] and even *Science* [580]. In Australia his death was formally remembered at the

annual meeting of the Linnean Society of NSW [574]. A very notable exception in the series of obituaries was the *Agricultural Gazette of New South Wales* in which he had published well over 200 contributions over a period of fifteen years from the inception of the *Gazette*. 

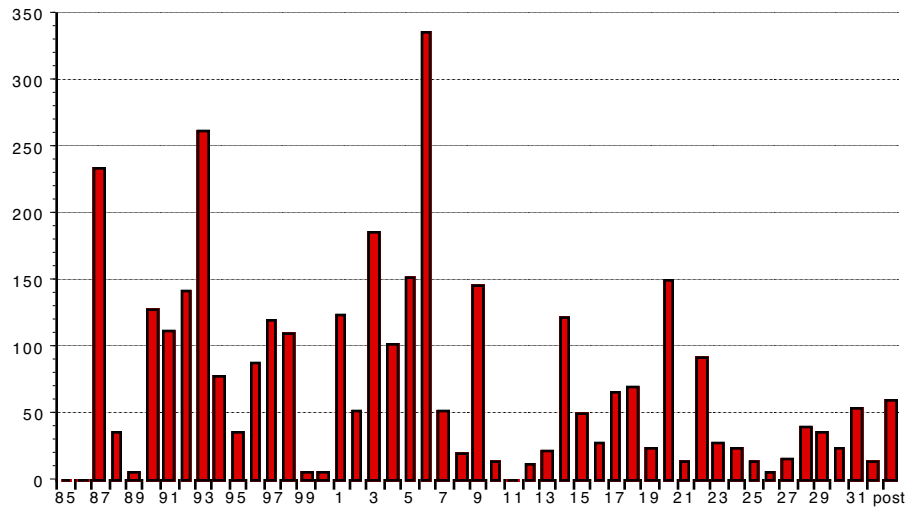
## PUBLICATIONS OUTPUT

The figures below plot Cobb's publication volume over time. From mid-1898 to January 1901 Cobb took special leave as half-time special commissioner to report on agriculture and other industries in America and Europe. During this period of extensive travel, then, his publication rate dropped dramatically. From what is known about his travels, he must have given several papers at conferences, of which no records seem to survive. 



*Cobb's publication volume (number of original papers)*





*Cobb's Publication volume (number of pages)*



# *Chronology*

Date	Event
1859, June 30th	Nathan Augustus Cobb, born as only son of William Henry and Jane A. Cobb (née Brigelow), at Spencer, Massachusetts
1866	works night shifts in sawmill at Spencer. Ma
1867 onwards	works in machine shop and wire mill of Sudgen & Myrick, Spencer, goes to school during winter terms (14 weeks)
1874	his father leaves for California, never to return
1873	works as farm hand on the town farm, Spencer
1874	works as farm hand on Watson farm, Spencer
1875	works as farm hand on Bisco farm, Spencer
1876	works as grounds keeper and stable boy for Charles M. Prouty, Spencer
1877	sits teacher examination for Spencer's Public Schools, Spencer
1877, April	headmaster of Wire Village Public School, Spencer
1877	becomes engaged to Alice Vara Proctor
1878	headmaster No. 3 Grammar School, Spencer
1878, November	attends the Worcester County Free Institute of Industrial Science and studies chemistry
1881, June 30th	graduates as dux with Bachelor of Science in chemistry
1881, August 8th	marries Alice Vara Proctor
1881-1887	Professor of natural science at Williston Seminary, Easthampton, Mass.
1882, July 10th	birth of son Russell
1884, March 26th	son Russell dies of <i>Laryngus stridulus</i> in Easthampton, Mass.
1884, May 16th	birth of daughter Margaret Vara
1885, October 11th	birth of son Victor
1887, July 28th	birth of son Roger
1887, September 28	the Cobb family leaves for Jena, Germany
1887, July - 1888	Nathan Cobb studies under Ernst Haeckel for a PhD at Jena University
1888, July 25th	submits PhD thesis
1888, August 2nd	oral examination for PhD
1888, November 4th	PhD formally conferred after printing
1888, September to 1889, January	works at the oceanographic research station of the British Association for the Advancement of Science at Naples, Italy
1889, January	the Cobbs depart on S.S. <i>Iberia</i> for Australia
1889, March 7th	the Cobbs arrive in Sydney

- 1889, April, to works as an advertising copy writer and sales person  
1890, April for the American importer Chipman in Sydney
- 1889, October 2nd birth of daughter Frieda
- 1889, December 30 elected member of the Linnean Society of NSW
- 1906, end(?)—
- 1890, first half *locum tenens* professor in Zoology at the University of Sydney
- 1890, March 1 appointed Vegetable Pathologist for the NSW Department of agriculture (part-time position at £100 p.a.)
- 1890, August 1 appointment converted to a permanent full-time position at £800 p.a.
- 1891, April 25th birth of daughter Ruth
- 1891 Cobb works on rust-in-wheat and 'take-all'
- 1891, June attends the Second Intercolonial Rust in Wheat Conference in Sydney
- 1891, December to Cobb works at William Farrer's Lambrigg property  
1892, January identifying wheat varieties and assessing rust in wheat
- 1892 attends the Third Intercolonial Rust in Wheat Conference in Sydney  
nominated chairman of the Intercolonial Wheat Nomenclature Committee of the Intercolonial Rust in Wheat Conference (until 1895)
- 1892-1894 member of the council of the Linnean Society of New South Wales
- 1892, October 28th birth of daughter Dorothy
- 1893, January Cobb and family go for six weeks to Lambrigg  
February
- 1893, March 17-19 Cobb convenes a meeting of the Intercolonial Wheat Nomenclature Committee in Sydney
- 1893, May Cobb sows first set of wheats at the new Wagga Experimental Farm
- 1893, October to conducts experiments on sheep fluke at BongBong,  
1895 Moss Vale, NSW
- 1893, November commences work on sugar cane in northern NSW
- 1894 Attends the Third Intercolonial Rust in Wheat Conference in Brisbane
- 1895, May 25-26 attends the Fourth and final Intercolonial Rust in Wheat Conference in Melbourne
- 1895 lecturer to the Australian Association for the Advancement of Science, Brisbane
- 1897, October purpose-built two-storey laboratory building completed for Cobb's wheat research at Wagga Experimental Farm
- 1897, June to appointed acting Manager Wagga Experimental  
December Farm

- 1898, *May* Cobb appointed Special Commissioner for Agriculture and goes on extended leave; the Cobbs leave for USA
- 1899, *May 13th* Cobb departs for three-months trip to France, the UK, Germany, Denmark, Sweden, Italy and Algeria
- 1899, *September 5th* Cobb returns to the USA from his Europe trip
- 1901, *January 7th* Cobbs return from the USA to Sydney
- 1901, *January 13th* son Roger dies in Sydney of choleraic diarrhoea
- 1903, *mid* The US Secretary of Agriculture, James Wilson offers Cobb the job of organising the US Department of Agriculture in the Philippines, but he declines
- 1903, *November* Cobb ceases to contribute to Australian superannuation
- 1904 sends son Victor to study in the USA at Worcester Technical College and then Harvard
- 1905, *January 3rd* Cobb uses accumulated leave to visit the USA and search out a position
- 1905, *May 2*
- 1905, *June 5th* Cobb's last day of work for the NSW Department of Agriculture
- 1905, *August* to Director of the Division of Pathology and Physiology of the Hawaiian Sugar Planters Association Experiment Station in Honolulu
- 1907, *August (?)*
- 1907 USDA Agricultural Technologist in Washington. Cobb commences work on the standardisation of USA Cotton grades
- 1908 USDA, Chief, Division of Crop Technology
- 1909 twice visits Jamaica to advise on sugar cane diseases.
- 1910 inspects the shipment of cherry trees donated by the Emperor of Japan to the United States. Confirms the presence of root knot nematodes and successfully argues for the destruction of the shipment
- 1910-1911 lobbies for the introduction of plant quarantine regulations
- 1912 testifies in support of the Plant Inspection Act to protect US agriculture from the introduction of pest species
- 1914 Technologist, Agricultural Technology, Cotton Standardisation, Fiber and Plant Investigations, Bureau of Plant Industry
- 1914-1917 Technologist in Charge, Office of Agricultural Technology, Bureau of Plant Industry
- 1915 the USDA takes the cotton standardisation research away from Cobb without consulting him. Cobb is appointed full-time principal nematologist in the Bureau of Plant Industry

- 1916 is awarded the medal of the National Association of Cotton Manufacturers for his work on cotton staple
- ~1918-1920 the USDA formally recognises the importance of nematological research and formally establishes the Division of Nematology in the Bureau of Plant Industry
- 1920 principal staff artist, colleague and friend of thirty years, William Chambers dies.
- 1924 Cobb reaches the 'normal' retirement age of 65 and is offered a five year contract to continue his work.
- 1929-1930 President American Society of Parasitologists
- 1930 Cobb is offered a three year contract to continue as Principal Nematologist
- 1932, June 4th dies of a stroke at Johns Hopkins Hospital, Maryland, USA





# *Bibliography*



## 1885

1. Cobb, N.A. (1885). *Elements of Chemistry. Part first*. Easthampton, Massassuchetts.  
[2 p. l., 101 p. pl., diagrs., 26 cm]

## 1887

2. Cobb, N.A. (1887). *A List of Plants Found Growing Wild Within Thirty Miles of Amherst*. Northampton, Massassuchetts : S.E. Bridgeman & Co.  
[151pp.]
3. Cobb, N.A. (1887). Botany of Hampshire County - Introductory Remarks - Catalog of plants growing wild within thirty miles of Amherst. **in:** *Gazetteer of Hampshire County, Mass.*, Part First 1654-1887. Compiled and edited by W. B. Gay. Syracuse, New York : W. B. Gay & Co. Pp. 22-72.

## 1888

4. Cobb, N.A. (1888). *Beiträge zur Anatomie und Ontogenie der Nematoden*. Inaugural-Dissertation der philosophischen Fakultät zu Jena zur Erlangung der Doktorwürde. Jena : Gustav Fischer.  
[36pp., 3 pl. — compulsory printing of his PhD thesis]
5. Cobb, N.A. (1888). Beiträge zur Anatomie und Ontogenie der Nematoden. *Jenaische Zeitschrift für Naturwissenschaft* 16 : 41-76.  
[XXIII Bd., N. F. XVI, pp. 41-76, pl. III-V]

## 1889

6. Cobb, N.A. (1889). Neue parasitische Nematoden. **in** W[illy] Kükenthal, Beiträge zur Fauna Spitzbergens. *Archiv für Naturgeschichte* 55(1) : 149-51.  
[7 ill. on a shared plate]
7. Cobb, N.A. (1889). The differentiator. *American Naturalist* 23 (Aug) : 745-747.

**Beiträge zur Anatomie und Ontogenie  
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Inaugural-Dissertation

der

**philosophischen Fakultät zu Jena**

zur

Erlangung der Doctorwürde

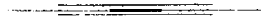
vorgelegt

von

**N. A. Cobb**

aus Easthampton, Massachusetts, U. S. A.

Mit drei lithographischen Tafeln.



**Jena,**  
Gustav Fischer  
1888.

*Title page of Nathan Cobb's PhD Thesis submitted at Jena University*  
[4]

8. Cobb, N.A. (1889). *The differentiator*. Reprint Sydney.

## 1890

9. Anderson, H.C., Cobb, N.A. and Oliff, S. (1890). Directions for collecting and forwarding specimens. *New South Wales Department of Agriculture Pamphlet*. Sydney : Charles Potter, Government Printer.
10. Cobb, N.A. (1890). A Nematode formula. *Agricultural Gazette of New South Wales* 1(1) : 131-136.
11. Cobb, N.A. (1890). A Nematode formula. *New South Wales Department of Agriculture Pamphlet* 1. Sydney : Charles Potter, Government Printer.
12. Cobb, N.A. (1890). *Anticoma* : a genus of free-living marine nematodes. *Proceedings of the Linnean Society of New South Wales* Sydney 2nd series, 5(4) : 765-774.  
[2 ill.]
13. Cobb, N.A. (1890). Arabian Nematodes. *Proceedings of the Linnean Society of New South Wales* 2nd series. 5(3) : 449-468.
14. Cobb, N.A. (1890). Contributions to an economic knowlegde of Australian rusts. I. Methods. *Agricultural Gazette of New South Wales* 1(3) : 185-197.  
[10 ill.]
15. Cobb, N.A. (1890). Contributions to an economic knowlegde of Australian rusts. II. Rusts that occur in and about Australian wheat paddocks. *Agricultural Gazette of New South Wales* 1(3) : 197-203.  
[8 ill.]
16. Cobb, N.A. (1890). Contributions to an economic knowlegde of Australian rusts. Appendix A : Details of experiments undertaken in order to learn what rusts occur in and around the wheat paddocks of New South Wales. *Agricultural Gazette of New South Wales* 1(3) : 203-214.
17. [Cobb, N.A.] (1890). Nematode among root crops. *Agricultural Gazette of New South Wales* 1(1) : 121-122.

18. Cobb, N.A. (1890). *Oxyuris*-larvae hatched in the human stomach under normal conditions. *Proceedings of the Linnean Society of New South Wales* 2nd series 5(1) : 168-185.  
[1 col. pl.]
19. Cobb, N.A. (1890). Report on the occupation at the table for research in the Zoological station at Naples. *Letters of the British Association for the Advancement of Science* 59th meeting 1889. Pp. 97-100.
20. Cobb, N.A. (1890). Two new instruments for biologists. *Proceedings of the Linnean Society of New South Wales* 2nd series. 5(1) : 157-167.  
[1 col. pl.]
21. Cobb, N.A. (1890). *Tylenchus* and root-gall. *Agricultural Gazette of New South Wales* 1(2) : 155-184.  
[20 ill., 1 pl.; comprises the entire issue]

## 1891

22. Cobb, N.A. (1891). *Anticoma* : a genus of free-living marine nematodes. *Proceedings of Linnean Society, New South Wales* 2nd series, 5(6) : 765-774.
23. Cobb, N.A. (1891). Dialogue concerning the manner in which a poisonous spray does its work in preventing or checking blight. *Agricultural Gazette of New South Wales* 2(12) : 779-786.  
[6 figs.]
24. Cobb, N.A. (1891). Hair-worm (*Gordius*, sp.). *Agricultural Gazette of New South Wales* 2(4) : 213-214.
25. Cobb, N.A. (1891). Maize for the table. *Agricultural Gazette of New South Wales* 2(9) : 524-534.  
[1 ill.]
26. Cobb, N.A. (1891). Notes on diseases of plants. Another vine disease (*Gloesporium pestiferum*). *Agricultural Gazette of New South Wales* 2(6) : 348.
27. Cobb, N.A. (1891). Notes on diseases of plants. Anthracnose or "Black spot" on grape vines. *Agricultural Gazette of New South Wales* 2(1) : 60-61.

28. Cobb, N.A. (1891). Notes on diseases of plants. Apple Scab (*Fusicladium detriticum*). *Agricultural Gazette of New South Wales* 2(8) : 492.
29. Cobb, N.A. (1891). Notes on diseases of plants. Bitter rot on the apple (*Gloesporium versicolor*). *Agricultural Gazette of New South Wales* 2(3) : 155-156.
30. Cobb, N.A. (1891). Notes on diseases of plants. Bread mould on oranges. *Agricultural Gazette of New South Wales* 2(10) : 624.
31. Cobb, N.A. (1891). Notes on diseases of plants. Diseased banana plants. *Agricultural Gazette of New South Wales* 2(10) : 622-624. [1 ill.]



*Diseased banana plants from Fiji.  
Note the hat as a (then) universal item of scale [31]*

32. Cobb, N.A. (1891). Notes on diseases of plants. Diseased horse radish plants. *Agricultural Gazette of New South Wales* 2(5) : 285.
33. Cobb, N.A. (1891). Notes on diseases of plants. Diseased Lucerne. *Agricultural Gazette of New South Wales* 2(5) : 286.
34. Cobb, N.A. (1891). Notes on diseases of plants. Diseased Maize plants. *Agricultural Gazette of New South Wales* 2(5) : 285-286.
35. Cobb, N.A. (1891). Notes on diseases of plants. Experiments with the Strawsonizer for prevention of wheat rust. *Agricultural Gazette of New South Wales* 2(8) : 493-493.
36. Cobb, N.A. (1891). Notes on diseases of plants. Linseed plants attacked by fungoid growth. *Agricultural Gazette of New South Wales* 2(3) : 157.
37. Cobb, N.A. (1891). Notes on diseases of plants. Mouldy core. *Agricultural Gazette of New South Wales* 2(6) : 347-348.
38. Cobb, N.A. (1891). Notes on diseases of plants. Onion and Tobacco blights. *Agricultural Gazette of New South Wales* 2(10) : 616-619. [2 ill.]
39. Cobb, N.A. (1891). Notes on diseases of plants. Peach rust. *Agricultural Gazette of New South Wales* 2(3) : 157.
40. Cobb, N.A. (1891). Notes on diseases of plants. Pear Mite. *Agricultural Gazette of New South Wales* 2(3) : 156-157.
41. Cobb, N.A. (1891). Notes on diseases of plants. Potato blight, Murrin, or rot. *Agricultural Gazette of New South Wales* 2(10) : 619-622. [2 ill., 1 pl.]
42. Cobb, N.A. (1891). Notes on diseases of plants. Rust on Marsh Mallows. *Agricultural Gazette of New South Wales* 2(1) : 62.
43. Cobb, N.A. (1891). Notes on diseases of plants. Strawberry Leaf Blight. *Agricultural Gazette of New South Wales* 2(1) : 61-62.
44. Cobb, N.A. (1891). Notes on diseases of plants. Strawberry Leaf Blight. (*Sphaerella fragariae*). *Agricultural Gazette of New South Wales* 2(8) : 492.
45. Cobb, N.A. (1891). Notes on diseases of plants. Water core in apples. *Agricultural Gazette of New South Wales* 2(5) : 286-287.



46. Cobb, N.A. (1891). Notes on diseases of plants. Windsor Pear Blight. *Agricultural Gazette of New South Wales* 2(1) : 61.
47. Cobb, N.A. (1891). *Notes on diseases of plants*. New South Wales Department of Agriculture. Sydney : Charles Potter Government Printer.  
[9pp., pl., 5 figs]
48. Cobb, N.A. (1891). *Onyx* and *Dipeltis* : new nematode genera, with a note on *Dorylaimus*. *Proceedings of Linnean Society of New South Wales Sydney* 2nd series, 6 (2) : 143-158.
49. Cobb, N.A. (1891). Parasites in the stomach of a cow. *Agricultural Gazette of New South Wales* 2(10) : 614-615.  
[1 ill.]
50. Cobb, N.A. (1891). Pathological notes. Apple Scab (*Fusicladium dendriticum*). *Agricultural Gazette of New South Wales* 2(4) : 216.
51. Cobb, N.A. (1891). Pathological notes. Disease of the lucerne. *Agricultural Gazette of New South Wales* 2(2) : 107-108.  
[4 figs.]
52. Cobb, N.A. (1891). Pathological notes. Maize rust. *Agricultural Gazette of New South Wales* 2(4) : 215.
53. Cobb, N.A. (1891). Pathological notes. Red incrustation of fence rails. *Agricultural Gazette of New South Wales* 2(2) : 108.  
[4 figs.]
54. Cobb, N.A. (1891). Report on rust in wheat experiments, New South Wales. *Report on Proceedings of Rust in Wheat Conference* 2 : 31-36.
55. Cobb, N.A. (1891). Rust in wheat. *The Border Post* [Albury] 9 January 1891, p.8.  
[Reprint of item 16, sample descriptions 1-17].
56. Cobb, N.A. (1891). Rust in wheat. *The Albury Border Post* [Albury] 16 January 1891, p.8.  
[Reprint of item 16 sample descriptions 18-28].
57. Cobb, N.A. (1891). Smut. *Agricultural Gazette of New South Wales* 2(11) : 672-677.  
[4 ill.]

