

New Inventions.

New Kind of Cotton Bagging.

The Southern Whig says, "We understand that Col. Mosery, a native of this State, and for many years a resident of Wilkes county, but now an enterprising citizen of Mississippi, has discovered a process by which a very superior article of Cotton Bagging can be made of the long moss so abundant throughout the Southern States. We learn that he is about securing a patent for his discovery, and that he has just returned from the North, where he has purchased machinery for a Bagging Factory which he is about to establish at or near Jackson, Mississippi. If this experiment should succeed as well as the discoverer of the new process anticipates, it will probably effect a revolution in the manufacture of this article, which enters so largely into the annual consumption of the planters of the South—as doubtless bagging manufactured of this material can be furnished much lower, while it is said to be far superior to any now in use."

Improvement in Pitchforks.

Mr. Alinor Clark of Southfield, Richmond Co., Staten Island, has invented an improvement on pitchforks which is well worthy of patronage and for which he has taken measures to secure a patent. The improvement consists in the manner by which he can transform the fork from one of two prongs, to three prongs, so as to make it more suitable for forking and pitching, both long and short hay, &c., as may be desired. The transforming of the prongs can be performed in a second and either as a two or three prongs, are retained firmly in their places. We like to see improvements in agricultural implements—agriculture is the right hand of our national prosperity.

New Pumping Apparatus.

We see it stated in some of our exchanges that Mr. W. G. Johnson of St. Georges, Delaware, has made some valuable improvements in apparatus for pumping water and has in operation an engine with a cylinder four inches in diameter, and twelve inches stroke, with which he is working eight pumps, each fifteen and a half inches in diameter of bore, and twelve inches of stroke, making sixty-four strokes per minute, and discharging the water nineteen feet high.

Wilson's Stone Cutting Machine.

In our article on Wilson's Stone Cutting Machine, last week, Messrs. Shelton & Flagg were mentioned as the proprietors of the patent. This was an error; Messrs. Shelton, Flagg & Andrews, of No. 12 Wall street, Counsellors and Attorneys, are the Attorneys for the proprietors, and are their agents in this city. There was also an error in the name of the firm owning the machines now at work in New York—the true name is Sherman & Houdayer.

New Iron Bridge at Washington.

Mr. Rider of this city has put up one of his iron Bridges over the Creek, at Washington. It has a span of 110 feet; it has two carriage ways and two foot paths, and presents a very graceful appearance. It was tested as to capacity, last week, by Mr. Rider in presence of President Taylor, Mr. Ewing of the Home Department and the Mayors and Councils of Washington and Georgetown.

New Carriage Step for Stages.

Some of our omnibuses have got up a new carriage step, which is thrust out when the door opens, and springs in when the door closes. This is done by the driver pressing with his foot upon a spring. This step will prevent the boys from riding for nothing. We called attention to a step of this kind in volume 4, and are glad to see its introduction.

Silk Manufactory in Massachusetts.

M. Vogel, a Swiss gentleman and the inventor of the heddle machine, is about to start a silk factory near Chelsea, Mass., to make ribbons, vestings and all kinds of figured silk work.

Alum and Muriate of Soda are found in considerable quantities in Columbia and Lincoln counties, Georgia. The muriate of soda is salt.

SCHIELS' ANTI-FRICTION CURVE.--Continued from Page 1.

