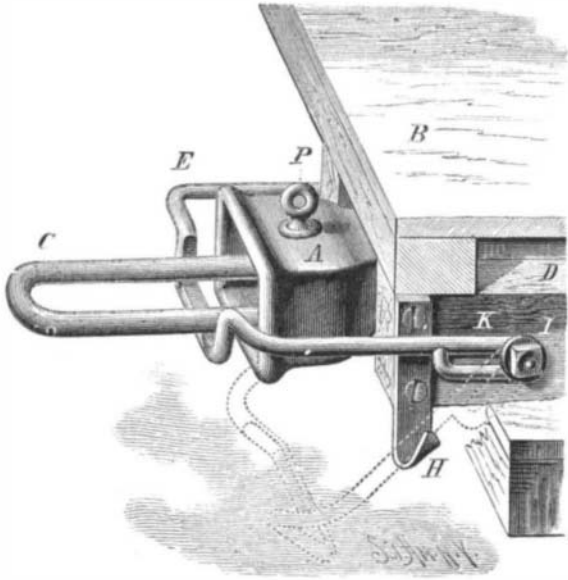


NEW CAR COUPLING.

This invention is the outcome of a long and continued observation of all appliances and devices used in coupling cars where any ordinary link or pin is used, and an extensive acquaintance with many unfortunate brakemen and yard men who have been crippled for life by being caught between two meeting drawheads.

This invention consists of a swinging bail, E, which may be pivoted to the sides of the drawhead, or to the longitudinal sills, D, placed on either side of the drawhead.

The bail, E, is bent downward in front to receive and raise the link in proper position for entering the opposing drawhead, the ends of the bail being arranged with slots, K K, which allow it to yield to any stroke or pressure it may receive from the opposing drawhead.



JOHNSON'S SAFETY CAR COUPLER.

The construction and operation of the coupler may be easily understood from the cut, in which B represents a broken off portion of the platform of a car, A an ordinary drawhead, C a link, and P a pin. D D are longitudinal sills, to which the bail, E, is pivoted by means of bolts or screws, I I, a portion of the platform being broken away to show the same. H H are supporters upon which the bail, E, rests when not in use, as shown by dotted lines. The operator takes the bail on either side, raises it up, and with it lifts the link and holds it in position to enter the drawhead of another car. When released from the operator's hand it falls down and out of the way and remains in position for use.

The bail may be easily and cheaply made, as it may be all bent on forms from a single bar of iron. This coupler is very cheap and simple, and can be adjusted to any freight car or caboose without changing car or bumpers. It is worked from either side of the car with or without a lever, alleviating the necessity of reaching in between the two meeting cars for the purpose of guiding and lifting the link.

The bail itself is a protection to the operator against falling, especially when the cars start unexpectedly, as is often the case.

This invention has been tested in the Wabash car shops of Toledo, and found very satisfactory.

For further information address Mr. Ferdinand Johnson, 237 St. Clair street, Toledo, O.

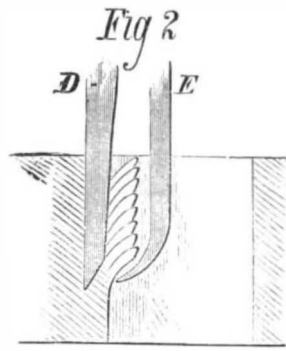
IMPROVED MORTISING MACHINE.

The engraving represents an improved mortising machine recently patented by Mr. John C. Fiester, of 320 South Eleventh street, Reading, Pa. The object of this invention is to provide means for the automatic removal of the chips from the mortise as they are made by the chisel.

The larger engraving is a front elevation of the machine. The smaller one shows the manner in which the chips are removed from the mortise. The crosshead, B, has a vertical reciprocating motion between housings, and is fitted with lugs at the top and bottom, as guides for the chisel mandrel or carrier. Between the lugs on the chisel mandrel is placed a slotted sleeve, C, fitted at its upper end with a collar having a recess or indent, a curved spring pressing the upper end of the lever, E, and a projection or cam capable of engaging the lever. The sleeve, C, is fitted at its lower end with a stop collar, the sleeve passes through the adjustable trip guard, A, and reciprocates with the crosshead, less the length of slot where it slides on a starting pin. The trip guard, A is made adjustable vertically by wing nuts and slots, the object being to permit of its adjustment to suit the respective positions of the sleeve as the crosshead, B, is set to suit different thicknesses of timber in mortising, the guard, A, always requiring to be adjusted relative to the positions of the sleeve in order to assure the actuating of lever, E, at the proper time. Fitted to the chisel mandrel

there is a chisel socket, D, to which is pivoted the lever, E, curved near its lower end to permit its grasping the chips.

