New Inventions.

Former for Boot Leather.

John Chilcott and Robert Snell, of Brooklyn, N. Y., have invented an instrument which they denominate a former, which is intended to be used as a mould or block, on which to fold a piece of leather of suitable size to form the whole upper of a boot in such a manner as to avoid the usual process of crimping. It constitutes a variable mould or block which can be adjusted and varied in its size and proportions, so that the whole of the uppers of various sizes may be formed by simply lapping the leather around it, and securing the necessary parts together. It somewhat resembles some of the implements used for crimping, but while they stretch the leather, this simply presses it into shape. The inventors have applied for a patent.

Elastic Oil Chamber.

George W. Rice of Louisville, Ky., has invented an improved oil chamber, which consists in arranging in the lower part of the ordinary oil chamber of journal boxes an extra chamber, which is filled with oil, and sponge or other absorbent, and caused constantly to press against the journal by a spiral spring under its bottom. By this arrangement it is evident that the space left open under the end of the journal as the upper box is worn away in those which hang upon the journal, will be continually filled by the end of the box, and thus all dust will be excluded. The inventor has applied for a patent.

Hen's Nest.

C. V. Ament, of Dansville, N. Y., has made one of the most astonishing inventions which for many long years has fallen beneath our notice. It is nothing less than a hen's nest so constructed that when the ovipositing Shanghae or Cochin China having arrived at her full time shall have deposited the embryo of a future fowl, the ovum passing through an aperture in the lowermost portion of the nest, and falling upon an elastic cushion beneath, shall pass away into a receptacle destined for its protection from the chilling frosts of winter, or the greedy attacks of some egg-eating quadruped. But judge the astonishment of biddy when arising from her seat and looking around her she beholds that the precious deposit has vanished forever from her sight? The inventor having the necessity of the public fully before his eyes, has applied for a patent.

Machine for Tenoning Blind Slats.

Thomas G. Stagg, of Jersey City, N. J., has made application for a patent on a machine for tenoning the ends and wiring the slats of Venetian Blinds. It consists in the use of stationary knives and a series of cutters placed on a vibrating head. Two of these heads are employed, and by their use the tenons are cut upon the ends of the slats of equal length and at the same time. A clamp lever and a staple is also employed for pricking the holes in which the wires are inserted.

Improved Car Seat.

John H. Bloomfield, of Albany, N. Y., has invented an improved car seat, which has a peculiar manner of attaching the backs of the seats to the arms, whereby they may be made to revolve or turn over the seat, and may also be placed at any desired angle with it. A segmental slide is placed underneath, capable of being shoved out when desired on either side of the seat to serve as a support for the lower extremities of the person occupying it. A patent has been applied for.

India Rubber Beneath Rails.

The New York Central Railroad Company have assumed the expense of laying one or two miles of india rubber under their tracks, intended to obviate materially the present destruction of rails and machinery, and do away with the noise attendant upon the motion of the trains. We are glad to learn that this invention is to be tried in this country. A patent was taken in England two years ago, but we have never heard of its adoption there.

TAGGART'S IMPROVEMENT IN FLOUR MACHINERY.

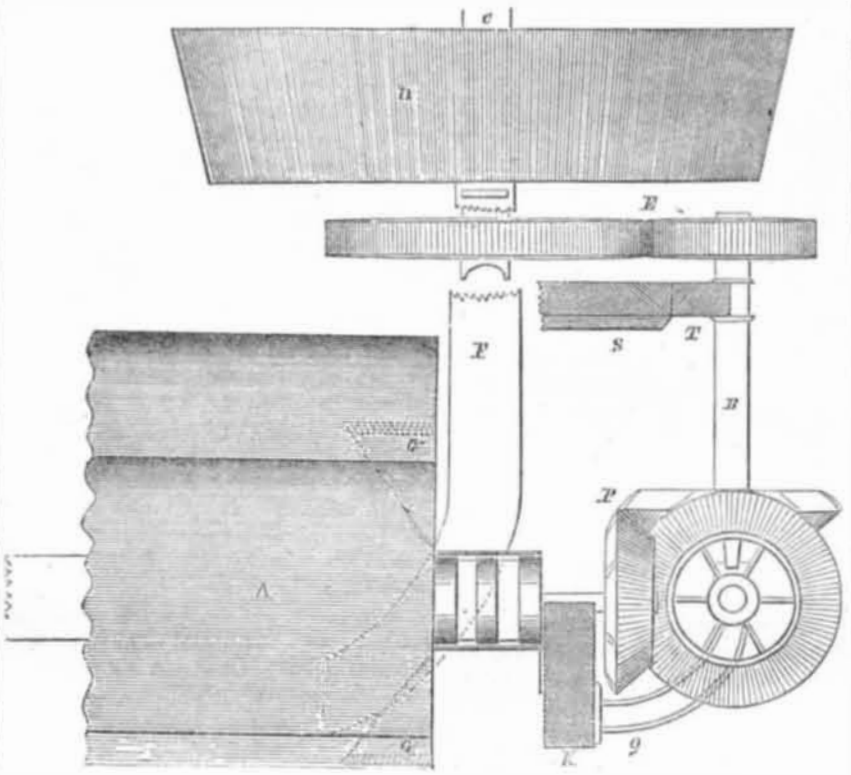
The accompanying engravings represent improvements in the mode of driving or gearing flour bolts.

