Vegetable Blacking.

The "Shoeblack Plant" is said to be the name popularly given to a species of Hibiscus growing in New South Wales, and remarkable for the showy appearance of its scarlet flowers. Growing freely in almost any kind of soil, the plant is frequently cultivated for the flowers, which, when dry, are used as a substitute for blacking. The flowers contain a large proportion of mucilaginous juice, which, when evenly applied, gives a glossy, varnish-like appearance, which is said perfectly to replace ordinary blacking, with the advantage that it is cleanly in use and can be applied in a few moments. Four or five flowers, with the anthers and pollen removed, are required for each boot, and a polishing brush may be applied afterward, if desired. A few plants of the *Hibiscus rosa sinensis* growing in the garden would remove one of the minor disadvantages of a day in the country, where the roads are dusty and Lee and Bixby are almost unknown. Chinese ladies use the juice of the flowers for dyeing their hair and eyebrows. In Java the flowers are really used for blacking shoes. The plant is a native of India, China, and other parts of Asia. It would be interesting to ascertain to what extent, if any, the Althea, or Hibiscus Syriaca, and the Swamp Rose Mallow, another member of the Hibiscus family, possess the same property.

NEW CLOTH-CUTTING MACHINE.

The enormous quantities of ready-made clothing annually produced in this country has created a demand for some more expeditious plan of cutting out garments than the usual way of cutting them by hand. Several kinds of cutting machines have been manufactured to meet this expressed want. None of these machines, however, have met satisfactorily all of the requirements of the trade, and their introduction has been effected to a limited extent only.

The machine shown in our illustration is claimed to be practically perfect in its operation, upward of two years having been spent in perfecting every detail of the machine and bringing it to the high standard which it has attained.

The machine is based on a principle radically different from any cutting machine that has heretofore been devised, and, as claimed by the inventor, the great success of the machine is due to this novel principle of action.

Instead of being laid on a solid wooden table, as usual, the layers of cloth, piled up to a height of from two to four inches, are placed upon a bed or support consisting of rows of upright wires fastened to a backing of wood, the wires being cut to a uniform length, so that their upper ends present a perfectly level surface.

The working parts of the machine are mounted on a firm base, alongside of and independent of the supporting bed, and are constructed to travel over a surface fifty or more feet in length, if desired.

The cutting instrument cuts upward instead of downward, and can be freely moved in any direction so as to follow the lines of a pattern marked on the top layer of cloth, the peculiar character of the supporting table permitting this movement without difficulty.