The operation of this machine is as follows: The timber

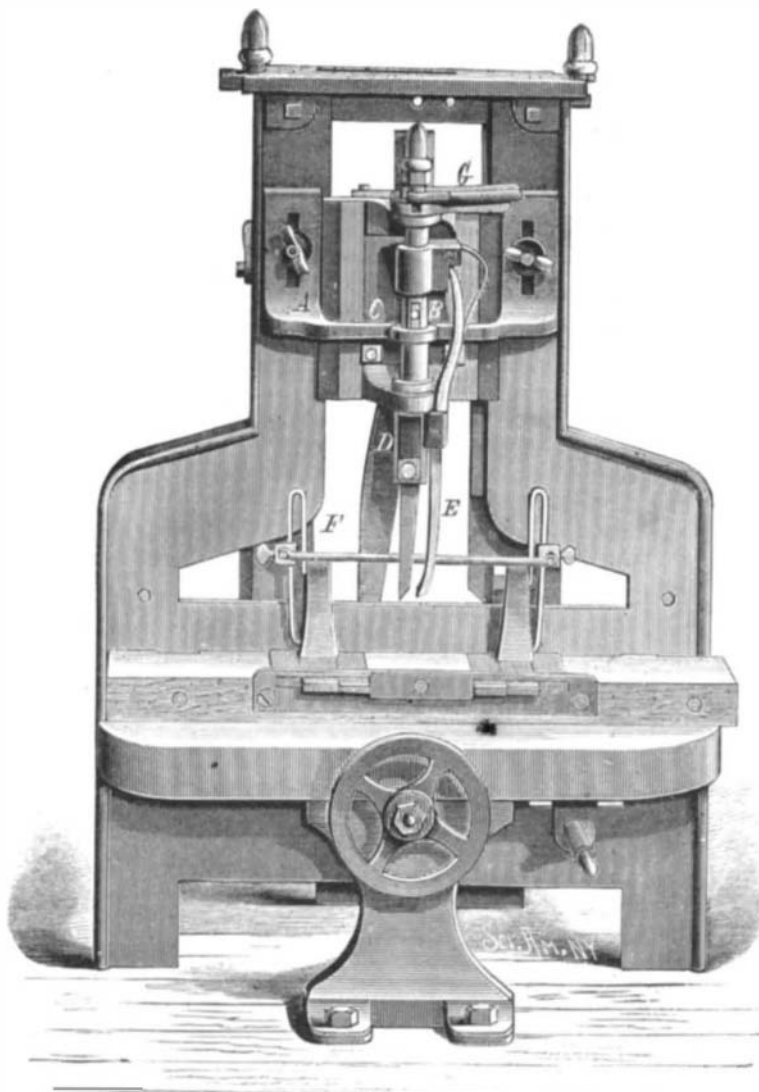


being secured to the table, the crosshead, A, is then set to the proper height relative to the length of chisel and thickness of timber. The reciprocating motion is imparted to the crosshead, D, by a crank or eccentric. It is provided with an extension pitman to permit of adjustment of crosshead to various positions of vertical adjustment relative to the position of the crank and thickness of timber worked. One or more holes are bored to permit the entrance into the mortise of the lever. The trip guard, A, is then set in such position relative to the travels of the sleeve and chisel mandrel respectively, that it will arrest the travel of the sleeve by contact with the collar on the upper end of the sleeve just as the chisel is at the bottom of the mortise, and permit the mandrel to pass the length of the slot in the sleeve below the bottom of the mortise, and allow the lever, E, to grasp the chips and remove them from the mortise, as shown in Fig. 2.

Further information may be obtained by addressing Messrs. Fiester & Ammon, 320 South Eleventh street, Reading, Pa.

Hilo Escapes the Lava Flow.

