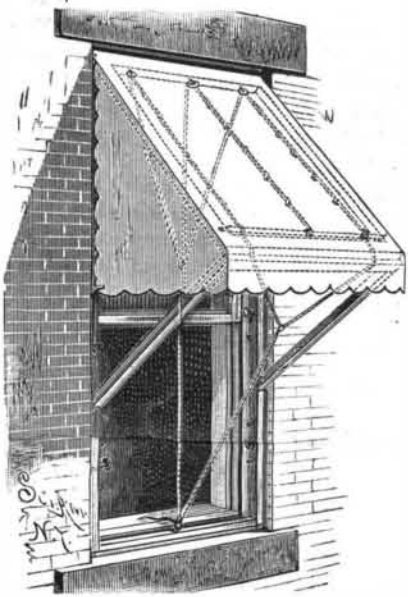


AN EASILY ADJUSTED AWNING FOR DOORS OR WINDOWS.

An improved awning, by which the admission of the sun and light may be easily controlled, without interfering materially with the access of air to the rooms of a store or dwelling, is shown in the accompanying illustration, the contrivance being the subject of a patent issued to Belle D. Pennington, of 418 Chandler Avenue, Evansville, Ind. The main frame is made in a form adapted to be secured in a window frame, outside of

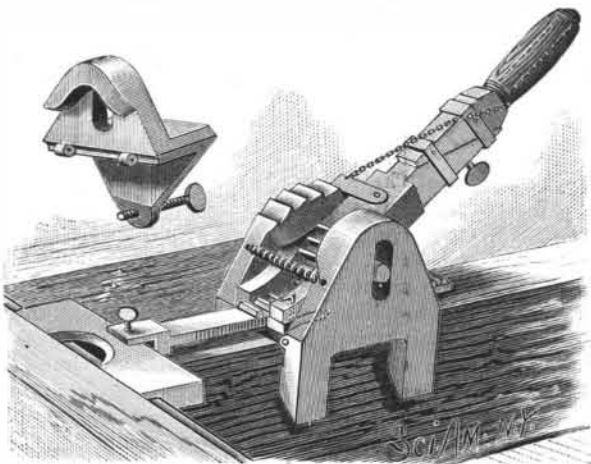


PENNINGTON'S PORTABLE AWNING.

the outer sash, and held in position by thumbscrews, while to its top portion is hinged another frame, composed of two sections hinged to each other, the lower section having hooks at each side adapted to engage screw eyes on the inner surface of the two vertical members of the main frame, the awning frame being more or less raised or lowered, according as the hooks on the lower hinged section are placed in eyes that are higher or lower on the main frame. The awning is fastened at the top to the upper crossbar of the outer folding frame, and carries a rod at or near its lower outer edge, three cords being attached to the rod, which pass up through rings on the under side of the awning to eyes on the under side of the top crossbar, and thence downward, the cords being joined so that the three can be drawn upon by a single cord within convenient reach, and thus fastened to a hook or an eye at the center in the bottom bar of the main frame. Outer cords also extend downward from the rod attached to the lower end of the awning, and are joined in a single cord for convenient attachment to a hook or eye in the bottom of the main frame, these cords, together with a vertical cord to which the side portions of the awning are attached, affording a ready means of raising or lowering the awning without disturbing the frame. When the awning is not required, the folding frame swings inward against the main frame in such position as to be quite out of the way, and the awning itself is entirely drawn to the top of the frame by the cords. The whole device can be easily put in place or taken down without the aid of any special or expert help.

AN IMPROVED JACK.

The invention illustrated herewith provides a jack more especially designed for holding the boards in po-



BRADLEY'S FLOOR JACK.

