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Raising Weights under Water by Gas.

Dr. Gianetti, a Corsican savant at Paris, recently performed an experiment in the Seine designed to show the possibility of raising a heavy body from the water by means of the expansive force of carbonic acid generated by chemical means in a suitable vessel. The apparatus consisted of a small leather bag or balloon, attached to which was a smaller metallic vessel, having two compartments connected by a valve which could be pulled open by a string: one of the compartments was charged with bicarbonate of soda, the other with muriatic acid. The vessel being attached to the body to be raised, the string was pulled, the gas being liberated, inflated the balloon, and in this way the body was soon elevated to the surface. In Mr. Gianetti's experiment it was found that a balloon of a foot and a half in diameter was sufficient to raise a weight of one hundred kilogrammes (2 cwt.) from the bottom of the Seine.—Ex.

[A cheaper and more convenient way to elevate heavy bodies under water, would be a block and tackle, and the use of a windlass.—When a body has to be lifted from under water it has first to be found, and when this is done it is surely more easy to clamp it with a pair of tongs, or a hook, and pull away on the lever of a windlass, than to have a bag filled with marble dust, or the carbonate of soda, which has to be tied to the weight to be elevated and the gas then set free by an acid. Oh, simplicity in invention; how often are thy claims overlooked.

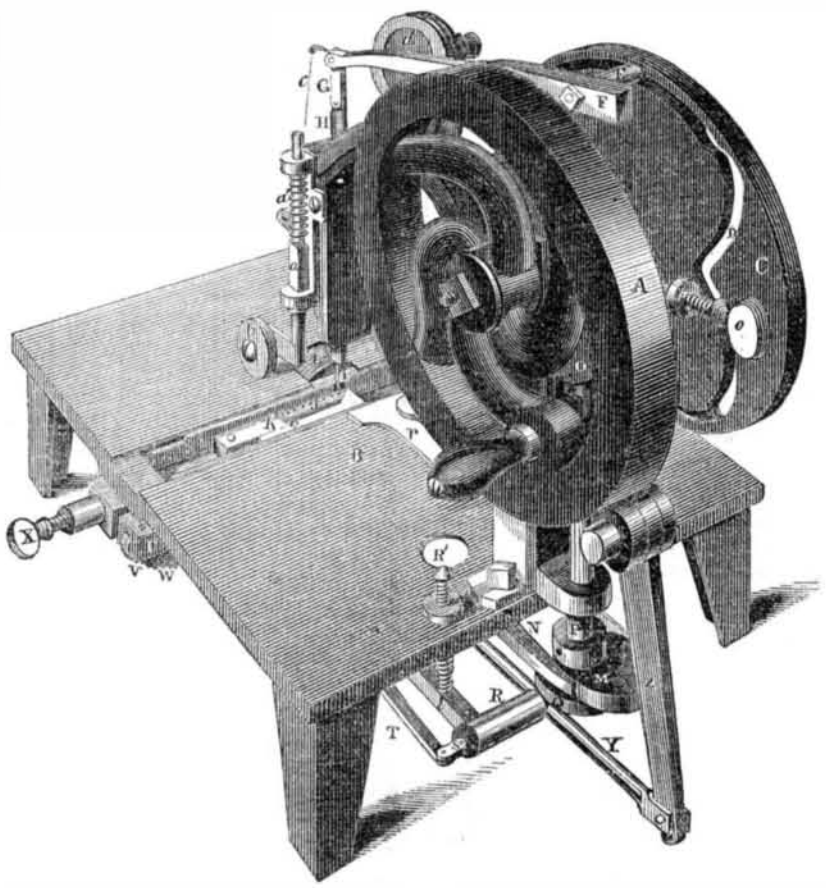
A New Article of Trade in China.