58. Cobb, N.A. (1891). Strawberry Bunch, a new disease caused by nematodes. *Department of Agriculture, New South Wales Miscellaneous Publication* 3. Sydney : Charles Potter, Government Printer.  
[11pp.]
59. Cobb, N.A. (1891). Strawberry-bunch (A new disease caused by nematodes). *Agricultural Gazette of New South Wales* 2(7) : 390-401.  
[1 ill., 1 pl.]
60. Cobb, N.A. (1891). The devastating eel-worm (*Tylenchus devastatrix* Kühn). *Agricultural Gazette of New South Wales* 2(11) : 679-682.  
[1 ill.]
61. Cobb, N.A. (1891). The devastating eel-worm (*Tylenchus devastatrix*, Kühn). *New South Wales Department of Agriculture, Miscellaneous Publication* 9. Sydney : Charles Potter, Government Printer.  
[8pp. 3 figs.]
62. Cobb, N.A., Olliff, A.S. (1891). Insect-larva (*Cecidomyia* sp.). eating rust on wheat and flax. *Agricultural Gazette of New South Wales* 2(2) : 67-70.  
[3 ill.]
63. Cobb, N.A., Olliff, A.S. (1891). Insect-larva (*Cecidomyia* sp.). eating rust on wheat and flax. *New South Wales Department of Agriculture, Miscellaneous Publication*. Sydney : G.S.Chapman, Acting Government Printer.  
[25cm., 3 ill.]
64. Cobb, N.A., Olliff, A.S. (1891). Insect-larva (*Cecidomyia* sp.). eating rust on wheat and flax. *Annals and Magazine of Natural History* 6(7) : 489-493.
65. Scobies, R., Fiashi, Th., Gambling, C., Whitaker, E., Cobb, N.A., Olliff, A.S. (1891). Machines and processes for destroying insect and fungus pests. Report of the Committee. *Agricultural Gazette of New South Wales*. 2(2) : 79-81.



*Illustration of rust fungus [69]*

## 1892

66. Cobb, N.A. (1892). CCXX : Banana disease in Fiji. *Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew* (London). 62 (February 1892) : 48–49.  
[(quoting statements of)]
67. Cobb, N.A. (1892). Cold storage for apples from the vegetable pathologist's point of view. *Agricultural Gazette of New South Wales* 3(8) : 581-585.
68. Cobb, N.A. (1892). *Cold storage for apples from the vegetable pathologist's point of view*. Department of Agriculture, New South Wales. Sydney : Charles Potter, Government Printer.  
[5pp.]
69. Cobb, N.A. (1892). *Contributions to an economic knowledge of Australian rusts (Uredineae)*. Department of Agriculture, New South Wales. Sydney : Charles Potter, Government Printer.  
[32pp., 13figs.]

70. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). III.-IV. What has been found out in this and other countries concerning wheat rust. *Agricultural Gazette of New South Wales* 3(1) : 44-59.  
[13 ill.]
71. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). Appendix B : Report on the resistiveness of wheat examined at Lambrigg. *Agricultural Gazette of New South Wales* 3(1) : 60-68.  
[1 ill.]
72. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). V. What has been found out in this and other countries concerning wheat rust. *Agricultural Gazette of New South Wales* 3(3) : 181-190.  
[4 ill.]
73. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). VI. An examination of the physical properties of rust resistant and non-rust resistant wheats. *Agricultural Gazette of New South Wales* 3(3) : 191-200.  
[9 ill.]
74. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). Appendix C. Measurements of the thickness of the leaf (flag). in different varieties of wheat. *Agricultural Gazette of New South Wales* 3(3) : 201-205.
75. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). Appendix D. Width of the penultimate leaf at the middle. *Agricultural Gazette of New South Wales* 3(3) : 206.
76. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). Appendix E. Measurement of the tensile strength of the penultimate leaf in different varieties of wheat. *Agricultural Gazette of New South Wales* 3(3) : 207-208.
77. Cobb, N.A. (1892). Contributions to an economic knowledge of Australian rusts (*Uredineae*). Appendix F. Notes on the stomata of wheat leaves, made on 10 Dec. 1891. *Agricultural Gazette of New South Wales* 3(3) : 209-212.
78. Cobb, N.A. (1892). Cooke's Handbook of Australian fungi. *Agricultural Gazette of New South Wales* 3(9) : 696-697.

79. Cobb, N.A. (1892). Dialogue concerning the manner in which a poisonous spray does its work in preventing or checking blight. *New South Wales Department of Agriculture, Miscellaneous Publication 12*. Sydney : Charles Potter, Government Printer. [8pp]
80. [Cobb, N.A.] (1892). Diseased cane at Goodwood Island, Clarence River. *Agricultural Gazette of New South Wales* 3(9) : 738.
81. [Cobb, N.A.] (1892). Diseased wheat from New England. *Agricultural Gazette of New South Wales* 3(9) : 731-732.
82. Cobb, N.A. (1892). Notes on the disease of plants. Experiments with orange scab. *Agricultural Gazette of New South Wales* 3(10) : 833-834.
83. Cobb, N.A. (1892). Plant diseases and how to prevent them. *New South Wales Department of Agriculture, Miscellaneous Publication 12*. Sydney : Charles Potter, Government Printer. [30pp., 4pl., 26 figs; Reprint of nos. 83; 85; 88-95]
84. Cobb, N.A. (1892). Plant diseases and how to prevent them. Another obscure disease of the apple. *Agricultural Gazette of New South Wales* 3(12) : 1004-1005. [1 ill.]
85. Cobb, N.A. (1892). Plant diseases and how to prevent them. I. Diseases of the apple. *Agricultural Gazette of New South Wales* 3(4) : 276-284. [9 ill., 1 pl.]
86. Cobb, N.A. (1892). Plant diseases and how to prevent them. I. Pourridie : Mouldy-root of the vine. *Agricultural Gazette of New South Wales* 3(6) : 436-438. [1 ill.]
87. Cobb, N.A. (1892). Plant diseases and how to prevent them. II. Diseases of the pear. *Agricultural Gazette of New South Wales* 3(4) : 285-289. [2 ill., 1 pl.]
88. Cobb, N.A. (1892). Plant diseases and how to prevent them. II. Tufted leaf-blight of the bean. *Agricultural Gazette of New South Wales* 3(6) : 438-439. [1 ill.]

89. Cobb, N.A. (1892). Plant diseases and how to prevent them. III. Apple Canker. *Agricultural Gazette of New South Wales* 3(6) : 439.  
[1 ill.]
90. Cobb, N.A. (1892). Plant diseases and how to prevent them. III. Shot hole disease of the apricot and other stonefruit trees. *Agricultural Gazette of New South Wales* 3(4) : 289-291.  
[3 ill.]
91. Cobb, N.A. (1892). Plant diseases and how to prevent them. IV. Diseases of the vine. *Agricultural Gazette of New South Wales* 3(4) : 291-295.  
[4 ill.]
92. Cobb, N.A. (1892). Plant diseases and how to prevent them. V. Strawberry leaf blight. *Agricultural Gazette of New South Wales* 3(4) : 295-296.  
[2 ill.]
93. Cobb, N.A. (1892). Plant diseases and how to prevent them. VI. White rust on the cabbage, turnip, &c. *Agricultural Gazette of New South Wales* 3(4) : 296-297.  
[1 ill.]
94. Cobb, N.A. (1892). Plant diseases and how to prevent them. VI. Pumpkin leaf odium. *Agricultural Gazette of New South Wales* 3(4) : 297-298.  
[1 ill.]
95. Cobb, N.A. (1892). Plant diseases and how to prevent them. VII. Powdery mildew of the rose. *Agricultural Gazette of New South Wales* 3(4) : 298-300.  
[1 ill.]
96. Cobb, N.A. (1892). Plant diseases and how to prevent them. IX. Carbonate of Copper. *Agricultural Gazette of New South Wales* 3(4) : 300.
97. Cobb, N.A. (1892). Plant diseases and how to prevent them. X. Application of fungicides. *Agricultural Gazette of New South Wales* 3(4) : 300-303.  
[3 ill., 1 pl.]
98. Cobb, N.A. (1892). Plant diseases and how to prevent them. Leaf curl or curl-leaf of the peach and other stone fruit trees. *Agricultural Gazette of New South Wales* 3(12) : 1001-1004.  
[1 ill.]



*Cobb's illustration of "Take All" [100]*

99. Cobb, N.A. (1892). Plant diseases and how to prevent them. New Australian fungi. *Agricultural Gazette of New South Wales* 3(12) : 1005-1006.  
[5 ill.]
100. Cobb, N.A. (1892). Plant diseases and how to prevent them. Take all and dry blight. *Agricultural Gazette of New South Wales* 3(12) : 991-1000.  
[11 ill., 1 pl]

101. Cobb, N.A. (1892). Plant diseases and how to prevent them. Take all and dry blight in oats. *Agricultural Gazette of New South Wales* 3(12) : 1000.  
[3 ill.]
102. Cobb, N.A. (1892). Report on experiments. *Report of Proceedings of Rust in Wheat Conference*, 3 : 27-34.
103. Cobb, N.A. (1892). Smuts. *Department of Agriculture of New South Wales Miscellaneous Publication*. Sydney : Charles Potter, Government Printer.  
[8pp., 6 figs.]
104. Cobb, N.A. (1892). The devastating eel-worm (*Tylenchus devastatrix* Kühn). 2nd edition. *Department of Agriculture of New South Wales Miscellaneous Publication*. Sydney : Charles Potter, Government Printer.  
[8pp.; Reprinted with additions]
105. [Cobb, N.A.] (1892). White rot of the vine "Pourridie." *Agricultural Gazette of New South Wales* 3(5) : 384.
106. [Cobb, N.A.] (1892). Worms in sheep. *Agricultural Gazette of New South Wales* 3(8) : 633.

## 1893

107. Cobb, N.A. (1893). Contributions to an economic knowledge of Australian rusts (Uredineae). VI. Varieties of wheat. *Agricultural Gazette of New South Wales* 4(6) : 431-470.  
[54 ill.]
108. Cobb, N.A. (1893). Contributions to an economic knowledge of Australian rusts (Uredineae). VII. Keeping-seed wheat true to name. Causes leading to mixed seed. *Agricultural Gazette of New South Wales* 4(7) : 503-506.
109. Cobb, N.A. (1893). Contributions to an economic knowledge of Australian rusts (Uredineae). VIII. The artificial cross fertilising of wheat. *Agricultural Gazette of New South Wales* 4(7) : 503-512.  
[7 ill.]



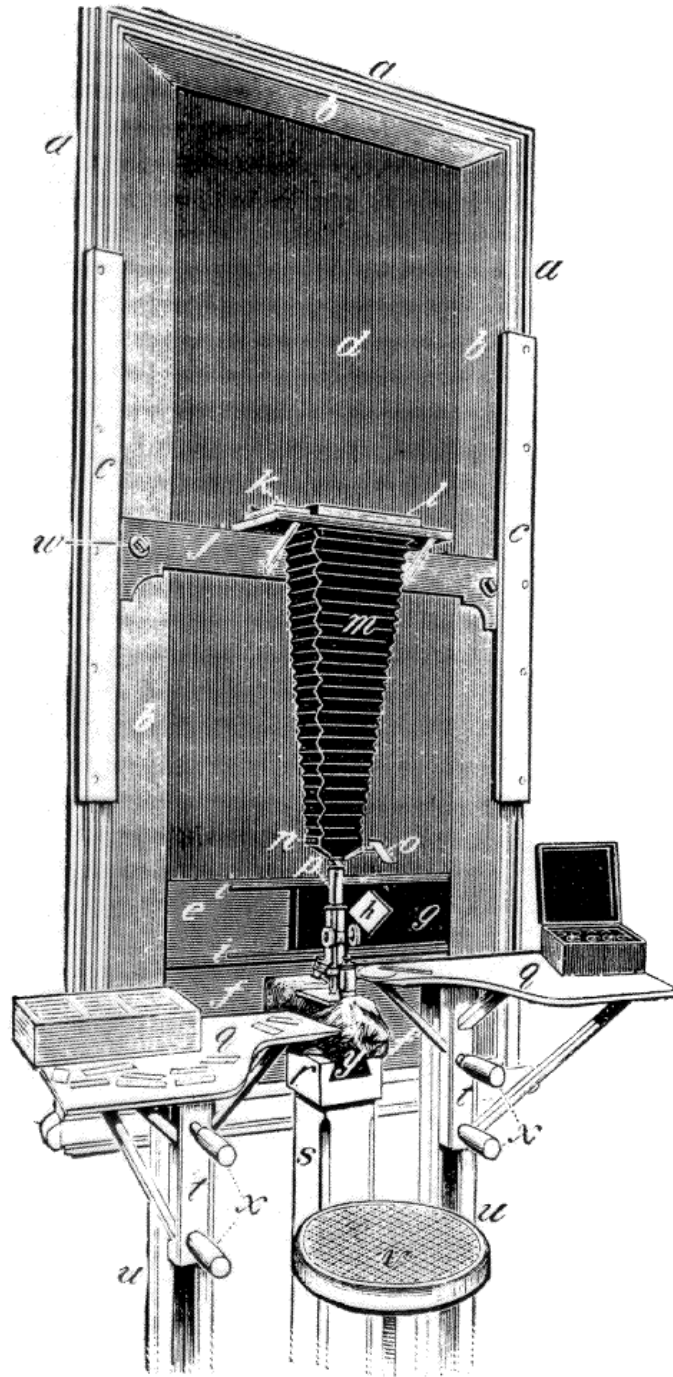
110. Cobb, N.A. (1893). Contributions to an economic knowledge of Australian rusts (Uredineae). IX. Improving wheat by selection. Experimental plots. *Agricultural Gazette of New South Wales* 4(7) : 512-517.  
[2 ill.]
111. Cobb, N.A. (1893). Host and habitat index of the Australian Fungi. *New South Wales Department of Agriculture. Miscellaneous Publications* N°. 16. Sydney : Charles Potter, Government Printer.  
[2 p., 44 p. 22 cm.]
112. Cobb, N.A. (1893). Nematode worms found attacking sugar-cane. *Department of Agriculture, New South Wales Miscellaneous Publication*. Sydney : Charles Potter, Government Printer.
113. Cobb, N.A. (1893). Nematodes, mostly Australian and Fijian. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 13. Sydney : F. Cunninghame & Co, Government Printers.  
[4°, 59pp, 7plates]
114. Cobb, N.A. (1893). Nematodes, mostly Australian and Fijian. **in** : J.J.Fletcher (ed.), *The Macleay Memorial Volume*. Sydney, London and Berlin : Linnean Society of New South Wales. Pp. 252-308.  
[ 10 figs, 7 pl]
115. [Cobb, N.A.] (1893). Pathological Branch. Annual report of the Department of Agriculture. *New South Wales. Votes and Proceedings of the Legislative Assembly during the session of 1893, with the various documents connected therewith*. vol. 2. Sydney : Charles Potter, Government Printer. Pp. 12-13.
116. Cobb, N.A. (1893). *Plant diseases and their remedies : diseases of the sugar-cane* [Queensland] Department of Agriculture Brisbane. Sydney : Charles Potter, Government Printer (for the Government of Queensland).  
[56 p., [1] leaf of plate : 46 ill. ; 23 cm.]
117. Cobb, N.A. (1893). *Plant diseases and their remedies : diseases of the sugar-cane*. New South Wales Department of Agriculture. Sydney : Charles Potter, Government Printer.  
[ 56 p., [1] leaf of plate : 46 ill. ; 25 cm.]
118. Cobb, N.A. (1893). Plant diseases and their remedies. Diseases of the Sugar-cane. *Agricultural Gazette of New South Wales* 4(10) : 777-807.  
[46 figs]

119. Cobb, N.A. (1893). Plant diseases and their remedies. [Section] III. Nematode worms found attacking sugar-cane. *Agricultural Gazette of New South Wales* 4(11) : 808-833.  
[figs 29-46.]
120. Cobb, N.A. (1893). *Tricoma* and other new nematode genera. *Proceedings of Linnean Society of New South Wales Sydney* 2nd series 8 (3) : 389-421.  
[14 ill.]
121. Cobb, N.A. (1893). The gumming of sugar-cane. Preliminary report. *Department of Agriculture, New South Wales Annual Report* 1893 : 8-10.
122. [Cobb, N.A.] (1893). Vines in the Corowa District. *Agricultural Gazette of New South Wales* 4(5) : 404.  
[46 figs]

## 1894

123. Cobb, N.A. (1894). A new Australian fungus. [*Peziza Lyonsiae*] *Agricultural Gazette of New South Wales* 5(6) : 390.  
[1 ill.]
124. Cobb, N.A. (1894). A new Australian fungus. [*Peziza Lyonsiae*] Sydney : Charles Potter, Government Printer.  
[1 ill.]
125. Cobb, N.A. (1894). Contributions to an economic knowledge of the Australian rusts (Uredineae). X. Improving wheats by selection. *Agricultural Gazette of New South Wales* 5(2) : 239-251.  
[2 ill.]
126. Cobb, N.A. (1894). Contributions to an economic knowledge of the Australian rusts (Uredineae). XI. Harvesting experimental wheats. *Agricultural Gazette of New South Wales* 5(2) : 251-252.  
[4 ill.]
127. Cobb, N.A. (1894). Gumming of sugar-cane. Extract from the Annual Report 1893 of the Department of Agriculture, New South Wales *Revue Agricole et Journal de la Chambre d' Agriculture d'Ile Maurice* 7(4) : 109-112.  
[reprint of parts of item no 121].

128. Cobb, N.A. (1894). Improving wheats by selection. *Department of Agriculture, New South Wales Sydney Miscellaneous Publication* 20. Sydney : Charles Potter Government Printer.  
[18pp., 5figs.]
129. Cobb, N.A. (1894). Microbe diseases of the sugar-cane—Gumming of cane. *Revue Agricole et Journal de la Chambre d' Agriculture d'Ile Maurice* 7(4) : 76-81.  
[reprint of item no 121].
130. Cobb, N.A. (1894). Microbe diseases of the sugar-cane—Microscopic features of gumming. *Revue Agricole et Journal de la Chambre d' Agriculture d'Ile Maurice* 7(5) : 102-108.  
[reprint of item no 121].
131. Cobb, N.A. (1894). Microbe diseases of the sugar-cane—Remedies and preventives. *Revue Agricole et Journal de la Chambre d' Agriculture d'Ile Maurice* 7(6) : 125-133.  
[reprint of item no 121].
132. [Cobb, N.A.]. (1894). Mouldy core. **in** : Albert H. Benson, Apple Culture. *Agricultural Gazette of New South Wales* 5(6) : 407.  
[1 ill.; section of no. 36 quoted.]
133. Cobb, N.A. (1894). Notes on the diseases of plants. *New South Wales. Department of Agriculture Miscellaneous Publication* N° 19. Sydney : Charles Potter, Government Printer.  
[11pp., 1 leaf of plates, ill., 25cm, Roy 8°]
134. Cobb, N.A. (1894). Notes on the diseases of plants. A mango blight. *Agricultural Gazette of New South Wales* 5(6) : 389.  
[1 ill.]
135. Cobb, N.A. (1894). Notes on the diseases of plants. Black rot of Tomato. *Agricultural Gazette of New South Wales* 5(6) : 386-388.  
[5 ill.]
136. Cobb, N.A. (1894). Notes on the diseases of plants. Common disease of grass, *Sporobolus indicus*. *Agricultural Gazette of New South Wales* 5(6) : 389.  
[1 ill.]
137. Cobb, N.A. (1894). Notes on the diseases of plants. Diseases of the bean plant. *Agricultural Gazette of New South Wales* 5(6) : 379-385.  
[5 ill.]



