# INVENTIONS. NBW

76

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 atterwards, 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 capa ble 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 sheft 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 ot pasteboard is being cut in the ordinary manner, the two markers will partially cut the material so as to allow it to torm the sides, thus dispensing with the necessity of two separate operations. 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 gas pipes are generally m 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 thu prevent any jamming, which would increase the labor of the operative, and tend to prevent the screw from being truly cut.

# Scientific American.

## ALBEE'S FOWL FEEDER.

ing their fulcrums at f, and those levers are

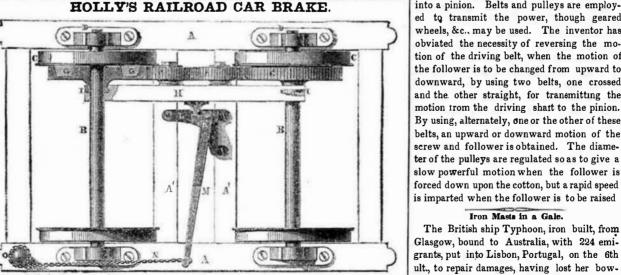
The annexed engraving is a perspective curved arms, a a, to hinges, b b, which are at view of an apparatus for feeding towls, in- tached to arms.  $\epsilon$  c, and these to the rods, d'vented by Simeon Willard Albee, of Bellows' as shown at the left side. These rods, d', at Falls, Vt., for which a patent was granted each side, are attached to bent levers, e, havon the 9th of last September.

A is a case or box of suitable size and secured to the step. It will therefore be obshape, and contains a hopper, B, seen in dot- served that as the step, F, is raised or lowerted lines. (Both sides of this apparatus are ed, the door, E, will open or close, because alike) ; C is a feed box, this feed box is placed when the inner ends of the levers, e e, are under the hopper; D is a lid to allow the raised upwards by the fowls jumping on the grain to be poured into the hopper; H is a steps, the inner ends of the curved arms bar for the said lid to recline against, &c.; a, which are attached to the hinges, b, will E is a door of the case. It is attached by be raised upward, and as the door, E, at the

-1

op is attached to the inner ends of arms, a, into the box out of it. The levers, g g, by the lower edge of the door, E, will swing in- their joints, i i, (one not seen) allow of th wards as shown in the figure, and the feed lower step being lifted up, against the case box, C, will be exposed. Two steps are re- and thus prevent the fowls (when desired) resented, the lower one being secured on a from opening the door, E. lever, g, (one on each side) which hangs on This apparatus preserves the grain from

a fulcrum, i, and is connected by cords, h h, to filth, vermin, and exposure to the weather, it the step, F, so as to act upon it. By the fowls also prevents the fowls from wasting it, they alighting on the steps, the door, E. is thus can feed themselves at pleasure, and also be opened by their weight, and when they leap prevented from doing so, as mentioned. The off, the door is heavy enough to swing into its case can be carried about conveniently, and perpendicular position, and cover in the feed different kinds of grain used, by having the box from exposure. The fowls cannot be en- hopper and boxes divided into partitions. trapped in the feed box, as the door, when More information may be obtained by letter swinging out, will force any that may jump addressed to the patentee.



The figure shows a truck-frame, A 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 brakesman 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, EE, 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 of 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 shart 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 diame-

ter of the pulleys are regulated so as to give a

slow powerful motion when the follower is

is imparted when the follower is to be raised

Iron Masta in a Gale.

The British ship Typhoon, iron built, from

Glasgow, bound to Australia, with 224 emi-

This engraving is a plan view of a new, in applying side clutch wheels to running spritand foremast, and her main and mizen Brake for Railroad Cars, invented by Birdsill wheels of the car, to arrest their mo ion by topmasts. Holly, of Seneca Falls, N. Y., and for which a friction, and giving one a contrary motion to This ship is iron masted, and it is said the patent was granted on the 10th of last Feb- the other, thus to counteract and nullify the gale was not such but that wooden masts ruary. The nature of this invention consists forward motion of the running wheels. would have stood it out easily.