

IMPROVED CLOTH-FOLDING MACHINE.

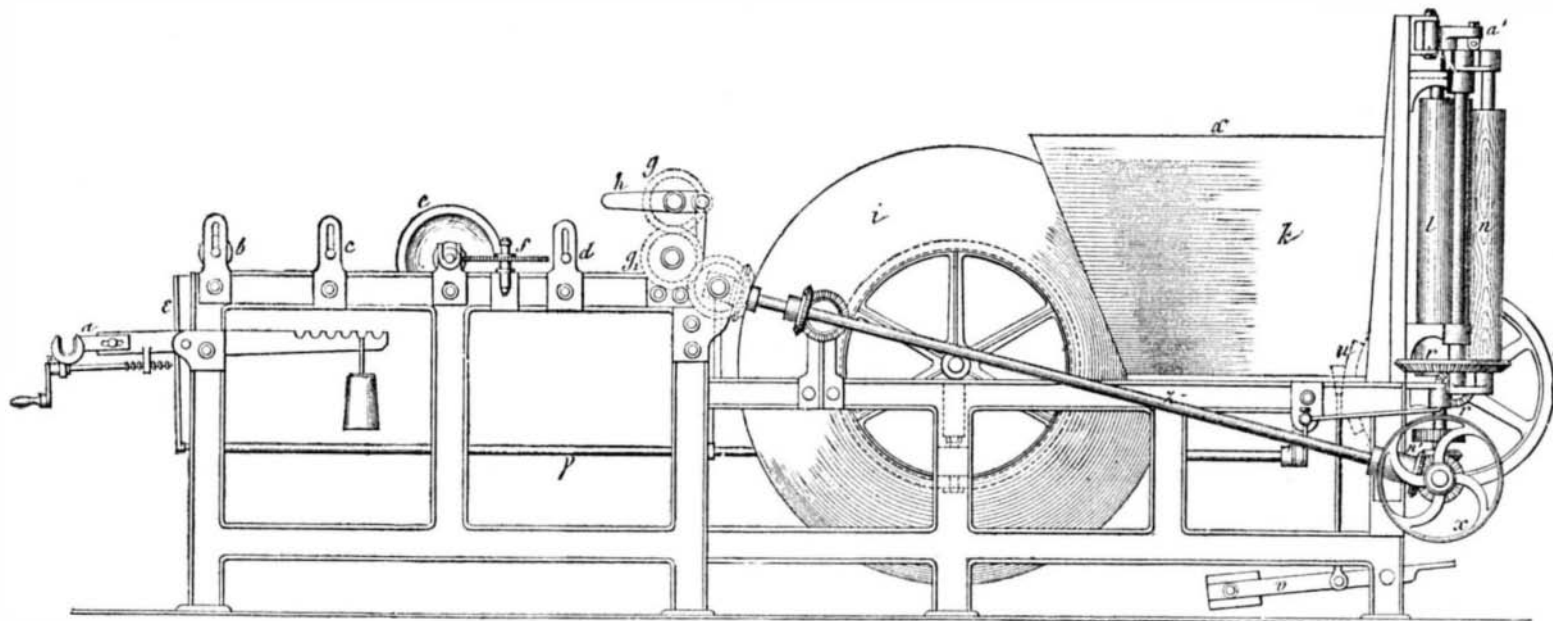
Our engravings represent a machine for folding woolen cloth and other textile fabrics longitudinally, which was recently described in the *Bulletin du Musée*. Fig. 1 shows a side elevation, and Fig. 2 an end elevation of the apparatus. The cloth to be folded is wound on a roller, the ends of the spindle of which are placed in the bearings, one of which is shown at *a*, Fig. 1. These bearings can be moved horizontally by the hand crank and screw shown in our engraving, to keep the fabric at the proper tension; and as the cloth passes from the roll and the mass becomes lighter, the weight can be moved along the notched lever to maintain the equilibrium. The fabric is kept uniform as to tension in both directions by the rollers, *b*, *c*, *d*, and *e*; and *g* and *h* are the feed rollers, which convey the cloth to the perpendicular

Easter this year, there is plenty of time yet to prepare for it. *Camellia candidissima* is one of the best for flowering at that season; and where many flowers are required, a good many plants of this sort should be grown. *Eucharis grandiflora*, if properly managed, can be had in flower at Easter, and is one of the best white flowers we have. Any plants which may be likely to flower too soon should be kept cool for some time.

Violets in frames should have all the air possible on clear days. A little every day is needful, but the plants must be covered well during the night. Plants in cellars should also get all the air possible, so that they may not be too tender for setting out of doors at the suitable season.

