
INDUSTRIAL SECTION

Chemical Cotton

THE term 'chemical cotton' is used for chemically cleaned cotton, i.e., cotton from which substances other than cellulose have been completely removed. Chemical cotton is nowadays used as a basic raw material for the manufacture of a large number of articles, such as artificial silk, staple fibre, photographic films, transparent paper, plastics, gun cotton and lacquers.

The term 'chemical cotton' is likely to convey the impression that it is made from ordinary staple cotton which is generally used for manufacturing textile goods. This is not the case. In practice cotton linters, i.e., those short fibres which are left on the seed after the ginning operation has removed the longer fibres and which do not possess any worth for textile processing, form the chief raw material of the chemical cotton industry. These fibres, though short in length, possess the same high grade cellulose as the longer fibres. In addition, chemical cotton may also be manufactured from cotton waste, old rags, waste yarn and stained cotton by employing suitable processes of cleaning.

Linters were unknown till about the end of the nineteenth century, when delinting of cotton seed was undertaken in America, primarily with a view to preparing the seed for extraction of oil. Subsequently these linters were found to possess an economic value of their own, and their production increased very rapidly. To-day the annual production of linters in U.S.A. exceeds 1,000,000 bales of 500 lbs. each.

In India the production of linters was practically unknown till about 1935, when the Indian Central Cotton Committee took up the problem. It was found that a number of varieties of Indian cottons delivered, on ginning, seeds which could be delinted subsequently. About this time a few oil mills started delinting the seed to improve their oil production, but the linters obtained were not put to the best possible use. The number of delinting machines installed in oil mills and ginneries has steadily increased and we now produce a few thousand bales of linters annually. In the absence of any cellulose industry in this country, however, these linters have to depend solely on the

foreign purchaser, who is somewhat exacting in his specifications. Recently, it was reported that several hundred bales of linters were lying idle for want of purchaser, presumably due to the ungraded quality of these linters and the severe competition from U.S.A. where the industry has been highly organised in the last 15 years.

It is well known that shortly after the last Great War America was obliged to standardise linters on account of the enormous growth and the special importance of this industry. If we wish to utilise our raw materials to the best possible advantage, it is necessary that we should adopt the most up-to-date methods of producing and grading them, so that they compete with the foreign materials. In this respect the steps already taken by the U.S.A. should prove a valuable guide, and while applying them to our peculiar conditions, we should try to improve upon them wherever possible. In view of the importance of this problem, it has been undertaken by the Indian Central Cotton Committee and is at present being worked out at its Technological Laboratory.

It has been estimated that the potential supply of Indian linters which can be reached in the near future, is well over 60,000 bales. This supply can be augmented later if the demand is strong. For securing a steady market at an economical price it would be necessary to standardise this supply. Furthermore, it would be highly desirable that these linters should be cleaned chemically in this country so as to create a new industry which would supply the needs of several chemical and manufacturing industries. The necessity of producing standard types of chemical cotton is even greater than in case of raw linters, as the requirements of the former are more exacting than those of the latter. In view of these reasons an experimental plant for producing chemical cotton has recently been sanctioned by the Indian Central Cotton Committee. It is hoped that this pilot plant will not only prove a forerunner for industrial enterprise for the manufacture of chemical cotton in this country but also for the development of several industries which require chemical cotton as a base.

N. A.

Industrial News and Notes

WE wish to invite the attention of our readers to a new feature in the Science News Section, which will provide information relating to technical advances secured in the domain of chemical plant, and constructional materials, industrial machinery and equipment and con-

trol devices. In this connection we wish to acknowledge with thanks the ready and courteous co-operation extended by the various research organisations and industrial firms in Great Britain and elsewhere who have willingly placed at our disposal, information relating to their research activities and literature pertaining to their technical products.

CENTENARIES

Duncumb, John (1765-1839)

JOHN DUNCUMB, an amateur British agriculturist, was born at Shere, Surrey, in 1765. Having received his early education at Guildford, he joined the Trinity College, Cambridge, and came out B.A. in 1787 and became an M.A. in 1796. For four years from the date of his graduation, he was editor of *Hereford journal*. In 1791 he entered holy orders and held different benefices from time to time but never changed his residence from Hereford.

HIS CONTRIBUTIONS TO AGRICULTURE

Charles, the eleventh Duke of Norfolk, who had extensive estates in Herefordshire engaged Duncumb to write a detailed history of the country on payment of two guineas a week and travelling expenses to tour the country for collecting materials. Two volumes were published till 1815, when the Duke died. The book was completed by others as late as 1882. But the journey for the collection of materials made Duncumb a familiar figure in the county and gave a distinctively agricultural turn to his interests.

He became Secretary to the Herefordshire Agricultural Society from its formation in 1797. He published two books on Agriculture: *Essay on the best means of applying pasture lands, etc., to the production of grain and of recovering them to grass* (1801) and *General view of the agriculture of the county of Herefordshire* (1805). The latter received consideration by the Board of Agriculture and Internal Improvement.

Duncumb died at Hereford September 19, 1839.

Gee, Samuel Jones (1839-1911)

SAMUEL JONES GEE, a British physician, was born in London September 13, 1839. Having received his early education in a private school, he entered the University College, London, in 1857 and became M.D. in 1865. He became a fellow of the Royal College of Physicians in 1870.

HIS CAREER

He became house surgeon at the Hospital for Sick Children in Great Ormond Street, London, in 1865 and changed over to the St. Bartholomew's Hospital in 1868, where he remained in various capacities till death. He taught successively morbid anatomy, pathological anatomy and medicine. He was appointed physician to George, Prince of Wales, in 1901.

HIS CONTRIBUTIONS

Gee became one of the authorities of his time on pediatrics. He wrote nearly fifty papers, most of which appeared in the *St. Bartholomew's Hospital reports*. The earliest papers which were on chicken-pox, scarlet fever, and tubercular meningitis, appeared in Reynold's *System of medicine* (1866-68).

Gee published two books: The first *Auscultation and percussion, together with other methods of physical examination of the chest* (1870) attained the dignity of its sixth edition in 1908. It is regarded "at once the most exact and the most literary account of its subject in English". Gee's other book, *Medical lectures and aphorisms* (1902), contained fourteen essays and 272 aphorisms and it reached its third edition in 1907.

Gee delivered three endowed lectures at the Royal College of Physicians: Galstonian lectures (1871) *On the heat of the body*; Bradshaw lectures (1892) *On the signs of acute peritoneal diseases* and Lumbeian lectures (1899) *On the causes and forms of bronchitis and the nature of pulmonary emphysema and asthma*.

HIS END

Gee was librarian of the Royal Medical and Chirurgical Society from 1887 to 1899 and had a wide knowledge of books. But he was essentially a lonely man, with no hobby to bring him into familiar contact with his fellow-men. Happy in his domestic life and with his books, he preferred to remain at home when each day's work was done.

Gee died suddenly of heart failure at his daughter's house at Keswick August 3, 1911.

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