The "Washington Star" says that a distinguished naturalist (Prof. Agassiz, we believe) has directed the attention of our government to a new source of national wealth—as an article of trade—on our southern coasts, in the sea slug. This article, an unseemly jelly-looking substance, of a dirty brown color, hard, rigid, and scarcely possessing any power of locomotion or appearance of animation, and varying in size from, say six inches in length and two or three in girth, to two feet long and six or eight inches girth, may always be found in very large quantities strewed on the shore, between high and low water marks, on our southern coasts.

The Chinese use it as we do Iceland moss and isinglass. It is taken to them in immense quantities from the tropical shores of Asia and Australia, annually. It is caught by hand in shallow water, and usually speared in deeper water; and, after being dried in the sun, it is smoked over a wood fire, when it is ready for shipment. Macassar is at present the principal point from whence it is shipped to China. At that point, from which some eight or nine hundred thousand weight are now annually sent to China, its value varies from $8 to $110 per picul (of 133 1-4 lbs.,) according to quality; there being some thirty different qualities of the article, which are only to be distinguished by experts in the trade. The western shores of New Guinea, the southern shores of Australia to Ceylon, and latterly, the shores of the Mauritus, supply large quantities of it.

By the latest news from Europe, the Turkish question was still unsettled. What a tempest in a tea-pot.

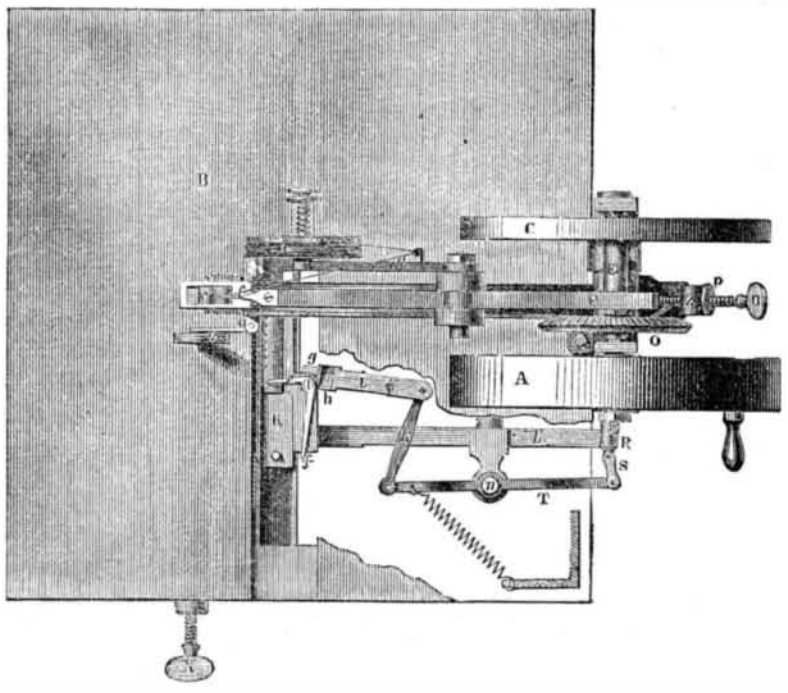
MILLER'S SEWING MACHINE.---Fig. 1.



Among the many sewing machines which have been illustrated in our columns, the annexed engravings represent a new one, for which a patent was granted to Charles Miller, of the city of St. Louis, Mo., on the 20th of July last year. Figure 1 is a perspective view, and figure 2 is a plan view, with part of the top broken off to render the operation more clear. The same letters refer to like parts.

This sewing machine, like others, forms its stitches by the interlocking of two threads, one of which is passed through the cloth in the form of a loop, and the other is carried by a shuttle below the cloth through the loop. The improvement consists of an improved stop motion to prevent the movement of the cloth if the thread should break or catch in the seam; also, a means of making a stitch like the "back stitch," in hand sewing. B is a table which carries the machinery; A is the fly wheel on the shaft for driving the machine; C is a plate wheel on the same shaft as the fly wheel; it has a cam groove, D, in it; F is the needle arm, it is secured on an axis near the middle, which allows it to vibrate like a walking beam; E is a pin in arm, F, which is inserted into the cam

Figure 2.