*Drawing of the ideal, vibration-resistant set up of a microscope [180]*

138. Cobb, N.A. (1894). Notes on the diseases of plants. Peach freckle. *Agricultural Gazette of New South Wales* 5(6) : 385-386.  
[2 ill.]
139. Cobb, N.A. (1894). Improving Wheats by Selection. *Department of Agriculture, New South Wales Sydney Miscellaneous Publication* 18. Sydney : Government Printer.  
[1+14+2pp. illust.]
140. [Cobb, N.A.] (1894). Pathologist. Annual report of the Department of Agriculture. *New South Wales. Votes and Proceedings of the Legislative Assembly during the session of 1894 with the various documents connected therewith.* vol. 3. Sydney : Charles Potter, Government Printer. Pp. 1052-1053.
141. Cobb, N.A. (1894). CCCLII : The gumming of sugar-cane. [Extract] *Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew* (London) 85 (January 1894) : 1-4.
142. Cobb, N.A. (1894). Wheat Rust. *Report of the Proceedings of the Rust in Wheat Conference*, 4. Brisbane: Government Printer. Pp. 37-43.
143. Cobb, N.A. (1894). Worms in fowls. *Agricultural Gazette of New South Wales* 5(6) : 457-48.

## 1895

144. Cobb, N.A. (1895). Diseases of plants and their remedies. I. Pimply rot of the Tomato. *Agricultural Gazette of New South Wales* 6(12) : 858-859.  
[2 ill.]
145. Cobb, N.A. (1895). Diseases of plants and their remedies. II. Bitter pit of the Apple. *Agricultural Gazette of New South Wales* 6(12) : 859-861.  
[1 ill.]
146. Cobb, N.A. (1895). Diseases of plants and their remedies. III. Squash blossom and squash tip disease. *Agricultural Gazette of New South Wales* 6(12) : 861-863.  
[4 ill.]

147. Cobb, N.A. (1895). Diseases of plants and their remedies. IV. Coffee disease, New Caledonia. *Agricultural Gazette of New South Wales* 6(12) : 863-864.  
[1 ill.]
148. Cobb, N.A. (1895). Diseases of plants and their remedies. V. Red Blotch of the Lemon. *Agricultural Gazette of New South Wales* 6(12) : 864-865.  
[1 ill.]
149. Cobb, N.A. (1895). Diseases of plants and their remedies. VI. Grey scab of the lemon. *Agricultural Gazette of New South Wales* 6(12) : 865.  
[2 ill.]
150. Cobb, N.A. (1895). Diseases of plants and their remedies. VII. An earthworm pest. *Agricultural Gazette of New South Wales* 6(12) : 866-867.  
[1 ill.]
151. Cobb, N.A. (1895). Diseases of plants and their remedies. *Department of Agriculture, New South Wales Miscellaneous Publication*. Sydney : Charles Potter, Government Printer.  
[10pp]
152. Cobb, N.A. (1895). [Experiment Stations]. *Bulletin of the Conference of Agricultural Societies 1895. Department of Agriculture New South Wales* Sydney : Charles Potter, Government Printer. Pp. 48-58.
153. Cobb, N.A. (1895). Fungus Pests. *Conference of Vine and Fruitgrowers 1895. Bulletin of Proceedings*. Sydney : Charles Potter, Government Printer. Pp. 115-118.
154. Cobb, N.A. (1895). Notes on the form and size of the grain in different varieties of wheat. *Agricultural Gazette of New South Wales* 6(11) : 744-751.
155. Cobb, N.A. (1895). Notes on the form and size of the grain in different varieties of wheat. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 69. Sydney : Charles Potter, Government Printer.  
[8pp]
156. [Cobb, N.A.] (1895). Remedy for potato scab. *Agricultural Gazette of New South Wales* 6(10) : 729.

157. Cobb, N.A. (1895). The cause of gumming disease in sugar cane. *Agricultural Gazette of New South Wales* 6(10) : 683-689. [2 ill.]
158. Cobb, N.A. (1895). The cause of gumming disease in sugar cane. *Department of Agriculture, New South Wales Miscellaneous Publication*. Sydney : Charles Potter, Government Printer. [7pp, 2 ill.]
159. [Cobb, N.A.] (1895). The handling of threshed grain—vigorous language. *Agricultural Gazette of New South Wales* 6(11) : 804-805. [Extract from a private letter by Nathan Cobb, published by the editor]
160. [Cobb, N.A.] (1895). Vegetable pathology. Annual report of the Department of Agriculture and Forestry [for period 1 January 1894-21 July 1895] *New South Wales. Votes and Proceedings of the Legislative Assembly during the session of 1895, with the various documents connected therewith*. vol. 4. Sydney : Charles Potter, Government Printer. Pp. 1103–1106
161. Cobb, N.A. (1895). Paper delivered at the Conference of Fruitgrowers, Sydney 18-20 February 1895.

## 1896

162. Cobb, N.A. (1896). Agricultural experiment work. *Agricultural Gazette of New South Wales* 7(10) : 663-689. [49 ill.]
163. Cobb, N.A. (1896). Agricultural experiment work. *Department of Agriculture, New South Wales Miscellaneous Publication* 116. Sydney : William Applegate Gullick Government Printer. [29pp. 49 figs.]
164. Cobb, N.A. (1896). Notes on the colour of the grain in different varieties of wheat. *Agricultural Gazette of New South Wales* 7(8) : 517-520.
165. Cobb, N.A. (1896). Notes on the colour of the grain in different varieties of wheat. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 100. Sydney : William Applegate Gullick, Government Printer. [8pp.]



*A drill hoe used for the sowing and application of fertiliser [163].*

166. Cobb, N.A. (1896). Notes on the threshing of wheat. *Agricultural Gazette of New South Wales* 7(4) : 204-208.

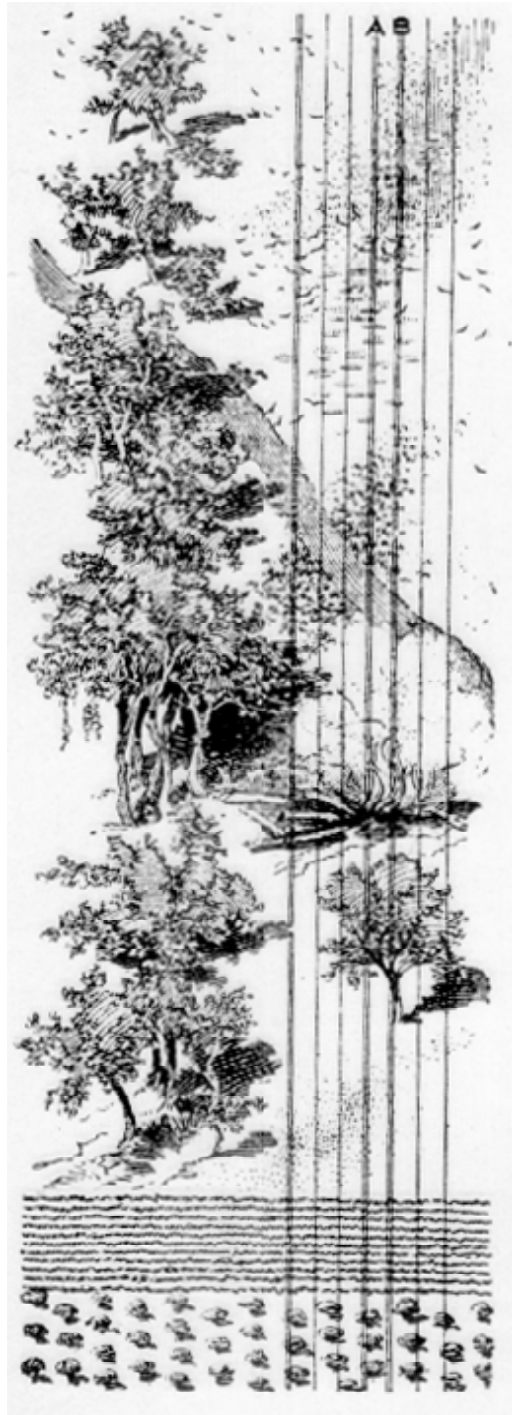


167. Cobb, N.A. (1896). Notes on the threshing of wheat. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 174. Sydney : William Applegate Gullick, Government Printer.  
[4pp.]
168. Cobb, N.A. (1896). The common crow. *Agricultural Gazette of New South Wales* 7(9) : 565-578.  
[1 ill.]
169. Cobb, N.A. (1896). The common crow. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 103. Sydney : William Applegate Gullick Government Printer.  
[14pp. 1 fig.]
170. Cobb, N.A. (1896). The hardness of the grain in the principal varieties of wheat. *Agricultural Gazette of New South Wales* 7(5) : 279-298.  
[28 ill.]
171. Cobb, N.A. (1896). The hardness of the grain in the principal varieties of wheat. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 76. Sydney : William Applegate Gullick, Government Printer.  
[8pp., 21 figs. 1pl.; Royal 8°]
172. Cobb, N.A. (1896). The hot-air treatment of bunt or stinking smut. *Agricultural Gazette of New South Wales* 7(2) : 82-83.
173. Cobb, N.A. (1896). The relative hardness of Australian and American Fife wheats. *Agricultural Gazette of New South Wales* 7(7) : 430-437.  
[28 ill.]
174. Cobb, N.A. (1896). The relative hardness of Australian and American Fife wheats. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 78. Sydney : William Applegate Gullick, Government Printer.  
[8pp., 28 ill.]
175. Cobb, N.A. (1896). Wormy fowls. *Agricultural Gazette of New South Wales* 7(11) : 746-753.  
[8 ill.]
176. Cobb, N.A. (1896). Wormy fowls. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 123. Sydney : William Applegate Gullick, Government Printer.  
[8pp., 8 figs.]

177. Cobb, N.A. (1896). Paper delivered at the Conference of Fruitgrowers, New Zealand 1896.

## 1897

178. Cobb, N.A. (1897). A method of using the microscope. *Agricultural Gazette of New South Wales* 8 (3) : 130-134.  
[3 ill.]
179. Cobb, N.A. (1897). A method of using the microscope. *Department of Agriculture, New South Wales Miscellaneous Publication N° 142*. Sydney : William Applegate Gullick, Government Printer.  
[5pp., 3 ill., Royal 8°]
180. Cobb, N.A. (1897). A method of using the microscope. *Journal of the Royal Microscopic Society*, March, 1897 : 433-438.  
[Reprinted in part]
181. Cobb, N.A. (1897). Anthracnose. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 364-365.
182. Cobb, N.A. (1897). Cause of an important apple disease. *Agricultural Gazette of New South Wales* 8 (3) : 126-127.  
[1 ill., 1 pl.]
183. Cobb, N.A. (1897). Cause of an important apple disease. *Department of Agriculture, New South Wales Miscellaneous Publication N° 140*. Sydney : William Applegate Gullick, Government Printer.  
[2pp. 1pl. 1fig.]
184. Cobb, N.A. (1897). Diseases of the bean plant. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 203-208.  
[3 ill.]
185. Cobb, N.A. (1897). Diseases of the tomato. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 216-217.  
[2 ill.]
186. Cobb, N.A. (1897). Drying fruit for home consumption. *Agricultural Gazette of New South Wales* 8 (4) : 252.



*Cobb tried to show in this illustration that adjacent rows in experimental plots will always reflect the history of past land uses[162]*

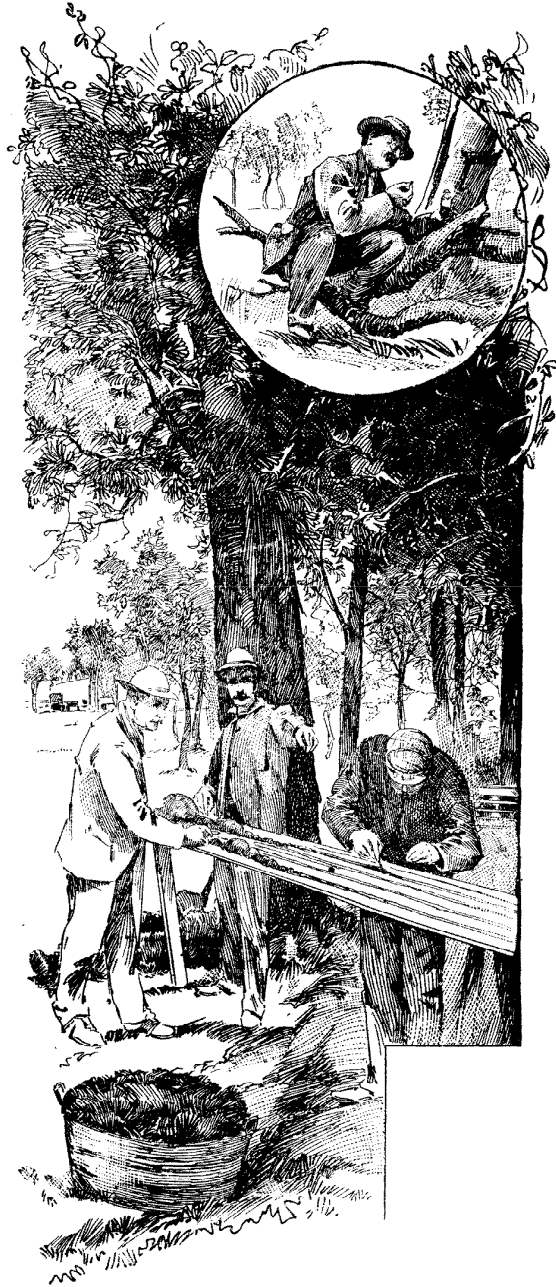
187. Cobb, N.A. (1897). Letters on the diseases of plants. Gall worm. *Department of Agriculture, New South Wales Miscellaneous Publication*. Sydney : William Applegate Gullick, Government Printer.  
[8 ill.]
188. Cobb, N.A. (1897). Letters on the diseases of plants. I : Wheat and maize, and some of their diseases. *Agricultural Gazette of New South Wales* 8 (4) : 208-220.  
[19 ill, 1 pl.]
189. Cobb, N.A. (1897). Letters on the diseases of plants. II : Diseases of the plum. *Agricultural Gazette of New South Wales* 8 (4) : 220.
190. Cobb, N.A. (1897). Letters on the diseases of plants. III : Diseases of the apple. *Agricultural Gazette of New South Wales* 8 (4) : 221-222.  
[3 ill.]
191. Cobb, N.A. (1897). Letters on the diseases of plants. IV : Diseases of the potato. *Agricultural Gazette of New South Wales* 8 (4) : 222-225.  
[1 ill.]
192. Cobb, N.A. (1897). Letters on the diseases of plants. *New South Wales. Department of Agriculture Miscellaneous Publication* N° 149. Sydney : William Applegate Gullick Government Printer.  
[54p., 1 pl., ill., 25 cm]
193. Cobb, N.A. (1897). Letters on the diseases of plants. V : Diseases of the orange. *Agricultural Gazette of New South Wales* 8 (4) : 225-231.  
[15 ill.]
194. Cobb, N.A. (1897). Letters on the diseases of plants. VI : Diseases of the peach and nectarine. *Agricultural Gazette of New South Wales* 8 (4) : 231-235.  
[9 ill.]
195. Cobb, N.A. (1897). Letters on the diseases of plants. VII : Gall worm. *Agricultural Gazette of New South Wales* 8 (4) : 235-244.  
[8 ill.]
196. Cobb, N.A. (1897). Letters on the diseases of plants. VIII : Diseases of the grape. *Agricultural Gazette of New South Wales* 8 (4) : 245.  
[1 ill.]

197. Cobb, N.A. (1897). Letters on the diseases of plants. IX : Diseases of the onion. *Agricultural Gazette of New South Wales* 8 (4) : 246. [2 ill.]
198. Cobb, N.A. (1897). Letters on the diseases of plants. X : Timber diseases. *Agricultural Gazette of New South Wales* 8 (4) : 246-248. [2 ill.]
199. Cobb, N.A. (1897). Letters on the diseases of plants. XI : Preparation and use of the Bordeaux mixture. *Agricultural Gazette of New South Wales* 8 (4) : 249-252.
200. Cobb, N.A. (1897). Maize for the table. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 139-146. [1 ill.]
201. [Cobb, N.A.] (1897). Pourridie. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 365-366.
202. [Cobb, N.A.] (1897). Potato disease. *Agricultural Gazette of New South Wales* 8 (4) : 276-277.
203. Cobb, N.A. (1897). Pumpkin leaf odium. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Sydney : William Applegate Gullick, Government Printer. Pp. 222-223.
204. [Cobb, N.A.] (1897). Small diseased patches in wheat paddocks. *Agricultural Gazette of New South Wales* 8 (10) : 751.
205. Cobb, N.A. (1897). Some useful observations on germinating wheat. *Agricultural Gazette of New South Wales* 8 (3) : 128-129. [1 col. pl.]
206. Cobb, N.A. (1897). Some useful observations on germinating wheat. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 141. Sydney : William Applegate Gullick, Government Printer. [2pp. 1pl.]
207. Cobb, N.A. (1897). The abandoned orchards of Cumberland County. *Agricultural Gazette of New South Wales* 8 (4) : 281-288. [3pl., 10 figs.]

208. Cobb, N.A. (1897). The abandoned orchards of Cumberland County. *New South Wales Department of Agriculture Miscellaneous Publication* 153. Sydney : William Applegate Gullick, Government Printer.  
[10 p., [5] leaves of plates : ill. ; 25 cm.]
209. Cobb, N.A. (1897). The “brush” of wheat grains. *Agricultural Gazette of New South Wales* 8(8) : 524-527.  
[20 ill.]
210. Cobb, N.A. (1897). The “brush” of wheat grains. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 172. Sydney : William Applegate Gullick, Government Printer.  
[4pp. 20 ill.]
211. [Cobb, N.A.] (1897). The Government Experiment Farm. Interesting Interview with Dr. Cobb. The proper course for Agricultural Education. Suggestions for Improvement. *Wagga-Wagga Advertiser* 28 October 1897, p. 2  
*The item contains ‘an interview’ which appears to rely largely on copy provided by Cobb.*
212. Cobb, N.A. (1897). The grading of wheats. *Agricultural Gazette of New South Wales* 8(12) : 855-859.  
[15 ill.]
213. Cobb, N.A. (1897). The sheep-fluke. *Agricultural Gazette of New South Wales* 8(7) : 453-481.  
[32 ill., 1 pl.]
214. Cobb, N.A. (1897). The sheep-fluke. *Agricultural Gazette, Sydney, New South Wales Miscellaneous Publication* N° 167. Sydney : William Applegate Gullick Government Printer.  
[32 pp.; 34ill.; 1 l.]

## 1898

215. Cobb, N.A. (1898). Agricultural Education. *Sydney Daily Telegraph*.
216. Cobb, N.A. (1898). Allora spring wheat. *Agricultural Gazette of New South Wales* 9(6) : 608-609.  
[1 col. pl.]