Fig. 1 is a sectional view of the bolt, cooler, and gearing. Figure 2 is another sectional view of the cooler and bolt apparatus, with annular chamber, D, and sweepers, H H, immediately under the hopper boy and flight arm, Y.

Before specifically describing these improvements, their construction and operation; we will briefly describe the machinery now in use for the same purpose, and allude to some of the difficulties found in its practical operation, which these improvements are intended to remedy or overcome.

The common mode of supplying feed from the cooler to the bolts, is by means of the well known spouts, with a "drop shoe" placed under each spout. These shoes are operated by placing cam wheels upon the gudgeons of the bolt shafts, which jar the shoes up and down, and cause the meal to slide over their inclined

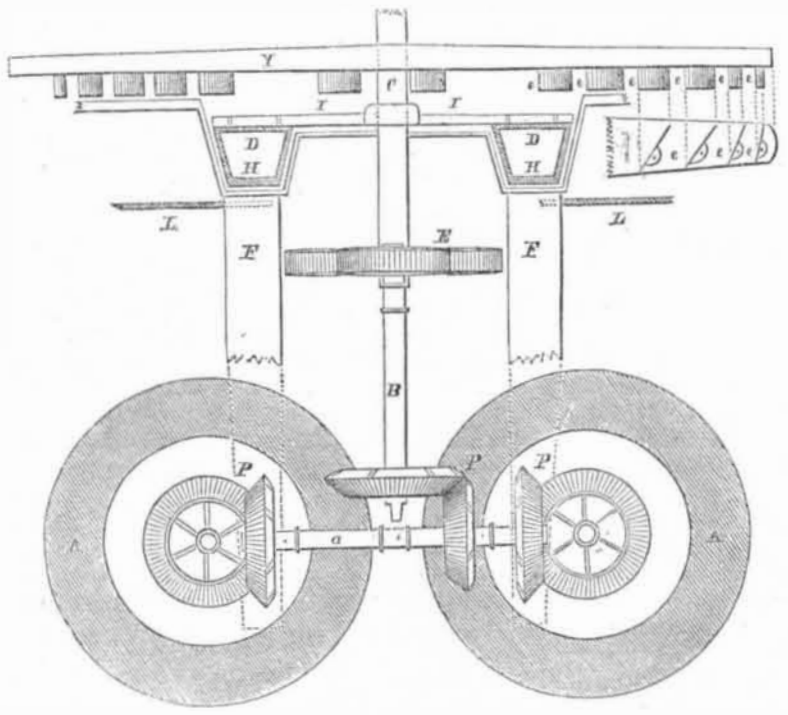
Figure 1.



bottoms, whence it is conducted into the bolts through common spouts.

The difficulties met with in the use of these feeding arrangements are principally in the meal being supplied irregularly by the "drop shoes," into the bolts. The jar of the shoes condenses the meal in the large spouts over them, and by drawing the sliders or gates, so much meal often falls down and rushes into the bolts, that it is not only imperfectly bolted, but is the cause of sending forward so much offal, returns, &c., to the subsequent machinery, that it is not uncommon to find the elevators, conveyers, and spouts choked, thus producing great derangement, and materially retarding business. Any derangement in the motion of the mill causes more than a corresponding difference in the amount of meal supplied to the bolts; if the mill runs a little too slow, the feed or meal slides less freely from the shoes, and condenses more in the spouts. If a little too fast, this packed meal suddenly slides out of the shoes and spouts, and is discharged into the bolts so rapidly that they are overloaded with a largely increased amount, which produces the difficulties above indicated. By this improved mode

Figure 2.



of supplying the feed to the bolts, all this difficulty is avoided, and the feeding is made equal and uniform at all times, machinery simplified, and the friction somewhat diminished.