groove, D, so that when the wheel, C, revolves, it gives a vibratory motion to F; G is the connecting rod of the needle stock, H; I is the needle which has its eye near the point; *d* is the thread spool for supplying the needle; *c* is the thread; *a* is a rod with a spring, *a'*, around it, and a small roller, *b*, on its foot, this is for holding the cloth to be sewed, on the table, as it is fed forward to the needle by a rotating groove-faced roller, L, under the cloth. The feed motion is given by the bevel pinion, O, which gears into a small pinion on the head of the short vertical shaft, P. This short shaft has two small cam plates, M A, on it; the one, M, works between the forks of an arm, N, which drives the shuttle bolt, K, and the shuttle J, in its raceway, back and forth, because the cam, M, is an eccentric, and gives the arm, N, a reciprocating motion. R is a small cylinder; in it works a pin with the rod at one end; the other end presses against the lower edge of the cam, Q, so that, as the shaft, P, revolves, it gives a vibratory motion to the bar, *l*, which moves a ratchet in the shoulder, U, that takes into the ratchet wheel, W, from the shaft of which proceeds a small cord to the shaft of the cloth-feeding wheel, L, and this moves it forward to feed the cloth a specific distance for every stitch. The screw, X, tightens up and regulates the feed.

The way in which the feed of the cloth is stopped, when the thread of the needle breaks or gets fast in the seam, is as follows, and which is shown in figure 2:—In sewing, the needle thread, to form the lock-stitch, passes over the shuttle, J; *e* is a vibratory finger resting on this shuttle; this finger has a small nib, *f*, projecting downward. This stop-finger is near the bell-crank, *i k* T, which is connected by a joint, *n*, to the piston pin in cylinder R. If the end of the bell crank at *h* were drawn towards *f*, it would vibrate on its axis, *n*, and draw out the pin that is operated by the cam, Q, fig. 1, and the feed-motion of the ratchet arm, *l*, will stop. This is done if the thread, *c*, breaks, for it will not then turn *e* on its axis, consequently the nib, *f*, will catch in a small notch at *g*, and vibrate the bell crank so as to throw out the pin in R, and arrest the feed motion of the cloth. The stop-motion finger, *e*, when the thread, *c*, is working, is kept continually vibrating, the thread pushes *e* to the one side, when the shuttle is going back, and a projection at *h* throws it into position again when it is returning, so as to keep the nib, *f*, from catching into the notch at *h*, when the shuttle is coming back to stop the feed motion.

This sewing machine is now at work in the Crystal Palace, alongside of Wilson's and Singer's, and is the only one which, by a transverse motion of the cloth feed-roller, attempts to sew button holes. This is done by the pin, *p*, which is pressed by the screw, *o*, against the small cam on the axis of the driving shaft, which vibrates the rod, Z, connected with the one, Y, which traverses the feed roller, L, in the direction of its axis, and feeds the cloth transversely to its common motion, so as to make one stitch pass over the eye of the button hole, and the next pass through the cloth, binding it. This motion is thrown out of gear, when desired, by the screw, *o*. The stop motion is similar in principle to that applied to power looms, and is an ingenious contrivance. The common stitch is produced like those in other sewing machines; the "back-stitch" is not represented, but is embraced in the patent granted. Mr. Miller has recently made application for his improvement in the transverse button-hole stitch. J. A. Ross, of St. Louis, the assignee of this patent, is at present residing in this city, and from him more information may be obtained.

Death of a Young Mechanic.

The "Suffolk Democrat" records the death of Frederick W. Glover, the only son of Daniel Glover, Esq., of Middletown, Conn., a youth of 16 years of age, who gave great promise of mechanical ingenuity and skill. He corresponded with us respecting a very ingenious plan to prevent accidents at railway drawbridges, whereby the engine was made to close the draw if it was open before the train reached it. He was distinguished for an amiable disposition, great intelligence for his age, and fine mechanical taste.

Honor, like a shadow, follows those who flee from it, but flees from those that pursue it.