*Dissecting sheep at BongBong Station. The centre person directing the activity is Cobb [214]*

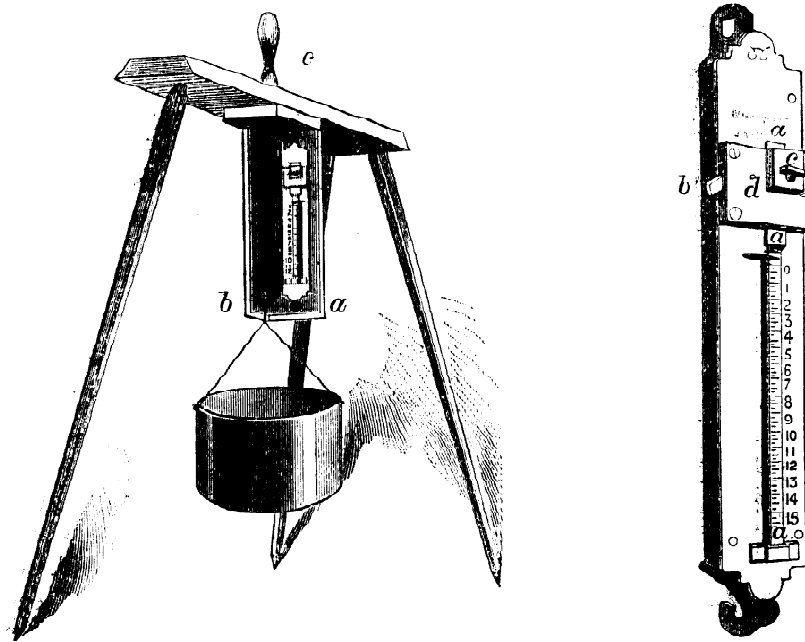
217. [Cobb, N.A.] (1898). Anthracnose. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 399-400.  
[1 ill.]
218. Cobb, N.A. (1898). Australian free-living marine nematodes. *Department of Agriculture, Sydney, New South Wales*. Sydney : F. Cunninghame & Co., Government Printer.
219. Cobb, N.A. (1898). Australian free-living marine nematodes. *Proceedings of the Linnean Society of New South Wales* 23(3) : 383-407.
220. Cobb, N.A. (1898). Descriptions of some apparently common Australian nematodes found at Sydney or in Port Jackson. *Proceedings of the Linnean Society of New South Wales* 23(2) : 171.  
[Title only, publication deferred]
221. Cobb, N.A. (1898). Diseases of the bean plant. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 224-228.  
[3 ill.]
222. Cobb, N.A. (1898). Diseases of the tomato. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 237-239.  
[2 ill.]
223. Cobb, N.A. (1898). Extract from MS. report on the parasites of stock. *Agricultural Gazette of New South Wales* 9(3) : 296-321.  
[45 ill.]
224. Cobb, N.A. (1898). Extract from MS. report on the parasites of stock. *Agricultural Gazette of New South Wales* 9(4) : 419-454.  
[83 ill.]
225. Cobb, N.A. (1898). Extract from MS. report on the parasites of stock. *New South Wales Department of Agriculture Miscellaneous Publication*. Sydney : William Applegate Gullick, Government Printer.  
[128 ill.]
226. Cobb, N.A. (1898). Maize for the table. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 152-159.  
[1 ill.]



227. Cobb, N.A. (1898). Notes on pests and crops. Age of seed experiments. *Agricultural Gazette of New South Wales* 9(2) : 186.
228. Cobb, N.A. (1898). Notes on pests and crops. An earthworm pest. *Agricultural Gazette of New South Wales* 9(2) : 182.  
[1 ill.]
229. Cobb, N.A. (1898). Notes on pests and crops. Large or small seed. *Agricultural Gazette of New South Wales* 9(2) : 183-184.  
[1 ill.]
230. Cobb, N.A. (1898). Notes on pests and crops. Manure experiments. *Agricultural Gazette of New South Wales* 9(2) : 183.
231. Cobb, N.A. (1898). Notes on pests and crops. *Department of Agriculture, Sydney, New South Wales Publication*. Sydney : William Applegate Gullick, Government Printer.  
[7pp., 2 figs.]
232. Cobb, N.A. (1898). Notes on pests and crops. The famous 100 acres of Allora spring wheat. *Agricultural Gazette of New South Wales* 9(2) : 183-186.
233. Cobb, N.A. (1898). Notes on pests and crops. The intermediate host of the sheep fluke. *Agricultural Gazette of New South Wales* 9(2) : 182-183.  
[1 ill.]
234. [Cobb, N.A.] (1898). Pourridie. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 400-401.
235. Cobb, N.A. (1898). Pumpkin leaf odium. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Third edition. Sydney : William Applegate Gullick, Government Printer. Pp. 243-244.
236. Cobb, N.A. (1898). Rattling Jack Wheat. *Agricultural Gazette of New South Wales* 9(12) : 1395-1396.  
[1 col. pl.]
237. Cobb, N.A. (1898). Rattling Jack Wheat. *Department of Agriculture, Sydney, New South Wales* Sydney : William Applegate Gullick, Government Printer.  
[1 col. pl.]
238. Cobb, N.A. (1898). Report of the Pathologist [for 1897]. Annual report of the Department of Agriculture and Forestry *New South*

*Wales. Votes and Proceedings of the Legislative Assembly during the session of 1898, with the various documents connected therewith.* vol. 6. Sydney : William Applegate Gullick, Government Printer. Pp. 332-340.

239. Cobb, N.A. (1898). Report on the parasites of stock. *New South Wales Department of Agriculture Miscellaneous Publication N° 215*. Sydney : William Applegate Gullick, Government Printer. [62pp.]
240. Cobb, N.A. (1898). Some tools useful in crop experiment work. *Agricultural Gazette of New South Wales* 9(2) : 187-189. [7 ill.]



*Drawing of a modified spring balance with mirror system to prevent parallax error affecting the accuracy of the reading [240]*

241. Cobb, N.A. (1898). Some tools useful in crop experiment work. *Department of Agriculture, New South Wales Miscellaneous Publication N° 210*. Sydney : William Applegate Gullick, Government Printer. [3pp., 7 figs.]

242. Cobb, N.A. (1898). The grading of wheats. *Department of Agriculture, New South Wales Wales Miscellaneous* N° 196. Sydney : William Applegate Gullick, Government Printer. [7pp., 6pl.]
243. Cobb, N.A. (1898). The weight per bushel of Australian wheats. *Agricultural Gazette of New South Wales* 9(8) : 876-881. [2 ill.]
244. Cobb, N.A. (1898). The weight per bushel of Australian wheats. *New South Wales Department of Agriculture Miscellaneous Publication* N° 249. Sydney : William Applegate Gullick, Government Printer. [6pp., 2 ill.]

## 1899

245. Cobb, N.A. (1899). Testing the speed of a photographic lens shutter. *Journal of the Worcester (Mass.). Polytechnic Institute* 2 : 202-208.

## 1900

246. Anon. (1900). [Interview wth Dr. Cobb. Worcester (US). *Sunday Telegram*  
[Article on Cobb's travels to the US with lengthy direct quotes most probably drawn from copy written by Cobb. See next item ]
247. Anon. (1900). Professor Cobb's travels. *Sydney Morning Herald* 3 October 1900, p. 8.  
[Article on Cobb's travels to the US with lengthy direct quotes most probably drawn from copy written by Cobb. The article itself is based on an interview in the Worcester (US) Sunday Telegram]
248. [Cobb, N.A.] (1900). Anthracnose. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 415-416. [1 ill.]
249. Cobb, N.A. (1900). Diseases of the bean plant. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 231-236. [3 ill.]

250. Cobb, N.A. (1900). Diseases of the tomato. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 244-246.  
[2 ill.]
251. Cobb, N.A. (1900). Grain elevators. *Agricultural Gazette of New South Wales* 11(13) : 187-194.  
[1 pl., 2 ill.]
252. Cobb, N.A. (1900). Grain elevators. *New South Wales Department of Agriculture Miscellaneous Publication* Sydney : William Applegate Gulick, Government Printer.  
[28 illust., 3 plates.]
253. Cobb, N.A. (1900). Maize for the table. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 159-166.  
[1 ill.]
254. [Cobb, N.A.] (1900). Pourridie. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 416-417.
255. Cobb, N.A. (1900). Pumpkin leaf odium. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fourth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 250-251.

## 1901

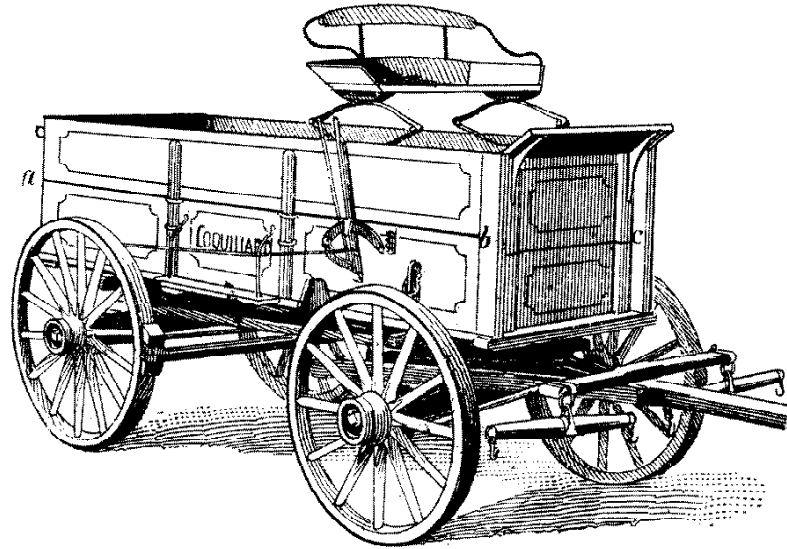
256. Anon. (1901). Agriculture in America and Europe. Dr. Cobb's Investigations. *Sydney Morning Herald* 12 January 1901, p. 7.  
[Article on Cobb's travels to the US with lengthy direct quotes which must have been taken from a formal travel report]
257. Cobb, N.A. (1901). A new eel-worm infesting the roots of passion-vine. *Agricultural Gazette of New South Wales* 12 (9) : 1115-1117.  
[1 ill.]



*Cobb's illustration for his eucalypt paper [259]*

258. Cobb, N.A. (1901). A new eel-worm infesting the roots of passion-vine. *Department of Agriculture, New South Wales, Miscellaneous Publication N° 503*. Sydney : William Applegate Gullick, Government Printer.  
[3pp.;1 ill.]
259. Cobb, N.A. (1901). Eucalyptus trees in California *Agricultural Gazette of New South Wales* 12(10) : 1286-1287.  
[1 ill.]
260. Cobb, N.A. (1901). Foliage areas of different varieties of wheat. *Agricultural Gazette of New South Wales* 12(9) : 1117.

261. Cobb, N.A. (1901). Foliage areas of different varieties of wheat. *New South Wales Department of Agriculture, Miscellaneous Publication* N° 504. Sydney : William Applegate Gullick, Government Printer.  
[32pp., illust.]
262. Cobb, N.A. (1901). Grain elevators. *Agricultural Gazette of New South Wales* 12(2) : 255-301.  
[1pl., 29 figs.]
263. Cobb, N.A. (1901). Grain elevators. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 452. Sydney : William Applegate Gullick, Government Printer.  
[47pp., 29 figs., pl.]
264. Cobb, N.A. (1901). Root-gall. *Agricultural Gazette of New South Wales* 12(9) : 1041-1052.  
[8 ill.]
265. Cobb, N.A. (1901). Root-gall. *Department of Agriculture, New South Wales, Miscellaneous Publication* N° 495. Sydney : William Applegate Gullick, Government Printer.  
[12pp.; 8 ill.]
266. Cobb, N.A. (1901). The Californian Wheat industry. *Agricultural Gazette of New South Wales* 12(11) : 1317-1348.  
[46 illust.]
267. Cobb, N.A. (1901). The Californian Wheat industry. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 519. Sydney : William Applegate Gullick, Government Printer.  
[32 pp., 46 illust.]
268. Cobb, N.A. (1901). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 12(12) : 1614-1629.  
[col. pl.]
269. [Cobb, N.A.] (1901). Wet-rot in potatoes. *Agricultural Gazette of New South Wales* 12(7) : 873.
270. Cobb, N.A. (1901). Woodiness of the passion fruit. *Agricultural Gazette of New South Wales* 12(4) : 407-417.  
[1pl.; 16 figs.]



*American wagon for the bulk handling of grain. [262]*

271. Cobb, N.A. (1901). Woodiness of the passion fruit. *New South Wales Department of Agriculture, Miscellaneous Publication N° 459*. Sydney : William Applegate Gullick, Government Printer. [12pp., 1pl.; 16 figs.]

## 1902

272. [Cobb, N.A.] (1902). Cause of the shot-hole disease in the Apricot and other stone-fruit trees. *Agricultural Gazette of New South Wales* 13(1) : 106-107. [8 ill.]
273. Cobb, N.A. (1902). Comparative observations on the brush of about fifty varieties of wheat. *Agricultural Gazette of New South Wales* 13(6) : 647-649. [7 ill., 1 foldout table]
274. Cobb, N.A. (1902). Comparative observations on the brush of about fifty varieties of wheat. *New South Wales Department of Agriculture, Miscellaneous Publication N° 578*. Sydney : William Applegate Gullick, Government Printer. [3pp.]

275. Cobb, N.A. (1902). Dried meats. *Agricultural Gazette of New South Wales* 13(6) : 686-687.
276. Cobb, N.A. (1902). Eggs containing abnormal bodies. *Agricultural Gazette of New South Wales* 13(10) : 1030.
277. Cobb, N.A. (1902). Grain elevators. *Queensland Agricultural Journal* (Brisbane) 11(3) : 137-176.  
[29 ill.]
278. Cobb, N.A. (1902). Imperfectly fumigated fruit. *Agricultural Gazette of New South Wales* 13(6) : 643.
279. Cobb, N.A. (1902). Internal structure of the gall-worm. *Agricultural Gazette of New South Wales* 13(10) : 1031-1033.  
[1 ill.]
280. Cobb, N.A. (1902). Probable occurrence of the tapeworm (*Taenia ovilla*) in Australian sheep. *Agricultural Gazette of New South Wales* 13(7) : 796.
281. Cobb, N.A. (1902). Rattling Tom wheat. *Agricultural Gazette of New South Wales* 13(12) : 1229.  
[1 col. pl.]
282. Cobb, N.A. (1902). Rattling Tom wheat. *New South Wales Department of Agriculture, Miscellaneous Publication* Sydney : William Applegate Gullick, Government Printer.  
[1 col. pl. ]
283. Cobb, N.A. (1902). [Annual] Report of the Pathologist. *Agricultural Gazette of New South Wales* 13 (5) : 492-493.  
[5 ill.]
284. Cobb, N.A. (1902). The nematode formula. *Agricultural Gazette of New South Wales* 13(10) : 1023-1030.  
[5 ill.]
285. Cobb, N.A. (1902). The nematode formula. *New South Wales Department of Agriculture Miscellaneous Publication* N° 601. Sydney : William Applegate Gullick, Government Printer.  
[8pp.]
286. Cobb, N.A. (1902). Tomato blights. *Agricultural Gazette of New South Wales* 13(4) : 410-414.  
[3 ill.]



287. Cobb, N.A. (1902). Tomato blights. *New South Wales Department of Agriculture, Miscellaneous Publication N° 569*. Sydney : William Applegate Gullick, Government Printer.  
[3pp., 3 figs.]
288. Cobb, N.A. (1902). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 13(1) : 74-90.  
[figs. 1-9, pls. 1-4]
289. Cobb, N.A. (1902). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 13(2) : 241-243.  
[fig. 10, 1pl]
290. Cobb, N.A. (1902). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 13(4) : 415-418.
291. Cobb, N.A. (1902). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 13(8) : 850.  
[pls 5-7]
292. Cobb, N.A. (1902). Root-gall. *Department of Agriculture, New South Wales, Miscellaneous Publication N° 495*. Revised edition. Sydney : William Applegate Gullick, Government Printer.  
[12pp.; 8 ill.]

## **1903**

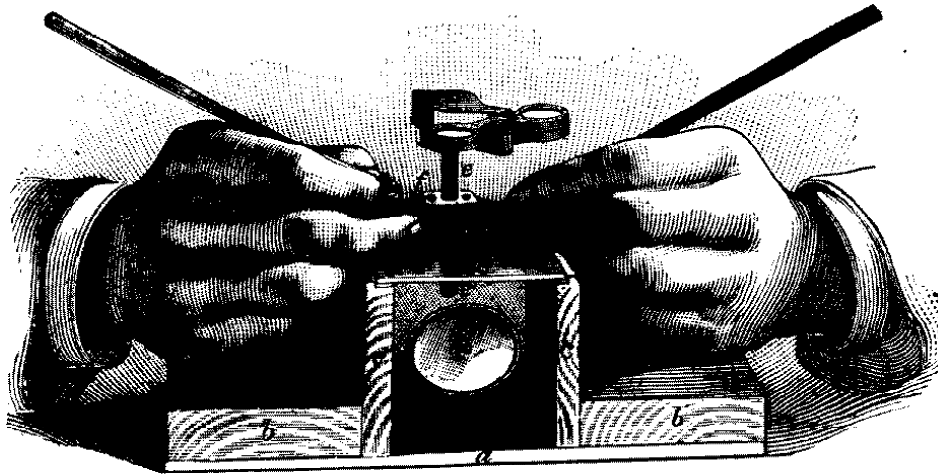
293. Cobb, N.A. (1903). A disease of larkspur. *Agricultural Gazette of New South Wales* 14(4) : 341.
294. Cobb, N.A. (1903). A handy horse power. *Agricultural Gazette of New South Wales* 14(2) : 170.  
[1 ill.]
295. Cobb, N.A. (1903). A handy horse power. *New South Wales Department of Agriculture, Miscellaneous Publication*. Sydney : Government Printer.  
[1p., 1 ill.]
296. Cobb, N.A. (1903). Effect of engine boiler steam on the vitality of seeds and spores. *Agricultural Gazette of New South Wales* 14(1) : 26-29.  
[2 ill.]



*The first illustration of his paper on the wheat industry of California*  
[266]

297. Cobb, N.A. (1903). Effect of engine boiler steam on the vitality of seeds and spores. *New South Wales Department of Agriculture, Miscellaneous Publication N° 623*. Sydney : Government Printer. [3pp., 2 ill.]

298. Cobb, N.A. (1903). Letters on the disease of plants. Second series. Ripe rot. *Agricultural Gazette of New South Wales* 14(7) : 627-651.  
[45 ill., 1 pl]
299. Cobb, N.A. (1903). Letters on the disease of plants. Alternaria of the Citrus tree. *Agricultural Gazette of New South Wales* 14(9) : 962-966.  
[3 ill.]
300. Cobb, N.A. (1903). Letters on the disease of plants. Banana Scab. *Agricultural Gazette of New South Wales* 14(8) : 681-692.  
[11 ill.]
301. Cobb, N.A. (1903). Letters on the disease of plants. Bean rust. *Agricultural Gazette of New South Wales* 14(10) : 1057.
302. Cobb, N.A. (1903). Letters on the disease of plants. Black spot on the citrus fruits. *Agricultural Gazette of New South Wales* 14(9) : 968-969.  
[1 ill.]
303. Cobb, N.A. (1903). Letters on the disease of plants. Black spot or *Fusclaridum* of the Loquat. *Agricultural Gazette of New South Wales* 14(10) : 1058-1059.
304. Cobb, N.A. (1903). Letters on the disease of plants. Cabbages attacked by *Peronospera*. *Agricultural Gazette of New South Wales* 14(10) : 1057-1058.  
[2 ill.]
305. Cobb, N.A. (1903). Letters on the disease of plants. Canker. *Agricultural Gazette of New South Wales* 14(9) : 955-956.  
[4 ill.]
306. Cobb, N.A. (1903). Letters on the disease of plants. Disease in seed potatoes. *Agricultural Gazette of New South Wales* 14(9) : 985-986.  
[1 ill.]
307. Cobb, N.A. (1903). Letters on the disease of plants. Disease of chillies. *Agricultural Gazette of New South Wales* 14(9) : 980.  
[1 ill.]



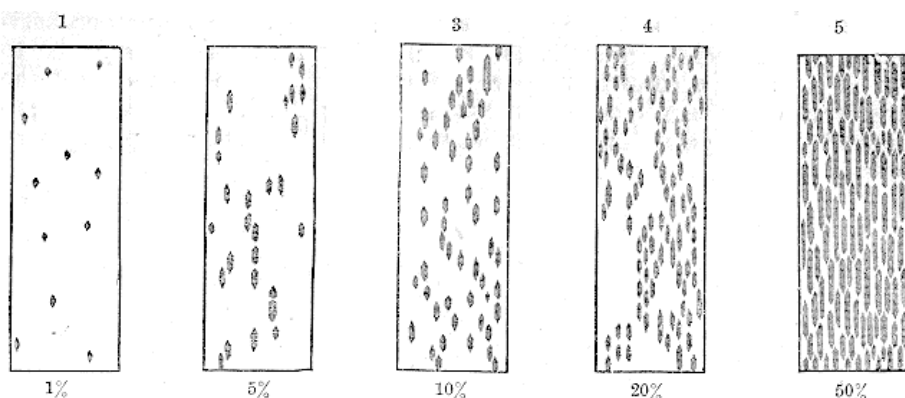
*A simple home-made dissecting microscope [@@]*

308. Cobb, N.A. (1903). Letters on the disease of plants. Diseases of the Flower garden. *Agricultural Gazette of New South Wales* 14(10) : 1059-1072.  
[17 ill.]
309. Cobb, N.A. (1903). Letters on the disease of plants. Diseases of the Passion vine. *Agricultural Gazette of New South Wales* 14(9) : 970-977.  
[11 ill.]
310. Cobb, N.A. (1903). Letters on the disease of plants. Diseases of the walnut. *Agricultural Gazette of New South Wales* 14(9) : 977-978.
311. Cobb, N.A. (1903). Letters on the disease of plants. Leaf curl of the potato. *Agricultural Gazette of New South Wales* 14(9) : 978-979.  
[1 ill.]
312. Cobb, N.A. (1903). Letters on the disease of plants. Lemons decaying while on the market. *Agricultural Gazette of New South Wales* 14(9) : 969-970.  
3 ill.]
313. Cobb, N.A. (1903). Letters on the disease of plants. Melanose (?). on lemons. *Agricultural Gazette of New South Wales* 14(9) : 967-968.