We now proceed to describe these improvements. Y, fig. 2, is the flight arm of a hopper boy; *e e e e* are flights on the under part of the arm, which stir the meal to cool it; they are usually made of wood, and dovetailed, in a fixed position, and on an inclination with the edge of the flight arm, Y. These flights carry the meal towards the center of the hopper boy, where it is usually fed to the bolts after being cooled.

The flights, *e e e e*, may be made of metal of any suitable kind, with a small flange at one edge, and attached to the flight arm, Y, with screws, as shown at fig. 2, *e e e e*, by the inverted section of the flight arm, Y. This enables the work to be done quicker and cheaper, and the angle or draught of the flights, *e e e e*, may be readily altered, so as to convey the meal more or less rapidly to the centre, as desired for the purpose of supplying the bolts, and to prevent sending too much meal to be packed up at the center of the cooler, as is sometimes the case with the old plan.

In these improvements the "drop shoes," and cam beating wheels, are dispensed with, and the annular chamber, D, fig. 1,) is substituted therefor). Inside of this chamber, D, and under the flight arm, Y, fig. 2, is attached to the cooler shaft, C, four sweeper arms, J J, fig. 2. They are made of cast-iron and attached to the shaft, C, fig. 2, so as to revolve near the floor or bottom of the annular chamber, D. On the ends of the arms, J J, are affixed sweepers, H H, of any suitable material, which, running immediately over the tops of the spouts, F F, fig. 2, sweep around and discharge the meal through openings which are made to communicate with the spouts, F F, by drawing the slides, L L, any required distance, to permit the meal to pass through more or less, as may be desired, to supply the bolts, A A. This annular chamber, D, is made from 4 to 5 inches deep. The sides can be made of tin, zinc, or sheet-iron, or any suitable material, and of sufficient diameter, to reach over the spouts, F F, which conduct the meal to the bolts, A A. A cover is placed over the top of the chamber, in which are two apertures, with slides to close when desired, on the underside, to permit the meal to fall from the hopper boy, into the annular chamber, D, and there being carried around in the chamber by the sweepers, H H (which revolve as described close to the floor or bottom.) The slides, L L, being placed close at the top of the spouts, F F, over which the sweepers, H H, pass, the meal is thus swept through the openings made by drawing the slides, L L, in equal and uniform streams, which is the great desideratum in bolting, as it must readily be perceived that unequal feeding to the bolts must produce unequal and imperfect bolting, with a corresponding variation in the quality of the flour and imperfection in its separation from the offal.

We will next describe further improvements, the object of which is to simplify and cheapen machinery, save power, room, &c. By the usual mode of building mills, the power to drive the bolts and cooler, is taken directly from the primary upright shaft, which extends from the motive power, vertically, up through the mill, but it is taken at two different points.

The cooler shaft, C, fig. 2, that drives the flight arm, Y, is driven at the top and terminates in a common "step" at the cooler floor, the bolts being generally placed immediately under the cooler on the floor below, and connectted by horizontal shafts, with the "upright."

In the improved arrangement the cooler shaft, C, is made long enough to pass down through the cooler floor, and is there connected by means of the shaft, B, fig. 2, spur wheel and pinion, E, with the bevel wheels, P P P, on the horizontal shaft, *a*.

These bevel wheels, connect with others P P, on the bolt shafts, A A, or in any other convenient manner, and with any suitable machinery. By this mode of gearing bolts from the cooler shaft, much labor and expense in machinery is saved; a great saving is also effected by dispensing with machinery posts, as the bridge-trees at the ends of the bolts constitute a basis for most of the small amount of machinery required in this improvement. The bolts can be placed in any convenient position desired, without reference to their being reached with horizontal shafts from the uprights; they may occupy any desirable position, so that their heads are under or near the cooler.

By dispensing with the cam wheels and drop shoes in feeding the bolts, much labor is avoided, as the wheels are generally wedged or keyed on the bolt shafts, or the gudgeons of the same, and are frequently working loose, by constant jarring. The disagreeable noise of the shoes, is also obviated; the knocking of which produces a constant wear of the bolting cloth, and also loosens the wedges, keys, and screws about the heads of the bolts, shoes, and spouts.

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