

NEW INVENTIONS.

Improvement in Gongs for Hotels, Steamboats, Locomotives, &c.

James Dew, of New York city, has taken measures to secure a patent for an excellent improvement in the mode of operating gongs. He employs an escapement formed of a catch enclosed within a suitable case, which is attached to the lower end of the hammer rod; a lever directly underneath the catch acts against it, and throws back the hammer, which strikes the gong as soon as the lever has passed the catch. The lever returns back to its original position, by throwing the catch within the case; both the hammer and lever have coiled springs attached to them, the hammer spring forces the hammer against the gong, the lever spring causes the lever to return to its original position after the hand is removed from acting on the pull. The employment of the escapement, and the combination of it along with the lever, which acts upon the said escapement, constitutes the improvement. It is one of merit; it makes a gong more effective, because it can be operated and controlled in a superior manner. For locomotives and steamboats, as an alarm to the engineers, it is certainly quite an improvement over the common modes of operating gongs or alarm bells.

Bellows for Melodeons.

Isaac T. Packard, of Campello, Plymouth Co., Mass., has made an improvement in bellows for melodeons and reed musical instruments. The improvement consists in constructing the bellows with two chambers and a pump, furnished with valves so arranged that, when they are set in operation, the air is exhausted from one chamber and condensed in the other. There is a communication between the two chambers through the reeds when the valves, upon which the keys operate, are opened by pressure; air is then forced through the reeds from the condenser, while at the same time it is, as it were, drawn through by the vacuum in the exhaust chamber, by which means the sounds are produced more rapidly, and the tone is better in every respect, than that produced in the common arrangements of bellows for such purposes. Measures have been taken to secure a patent.

Improvement in Sugar Moulds.

James Myers, of New York city, has taken measures to secure a patent for a valuable improvement in the construction of sugar moulds—it consists in lining the interior of the moulds with sheet zinc, and having the outside of iron, and rivetting both together. It has been attempted before to use moulds entirely of zinc, but they were not strong enough; this improvement makes a strong mould, and the sugar is prevented from coming in contact with the iron and oxydizing it. The discolorization of the sugar is thus prevented, and the frequent painting of the moulds dispensed with.

Improvement in Sawing Pulleys.

Israel F. Brown, of Columbus, Ga., has taken measures to secure a patent for an improvement for sawing pulleys, or discs, and for boring holes through them for the spindles. He employs a tub saw, and in combination therewith a clamp and auger. When the wood of the pulley is sawed out, by pressing the foot upon a lever the auger is set in operation, and is raised against the wood, operating on it to form the centre hole for the spindle.

Improvement in Wheels and Axles.

Daniel R. Rall, of the city of Rochester, N. Y., has taken measures to secure a patent for a new mode of attaching car wheels to axles; it consists in keying the wheel firmly on a tube or collar formed of two or more parts, said collar fitting in a recess around the shaft; by this means the axle is allowed to turn within the collar or tube, in cases of strain upon the axles and wheels, while turning curves.

Applegarth's New Printing Press.

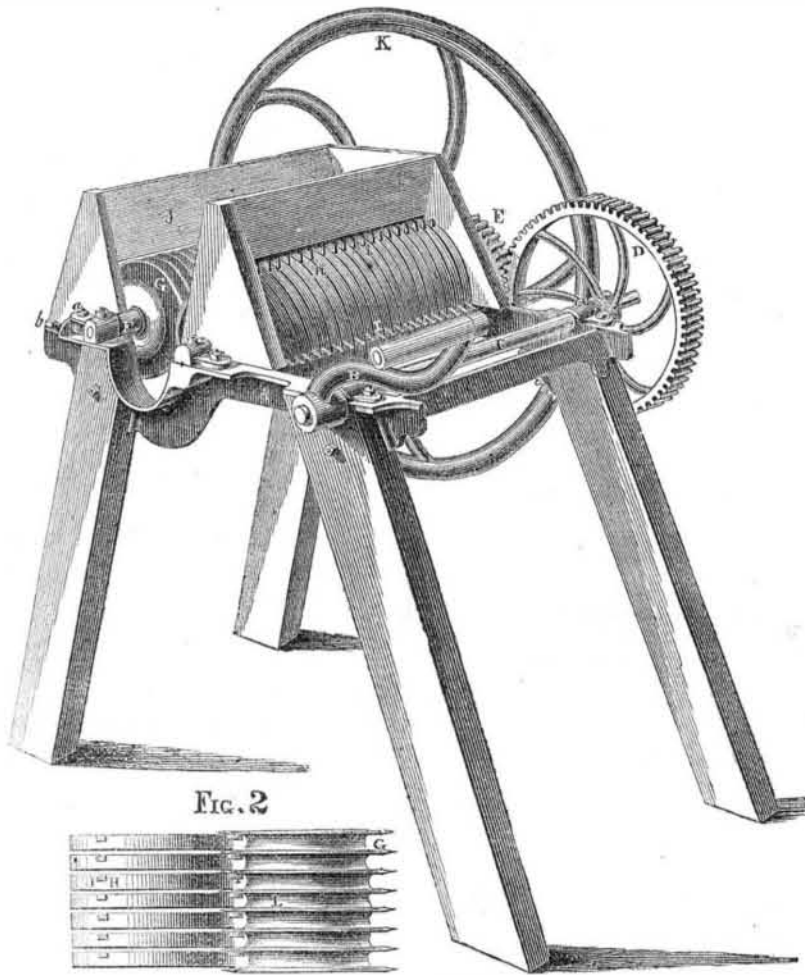
Mr. Applegarth, the celebrated manufacturer of printing presses, in London, has taken out a patent for a new improvement in his printing press. It is different from Hoe's great

