

## NEW INVENTIONS.

## Improved Cotton Press.

Nathan Chapman, of Mystic River, New London Co., Conn., has taken measures to secure a patent for a new and improved press for compressing cotton, &c. This press is intended to supply the desideratum of a quick motion for the follower when the cotton is first compressed. As is evident the cotton yields at first, with comparative facility, to the compressing power, but on the bale becoming more compact, it is necessary to employ a greater intensity of power when a less amount of speed is required. The inventor attains his object by employing spiral cams, or, in other words, conical drums with a spiral groove cast or cut around the periphery. Two of these cams are employed, one on each side of the press, and chains winding round them raise the follower, which slides longitudinally within the box containing the cotton. As the chains are attached to the larger part of the cam or conical drum, it is evident that on beginning to work the press with a regular motion, the chains will have to wind around a larger circumference at first than afterwards, and thus their speed, and consequently that of the follower, will gradually diminish, while, in accordance with the well-known law of mechanics, the intensity of the power will increase in the same ratio. The motion is transmitted through the agency of geared wheels, and the box for the cotton has a cover capable of being removed at pleasure.

## Pasteboard Cutter.

George B. Davenport, of North Attleboro, Bristol Co., Mass., has taken measures to secure a patent for improvements in a machine for cutting pasteboard for boxes. It is intended chiefly for the use of paper-box makers, whose work it facilitates, by enabling them to make the slight incisions necessary for the bending of the sides, by the same operation which cuts off the strip of pasteboard from the roll. Adopting the mode of cutting the strips of pasteboard by revolving cutters, the patentee has improved the machine by fixing on the shaft carrying the upper cutter, a pair of adjustable circular markers or incisors. By fixing these at any desired width, which is done by set screws, it is evident that, on setting the machine to work whilst the strip of pasteboard is being cut in the ordinary manner, the two markers will partially cut the material so as to allow it to form the sides, thus dispensing with the necessity of two separate operators. Should the box be of a square form, one adjustment only is necessary for the slide gauge, but if the shape is oblong it must be fixed twice. The second improvement in this machine has for its aim the cutting of circular pieces of pasteboard for the covers and bottoms of cylindrical boxes. This is effected by having a bar sliding in a groove on the bed-plate; in this bar is fixed a plate capable of moving to-and-fro, so as to approach or recede from the cutters. A small point is fixed in the plate, to serve as a centre on which to turn the pasteboard; this is done by the operator with one hand whilst working the cutter with the other. The machine is likewise adapted for making lozenge-shaped and other varieties of boxes.

## Screw Cutting Machinery.

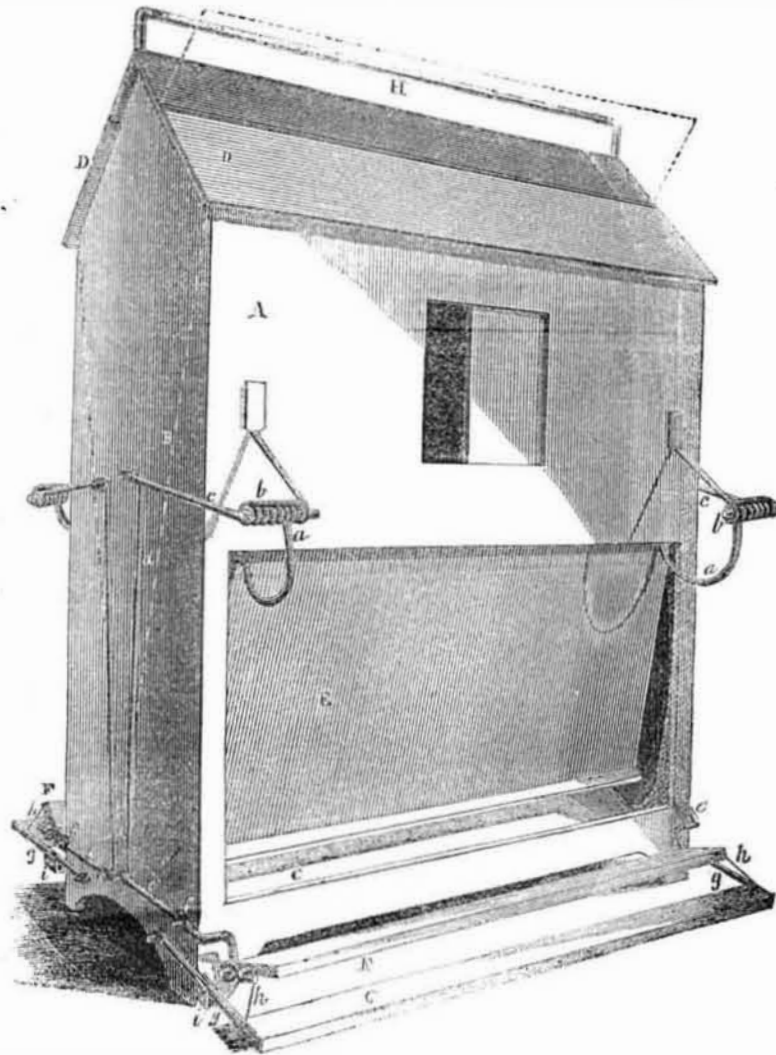
Andrew Mayer, of Philadelphia, has taken measures to secure a patent for improvements in the apparatus for cutting screws on pipes and other articles. The screwing apparatus which this patent is intended to improve, is much used by gas fitters and others to screw piping. The gas pipes are generally more or less bent, whence results considerable damage to the dies during the process of screwing; for, owing to their fixed position, they cannot accommodate themselves to the inequalities of the pipe, the threads in the screw of the latter also being liable to be broken. To obviate this defect, the patentee forms, in the stock which holds the dies, recesses for these latter, sufficiently large to allow them to move or play slightly in a direction transversely or laterally to the axis of the pipe. By this means the dies yield before any irregularities in the pipe, and thus prevent any jamming, which would increase the labor of the operative, and tend to prevent the screw from being truly cut.