The *Advertiser*, of Honolulu, Sandwich Islands, says in its issue of August 24: "The lava flow, which has so long been threatening Hilo, may at last be regarded as at an end. In fact, it is quite impossible for it to come down again by the same channel which it has been using for the past nine months. As the support of the flowing lava in the tunnel beneath has been withdrawn, the roof has cooled, contract-



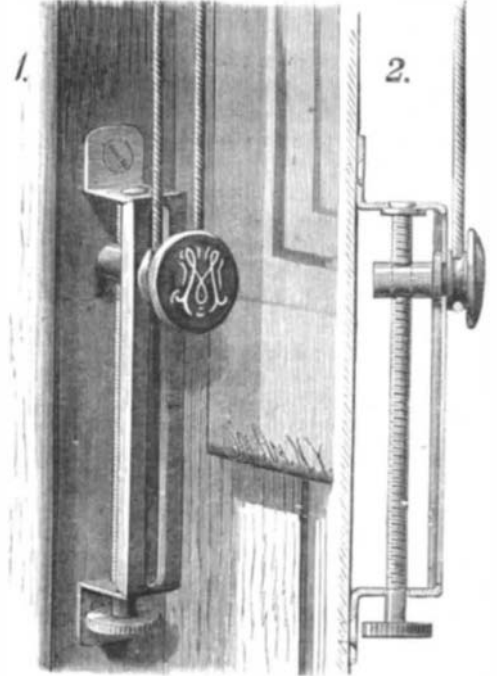
FIESTER'S MORTISING MACHINE.

ed, and fallen in, thus blocking up the tunnel, and also affording countless vent holes by which the molten mass might escape, even if it could overcome the obstacles offered by the debris which strews its path. A gentleman who has given careful and scientific attention to the flow, tells us that he had followed its course for over six miles, and that for the whole length of that distance the roof had caved in, say, every 150 feet or so. Another favorable indication of the cessation of the flow is the dense black smoke which is

now rolling up from the terminal crater. This has usually been noticed at the close of former eruptions and flows. As long as the flow continues to advance, as long as the liquid lava pours out, the smoke is of a whitish color, but as soon as it becomes black, the danger, as a rule, may be regarded as at an end."

IMPROVED CURTAIN-CORD TIGHTENER.

We give an engraving of an improved curtain cord tightener patented by Messrs. F. E. Porter, of Baltimore, Md., and D. A. Beaton, of New York city. This tightener is mechanically correct in principle, simple and cheap in con-



IMPROVED CURTAIN-CORD TIGHTENER.

struction, and perfectly answers the purpose for which it is intended.

The frame of the device consists of a suitable piece of sheet metal having a longitudinal slot, and bent twice at right angles at either end to form ears, which are perforated for the securing screws or tacks. This portion of the device is conveniently struck up at one operation by means of a die.

A screw extends from end to end of the frame, being secured after the manner of a rivet at the upper end, but being free to turn. At the lower end the screw is furnished with a milled head. A threaded block is mounted upon the screw, and to it is secured a roller. This roller receives the curtain-cord, whose tension may be readily regulated by turning the screw by means of the milled head.

Further information in regard to this invention may be obtained by addressing Mr. F. E. Porter, 33 South Charles street, Baltimore, Md.

RECENT INVENTIONS.

Mr. Theodore D. Lockling, of San Mateo, Costa Rica, Central America, has patented an improved method of securing covers to umbrella frames, so that they can easily be changed at will. The invention consists of the combination with the handle and notched and perforated ribs of an umbrella, of elastic rings, clamps, clips, and loops.

An improved watering pot has been patented by Mr. George F. McIntosh, of Hallowell, Me. The object of this invention is to facilitate the convenient changing of the delivery nozzles of the pot and prevent waste of water in supplying potted plants. The watering pot is provided with a closed top, upper and lower orifices to receive changeable nozzles, and a filling aperture and funnel on the rear above the handle.

In some of the Southern States there are large tracts of land that are infested by the "cutting ant," which destroys all vegetation, some of these tracts being literally undermined by them. Mr. Hiram B. Gray, of Columbus, Texas, has patented an improved apparatus for destroying these pests by blowing into their nests sulphurous or other poisonous fumes.

An improved table-leaf support has been patented by Mr. Horatio J. Locke, of Belfast, Me. The main object of this invention is to improve table-leaf supports so that the spring will only be allowed to exert its greatest power when supporting the leaf.

Mr. Joseph C. Higgins, of New Brunswick, N. J., has patented a detachable calk for horse-shoes, which can be attached to or detached from the shoe without removing the shoe from the horse's hoof.

An improved winding roller for looms, etc., has been patented by Mr. John Connelly of Hallowell, Me. This invention relates to cloth-winding rollers used with looms to receive the cloth, and paper machines for winding the paper, and in winding web of other material, the object being to allow convenient removal of the material after being wound.