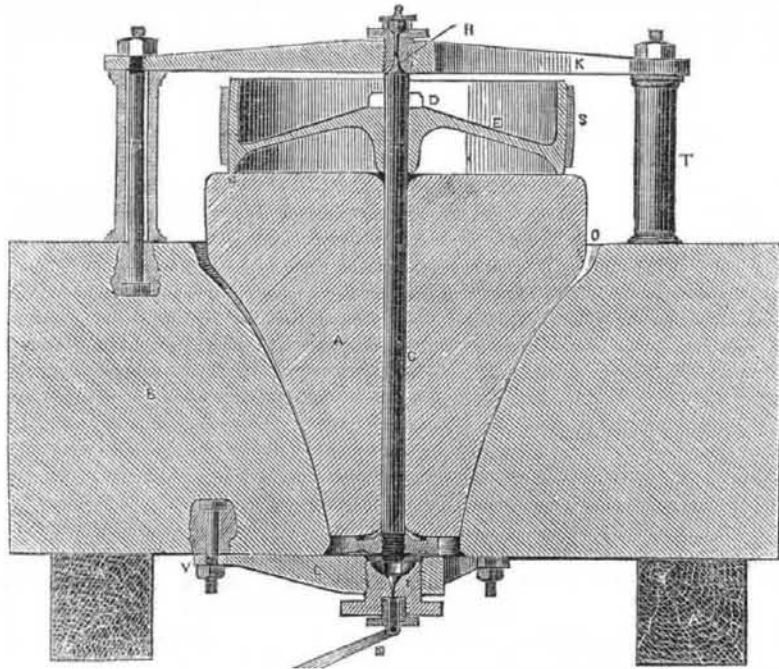
Having presented on the front page, fig. 4, a section of a regulator of a locomotive engine, it will be understood that the same curve is applicable to all revolving valves, (perhaps substitutes for slide valves,) revolving joints in pipes, spindles of lathes, railway turn-tables, footsteps of upright shafts, and numerous other applications, which will strike the mind of the mechanic at once. The friction of this curve in its bearing, is at a minimum, and may be expressed as follows:— $\frac{8GLNP}{C(D^2-d^2)}$

where P is equal to the whole pressure, the rubbing surfaces have to bear in the direction

of their axis; D the diameter of the larger part; d the diameter of the smaller part; L length of generating curve; G the distance of the centre of gravity of the curve from the axis; C the co-efficients of friction, and N the number of revolutions. The curve is one of great grace, reminding us of Hogarth's "bounding line of beauty," and is most accurately drawn by the apparatus, fig. 1, which is constructed by Mr. Schiele.

Figure 5 is an ingenious application of this principle to the grinding surfaces of MILL STONES, being a vertical section, and shows beautifully how the gradual variation of the

Figure 5.



curvature in relation to the increasing distance of the parts from the centre of motion, equalizes the rubbing pressure in the most perfect manner. The lower step at I is supposed to bear about equal pressure from the side and from below, in the direction of its axis and the inclination of its thicker part is at B, fig. 1. For the construction of the rubbing surfaces of mill stones, it is taken at an inclination of about 45°, as at B, fig. 1, for the larger diameter; this being considered sufficient for the grain to slide down. The application of the curve is also shown in fig. 5, to footsteps. A is the upper or inner running mill stone; B is the lower or side stationary one; C is the spindle secured to the stone by a nut, D. E is the pulley. The pivots run in bearings, H I, which can be raised by securing them in the frame, K L. These frames are fastened to the larger stone by nuts, T V, screwing on bolts, U. An

oil cup is in communication with the lower step, to lubricate it. The oil gathers in the step at I, and runs off in the small conduit, N. O is a canal round the stone, B, for receiving the grain. The space between the rubbing surfaces adjoining the canal opens sufficiently to receive the grain, which gradually descends until it is ground, when it passes off by a spout below, (not attached.) S is the band; a a are sills to support the apparatus.

To afford a comparative test of the effect produced by the new curve, in relation to that of ordinary rubbing surfaces, the inventor formed a variety of frictional contours of equal diameters from the same cast of iron, carefully annealed, and compared each of them separately, under different pressures, in the direction of their axes, with the proposed curve.

Fig. 6, of our engravings, represents a sectional view of the different forms tested; and fig. 7 exhibits the same after wear.

Figure 6.

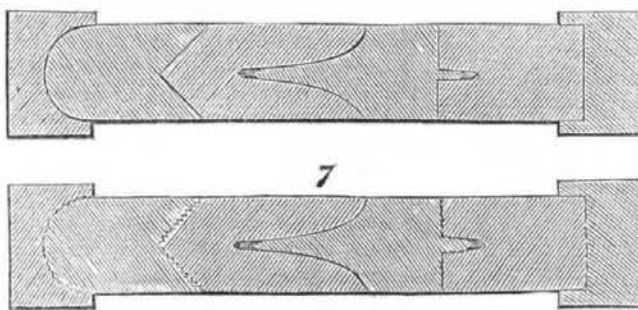
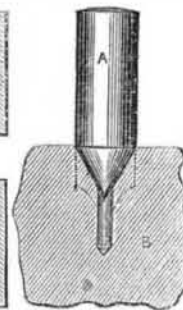


Figure 8.