If a large number of *arunda donax versicolor* be required for bedding purposes, cut up the old plants into single crowns,

they will flower during the winter, and greatly enhance the appearance of the greenhouse." Throughout the towns of Scotland and England the most conspicuous ornamental-leaved plant used for window decorations is *ficus elastica*; and the admirable specimens in some instances which I saw were really very creditable to the persons who bestow the suitable care upon them. The leathery texture of the large green leaves gives to the plant a bold and very attractive appearance; and grown with a single stem, having the leaves entire to the surface of the pot, it makes a fine specimen for the window. It is propagated by cuttings and eyes, and strikes very freely if put into a brisk bottom heat. In order to secure short-jointed, well foliaged plants, be careful to retain a steady moisture at the roots. Thorough dryness will cause the bottom leaves to turn yellow and drop off. Young



CLOTH-FOLDING MACHINE.—Fig. 1.

folding wheel, *i*. The feed rollers are driven by the rotating shaft, *z*, which takes its motion immediately from the driving pulley, *x*. The wheel, *i*, is elliptical in diametrical section, with the exception that the major axis of the ellipse ends in a pointed edge, circumferential to the wheel, as shown in Fig. 2; and this edge performs the folding operation, doubling the cloth, which then passes over a perpendicular V-shaped board, *k*, which prevents sagging; and then the doubled cloth is compressed between *l* and *m*, which flatten the crease made by *i* and *k*, and is finally wound on the wooden roller, *n*, on which it is carried from the machine.

The construction and working of the apparatus is clearly and fully shown in the engraving, and the design and arrangement seem well adapted for doing the work efficiently.

Currents in the Living Eyeball.

The existence of a continuous, though sluggish, current in the eye, flowing from behind forwards, has been demonstrated by Dr. Max Knies. The following was the method of investigation pursued: A minute quantity of a solution of potassic ferrocyanide was introduced into the posterior part of the vitreous humor. After the lapse of from one to four hours the animal was decapitated, and the eyeball soaked in a solution of ferric chloride; it was then hardened in alcohol, and subjected to microscopic examination. The distribution of the precipitate of Prussian blue furnished evidence of the displacement of the particles of ferrocyanide during life, and betrayed the paths along which it had traveled. The current mentioned above was found to exist in the interior of the lens as well as in the vitreous, the fluid required to nourish the former percolating through the latter, and thus following the same course as the blood in the hyaloid artery of the fetus. The aqueous humor consists partly of a transudation from the ciliary body, partly of liquid which has made its way through the lens and vitreous. It serves to nourish the cornea. The nutrient fluid, whether in the vitreous, in the lens, or in the cornea, is conveyed along the intercellular substance; and the author is inclined to extend this proposition to all the tissues of the body, regarding the interstitial substance everywhere as the channel along which the nutrient juices are conveyed to the corpuscular elements of parenchyma or connective tissue.

The Greenhouse.

The following hints, suitable for the season, are furnished by a correspondent to the *Albany Cultivator*: If any seedlings which were sown a few weeks ago are large enough to transplant, it should be done before they get too large. At this season, unless the work is kept steadily along, and everything attended to at its proper time, some kinds of plants soon get into a condition, by growing too fast, that makes them unfit for potting or transplanting. If possible, transplant seedlings whenever the first characteristic leaves are formed, and cuttings should be potted as soon as they emit the first roots.

Plants of *callas*, *lilium longiflorum* and *candidum*, *camellia*, lily of the valley, etc., intended for Easter, should be kept free of insects, and brought into heat in time to produce their flowers at the proper season. The 16th of April being

and pot singly into small pots, placing them where they can get a little heat. Plants of this required for vases should be strong plants before being planted out. This an admirable plant for this purpose; in fact it should be grown in large quantities for all forms of outdoor decoration. Look after insects of all kinds, and do not by any means allow them to get ahead. "I often direct the attention of growers of plants to this particular, as upon it depends more success than many of even our best horticulturists apparently think. Thoroughly eradicate insects, and fewer sickly plants will appear in our collections of plants."

Vallota purpurea an old-fashioned lily—generally called the Scarborough lily—is one of the finest of evergreen bulbs

plants are the best for most purposes, although good bushy plants can be secured by cutting the plant back to within a few eyes of the pot, and allowing several shoots to grow. Occasional spongings of the leaves are very beneficial to their welfare.

Limits of Microscopical Observation.