## ALBEE'S FOWL FEEDER.

The annexed engraving is a perspective view of an apparatus for feeding fowls, invented by Simeon Willard Albee, of Bellows' Falls, Vt., for which a patent was granted on the 9th of last September.

A is a case or box of suitable size and shape, and contains a hopper, B, seen in dotted lines. (Both sides of this apparatus are alike); C is a feed box, this feed box is placed under the hopper; D is a lid to allow the grain to be poured into the hopper; H is a bar for the said lid to recline against, &c.; E is a door of the case. It is attached by

curved arms, *a a*, to hinges, *b b*, which are attached to arms, *c c*, and these to the rods, *d d'*, as shown at the left side. These rods, *d'*, at each side, are attached to bent levers, *e*, having their fulcrums at *f*, and those levers are secured to the step. It will therefore be observed that as the step, F, is raised or lowered, the door, E, will open or close, because when the inner ends of the levers, *e e*, are raised upwards by the fowls jumping on the steps, the inner ends of the curved arms, *a*, which are attached to the hinges, *b*, will be raised upward, and as the door, E, at the



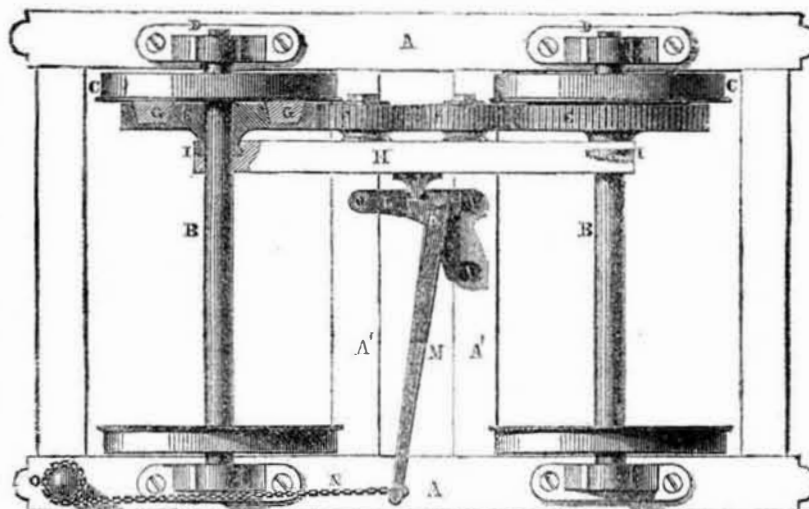
op is attached to the inner ends of arms, *a*, the lower edge of the door, E, will swing inwards as shown in the figure, and the feed box, C, will be exposed. Two steps are represented, the lower one being secured on a lever, *g*, (one on each side) which hangs on a fulcrum, *i*, and is connected by cords, *h h*, to the step, F, so as to act upon it. By the fowls alighting on the steps, the door, E, is thus opened by their weight, and when they leap off, the door is heavy enough to swing into its perpendicular position, and cover in the feed box from exposure. The fowls cannot be entrapped in the feed box, as the door, when swinging out, will force any that may jump

into the box out of it. The levers, *g g*, by their joints, *i i*, (one not seen) allow of the lower step being lifted up, against the case, and thus prevent the fowls (when desired) from opening the door, E.