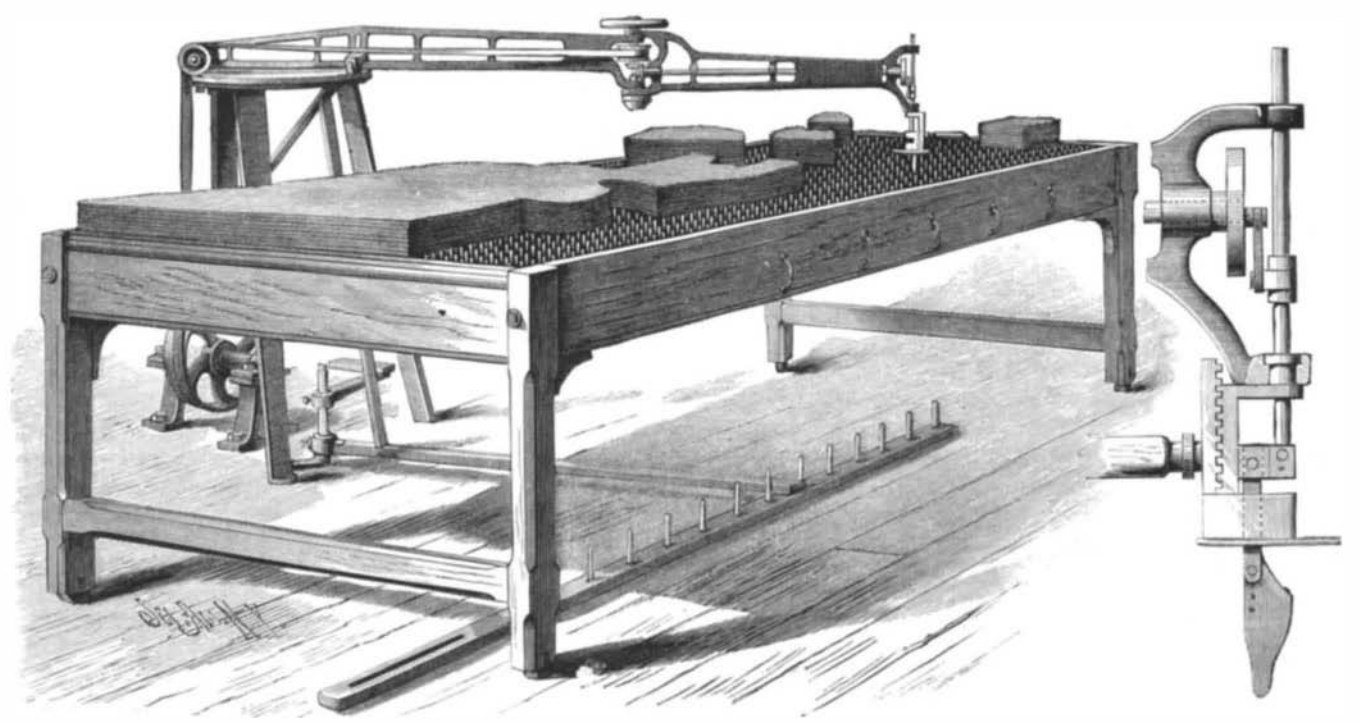
The machine has been in use in Philadelphia for some months past, and has been examined by numerous manufacturers from different parts of the country, who have been unanimous in their indorsement both of the machine and its work.

The machine now in use, driven by a two-horse power engine, works with wonderful rapidity and accuracy, the knife easily following the most intricate designsand cutting through thirty-four thicknesses of heavy cloth without apparent effort. As the cloth is not lifted from the table while being cut the arrangement of the layers is not disturbed and the cuts are perfectly uniform in each layer, and as the movable parts of the apparatus are above the cloth the manipulation of the machine is effected without that friction or drag which attends the operation of an ordinary cutting machine.

The machine has an estimated capacity of 2,500 coats per day, or a product equal to that of 25 skilled cutters.

With this machine is an attachment for accurately cutting, without previous marking, from one to two hundred strips of materials of any width at a single cut, and cuts them either on the bias or at any angle across the pile of goods. They are very convenient for seam binding and other purposes. The attachment travels on the side of the table, and is connected when in use to the pressure foot of the machine, which it causes to pass in a straight line.

The machine is the invention of Mr. W. R. Fowler, the inventor of the well-known Fowler fly fan, and is manufactured by Mr. Martin J. Myers, of 819 and 821 Market street, the owner of the patents, who may be addressed for further information.



THE AMERICAN CLOTH-CUTTING MACHINE.

THE NEW ASTRONOMER ROYAL.

Mr. William Henry Mahony Christie, who has succeeded Sir George Airy in the office of Astronomer Royal at the

PROFESSOR W. H. M. CHRISTIE, F.R.S.,
The New Astronomer Royal.