314. Cobb, N.A. (1903). Letters on the disease of plants. Melanose (?). on oranges. *Agricultural Gazette of New South Wales* 14(9) : 966-967.
315. Cobb, N.A. (1903). Letters on the disease of plants. Mouldy core of the apple. *Agricultural Gazette of New South Wales* 14(8) : 705-709.  
[1 ill.]
316. Cobb, N.A. (1903). Letters on the disease of plants. Onion disease. *Agricultural Gazette of New South Wales* 14(9) : 980.  
[1 ill.]
317. Cobb, N.A. (1903). Letters on the disease of plants. Peach curl. *Agricultural Gazette of New South Wales* 14(9) : 956-962.  
[1 ill.]
318. Cobb, N.A. (1903). Letters on the disease of plants. Quince rots. *Agricultural Gazette of New South Wales* 14(8) : 709-712.  
[6 ill.]
319. Cobb, N.A. (1903). Letters on the disease of plants. Root and timber rots. *Agricultural Gazette of New South Wales* 14(9) : 981-985.  
[1 ill.]
320. Cobb, N.A. (1903). Letters on the disease of plants. Stigmonose. *Agricultural Gazette of New South Wales* 14(8) : 692-704.  
[8 ill., 1 col. pl. ]
321. Cobb, N.A. (1903). Report of the Pathologist [for 1901]. Annual report of the Department of Agriculture and Forestry *New South Wales. Votes and Proceedings of the Legislative Assembly during the session of 1902, with the various documents connected therewith.* vol. 4. Sydney : William Applegate Gullick, Government Printer. Pp. 437-438.
322. Cobb, N.A. (1903). Report of the Pathologist [for 1902]. Annual report of the Department of Agriculture and Forestry *New South Wales. Votes and Proceedings of the Legislative Assembly during the session of 1903, with the various documents connected therewith.* vol. 6. Sydney : William Applegate Gullick, Government Printer. Pp. 370-371.
323. Cobb, N.A. (1903). Seed Wheat : an investigation and discussion of the relative value as seed of large plump and small shrivelled grains. *Department of Agriculture New South Wales Miscellaneous*

Publication N° 625. Sydney : William Applegate Gullick,  
Government Printer.  
[60 p.], 36 ill.; 25cm

324. Cobb, N.A. (1903). Seed wheat : an investigation and discussion of the relative value as seed of large plump and small shrivelled grains. *Agricultural Gazette of New South Wales* 14(1) : 33-50. [22 ill.]
325. Cobb, N.A. (1903). Seed wheat : an investigation and discussion of the relative value as seed of large plump and small shrivelled grains. *Agricultural Gazette of New South Wales* 14(2) : 145-169. [10 ill.]
326. Cobb, N.A. (1903). Seed wheat : an investigation and discussion of the relative value as seed of large plump and small shrivelled grains. *Agricultural Gazette of New South Wales* 14(3) : 193-205. [4 ill.]



The 'Cobb scale' for determination of the intensity of rust infection [69]

327. Cobb, N.A. (1903). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 14(6) : 546-549. [pls. 8-[10] 1903]

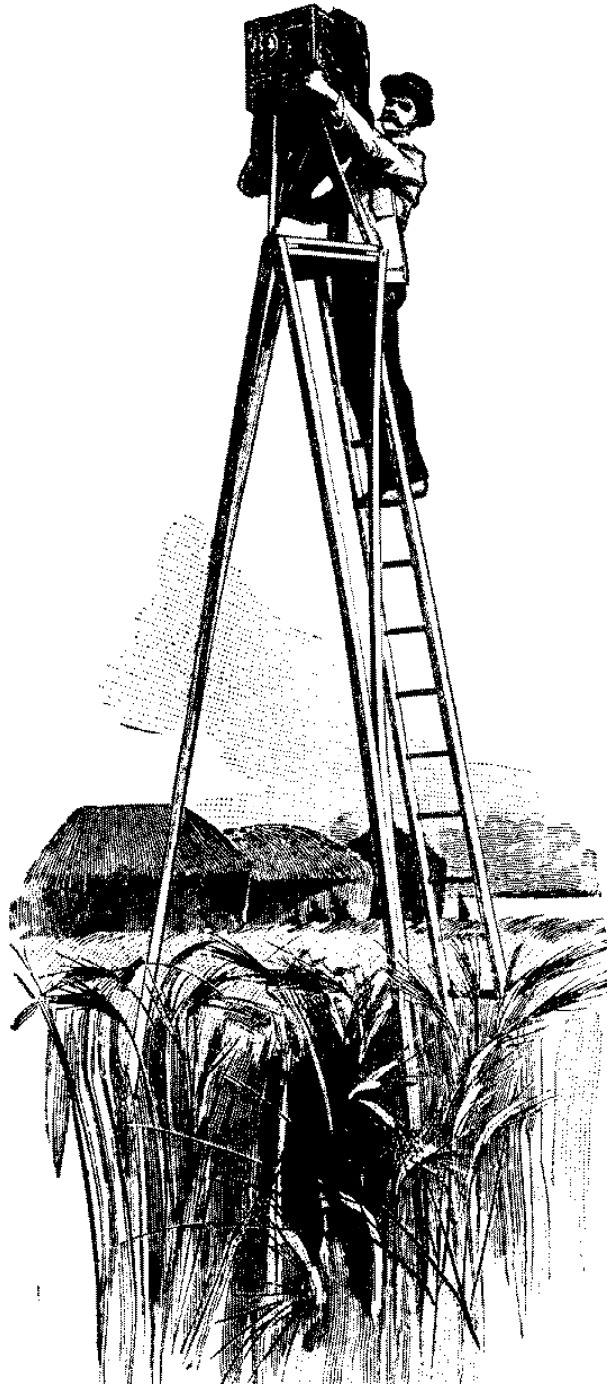
## 1904

328. Cobb, N.A. (1904). A grain of wheat; its structure and properties. *Journal of the Department of Agriculture, Western Australia* 9 : 165-170.

329. [Cobb, N.A.] (1904). Agricultural [*sic*] Education. Dr. Cobb's Proposals. *Journal of Agriculture, Western Australia*. Aug 15, 1904. Pp. 127-132.  
[article consists of an extensive quote of a 1898 report by Cobb]
330. Cobb, N.A. (1904). [Annual] Report of the Pathologist. *Agricultural Gazette of New South Wales* 15(11) : 1025.
331. [Cobb, N.A.] (1904). Anthracnose. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fifth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 480-481.  
[1 ill.]
332. Cobb, N.A. (1904). Diseases of the bean plant. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fifth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 260-264.  
[3 ill.]
333. Cobb, N.A. (1904). Diseases of the tomato. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fifth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 272-274.  
[2 ill.]
334. Cobb, N.A. (1904). Free-living fresh-water New Zealand nematodes. *Proceedings of the Cambridge Philological Society* 12 (5) : 363-374.
335. Cobb, N.A. (1904). Letters on the disease of plants. A cherry blight new to the state. *Agricultural Gazette of New South Wales* 15(1) : 4-7.  
[3 ill., 1 col pl.]
336. Cobb, N.A. (1904). Letters on the disease of plants. Bark and wood diseases spread by the pruning shears. *Agricultural Gazette of New South Wales* 15(1) : 16.
337. Cobb, N.A. (1904). Letters on the disease of plants. Disease in the fruit of the banana. *Agricultural Gazette of New South Wales* 15(1) : 15.
338. Cobb, N.A. (1904). Letters on the disease of plants. "Take all"—a disease of cereals. *Agricultural Gazette of New South Wales* 15(1) : 7-8.

339. Cobb, N.A. (1904). Letters on the disease of plants. Technical notes on citrus diseases. *Agricultural Gazette of New South Wales* 15(1) : 16-19.  
[2 ill., 4pl.]
340. Cobb, N.A. (1904). Letters on the disease of plants. The brown rot of fruit. *Agricultural Gazette of New South Wales* 15(1) : 1-4.  
[1 col pl.]
341. Cobb, N.A. (1904). Letters on the disease of plants. Tomato rosette. *Agricultural Gazette of New South Wales* 15(1) : 15.
342. Cobb, N.A. (1904). Letters on the disease of plants. Various rusts. *Agricultural Gazette of New South Wales* 15(1) : 8-15.
343. Cobb, N.A. (1904). Letters on the disease of plants. Second series. From the *Agricultural Gazette of New South Wales* with additions and emendations *New South Wales Department of Agriculture, Miscellaneous Publication* N° 666 Sydney : William Applegate Gullick, Government Printer.  
[IVp+133pp., 7 col. pl., 4 b&w pl; 132 figs., 25cm]
344. Cobb, N.A. (1904). Maize for the table. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fifth edition. Sydney : William Applegate Gullick, Government Printer. Pp. 175-182.  
[1 ill.]
345. Cobb, N.A. (1904). Parasites as an aid in determining organic relationships. *Agricultural Gazette of New South Wales* 15(9) : 845-848.
346. Cobb, N.A. (1904). Parasites as an aid in determining organic relationships. *Department of Agriculture, New South Wales Miscellaneous Publication* N° 788. Sydney : Wiliam Applegate Gullick, Government Printer.  
[4pp.]
347. Cobb, N.A. (1904). Pumpkin leaf odium. **in** : William Henry Clarke (ed.), *The Farmers and Fruit Growers Guide*. Fifth edition. Sydney : William Applegate Gullick, Government Printer. P. 278.
348. Cobb, N.A. (1904). Quantitative estimation of disease spores. *Agricultural Gazette of New South Wales* 15(7) : 670-680.  
[7 ill.]





*Drawing of a tripod camera [240]*

349. Cobb, N.A. (1904). Quantitative estimation of disease spores. *New South Wales Department of Agriculture, Miscellaneous Publication N° 768*. Sydney : Wiliam Applegate Gullick, Government Printer.  
[11pp., 7 figs.]
350. Cobb, N.A. (1904). The sheep fluke. Fluke eggs as a quantitative aid in the diagnosis of the *Distomia* of the sheep. *Agricultural Gazette of New South Wales* 15(7) : 658-669.  
[1 ill.]
351. Cobb, N.A. (1904). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 15(2) : 159-174.  
[figs. 11-68]
352. Cobb, N.A. (1904). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 15(4) : 358-363.  
[figs. 69-73]
353. Cobb, N.A. (1904). Universal nomenclature of wheat. *Agricultural Gazette of New South Wales* 15(6) : 509-513.  
[fig. 74, pls. 13-15]

## 1905

354. Cobb, N.A. (1905). Annual Report Division of Pathology and Physiology. *Report of the Experiment Station of the Hawaiian Sugar Planters' Association 1904-05*. Honolulu : Star Print. Pp. 39-59.
355. Cobb, N.A. (1905). Methods of using the microscope, camera-lucida and solar projector for purposes of examination and the production of illustrations. *Report of the work of the Experiment Station of the Hawaiian Sugar Planters' Association*. Honolulu : Star Print.  
[1+29pp., illust, 1 p.l., 29 p. illus., pl. 23 cm]
356. Cobb, N.A. (1905). Microscope, camera-lucida and solar projector. *Journal of the Royal Microscopical Society* 25 : 496-508.
357. Cobb, N.A. (1905). Quantitative estimation of bunt in seed-wheat. *Agricultural Gazette of New South Wales* 16(11) : 1113-1117.
358. Cobb, N.A. (1905). Report of the Pathologist. Annual report of the Department of Agriculture and Forestry *New South Wales. Joint volumes of papers presented to the Legislative Council and Legislative Assembly and ordered to be printed during the second*

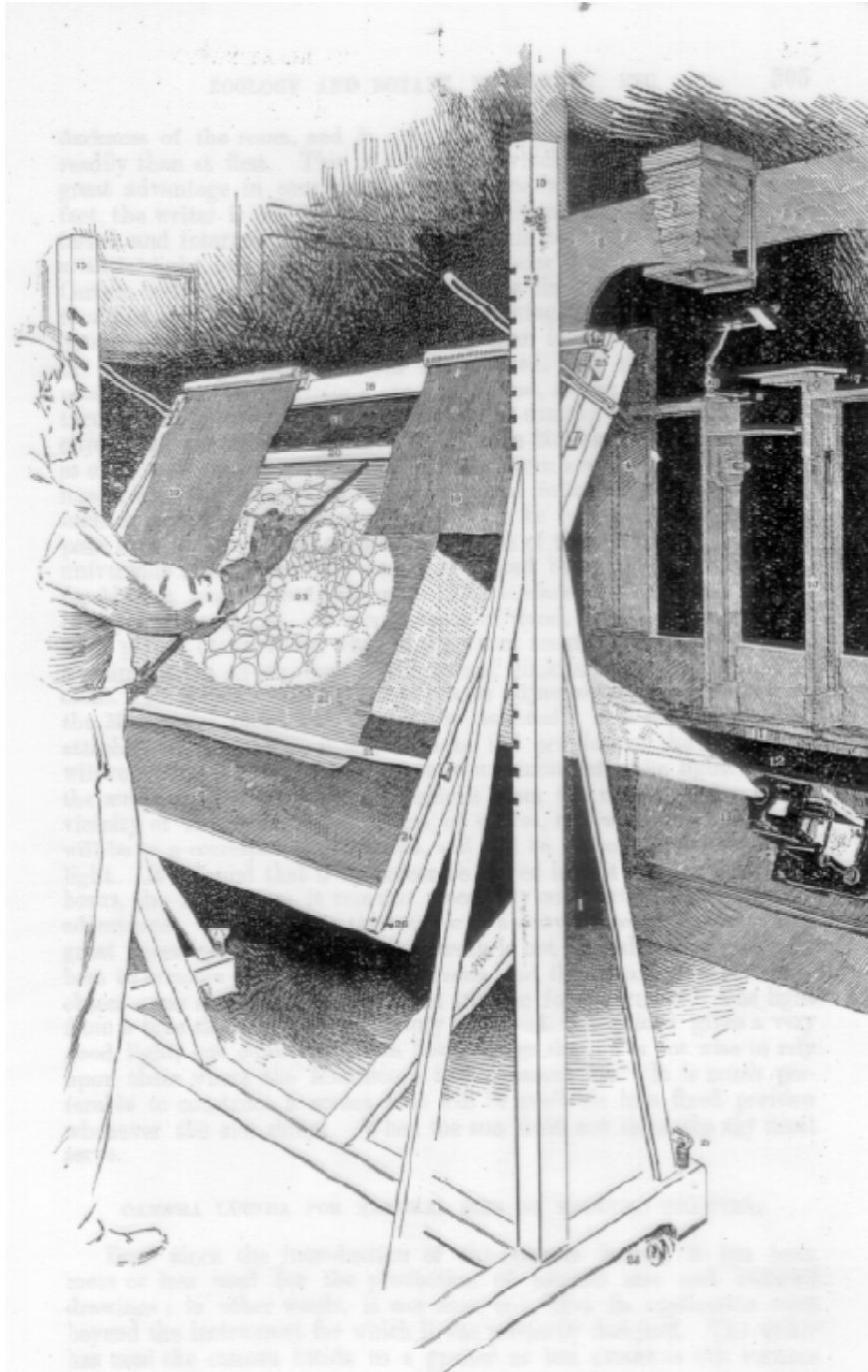
*session of 1904 (being the first session of the twentieth Parliament)*. vol. 4. Sydney : William Applegate Gullick, Government Printer. P. 428.

359. Cobb, N.A. (1905). *Some elements of plant pathology. Address at the annual meeting of the Hawaiian Sugar Planters' Association, Honolulu 1905*. Honolulu, H.T. : Hawaiian Gazette Co. Ltd  
[46, [4] p., ill. 32 figs.]
360. Cobb, N.A. (1905). *The Inspection and Disinfection of Cane Cuttings. Report of the work of the Experiment Station Hawaiian Sugar Planters' Association Division of Pathology and Physiology. Bulletin No. 1*. Honolulu, H.T. : Star Print.  
[35pp; 4 pl. 3 col. pl.]
361. Cobb, N.A. (1905). *The Inspection and Disinfection of Cane Cuttings. Report of the work of the Experiment Station Hawaiian Sugar Planters' Association Division of Pathology and Physiology. Bulletin No. 1. Second edition*. Honolulu : Star Print.  
[3 p.l., [3]-35, vi p. VIII pl. (3 col.) 23 cm.—issued also as part of the Hawaiian Sugar Planters' Association Yearbook 1905]
362. Cobb, N.A. (1905). *The parasitic worm Heterakis inflexa, included in a fowl's egg. Agricultural Gazette of New South Wales* 16(6) : 561-562.  
[3 ill.]
363. Cobb, N.A. (1905). *The tapeworms of Australia. Agricultural Gazette of New South Wales* 16(2) : 153-168.  
[3 ill.]
364. Cobb, N.A. (1905). *The tapeworms of Australia. Agricultural Gazette of New South Wales* 16(3) : 209-219.  
[13 ill.]
365. Cobb, N.A. (1905). *The tapeworms of Australia. Agricultural Gazette of New South Wales* 16(4) : 311-318.  
[9 ill.]
366. Cobb, N.A. (1905). *The tapeworms of Australia. Agricultural Gazette of New South Wales* 16(7) : 619-631.  
[9 ill.]
367. Cobb, N.A. (1905). *Third report on the gumming of sugar cane. Hawaiian Sugar Planters' Monthly* 25 : 13-36.

368. Cobb, N.A. (1905). Third report on the gumming of sugar-cane, with original illustrations in the text. *Report of the work of the Experiment Station Hawaiian Sugar Planters' Association Division of Pathology and Physiology. Bulletin No. 3.* Honolulu, H.T. : Star Print.  
[2 p.l., [3]-46 p. illus. 23 cm]
369. Cobb, N.A. (1905). Third report on the gumming of sugar-cane, with original illustrations in the text. *Hawaiian Sugar Planters' Association Yearbook 1905.* Honolulu, H.T. : Star Print.  
[2 p.l., [3]-46 p. illus. 23 cm]
370. Cobb, N.A. (1905). Universal nomenclature of wheat. *Department of Agriculture, New South Wales Miscellaneous Publication 539.* Sydney : William Applegate Gullick, Government Printer.  
[75 pp. ill.]

## 1906

371. Cobb, N.A. (1906). Annual report Division of Pathology and Physiology. *Report of work of the Experiment Station of the Hawaiian Sugar Planters' Association.* 1905-06 Honolulu : Star Print : Pp. 51-55.
372. Cobb, N.A. (1906). Construction and fittings of a microscope room. *Journal of the Royal Microscopical Society* 26 : 496-508.  
[Extracts from Rept. Exp. Stn. Commun. Hawaiian Sugar Plant. Assoc. 1905, pp. 39-59]  
[1 pl.; 3 ill.]
373. Cobb, N.A. (1906). Construction and fittings of a microscope room. *Hawaiian Gazette*
374. Cobb, N. A. (1906). Free living nematodes inhabiting the soil about the roots of cane, and their relation to root diseases. *Report of work of the Hawaiian Sugar Plantation Association, Division of Pathology and Physiology, Bulletin.* 5 :163-195.
375. Cobb, N.A. (1906). Fungus maladies of the sugar cane with notes on associated insects and nematodes. *Report of work of the Hawaiian Sugar Plantation Association, Division of Pathology and Physiology, Bulletin* 5. Honolulu, T.H. : Hawaiian Gazette Co. Ltd.  
[254pp.; Royal 8°, 7 col. pl.]