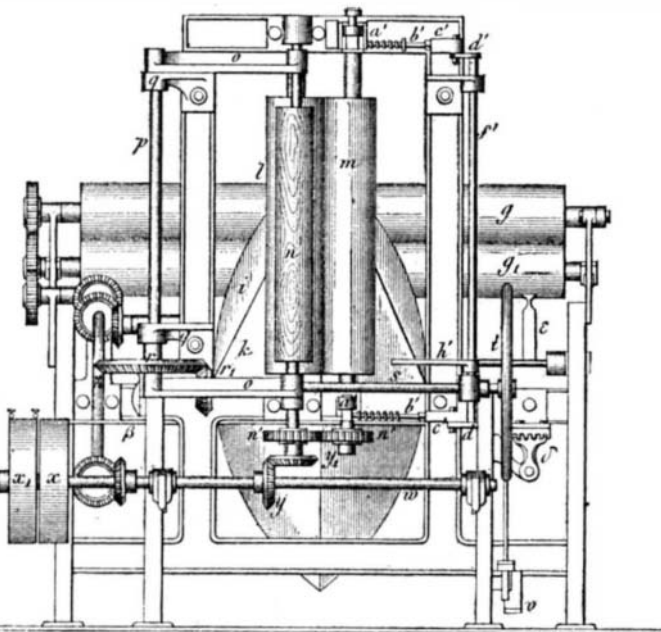
The annual address delivered on February 2, to the Royal Microscopical Society, by the President, H. C. Sorby, Esq., F.R.S., was the probable limit of microscopical observation, considered in reference to the physical constitution of matter. The author omitted for the purpose of this inquiry the limitation imposed by the residual imperfections of the instruments after the best corrections have been made. Supposing the instruments perfect, light itself was, when compared with the utmost molecules of matter, too coarse a mean to enable us to see them. Referring to the researches of Helmholtz and other physicists, and comparing them with the practical results of microscopists, it appeared that the microscope enables us to obtain distinct vision of objects, such as lines 1/80000' apart, and that with photography and blue light such objects could be depicted when 1/112000' apart. Comparing these quantities with the millions of millions of molecules of albumen and other substances probably existing in a cubic 1/1000', it was shown how far microscopical investigation would be from revealing molecular structure; and as a rough illustration, the highest powers were as much behind the mark as the human eye if it attempts to read a newspaper a quarter of a mile distant. After a variety of illustrations, Mr. Sorby took up the question of Darwin's pangenesis from a microscopical point of view, and showed that, notwithstanding the minuteness of spermatozoa and the essential germinating parts of ova, there was room in them for millions upon millions of the complex molecules the theory required. A sphere of albumen 1/1000' in diameter probably contained 530 millions of millions of such molecules.—*Academy*.

Gas Lighting in New York City.

Fifty-one years ago the gas was first lighted in the house of Samuel Leggett, the then president of the New York Gas Light Company, at No. 7 Cherry street, now Franklin square. In honor of that event the company, on February 28, 1876, reduced the price of gas from \$2.75 to \$2.50 per 1,000 feet, which is the lowest price at which gas has ever been sold on this island. During all these years the fire that was lighted when the company started has never been allowed to expire; and when in 1874 the works were removed from Canal and Center streets, the burning coals were transported to the present location at 21st street, East river.

Treatment of Burns.

In the treatment of burns in the Charity Hospital, New York, when of a superficial character, a preparation consisting of two parts of collodion and one of olive oil has been found to be very efficacious. When the burn is of an extensive character, gasoline proves of decided benefit. The advantage of gasoline is that it is of the right consistence, and does not become rancid.



CLOTH FOLDING MACHINE.—Fig. 2.

for flowering either in the greenhouse or parlor window. It does not require much heat, and can be easily induced to grow under very adverse circumstances, flowering for years in the same pot. Being an evergreen, it should not be dried off during its season of rest. When growing, give abundance of water; and if in the same pot for several years, an occasional watering with liquid manure will benefit it. It sends up its flower spikes from the crown of the bulb during summer and autumn, on the top of which are produced umbels of showy flowers. It is propagated from offsets which are freely produced at the base of the old bulbs.

"*Echeverria retusa floribunda* is a fine flowering plant. In Covent Garden market I observed large quantities of this plant for sale, grown mostly in six inch pots. It is very useful for the winter decoration of the greenhouse and sitting room, and is much used for this purpose around London. The flowers, which individually are very insignificant, have a very attractive appearance upon the spikes, and last for a long time in perfection if kept in a rather dry atmosphere. It is easily propagated by cuttings of the flower spikes and by seeds. If the cuttings are struck now, and grown on until June, then planted out during the summer months, and then lifted in the fall and potted in a rather sandy soil,