This apparatus preserves the grain from filth, vermin, and exposure to the weather, it also prevents the fowls from wasting it, they can feed themselves at pleasure, and also be prevented from doing so, as mentioned. The case can be carried about conveniently, and different kinds of grain used, by having the hopper and boxes divided into partitions.

More information may be obtained by letter addressed to the patentee.

## HOLLY'S RAILROAD CAR BRAKE.



This engraving is a plan view of a new Brake for Railroad Cars, invented by Birdsill Holly, of Seneca Falls, N. Y., and for which a patent was granted on the 10th of last February. The nature of this invention consists

in applying side clutch wheels to running wheels of the car, to arrest their motion by friction, and giving one a contrary motion to the other, thus to counteract and nullify the forward motion of the running wheels.

The figure shows a truck-frame, A A' A'; on the cross-braces is secured a fulcrum plate, L, for the fulcrum pin, K, of the lever, M, which lever is operated by the brakeman with a vertical shaft, O, which winds up the chain, N, and pushes in a swinging clutch frame, H, by the bottom of the lever, at K, acting on the projection, J, which is at the bottom of the frame, H.

This plan view of the truck does not show how the frame, H, is hung on centres, and how the wheels, E E, are made to clutch by buttons, I I, of frame H, pressing on their hubs, but we will try and explain how this is done:—D D are the axle boxes of the running wheels, C C. These two wheels are made with conical wooden projections, G G (section of one wheel), secured to the inside flanges of the wheels. The wheels, E E, are secured on the axles of wheels, C C, but are allowed to slide on the same. The said wheels are made with conical openings to receive the conical projections, G G, on the running wheels; and these wheels, E E, operate exactly like a common clutch to gear two pinions, F F, so that there is a continuous gear of the two wheels, E E, and pinions, F F. The wheels are now represented to be geared together, the front one in section shown to be clutched with C. It will be evident that when these wheels are out of gear, by winding the chain on the spindle, O, the lever will act as represented, by pushing in the swinging frame, H, and pressing up the hubs of wheels E E, by the buttons, I I, to make them slide in on their axles, and the openings clutch the conical projections, G G, which will thus gear the front and back running wheels, C C, and act to make the one revolve in a contrary direction to the other; this action nullifies the motion of the car wheels, and arrests the progress of the car.

By relieving the lever, M, which is done by slacking up the chain, N, the swinging frame, H, will swing back and hang perpendicular; the first motion of the running wheels, C C, then pushes the wheels, E E, sideways, and makes them slide a small distance along their axle, and thus they are self-ungeared, and the running wheels left free to move forward again.

This brake is certainly a peculiar one, and is constructed upon a principle entirely different from any other we have examined. The sliding wheels or rubbers, E E, act both as side friction brakes and as clutch wheels, to set a train or gear in operation, and make the motion of one running wheel nullify the motion of the other.

More information may be obtained by letter addressed to Silsby, Race & Holly, Seneca Falls, N. Y.

## New Cotton Press.

J. B. Armstrong, of Whitepond, Barnwell Dist., S. C., has taken measures to secure a patent for an improved cotton press. This machine, which is a screw press, is designed to be worked by steam or other power. A stout rod, having a screw cut in it, is attached by one end to the follower, whilst the other, being the screwed part, works in a nut firmly attached to a bevel wheel, which latter gears into a pinion. Belts and pulleys are employed to transmit the power, though geared wheels, &c., may be used. The inventor has obviated the necessity of reversing the motion of the driving belt, when the motion of the follower is to be changed from upward to downward, by using two belts, one crossed and the other straight, for transmitting the motion from the driving shaft to the pinion. By using, alternately, one or the other of these belts, an upward or downward motion of the screw and follower is obtained. The diameter of the pulleys are regulated so as to give a slow powerful motion when the follower is forced down upon the cotton, but a rapid speed is imparted when the follower is to be raised.

## Iron Masts in a Gale.

The British ship Typhoon, iron built, from Glasgow, bound to Australia, with 224 emigrants, put into Lisbon, Portugal, on the 6th ult., to repair damages, having lost her bowsprit and foremast, and her main and mizen topmasts.

This ship is iron masted, and it is said the gale was not such but that wooden masts would have stood it out easily.