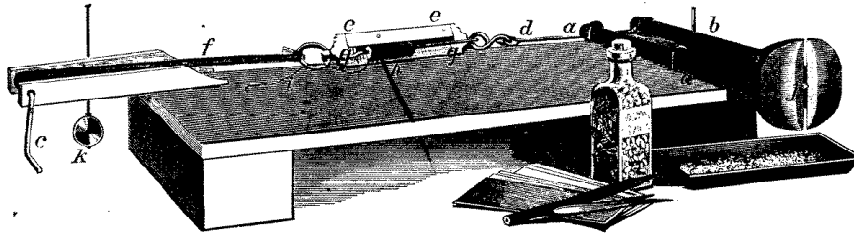


*Camera lucida using natural light*

376. Cobb, N.A. (1906). Fungus maladies of the sugar cane with notes on associated insects and nematodes. *Hawaiian Sugar Planters' Association, Division of Pathology and Physiology, Bulletin 5*. Second edition. Honolulu, T.H. : Hawaiian Gazette Co. Ltd.  
[4 p.l., [5]-254 p. incl. illus., pl. 8 pl. (7 col.), Royal 8°, 24 cm]
377. Cobb, N.A. (1906). Grain elevators. *Agricultural Gazette of New South Wales* 17(3) : 219-235.
378. Cobb, N.A. (1906). Grain elevators. II. European elevators. *Agricultural Gazette of New South Wales* 17(4) : 327-339.
379. Cobb, N.A. (1906). Some elements of plant pathology. *Report of the work of the Experiment Station of the Hawaiian Sugar Planters' Association, Division of Pathology and Physiology, Bulletin 4*. Honolulu, T.H. : Hawaiian Gazette Co. Ltd.  
[46, [4] p., ill. 32 figs.]

## 1907

380. Cobb, N.A. (1907). Agriculture in Hawaii. **In** Liberty Hyde Bailey (ed.), *Cyclopeadia of American Agriculture*. Vol. 1 Farms. New York and London: Macmillan & Co. Pp. 114-121  
[ pl. VI, figs. 128-136]
381. Cobb, N.A. (1907). Notes on some diseases of the pineapple. *Hawaiian Forester and Agriculture* 4(5) : 123-144.
382. Cobb, N.A. (1907). Report on the germination of the seeds of rubber producing plants. *Hawaiian Forester and Agriculture* 4 : 233-235.
383. Cobb, N.A. (1907). Some Hawaiian crop blights. *Hawaiian Forester and Agriculture* 4 : 60-64.
384. Cobb, N.A. (1907). Sugar-cane. **In** Liberty Hyde Bailey (ed.), *Cyclopeadia of American Agriculture*. Vol. 2 Crops. New York and London: Macmillan & Co. Pp. 599-611.  
[ pl. XXIII, figs. 826-836]
385. Cobb, N.A. (1907). The sugar-cane disease known as Top-Rot. *Experiment Station of the Hawaiian Sugar Planters Association, Division of Pathology and Physiology, Circular No. 5*. Honolulu, T.H. : Hawaiian Gazette Co. Ltd.  
[6pp.]



*Machine to test the hardness of grains [240]*

386. Cobb, N.A. (1907). Universal nomenclature of wheat. *American Miller* 35 : 700-701.
387. Cobb, N.A. (1907). Universal nomenclature of wheat. *American Miller* 35 : 792-793.
388. Cobb, N.A. (1907). Universal nomenclature of wheat. *American Miller* 35 : 890-891.
389. Cobb, N.A. (1907). Universal nomenclature of wheat. *American Miller* 35 : 957.

## 1908

390. Cobb, N.A. (1908). *Notes on some diseases of the pineapple*. Honolulu : Privately published.  
[22pp.; ill.]

## 1909

391. Cobb, N.A. (1909). Fungus maladies of the sugar cane. *Report of the work of the Experimental Station of the Hawaiian Sugar Plantation Association, Division Pathology and Physiology Bulletin* 6. Honolulu, T.H. : Hawaiian Star Print.  
[3 p.l., [5]-110 p. illus., VII col. pl. 24 cm.8]
392. Cobb, N.A. (1909). Fungus maladies of the sugar cane. *Hawaiian Sugar Plantation Association Yearbook* 1908. Honolulu, T.H. : Hawaiian Star Print.  
[3 p.l., [5]-110 p. illus., VII col. pl. 24 cm.]

393. Cobb, N.A. (1909). Nematodes. Hawaiian. *Report of the work of the Experimental Station of the Hawaiian Sugar Plantation Association, Division Pathology and Physiology Bulletin 6*. Honolulu, T.H. : Hawaiian Star Print. Pp. 51-73.
394. Cobb, N.A. (1909). The inner structure of the grain as related to flour and bread. *Biennial Report Bureau of Labor and Industry, State of Wisconsin 13 (1907-08)* : 735-749.  
[5 figs.]

## 1910

395. Cobb, N.A. (1910). Notes on the distances flies can travel. *National Geographic Magazine 21(5)* : 380-383.
396. Cobb, N.A. (1910). The house fly. *National Geographic Magazine 21(5)* : 371-380.  
[4 figs.]

## 1911

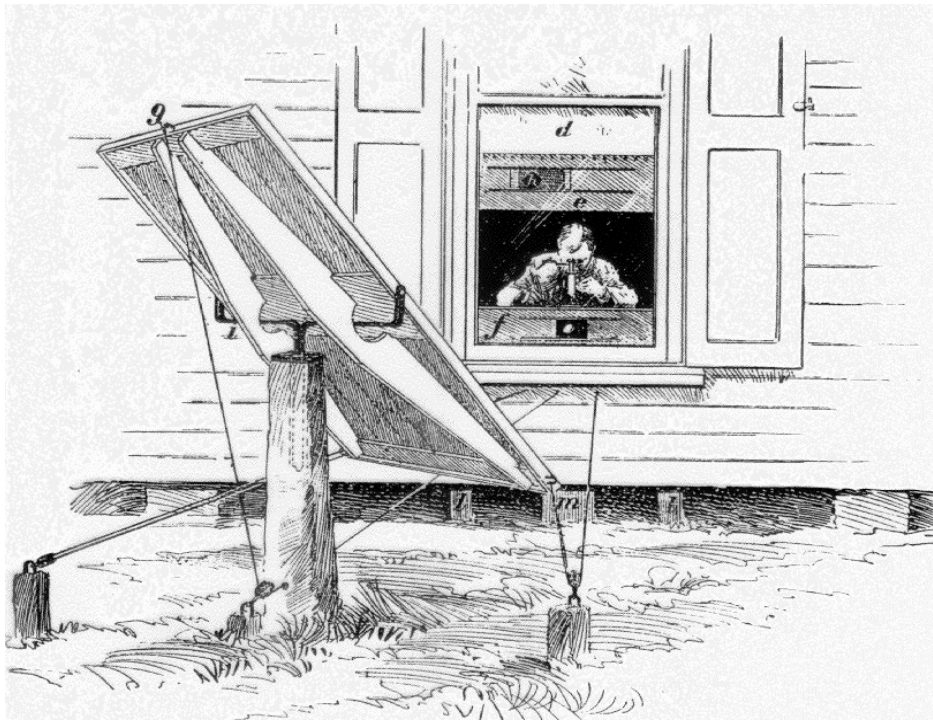
397. Cobb, N.A. (1911). Note on abundance of nemas in soil. *Science 33* : 198.

## 1912

398. Cobb, N.A. (1912). American methods of marketing wheat. in : H.V. Jackson, Bulk handling of wheat. *Department of Agriculture, New South Wales Farmer's Bulletin N° 13*. Second edition. Sydney : William Applegate Gullick, Government Printer. Pp. 17-18  
[Reprint of a letter by Cobb on request of a Royal Commission; dated 13 May 1908]
399. Cobb, N.A. (1912). *An accurate method of measuring cotton staple*. National Association of Cotton Manufacturers, Boston.  
[26pp.]
400. Cobb, N.A. (1912). Further notes on *Tricoma*. *Journal of the Washington Academy of Sciences 2* : 480-84.
401. Cobb, N.A. (1912). Memorandum of information concerning official cotton grades. *USDA, Bureau of Plant Industry*, Document No. 720. Washington : Department of Agriculture.



402. Cobb, N.A. (1912). Methods of collecting - fixation - traces of segmentation - a separate branch of science. *Science* 35 : 756.
403. Cobb, N.A. (1912). Woodiness in the Passionfruit. *Agricultural Gazette of New South Wales* 23(11) : 979-984.  
[reprint of the 1901 paper]



*Method of illuminating a window to provide an external light source for a microscope mount [180]*

404. Cobb, N.A. (1912). Woodiness in the Passionfruit. *New South Wales Department of Agriculture Miscellaneous Publication* N° 1593. Sydney : William Applegate Gullick Government Printer.  
[6pp, ill. Royal 8°]

## **1913**

405. Cobb, N.A. (1913). Citrus-root nematode. (*Tylenchulus semipenetrans*). *Journal of Agricultural Research* 2(3).  
LC Call No. : S21.A75 vol II, no. 3

406. Cobb, N.A. (1913). *Draconema* : a remarkable genus of marine free-living nematodes. *Journal of the Washington Academy of Sciences* 3 : 145-49.
407. Cobb, N.A. (1913). New nematodes genera found inhabiting fresh water and non-brackish soils. *Journal of the Washington Academy of Sciences* 3 : 432-44.
408. Cobb, N.A. (1913). New terms for the lateral organs and ventral gland. *Science NS* 37 : 498.
409. Cobb, N.A. (1913). Notes on *Mononchus* and *Tylenchulus*. *Journal Washington Academy of Science* 3(10) : 287-288 [2figs.]
410. Cobb, N.A. (1913). Notes on nematodes : “amphid”, “rennette”. *Science* 37 : 498-499.
411. Cobb, N.A. (1913). United States official cotton grades. *USDA, Bureau of Plant Industry, Circular N° 109*. Washington : Department of Agriculture.

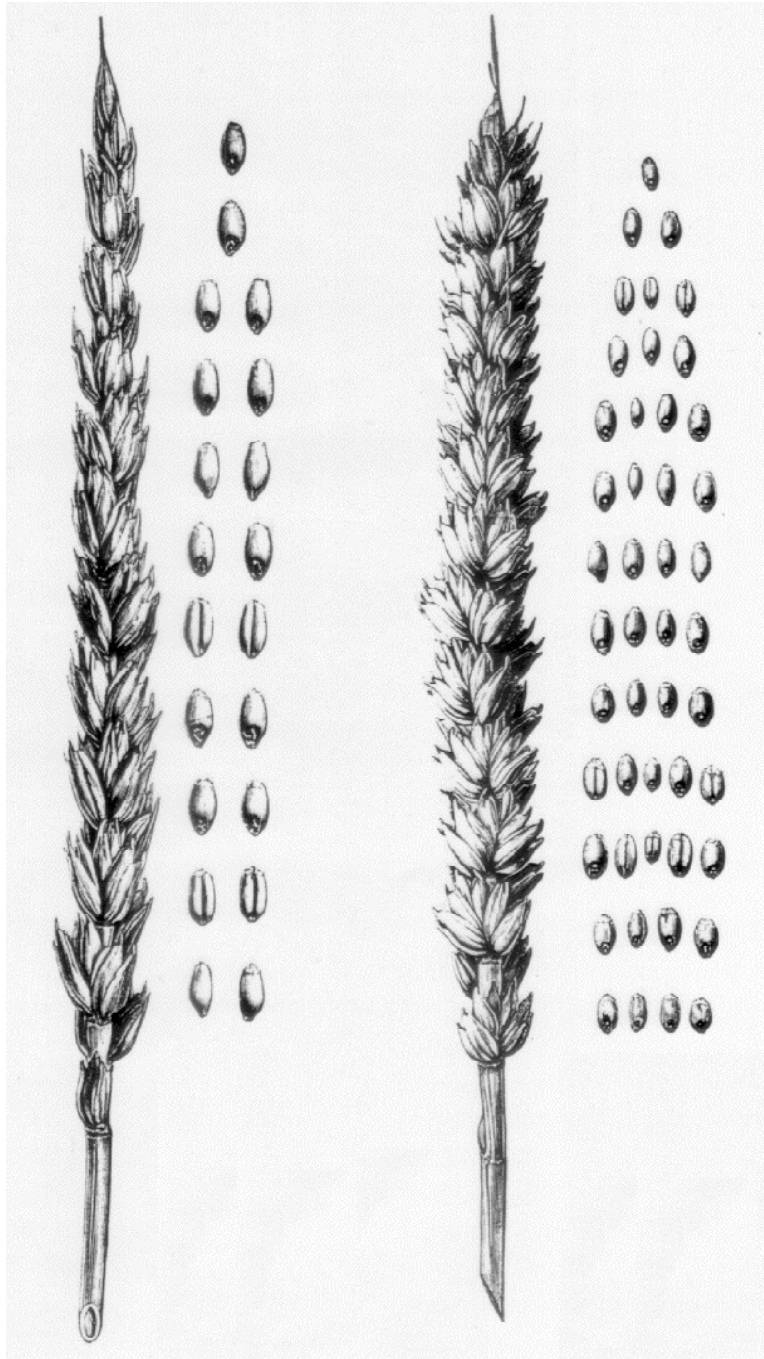
## 1914

412. Cobb, N.A. (1914). Antarctic marine free-living nematodes of the Shackleton Expedition. *Contributions to a Science of Nematology*. I. Baltimore : Williams and Wilkins Co. [33pp., illust.]
413. Cobb, N.A. (1914). Approximate measurement of textile fibres. *Science N.S.* 40(6) : 683-684 [4 figs.]
414. Cobb, N.A. (1914). Approximate measurement of textile fibres. *Scientific American* 78(21) : 333. [2pp., 4 figs.]
415. Cobb, N.A. (1914). Citrus-root nematode. *Journal of Agricultural Research* 2(3) : 217-230. [13 figs.]
416. Cobb, N.A. (1914). Nematodes and their relationships. *US Department of Agriculture. Yearbook, 1914*. Washington : Department of Agriculture. Pp. 457-490. [figs. 26-45]

417. Cobb, N.A. (1914). Note on nematodes of the Shackleton Expedition. *Journal of Parasitology* 1 : 52-53.
418. Cobb, N.A. (1914). Rhabditis. *Journal of Parasitology* 1 : 40-41.
419. Cobb, N.A. (1914). Rhabditis. *Contributions to a Science of Nematology*. Baltimore : Williams and Wilkins Co.  
[4pp., pl.]
420. Cobb, N.A. (1914). Tests of the waste, tensile strength, and bleaching qualities of the different grades of cotton as standardized by the United States Government. *US Department of Agriculture, Bulletin No. 62*. Washington : Government Printing Office.  
[8pp. incl. tables, ill. 1 fig., 23 cm]
421. Cobb, N.A. (1914). The North American free-living fresh-water nematodes. *Transactions of the American Microscopic Society* 33 : 69-134.  
[25 figs.]
422. Cobb, N.A. (1914). The North American free-living fresh-water nematodes. *Contributions to a Science of Nematology*. II. Baltimore : Williams and Wilkins Co.

## **1915**

423. Cobb, N.A. (1915). A system for locating objects on microscope slides. *Transactions of the American Microscopic Society* 34 : 189-190.
424. Cobb, N.A. (1915). Nematodes and their relationships. *US Department of Agriculture. Yearbook, 1914* Washington : Department of Agriculture. Pp. 457-490.  
[20 ill.]



*Illustration of the Talavera (left) and Defiance (right) wheat varieties with the grains arranged as extracted from the ear [323]*

425. Cobb, N.A. (1915). Nematodes and their relationships. Separate No. 652. Washington : Department of Agriculture.  
[iii+33pp; 20 ill]
426. Cobb, N.A. (1915). Note on Bunonema. *Journal of Parasitology* 1 : 200-203.
427. Cobb, N.A. (1915). Note on Rhabditin and on air swallowing. *Journal of Parasitology* 1 : 154-155.
428. Cobb, N.A. (1915). Notes on nematodes : parthenogenesis and syngonism - the spinneret. *Journal of Parasitology* 2 : 95.
429. Cobb, N.A. (1915). *Selachinema*, a new nematode genus with remarkable mandibles. *Contributions to a Science of Nematology* 4 : 113-116.
430. Cobb, N.A. (1915). The Asymmetry of the Nematode *Bunonema inequale*, n. sp. *Contributions to a Science of Nematology* III. Washington : privately published. [Baltimore : Williams & Wilkins Co.] [pp. 101-112, 2 figs.]
431. Cobb, N.A. (1915). The control of root-knot. *USDA Bulletin* N° 648. Washington : Department of Agriculture
432. Cobb, N.A. (1915). *Tylenchus similis*, the cause of a root disease of sugar cane and banana. *Journal of Agricultural Research* 4(6) : 561-68.  
[2 ill.]
433. Cobb, N.A. (1915). [Note dealing with a new species of free-living nematode...aerophagous...nitrogen-fixing]. *Journal of Parasitology* 1 : 154-155.
434. Cobb, N.A., Cobb. Margaret Vara (1915). Some fresh-water nematodes of the Douglas Lake region of Michigan, USA. *Transactions of the American Microscopic Society* 34 : 21-47.

## 1916

435. Cobb, N.A. (1916). *Diplogaster aerivora*. in : Merrill, J.H. and Ford, A.L., Life history and habits of two new nematodes parasitic on insects. *Journal of Agricultural Research* 6 : 121-124.  
[1 ill.]

436. Cobb, N.A. (1916). *Diplogaster labiata*. in : Merrill, J.H.. and Ford, A.L., Life history and habits of two new nematodes parasitic on insects. *Journal of Agricultural Research* 6 : 115-119  
[2 ill.]
437. Cobb, N.A. (1916). Masonary bases for the installation of microscopes and their accessories, including the camera lucida and the microscope camera. *Transactions of the American Microscopic Society* 35 : 7-22.
438. Cobb, N.A. (1916). Methods of Determining Length of Cotton Staple and Illustrations of their Application. A Paper read before the National Association of Cotton Manufacturers at their 99th Meeting. [Hotel Griswold, New London, Conn. Sept. 10, 1915.] [n.p.]  
[xx, 108 pp. ; ill., 39 figs.]
439. Cobb, N.A. (1916). Notes on new genera and new species of nematodes. 1. Antarctic nematodes. 2. Renette of *Cephalobus*. 3. A new form of nematode hermaphroditism. 4. Subdivisions of Mononchs. 5. Finder slides. *Journal of Parasitology* 2 : 195-196.
440. Cobb, N.A. (1916). Notes on filter-bed nematodes. 1. Predaceous nematodes. 2. Syngonism and parthenogenesis. 3. Revision of the genus *Cylindrolaimus*. *Journal of Parasitology* 2 : 198-200.  
[1 fig.]

## 1917

441. Cobb, N.A. (1917). A new parasitic nema (*Tylenchus penetrans*) found infesting cotton and potatoes. *Journal of Agricultural Research* 11(1) : 27-33.  
[5 ill.][Contribution from the Bureau of Plant Industry (G--121)]
442. Cobb, N.A. (1917). Intra-vitam color reactions. *Science* 46 : 167-169.
443. Cobb, N.A. (1917). Notes on nemas. 1. Segmentation of their organs, illustrated by three new free-living marine genera. 2. Intra-vitem color reactions. 3. The nema population of beach sand. 4. Locational terms for the cytology of descent. 5. Functions of the amphids. *Contributions to a Science of Nematology*. V. Washington : privately published. [Baltimore : Williams & Wilkins Co.]
444. Cobb, N.A. (1917). Segmentation in nematodes. *Science* 45 : 593.
445. Cobb, N.A. (1917). The mononchs (*Mononchus* Bastian (1866), a genus of free-living predatory nematodes. *Contributions to a Science*

of *Nematology*. 6 : 129-184. Washington : privately published.  
[Baltimore : Williams & Wilkins Co.]