Royal Observatory, Greenwich Park, was born on October 1, 1845, at Woolwich. He is a younger son of the late Professor S. H. Christie, of the Royal Military Academy, Woolwich, and formerly Secretary to the Royal Society. Mr. W. H. M. Christie was educated at King's College School, London, and at Trinity College, Cambridge, which he entered in 1864, having won a minor scholarship of that college; he subsequently gained a foundation scholarship, and was afterward elected a fellow of Trinity College. He took his degree of B.A. in 1868, as fourth wrangler in the Mathematical Tripos, and in 1871 proceeded to the M.A. degree. In 1870, Mr. Christie was appointed chief assistant at the Royal Observatory; and he has, during the past ten years, done special good service by contriving and introducing several valuable improvements in the scientific apparatus there in use. A new form of spectroscope, an instrument for determining the colors and brightness of the stars, a recording micrometer, and a polarizing solar eyepiece, are to be mentioned as his inventions. In the recent address of the President of the British Association, at York, a passing reference was made to Mr. Christie's work in verifying the results obtained by Dr. Huggins, with regard to the motions of stars, as inferred from spectroscopic observations The new Astronomer Royal has directed particular attention, at the Royal Observatory, both to spectroscopy and to photography, as a means of recording the observations. He is a fellow of the Royal Society, and was elected Secretary of the Royal Astronomical Society last year. He contributed to the proceedings of the Royal Society, in March, 1877, a paper "on the magnifying power of the half prism, as a means of obtaining great dispersion, and on the general theory of the half prism spectroscope." To the monthly notices of the Royal Astronomical Society he has furnished these: in June, 1873, a paper on the recording micrometer; in January, 1874, on the color and brightness of stars, as measured with a new photometer; in May, 1875, on the determination of the scale in photographs of the Transit of Venus; in 1876 (January) on a new form of solar eyepiece; (May) on the displacement of lines in the spectra of stars; (November) on the effect of wear in the micrometer screws of the Greenwich Transit Circle; same year (December) on the gradation of light on the disk of Venus; in 1878 (January) on specular reflection from Venus; (June) on the existence of bright lines in the solar spectrum; in 1879 (January) on a phenomenon seen in the occultation of a star by the moon's bright limb; in 1880 (November) on the spectrum of Hartwig's comet of that year; in 1881 (January) on Mr. Stone's alterations of Bessel's refractions; (May) on the flexure of the Greenwich Transit Circle, and some further remarks on Mr. Stone's alterations of Bessel's refractions; besides various papers on the Greenwich spectroscopic and photographic observations, communicated by the late Astronomer Royal; and a paper which will be found in the Memoirs of the Royal Astronomical Society, published in January, 1880, on the systematic errors of the Greenwich North Polar distances. Mr. Christie is also the founder and editor of a journal entitled *The Observatory, a Monthly Review of Astronomy*, which has been published during the past four years; and he is author of the "Manual of Elementary Astronomy," published in 1875 by the Society for Promoting Christian Knowledge. These particulars we gather from the *Illustrated London News*, and our portrait from the London *Graphic*.

MISCELLANEOUS INVENTIONS.

An improved fastening or locking device, especially designed to endure without injury the excessive strains that trunk locks are subject to, has been patented by Mr. David W. Eggleston, of Terryville, Conn. The invention consists of a laterally swinging unjointed hasp, designed to be pivoted on the body of the trunk, having a large opening in its free end that sets over and coincides with a socketed and perforated nose or lock plate which is designed to be fixed on the trunk cover.

An improved electric lock has been patented by Messrs. William R. Manierre and Henry B. Porter, of Chicago, Ill. The object of this invention is to provide an electrical attachment for locks, which will indicate at once the surreptitious opening of the lock by other means than the key.

An improved folding leaf extension table has been patented by Mr. John Bismann, of Fairview, W. Va. It consists in the peculiar construction and arrangement of the parts, the extra leaves being folded within the table and always ready for use.

Mr. William Weiss, of New Orleans, La., has patented an improved and simple device for opening tin cans, which device can be used as a cover for the opened cans. The invention consists in a circular plate of metal provided with a flange, and with a pointed or sharp edged tooth or stud a short distance back of the edge, and projecting in the same direction as the flange, and with a handle on the opposite surface, which plate is pressed upon the head of the can, so that the stud will pass through the head, when the plate is turned by means of its handle, causing the sharp stud to make a circular cut in the head of the can.

An improved cigar maker's working board or table, which is handy and compact and can be transported very conveniently, has been patented by Mr. Bernhard Becker, of New York city.

Mr. Heinrich A. W Braune, of Memphis, Mo., has patented a cheap and efficient solar camera, which is light and portable, and may be readily taken apart or set up, as required. Any ordinary tube may be used in the instrument, and no extra tubes are required. The print being detached from the camera box, the printing may be watched and the light regulated according to the shades desired. The instrument may be readily handled and managed by one person.