press, inasmuch as the forms of type are placed on two separate cylinders, and the sheets are printed on both sides at one operation. It is a huge press; the type cylinders are 70 inches in circumference, and each cylinder has two sets of inking rollers. It can throw off 9,000 papers, fully printed in one hour.

Soap.

We have used the patent soap manufactured by Wm. McCord, whose advertisement appears in another column. For washing clothes, painted walls and wood-work, we believe it the best article in use. We do not hesitate to recommend it to the public.

STRAW CUTTER.—Fig. 1.



The accompanying engravings are views of the patent Straw Cutter, invented by I. F. Browne, of Columbus, Ga.

Figure 1 is a perspective view, and figure 2 is a plan view of the feeders and cutters. The same letters refer to like parts. A represents the sides of the frame, B, is the crank handle to drive the shaft, C, D is the cog wheel, on shaft C; it gives motion to wheel, E, which drives the feeders, H. The wheel, E, meshes into a pinion of one half its size (not seen) on the shaft, F, which gives motion to the cutting circular knives, G. The feeders, H, are narrow-faced wheels having three projections or fingers, I, on the periphery of each, to draw in the straw, &c., as the said wheels revolve. These wheels are secured on a shaft in such a manner as to leave a space between each, and to draw in the straw, &c., as the said wheels revolve, as shown in fig. 2. The knives are discs with bevelled edges, and are secured on a shaft with a solid metal pulley, L, between each pair, as shown in fig. 2. Both the knives and feed wheels revolve together, in opposite directions, yet towards one another, so as to cut the straw, &c., between them. The knives do not revolve against the wheels, but between the spaces, as represented in fig. 2. The knives have a double velocity to that of the feed wheels, which is advantageous in cutting tools when there is no tear of heating. This machine cannot choke up; the amount of cutting edge on the 19 knives, is thirty-seven and a half feet. As the knives do not act against anything but the straw, while cutting, they retain their edge for a long time. They are very easily sharpened; not one has to be taken out for this purpose; all that has to be done is simply to turn the machine, and hold a file against the side of each knife, at the proper bevel, until the edge of the knife is brought to the cutting standard. All the parts are made of cast metal except the knives, and all the parts can be fitted together in a few minutes by any farmer. There is no part liable to break, or go wrong. The bearing boxes of the shaft, F, of the cutting discs or knives, G, have a slot, a, which, by a screw, b, allows of the discs being set to work properly in the

spaces between the feed wheels, H. All the parts of this machine can be made very strong, and as they are not liable to wear out or break, and as the knives are sharpened on the machine, in the simple manner described, it certainly embraces many admirable features. It also cuts very fast; of this we have had ocular demonstration. From the engravings and the foregoing description, we believe our farmers will fully understand the construction and operation of this machine; it acts upon the principle of a rotary shears. The machines are made by E. T. Taylor & Co., Columbus, Ga.; and E. T. Taylor, Thomas & Co., 125 Pearl street, N. Y.

A Hard Cement for Seams.