446. Cobb, N.A. (1917). The mononchs (*Mononchus* BASTIAN 1866), a genus of free-living predatory nematodes. *Soil Science* 3 : 431-486.

## 1918

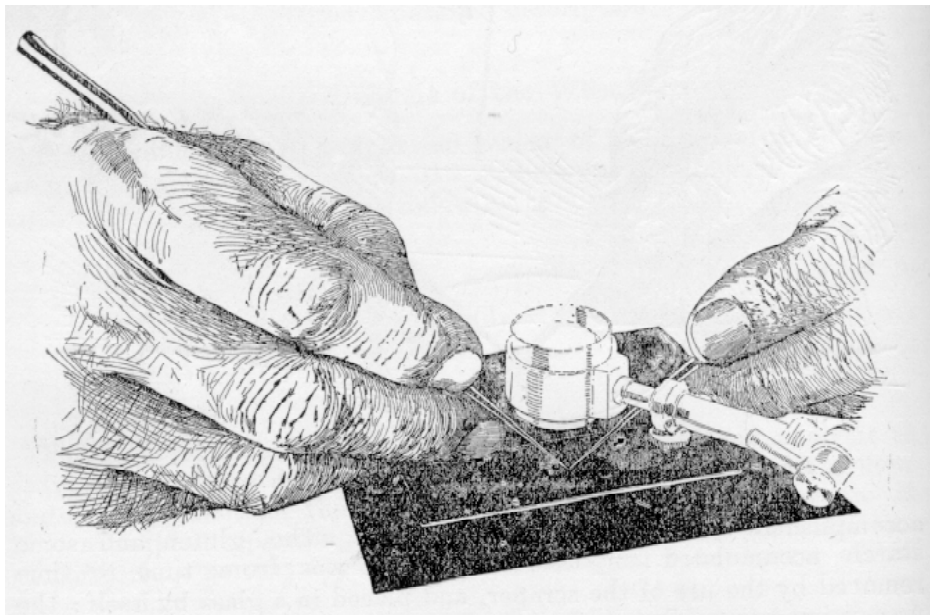
447. Cobb, N.A. (1918). Estimating the nema population of the soil, with special reference to the sugar-beet and root-gall nemas, *Heterodera schachtii* SCHMIDT and *Heteodera radicolica* (GREEF). MULLER, and with a description of *Tylencholaimus aequalis* n. sp. *USDA, Agricultural Technical Circular* 1. Washington, DC : Bureau of Plant Industry, Office of Agricultural Technology.  
[47 pp.]
448. Cobb, N.A. (1918). Free-living Nematodes. Chapter XV. In Ward, Henry Baldwin, & Whipple, George Chandler, *Fresh-water Biology*. New York: John Wiley & Sons. Pp. 459-505.  
[figs. 766-810.]
449. Cobb, N.A. (1918). Filter-bed nemas : nematodes of the slow sand filter-beds of American cities (including new genera and species). *Contributions to a Science of Nematology* 7 : 189-212. Baltimore : Williams & Wilkins Co.

## 1919

450. Cobb, N.A. (1919). A new nema *Tylenchus musciola* n. sp. said to cause a serious affection of the Bluggoe banana in Grenada British West Indies. *West Indian Bulletin* 17 : 179-182.
451. Cobb, N.A. (1919). A newly discovered nematode *Aphelenchus cocophilus* n. sp. connected with a serious disease of the coconut palm. *West Indian Bulletin* 17 : 203-210.
452. Cobb, N.A. (1919). *Tetradonema plicans* nov. gen. et spec., representing a new family, Tetradonematidae as now found parasitic in larvae of the midge-insect *Sciara coprophila* Lintner. *Journal of Parasitology* 5 : 176-185.  
[7 ill.]
453. Cobb, N.A. (1919). The orders and classes of nemas. *Contributions to a Science of Nematology*. 8 : 213-216. Baltimore : Williams & Wilkins Co.

**1920**

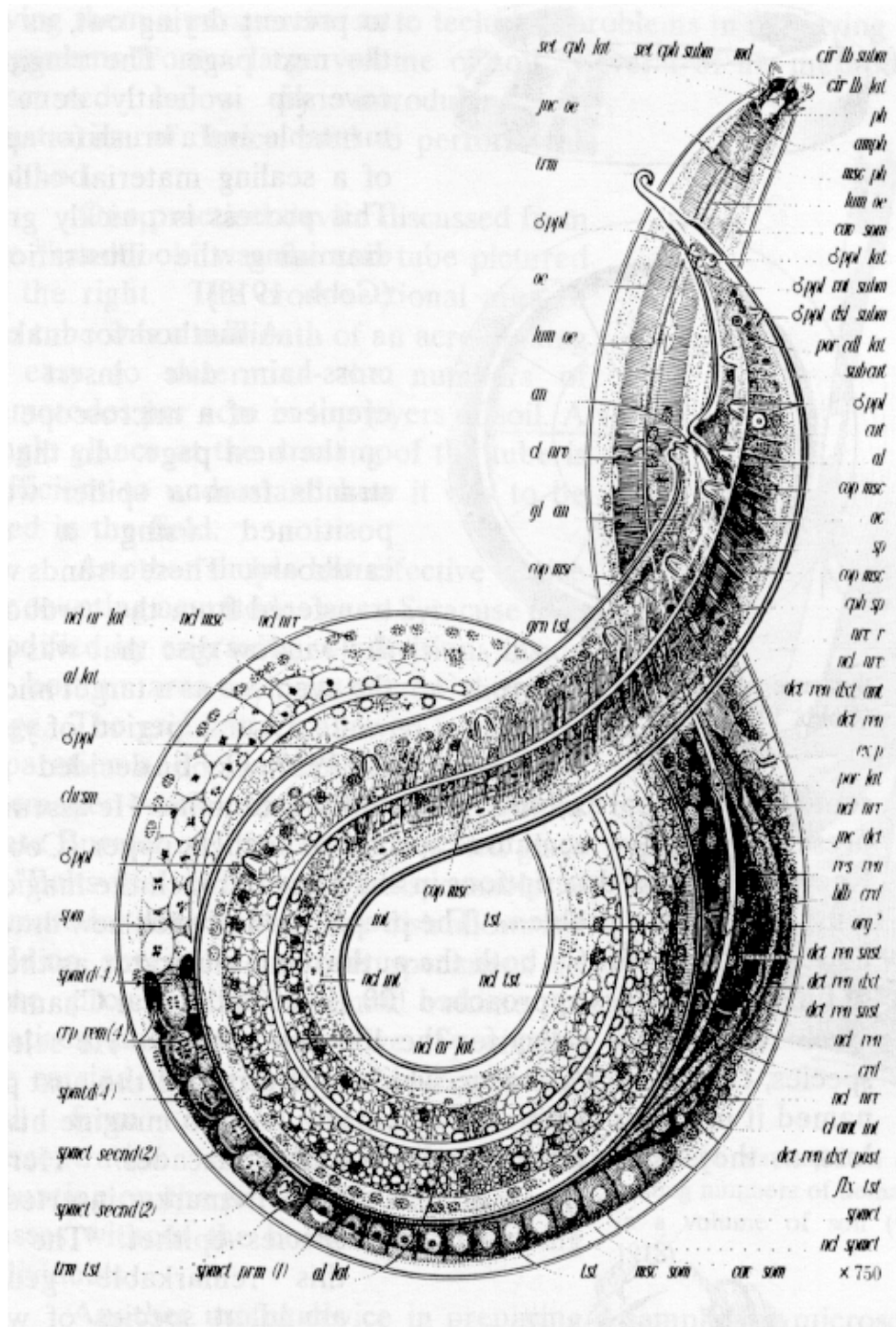
454. Cobb, N.A. (1920). A newly discovered parasitic nematode (*Tylenchus mahogani*, n. sp.). connected with a disease of the mahogany tree. *Journal of Parasitology* 6 : 188-191.
455. Cobb, N.A. (1920). An approach to textile fibre research. *Textile World Journal* 57(6) : 211, 421-422.



*Method of collecting gluten from a wheat grain [370]*

456. Cobb, N.A. (1920). Bursal formula for *Rhabditis*. *Journal of Parasitology* 7 : 198.
457. Cobb, N.A. (1920). Effects of X-rays on *Heterodera radicola*. *Journal of Parasitology* 7 : 101.
458. Cobb, N.A. (1920). Micro-technique, suggestions for methods and apparatus. *Transactions of the American Microscopic Society* 39 : 231-42.





The nematode *Chambersiella rodens*, named in honour of Cobb's friend and long-time assistant, William Chambers [459]

459. Cobb, N.A. (1920). One hundred new nemas. *Contributions to a Science of Nematology*. 9 : 215-343. Washington : privately published [Baltimore : Williams & Wilkins Co]
460. Cobb, N.A. (1920). The use of the polariscope in determining the character of cell inclusions in nemas. *Journal of Parasitology* 7 : 200.
461. Cobb, N.A. (1920). Transference of nematodes (Mononchs) from place to place for economic purposes. *Science* 51 : 640-641.

## 1921

462. Cobb, N.A. (1921). An approach to textile fibre research. Washington.
463. Cobb, N.A. (1921). *Anguillula silesiae* in beer mats - in decayed peaches. *Journal of Parasitology* 7 : 186.
464. Cobb, N.A. (1921). *Heterodera radicolica* and *Rhabditis* sp. *Journal of Parasitology* 8 : 94.
465. Cobb, N.A. (1921). *Howardula benigna*; a nematode parasite of the cucumber-beetle. *Contributions to a Science of Nematology*. 10 : 1-4. Baltimore : Williams & Wilkins Co.
466. Cobb, N.A. (1921). *Howardula benigna*; a nematode parasite of the cucumber-beetle. *Science* 54 : 667-670
467. Cobb, N.A. (1921). *Marionella* (Eurystoma Marion, (1870); an emendation with notes on a new birefringent substance, marionellin, found in the intestinal cells. *Contributions to a Science of Nematology*. 11 : 353-358. Baltimore : Williams & Wilkins Co
468. Cobb, N.A. (1921). *Marionella* (Eurystoma Marion, (1870); an emendation with notes on a new birefringent substance, marionellin, found in the intestinal cells. *Journal of the Washington Academy of Sciences* 11 : 504-509.
469. Cobb, N.A. (1921). Notes on nemas : disease of coconut palm - rhabditin - nemas of Stefansson Arctic Expedition. *Journal of Parasitology* 7 : 195.
470. Cobb, N.A. (1921). Notes on *Tylenchus penetrans* and *Tylenchus devastatrix*. *Journal of Parasitology* 7 : 95.



*Method for removing flour from different parts of single halves of wheat grains [370]*

## 1922

471. Cobb, N.A. (1922). A new species of *Nygolaimus*, an outstanding genus of the Dorylaimidae. *Journal of the Washington Academy of Sciences* 12 : 417-421.
472. Cobb, N.A. (1922). *Greeffiella* (*Trichoderma* Greeff, [1869]; not *Trichodera* Steph., [1835]). *Contributions to a Science of Nematology*. 12 : 359-362. Baltimore : Williams & Wilkins Co.
473. Cobb, N.A. (1922). *Greeffiella* (*Trichoderma* Greeff, [1869]; not *Trichodera* Steph., [1835]). *Journal of the Washington Academy of Sciences* 12 : 229-303.

474. Cobb, N.A. (1922). How certain apogeotropic nemas climb on a dry surface. *Journal of Parasitology* 9 : 37.
475. Cobb, N.A. (1922). Nemas and the introduction of plants. *Journal of Parasitology* 8 : 95.
476. Cobb, N.A. (1922). Note on coconut nema of Panama. *Journal of Parasitology* 9 : 44.
477. Cobb, N.A. (1922). Notes on the adhesion-tubes of *Draconema cephalatum*. *Journal of Parasitology* 9 : 38.
478. Cobb, N.A. (1922). The Recording Angel. (Postprandial). Quoted in: Eloise B. Cram (1956). Stepping Stones in the history of the American Society of Parasitologists. *Journal of Parasitology* 42(5) : 461-473. Poem at pp. 466-467.  
[Poem dedicated to Dr. Albert Hassall, Bureau of Animal Industry]
479. Cobb, N.A. (1922). Two tree-infesting nemas of the genus *Tylenchus*. *Annales Zoologica Aplicoda*, Chile 9 : 27-35.

## 1923

480. Cobb, N.A. (1923). An amendation of *Hoplolaimus Daday* 1905, nec auctores. *Contributions to a Science of Nematology* 13 : 363-366. Baltimore : Williams & Wilkins Co
481. Cobb, N.A. (1923). An amendation of *Hoplolaimus Daday* 1905, nec auctores. *Journal of the Washington Academy of Sciences* 13 : 211-214.
482. Cobb, N.A. (1923). Interesting features in the anatomy of nemas. *Journal of Parasitology* 9 : 242-243.
483. Cobb, N.A. (1923). Nematodes inhabiting trees. *Journal of the Washington Academy of Sciences* 13 : 111.
484. Cobb, N.A. (1923). Note on the larvae of *Necator americanus*. *Journal of Parasitology* 9 : 246.
485. Cobb, N.A. (1923). Notes on *Paratylenchus*, a genus of nemas. *Contributions to a Science of Nematology* 14 : 367-370. Baltimore : Williams & Wilkins Co.

486. Cobb, N.A. (1923). Notes on *Paratylenchus*, a genus of nemas. *Journal of the Washington Academy of Sciences* 13 : 254-257.
487. Cobb, N.A. (1923). Observations on nemas. 1. Salivary glands of the nemic genera *Tylenchus* and *Aphelenchus*. 2. The deirids ("cervical papillae") of nemas. 3. Revival of desiccated nemas. 4. Nemas strangled by fungi. *Journal of Parasitology* 9 : 236-238.
488. Cobb, N.A. (1923). The pharynx and alimentary canal of the hookworm larva - *Necator americanus*. *Journal of Agricultural Research* 25(8) : 359-361.  
[1 pl.]
489. Cobb, N.A., Steiner, G., Christie, J. R. (1923). *Agamermis decaudata* Cobb, Steiner, and Christie; a nema parasite of grasshoppers and other insects. *Journal of Agricultural Research* 23(11) : 921-926.

## 1924

490. Cobb, N.A. (1924). Amended characterization of the nemic genera *Cephalobus* and *Acrobeles*. *Journal of Parasitology* 11 : 108.
491. Cobb, N.A. (1924). Five nematode notes. 1. *Iota crotaloides* n. sp. and the amphids of the *Triplonchs*. 2. *Tylenchus dipsaci* from South Africa. 3. Minute birefringents in living cells. 4. Removing nemas from the soil by floatation. 5. *Neodiplogaster tropica* n. g. (?). n. sp. *Journal of Parasitology* 11 : 102-105.
492. Cobb, N.A. (1924). Food of rhabdites and their relatives, with descriptions of two new rhabdites and a new rhabditoid genus. *Journal of Parasitology* 11 : 116-117, 119.
493. Cobb, N.A. (1924). Four notes on nemas. 1. The amphids of *Caconema* (nom. nov.) and other nemas. 2. *Pores in the cuticula of Trichinella spiralis*. 3. A nema parasite of a nema. 4. A new illumination for high magnification. *Journal of Parasitology* 11 : 118-121.
494. Cobb, N.A. (1924). Interesting new genus of nemas inhabiting nests of tropical ants. *Journal of Parasitology* 10 : 209-210.
495. Cobb, N.A. (1924). Notes on the amphids of nemas. 1. The amphids of *Iota*. 2. The amphids of *Strongyloides*. *Journal of Parasitology* 11 : 110-111.

496. Cobb, N.A. (1924). Notes. *Journal of Parasitology* 11 : 96.
497. Cobb, N.A. (1924). Observations on nemas. 1. Nemas on commercial seed. 2. Genera *Cephalobus* and *Acrobeles*. 3. Amphids on oxyurids. 4. Specialization in the cells of the intestine. 5. Small Syracuse watchglasses. *Journal of Parasitology* 11 : 107-109.
498. Cobb, N.A. (1924). On jointed setae. *Journal of Parasitology* 10 : 217.
499. Cobb, N.A. (1924). The amphids of *Caconema* (nom. nov.) and other nemas. *Journal of Parasitology* 11 : 118-21.
500. Cobb, N.A. (1924). *The little nema a big farm problem*. United States Department of Agriculture Press Service. (Mim. copy). Washington, DC. : United States Department of Agriculture.

## 1925

501. Cobb, N.A. (1925). Biological relationships of the mathematical series 1, 2, 4, etc., with a description of a new nema, *Tylenchus cancellatus*. *Contributions to a Science of Nematology* 15 : 371-374. Baltimore : Williams & Wilkins Co

Male.

Female.

*Annotation of the mudlark's song by N.Cobb [*

502. Cobb, N.A. (1925). Comments on nemas. 1. A new mermithid infesting another nema. 2. Deceptive artificial light. 3. *Rhabditis icosiensis*, injurious in dewooling sheepskins. *Journal of Parasitology* 11 : 217-219, 220.

503. Cobb, N.A. (1925). Diseases and pests of fruits and vegetables. Nemic or nematode pests of fruits and vegetables. *Department of Agriculture Yearbook 1925*. Washington, DC : United States Department of Agriculture. Pp. 575-584.
504. Cobb, N.A. (1925). Nemic spermatogenesis. *Journal of Heredity* 16 : 357-359.
505. Cobb, N.A. (1925). Nemic spermatogenesis : with a suggested discussion of simple organisms.-Litobionts. *Contributions to a Science of Nematology* 16 : 375-387. Baltimore : Williams & Wilkins Co.
506. Cobb, N.A. (1925). Note on *Deontolaimus papillatus* de Man. *Journal of Parasitology* 11 : 225-226.
507. Cobb, N.A. (1925). Notes on nemas. 1. Repetitive lateral organs. 2. Axids and porids. 3. Differentiation of intestinal cells. 4. Structure and position of amphids. 5. Birefringents in *Sphaerolaimus*. 5. Innervation of the anterior portion of the nema body. *Journal of Parasitology* 11 : 222-223.

## 1926

508. Cobb, N.A. (1926). Nemas and recent progress in nematology research. *Yearbook Department of Agriculture 1926*. Washington, DC : United States Department of Agriculture. Pp. 540-543.
509. Cobb, N.A. (1926). Nemic diseases of narcissus. *USDA Official Records* 5 : 3. Washington, DC : United States Department of Agriculture.
510. Cobb, N.A. (1926). The species of *Mermis*, a group of very remarkable nemas infesting insects. *Journal of Parasitology* 13 : 66-72.

## 1927

511. Cobb, N.A. (1927). A larval nema infesting copepods (*Pachycyclops signatus*). in fresh and salt ponds on Southeastern Massachusetts. *Journal of Parasitology* 14 : 43-47.

512. Cobb, N.A. (1927). Note on a new nema, *Aphelenchooides retusus*, with a proposed division of *Aphelenchus* into three subgenera. *Journal of Parasitology* 13 : 57-58.
513. Cobb, N.A. (1927). Notes. 1. A nematode parasite of a copepod. 2. Esophageal glands in a *Diplogaster* from Africa. 3. Results with the use of the thermolethe. *Journal of Parasitology* 14 : 66-67.
514. Cobb, N.A. (1927). Notes. 1. A thermolethe, a device for fixing organisma. 2. Myolabia; hitherto undescribed pseudolabia. 3. Syngony in a new parasitic nema. 4. Locational terms for the cytology of descent. *Journal of Parasitology* 14 : 64-65.
515. Cobb, N.A. (1927). The Thermolethe; a device for using hot fixatives. *Transactions of the American Microscopic Society* 46 : 2.
516. Cobb, N.A. (1927). Three notes on nemas. 1. *Tylenchus penetrans* Cobb. 2. Nemic sperms of a new form. 3. *Aphelenchus parietinus* Bastian. *Journal of Parasitology* 14 : 71.
517. Cobb, N.A. (1927). *Tylenchus penetrans* probable synonym of *Tylenchus pratensis*. *Journal of Parasitology* 14 : 71.
518. Cobb, N.A., Christie, J. R. (1927). A preliminary note on the genus *Rhigonema* (Isacis Skrjabin, 1914; (?). Isacis Baylis and Daubney 1926; neo Isacis Lespes (1856). Nemas inhabiting the intestine of Myriapods. *Journal of Parasitology* 14 : 62.
519. Cobb, N.A., Steiner, Gotthold (1927). A note on the nematode genus *Aphelenchus*. *Journal of Parasitology* 14 : 68.
520. Cobb, N.A., Steiner, Gotthold, Christie, J. R. (1927). When and how does sex arise? *United States Department of Agriculture, Official Record* 6 : 6.