In some instances, the old forms evidenced a less amount of friction than the new one, but this was for a limited period only at the commencement, as very quickly the destructive wear, increasing towards the centre, caused so much friction that the parts adhered firmly together.

The conformity of this principle with the workings of nature is a circumstance arguing most favourably for the application of the new system; and the following experiment, which any one may easily try, affords the evidence required by the practical man.

Take two pieces of chalk, A and B, fig. 8, A is cylindrical and conically tapered on one end, which is made to fit nicely into B. The

centre of the hole in B must be drilled out, and the two pieces rubbed against each other, the rubbing surfaces being cleared occasionally with a soft brush, removing any particles of sand which may scratch one or other of the surfaces. After continuing the movement for a short time, the inclination to the anti-friction curve gradually appears, and the longer the rubbing is continued, the nearer do the surfaces approximate to the contour referred to.—The dotted lines in fig. 8 illustrate what is meant. Mr. Schiele has exhibited the apparatus he has employed, together with the results obtained, to any one who may wish to pass his own judgement upon the idea, as reduced to practice.

Mr. P. R. Mehlgarten, in the employ of the Lowell Machine Shop, Lowell, Mass., is agent for the United States and is enabled to fill all orders through the company and to attend to any communication, post paid, upon business connected with his agency.

Manufactures from the Coconut.

"The cocoa manufactures are remarkable for simplicity of the process resorted to, and for the usefulness of the articles produced, in many instances, from materials formerly thrown away as useless. The cocoa nut as it comes from the tree consists—first, of the outer husk, composed of fibres matted and adhering together; secondly, the shell; and, thirdly, the kernel. The manufacturers up to the present time employed only the outer husk and kernel. The natives of India have long used the fibres obtained by rotting the outer husk till the fibres can be separated by beating the husks.—The fibres are spun into yarn by the native girls and women, by rubbing such fibres between the palm of the hand and the surface of the leg; and in this manner is made the large quantity of Coir yarn brought into that country and used for weaving cloths for covering passages and rooms, and also matting for various uses. Notwithstanding this rude mode of spinning the fibres up to the present time no better means have yet been introduced; and the whole of the yarn employed in England is imported. This, however, may be accounted for by reason of there having been no practical mode of obtaining the fibre in Britain from the husks till very lately. Now, however, that ready means of obtaining the fibres from the husks are known, it is reasonable to expect some better means of spinning will be invented. The husks are beaten to obtain the fibre, which consists of three descriptions:—first, a light elastic fibre suitable for stuffing furniture; secondly, a coarser fibre used for making mats; and thirdly, a strong fibre used for brushes and brooms. The husks are soaked for some time, then subjected to the pressure of grooved rollers, and then by successive processes of carding by revolving cylinders armed with bent teeth, the fibres are combed out, the separate descriptions of fibres being deposited in different receivers. The uses of these fibres are for making of brushes, brooms, mats, and mattresses. The kernels are dried in the sun, then pounded in mills to extract the oil; but in more modern times the dried kernel has been pressed between mats in powerful presses.—The oil for the most part is sent to England, and was formerly largely employed in the manufacturing of candles. The oil being, when it comes to London, of about the consistency of lard, requires pressing to separate the stearine from the oleine, and this is done between mats of cocoa nut fibre pressed in powerful presses. The stearine was used for candles at first alone, then in combination with stearic acid of tallow, producing what are called composite candles; and it was the introduction of stearine of cocoa nut, combined with steric acid, which constituted the first step to the great improvement which has taken place in the manufacture of candles. The larger quantities of cocoa nut oil, however, are now exported to France to make soap,—the use of such oil in candle making being now for the most part substituted by palm oil. It has lately been proposed, in Ceylon, to employ the juice of the cocoa nut tree for the making of sugar; it being considered that each tree is capable of producing upwards of one hundred weight per annum, and that an acre of cocoa nut trees, requiring little cultivation, will produce at least twice as much sugar as an acre of sugar cane requiring much more cultivation.

The Austrian government has notified that it will pay 20,000 ducats to the person who will construct and deliver the best locomotive for the railway which passes by the Summering, the mountain which separates Styria and the Archduchy of Austria.

Among the passengers by the Avon steamer, from the West Indies, lately, was a negro physician, who visits England to submit to the government a plan, founded on scientific experiments, to supersede steam as a propelling power, but which will end in —.