A very excellent cement for seams in the roofs of houses, or for any other exposed places, is made with white lead, dry white sand, and as much oil as will make it into the consistency of putty. This cement gets as hard as any stone in the course of a few weeks. The lead forms a kind of flux with the sand; it is excellent for filling up cracks in exposed parts of brick buildings; it is also a good cement for pointing up the base of chimneys, where they project through the roofs of shingled houses. We have made this cement and tried it, and speak about it from experience only, for we have no knowledge of it ever having been described in any work.

ANOTHER GOOD CEMENT.—Use the above, only employ half whiting and half sand; there should be about four parts of sand and whiting, by weight, to one of lead.

ANOTHER CEMENT.—Take and dissolve some alum in a vessel containing water, and while it is in a boiling state, cut up common brown soap into small pieces, and boil it along with the alum for about fifteen minutes. One pound of alum is sufficient for five pounds of soap. The soap becomes sticky, like shoemakers' wax, and can be drawn out in a similar manner. It is now to be mixed with whiting to a proper consistency for filling up seams, &c. It becomes partially hard after a few months, and adheres to wood very tenaciously. It is not easy to put on, and if there be any moisture in the wood it cannot be made to adhere

at all. When dry, it is impervious to, and repels water; it is slightly elastic, and has advantages in this respect. To make it adhere it must be well pressed down. This cement, like the preceding two kinds, is the result of experiments; we have tried it, and speak with confidence of its qualities. For the filling up of seams, in parts of wooden buildings exposed to the weather, there can be no doubt of its good qualities, and it is not expensive. A putty made with whiting and linseed oil, in the common way, if mixed with some white lead, about one-tenth part by weight, we like better than any other cement we ever tried for cracks or seams in wooden buildings, to be applied outside, but it is not elastic like the cement made with soap and alum.

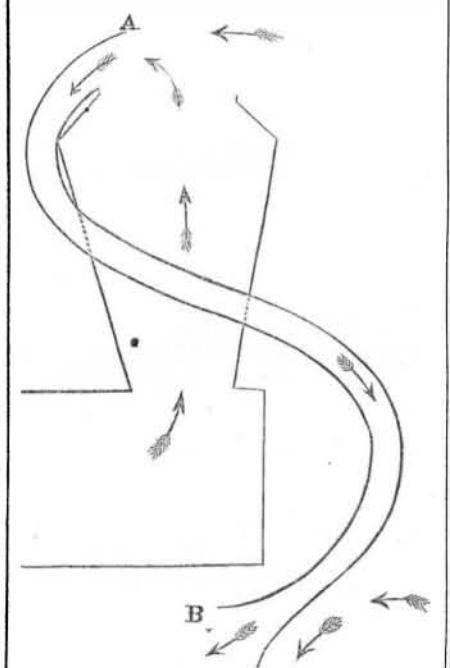
Our readers will be able to choose for themselves which of these cements, if they require any of them, is best adapted for their peculiar purposes.

Novel and Useful Work.

A. D. Bishop, Esq., the inventor of the Patent Floating Derrick, has been operating, says the Detroit Free Press, upon the steamer Keystone State in a most successful and novel manner. We are not in command of the necessary technical words, to convey an accurate idea of his ingenious plan of repairing vessels without the delay and expense of the dry-dock. We can best give our own ideas of Mr. Bishop's system of operating by calling in aid the language of another profession, and that is simply "cupping" the ship. Desiring to operate as low down as the keel, he boxes over the part, and attaches canvas to the ship and the projecting sides of the box, and having thus partitioned off a given portion of the ship, pumps out the water, and secures working access to it.

Smoke Syphon for Locomotives.

MESSENGERS.—I herewith send you a diagram explanatory of the "Smoke Syphon." You will perceive that it differs both in principle and action from Dr. Townsend's tube or pipe arrangement. The onward motion of the engine presses, under high velocities, the smoke and gases abruptly over the top of the smoke stack, and they are received in the mouth of the syphon, at A. The passing currents of air which are deflected from the foot of the syphon, at B, create a powerful downward draught, bringing the smoke and gases



under the train. The smoke is less obnoxious to passengers than the gases, which, the moment that they part with their heat, fall on and around the train, and are drawn into the car through the injectors and doors. The use of coke as fuel would remedy the evil of smoke, but the gases and ash smut would still remain to be disposed of. Freeing the cars from dust is but a minor feature in my system of ventilation. A free supply of pure air, both in winter and summer, in wet or dry weather, being more important to health and comfort. The sodding and sprinkling of roads may save wear of machinery, but in no case can it improve the comforts of travelling.

Yours,
HENRY M. PAINE.
New York, July 28, 1852.