## 1928

521. Cobb, N.A. (1928). A new species of the nemic genus *Syringolaimus*; with a note on the fossorium of nemas. *Contributions to a Science of Nematology* 19 : 398-402. 371-374
522. Cobb, N.A. (1928). A new species of the nemic genus *Syringolaimus*; with a note on the fossorium of nemas. *Journal of the Washington Academy of Sciences* 18 : 250-253

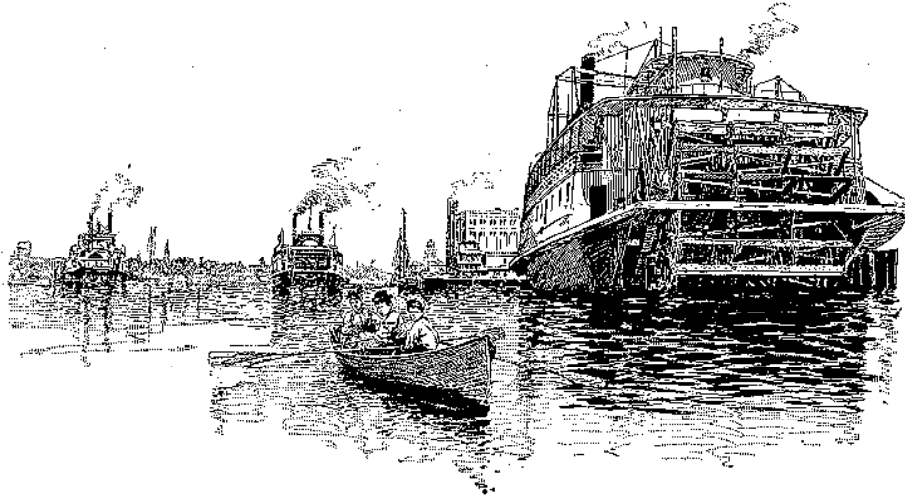


523. Cobb, N.A. (1928). A note on *Aphelenchus subtenuis*. *Journal of Parasitology* 15 : 68-69.
524. Cobb, N.A. (1928). Nemic spermatogenesis : with a suggested discussion of simple organisms.-Litobionts. *Journal of the Washington Academy of Sciences* 18 : 37-50.
525. Cobb, N.A. (1928). The screw-nemas, *Ascarophis* van Beneden, (1871; parasites of codfish, haddock and other fishes. *Contributions to a Science of Nematology* 17 : 388-393. Baltimore : Williams & Wilkins Co
526. Cobb, N.A. (1928). The screw-nemas, *Ascarophis* van Beneden, (1871; parasites of codfish, haddock and other fishes. *Journal of the Washington Academy of Sciences* 18 : 96-102.
527. Cobb, N.A. (1928). Three notes on nemas. 1. The fossores of *Syringolaimus*. 2. Nematized teasel seed. 3. The amphids of the nema *Physaloptera phrymosoma*. *Journal of Parasitology* 15 : 69-70.
528. Cobb, N.A. (1928). *Ungella secta* n. gen., n. sp.; a nemic parasite of the Burmese Oligochaete (earthworm), *Eutyphoeus rarus*. *Contributions to a Science of Nematology* 18 : 394-397. Baltimore : Williams & Wilkins Co.
529. Cobb, N.A. (1928). *Ungella secta* n. gen., n. sp.; a nemic parasite of the Burmese Oligochaete (earthworm), *Eutyphoeus rarus*. *Journal of the Washington Academy of Sciences* 18 : 197-200.
530. Cobb, N.A. [or] Steiner, Gotthold (determined by). (1928). Some specimens received. *Plant Disease Reporter* 12 : 10-11.

## 1929

531. Cobb, N.A. (1929). *Cerascaris collare* n. g., n. sp., a nemic parasite of the Caribbean fish, *Gobiomorus maculatus*. *Journal of Parasitology* 15 : 287-289.
532. Cobb, N.A. (1929). Five notes on nemas. 1. The stem-nema *Tylenchus dipsaci*, its movement in commerce, and its reaction to hydrocyanic acid gas. 2. The nemic genus *Sphaerolaimus* Bastian composed of carnivorous forms. 3. Nemas of the genus *Dorylaimus* attacking the eggs of mites. 4. Characteristics of carnivorous free-living nemas, including predators. 5. Amphids of the mackerel nema. *Journal of Parasitology* 15 : 283-285.

533. Cobb, N.A. (1929). Initial stratigraphic survey of nemas in the upper 20 mm. Of marine beach sand, near low tide mark. *Contributions to a Science of Nematology* 21 : 411-412. Baltimore : Williams & Wilkins Co.
534. Cobb, N.A. (1929). Initial stratigraphic survey of nemas in the upper 20 mm. Of marine beach sand, near low tide mark. *Journal of the Washington Academy of Sciences* 19 : 199-200.
535. Cobb, N.A. (1929). Observations on the morphology and physiology of nemas; including notes on new species. *Contributions to a Science of Nematology* 23 : 419-422. Baltimore : Williams & Wilkins Co.
536. Cobb, N.A. (1929). Observations on the morphology and physiology of nemas; including notes on new species. *Journal of the Washington Academy of Sciences* 19 : 283-286.
537. Cobb, N.A. (1929). Six notes on nemas. 1. Distribution of the stem nema in the USA. 2. Syngonism in oxyurids. 3. Stratigraphic distribution of nemas in marine sand. 4. The locomotion of *Draconema*. 5. Hotwater treatment of root gall. 6. Notes on methods of combating the stem nema, *Tylenchus dipsaci*. *Journal of Parasitology* 15 : 290-291.
538. Cobb, N.A. (1929). Spread of *Tylenchus dipsaci* in the US. *Journal of Parasitology* 15 : 220-221.
539. Cobb, N.A. (1929). The ambulatory tubes and other features of the nema *Draconema cephalatum*. *Contributions to a Science of Nematology* 22 : 413-418. Baltimore : Williams & Wilkins Co.
540. Cobb, N.A. (1929). The ambulatory tubes and other features of the nema *Draconema cephalatum*. *Journal of the Washington Academy of Sciences* 19 : 255-260.
541. Cobb, N.A. (1929). The chromatropism of *Mermis subnigrescens*, a nemtic parasite of grasshoppers. *Contributions to a Science of Nematology* 20 : 403-410.
542. Cobb, N.A. (1929). The chromatropism of *Mermis subnigrescens*, a nemtic parasite of grasshoppers. *Journal of the Washington Academy of Sciences* 19 : 159-166. Baltimore : Williams & Wilkins Co.



*Steamboat traffic on the San Joachin [266]*

543. Cobb, N.A. (1929). Three notes on nemas. 1. On conspicuous amphids in *Physaloptera turgida* from the opossum. 2. *Spiroxys amydae* n. sp. 3. *Physaloptera phrynosoma* Ortlepp, 1922 synonym of *Skrjabinoptera phrynosoma* (Ortlepp, 1922). *Journal of Parasitology* 15 : 217-218.

## 1930

544. Cobb, N.A. (1930). A nemic parasite of *Pecten*. *Journal of Parasitology* 17 : 104-105.
545. Cobb, N.A. (1930). Losses in slash pine seedlings due to nemas. *Journal of Parasitology* 17 : 52.
546. Cobb, N.A. (1930). Marine free-living nemas. : Australasian Antarctic Expedition 1911-1914 Scientific Reports Series C : *Zoology and Botany, Vol. VI Biological Reports, Part 7*. Sydney : A. J. Kent, Government Printer.  
[28pp., ill.; Royal 8°]
547. Cobb, N.A. (1930). The demanian vessels in nemas of the genus *Oncholaimus*; with notes on four new Oncholaims. *Contributions to a Science of Nematology* 24 : 423-438. Baltimore : Williams & Wilkins Co.

548. Cobb, N.A. (1930). The demanian vessels in female nemas of the genus *Oncholaimus*. *Journal of Parasitology* 16 : 159-161.
549. Cobb, N.A. (1930). The demanian vessels in nemas of the genus *Oncholaimus*; with notes on four new Oncholaims. *Journal of the Washington Academy of Sciences* 20 : 225-241.
550. Cobb, N.A. (1930). *Tylenchus alatus* n. sp. Contributions from the Department of *Tropical Medicine and the Institute of Tropical Biology and Medicine* (Cambridge: Harvard University Press) 1 : 487-489.

## 1931

551. Cobb, N.A. (1931). Some recent aspects of nematology. *Science*, N.S. 73 : 22-29.  
[Extract from presidential address, American Society of Parasitologists, meeting at Des Moines, Iowa, 1929.]
552. Cobb, N.A. (1931). *Mathematical Crystallography*. Being a Thesis presented in Partial Fulfillment of Conditions for Receiving the Degree of Bachelor of Science from the Worcester Polytechnic Institute, June, 1881. Washington : Privately published.  
[43pp., 22 figs.]
553. Cobb, N.A. (1931). The use of live nemas (*Metoncholaimus pristiurus*). in zoological courses in schools and colleges. *Science*, N.S. 74 : 489-490.
554. Cobb, N.A. (1931). The use of live nemas (*Metoncholaimus pristiurus*). in zoological courses in schools and colleges. *The Collecting Net* 6(10): 276-277.
555. Cobb, N.A. (1931). The English Word "nema". *Journal of the American Medical Association* 98 : 75.

## 1932

556. Cobb, N.A. (1932). A *Tylenchus* in lawn grass from South Africa. *Journal of Parasitology* 19 : 84.
557. Cobb, N.A. (1932). *Metoncholaimus pristiurus* (zur Strassen); a nema suitable for use in laboratory courses in zoology. *Contributions to a Science of Nematology* 25 : 439-450. Baltimore : Williams & Wilkins Co.

558. Cobb, N.A. (1932). *Metoncholaimus pristiurus* (zur Strassen); a nema suitable for use in laboratory courses in zoology. *Journal of the Washington Academy of Sciences* 22 : 345-354.
559. Cobb, N.A. (1932). Nematosis of a grass of the genus *Cynodon* caused by a new nema of the genus *Tylenchus* Bast. *Journal of the Washington Academy of Sciences* 22 : 243-245.

### *post 1932*

The following publications appeared after Cobb's death in 1932

560. Cobb, N.A. (1933). *Contributions to a science of nematology*. Baltimore : Williams & Wilkins Co.  
[4 p. l., [3]-490 p : incl. illus., plates, map, diagrs ; 25-28 1/2 cm]  
*Descriptive letterpress on versos facing most of the plates; issued in 26 parts, 1914-1935, (Bound Together) "When the volumes of 'Contributions to a science of nematology' were assembled.. the two plates of mononchs (p. 185 to 188 inclusive) could not be found. In order to make the volumes complete for binding, reproductions of these plates were made, by lithoprinting.." cf. unnumbered leaf inserted after p. 184. Most of the articles were reprinted from Journal of the Washington Academy of Sciences, Soil Science, Proceedings of the Helminthological Society of Washington and other scientific periodicals.*
561. Cobb, N.A. (1933). New nemic genera and species, with taxonomic notes. *Journal of Parasitology* 20 : 81-94.
562. Cobb, N.A. (1935). A key to the genera of free-living nemas, ed. Margaret Vara Cobb, C. Cooper. *Contributions to a Science of Nematology* 26 : 451-490. Baltimore : Williams & Wilkins Co.
563. Cobb, N.A. (1935). A key to the genera of free-living nemas, ed. M.V. Cobb, C. Cooper. *Proceedings of the Helminthological Society of Washington* 2 : 1-40.
564. Cobb, N.A., Steiner, Gotthold (1934). An annotation on the nematode genus *Pontonema* Leidy 1855. *Journal of the Washington Academy of Sciences* 24 : 56-61.
565. Cobb, N.A. (1996). Research Proposal by Nathan Cobb to form a US Nematology Laboratory, submitted to United States Department of Agriculture in 1917  
Published by Richard A. Sayre, in the *Nematology News Letter* 42(1). 1996 URL :  
[http://129.93.226.138/nematode/SON/nnl3\\_96.htm](http://129.93.226.138/nematode/SON/nnl3_96.htm)  
[1 fig.]

*Undated*

566. Cobb, N.A. (n.d.). An eelworm disease in the Pacific Northwest. United States Department of Agriculture Office of Information, Mimeographed Circular.
567. Cobb, N.A. (n.d.). Gallworm attacks Southern vegetable and flower gardens. United States Department of Agriculture Office of Information, Mimeographed Circular.
568. Cobb, N.A. (n.d.). Regarding mermithid parasites of insects. (Mimeographed paper - map on reverse side).

## USE OF COBB'S ILLUSTRATIONS

Cobb was a gifted illustrator and many of his illustrations (water colours as well as photographs), found their way into other publications. Only occasionally is the source formally acknowledged. Listed are only the Australian publications found.

### *Photographs*

569. Gluten layers in a grain **in** : Guthrie, F.B. (1901). The history of a grain of wheat. *Agricultural Gazette of New South Wales* 12(12) : 1483-1510.
570. Wheat production in Algeria **in** : Guthrie, F.B. (1901). The history of a grain of wheat. *Agricultural Gazette of New South Wales* 12(12) : 1483-1510.
571. Peach Rusts in our orchards. *Uromyces Amygdalii*. *Agricultural Gazette of New South Wales* 1 : 93-94.
572. Vegetable Pathology. Report on pumpkin mould. *Agricultural Gazette of New South Wales* 1 : 119-120.
573. Owen, W.C.M. (1897). Melanose. *Agricultural Gazette of New South Wales* 8, 610-612.  
*[illustrated by Cobb, background in : Cobb N° 238]*

## PUBLICATIONS ABOUT NATHAN COBB

This section compiles the obituaries which appeared after Nathan Cobb's death, as well as all biographies and entries in biographical dictionaries that could be found.

### *Obituaries*

574. Anderson, C. (1933). Presidential address. [Obituary Nathan Cobb] *Proceedings of the Linnean Society of New South Wales* 58 : 1-XXV.
575. Anon (1932). Funeral services held for Dr. Cobb. Scientist discovered 1,000 new kinds of plants and animals. *Evening Star* [Washington DC] 7 June 1932.
576. Christy, J.R. (1932). Obituary Nathan Augustus Cobb. *Transactions of the American Microscopical Society* 51(4) : 276-278.
577. Hall, Maurice C. (1932). Nathan Augustus Cobb [Obituary]. *Journal of Parasitology* 19(1) : 1-4.
578. Helminthological Society of Washington (1933). Resolution on his death by Helminthological Society of Washington. *Journal of Parasitology* 19 : 243-244.
579. Linton, Edwin (1932). Nathan Augustus Cobb [Obituary] *Collecting Net* 7(3), [9 July 1932], pp 64-67. Woods Hole, Mass.
580. Steiner, Gotthold (1932). Obituary Nathan Augustus Cobb. *Science* NS 76 (1957) : 8-9.

### *Biographies of Nathan Cobb*

581. Anon. (1924). Here and There : Portrait Nathan A. Cobb. *Scientific American* 130(4) : 231.
582. Blanchard, Frieda Cobb (1957). Nathan A. Cobb, botanist and zoologist, a pioneer scientist in Australia. *Asa Gray Bulletin* 3 : 205-72.



583. Buhner, Edna M. (1969). Nathan Augustus Cobb (1859-1932), a Tribute. *Journal of Nematology* 1(1) : 2-3.
584. Cram, Eloise B. (1956). Stepping Stones in the history of the American Society of Parasitologists. *Journal of Parasitology* 42(5) : 461-473.
585. Golden, A. Morgan and Ellington, D. (1997). Nathan A. Cobb's Publications. USDA Nematology Laboratory. USDA, ARS, PSI, BARC-West URL : <http://www.barc.usda.gov/psi/nem/cobb-pub.htm>
586. Huettel, R. N., Golden, A. Morgan (1991). Nathan Augustus Cobb : The father of nematology in the United States. *Annual Review of Phytopathology* 29 : 15-26.
587. Huettel, R. N., Golden, A. Morgan (1991). Nathan Augustus Cobb : The father of nematology in the United States. *Annual Review of Phytopathology* 29 : 15-26. Reproduced in html at URL <http://www.barc.usda.gov/psi/nem/cobb.htm>.
588. Hunt (n.d.). Nathan Augustus Cobb (1859-1932). Hunt Institute Biographies, Australian Academy of Sciences, Bassler Library MS 64/1. Bassler Library, Canberra, Australia.  
[Unpublished biography. Included here as it has been cited in other biographies]
589. Johns, Fred (1906) Nathan Augustus Cobb. in : *John's Notable Australians. Who they are and what they do*. Melbourne : George Robertson. P. 48.
590. King, C.J. (1981). Nathan Augustus Cobb (1859-1932). in : B.Nairn and G.Serle (eds). *Australian Dictionary of Biography*. Vol. 8 : 1891-1939 Cl-Gib. Melbourne, Melbourne University Press. Pp. 39-40.
591. Marquis-Who's Who (1968). Entry Nathan A Cobb. in. *Who was who in America. Vol. I. 1897-1942*. Chicago : Marquis Who's Who. Pp. 234-235.
592. Sayre, Richard M. (1992). What if? Considering some decisive moments in the life of N. A. Cobb. *Journal of Nematology* 24(4) : 616-617.  
[Conference Abstract]
593. Sayre, Richard M. (1993). The founding of nematology by N. A. Cobb at the Bureau of Plant Industry, Washington, D.C. *Phytopathology* 83(6) : 697.  
[Conference Abstract]

594. Sayre, Richard M. (n.d [1993]). What if? Considering some decisive moments in the life of N. A. Cobb. *Plant Sciences Institute, Nematology Laboratory, Agricultural Research Center, Beltsville, Maryland.*
595. Sayre, Richard M. (1994). *Art in Phytopathology : Portfolio of Nathan A. Cobb, Nematologist.* St. Paul, MI : APS Press.  
[140 pp., 8 col. pl., 102 ill.]  
[Publication deals in depth with Nathan Cobb's artistic side, showcasing several of his drawings and illustrations, and placing them into a biographical context]
596. Spennemann, Dirk H.R. (1997). Nathan Augustus Cobb. Father of Scientific Agricultural Research in Australia. Public talk presented at the School of Agriculture Charles Sturt University, Wagga Wagga 25 August 1997. Hypermedia presentation at [http://life.csu.edu.au/~dspennem/Papers/Cobb\\_CV/Cobb-CV.html](http://life.csu.edu.au/~dspennem/Papers/Cobb_CV/Cobb-CV.html)
597. Spennemann, Dirk H.R. (2000) Combining science with education: the beginnings of agricultural extension in 1890s New South Wales (Australia). *Rural Society* 10(2), 175-194.  
[The paper describes Cobb's role in 1890's agricultural education, particularly the NSW Department of Agriculture extension programme]
598. Steiner, Gotthold (1944). Nathan Augustus Cobb. in : H.E. Starr (ed.). *Dictionary of American Biography. Volume XI. Supplement I.* New York : Charles Scribner's Sons. Pp. 182-183.

# *Indices*

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**Nathan August Cobb**  
 (1859–1932) was instrumental  
 in developing a scientific  
 approach to agriculture in New  
 South Wales (Australia). From  
 1905 onwards he worked in  
 Hawai'i and then the USA.  
 This is the first comprehensive  
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