sition in laying floors, but the device may also be used as an ordinary lifting or pressure jack. It has spring-connected side pieces, hinged to a central box with open ends and top, the side pieces having ribbed jaws adapted to take a firm grip upon the floor beam, and there being a rack-faced sliding bar in the bottom of the box, the outer end of the bar being enlarged and slotted to hold detachably a grooved and recessed block to receive the tongue of the floor strip to be jacked into position. Upon the upper inner surface of each side piece is formed a segmental cam surface, the entire upper semicircular surface of one of them being provided with transverse rearwardly inclined teeth. A lever is pivoted in apertures in the sides of the central box, the pin whereby the lever is journaled being made to project through vertical slots in the side pieces, and the lower end of the lever being made circular, with teeth adapted to mesh with the rack sur-

face of the slide bar, to propel it backward or forward in the box. Each side of the lever has wedge-shaped lugs to engage the faces of the cam projections of the side pieces when the device is placed upon a floor beam, and force the teeth or ribs of the jaws into the beam as the slide bar is carried forward, and also to limit the backward and forward throw of the lever. The manner of attaching the handle is plainly shown in the illustration, but the part grasped by the hand is on a sleeve and connected with a spiral, by which, through a chain and pawl, the latter may be made to engage the teeth upon the upper surface of one of the side pieces, to hold the slide bar in the position to which it is carried when the lever is operated, the chain being of such length that when the sleeve is in its normal position the pawl will be elevated above the teeth. The spiral spring shown across the front of the jack serves to steady the side pieces in position, and just below it, attached to one side of the box, near the bottom, is a spring having one end bent at right angles over the front edge of the box, the angular end of this spring being adapted to engage the teeth of the slide bar to retain the latter in a given or fixed position. The recess in the grooved block abutting against the floor strip affords room for conveniently driving a nail, and the device can then be easily and quickly removed and entered in a similar manner upon the next beam. The small figure shows an extension piece designed for use in place of one of the side pieces when the floor beams are more than two inches thick.

This invention has been patented by Mr. William E. Bradley, and for further particulars address the Giant Floor Jack Co., Roscoe, N. Y. Patents have also been taken out upon it in foreign countries.

AN IMPROVED FEEDER FOR STOVES.

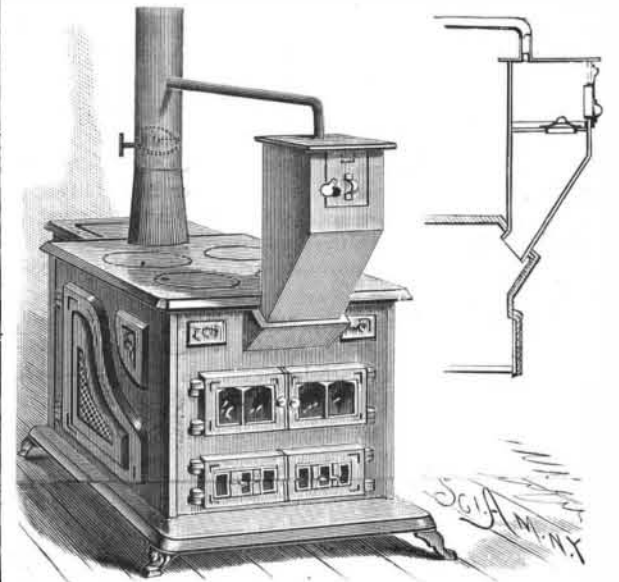
A device especially designed for feeding cooking stoves, and intended to be particularly useful where a rapid-burning fuel is employed, is shown in the accompanying illustration. It forms the subject of a patent recently issued to Mr. Melburn S. Briggs, of Oxford, Nebraska. The magazine or feeder is intended to fit upon and be supported by that portion of the stove usually adapted for a feed opening, as many stoves are now made, although it may be of different construction for stoves with other kinds of feed openings. As will be seen by the sectional view, the feeder is divided into an upper and a lower part, the latter being the fuel box, so shaped as to facilitate the downward feed of the fuel by gravity. The upper part is an air and smoke chamber, in communication by a small pipe with the main smoke pipe, and having an opening, covered by a lid, to the fuel box below. There is a door in this top part for putting in fuel, at which times the lid of the fuel box is removed, the small pipe then conveying away any smoke which might otherwise escape, and also affording a means of assisting in the ventilation of the room, when a small damper in the door of the top chamber is opened. The small pipe also assists to prevent smoke in the room when the damper in the main pipe is too much closed, or when the top covers of the stove are removed.

MANUFACTURE OF LARGE GUNS.

The London Graphic, describing the works of Sir William Armstrong at Elswick, says:

The great ingot out of which a gun barrel is to be made comes from the steel works of the required length and a little more than the needed girth; and it is first taken to the shop to be rough turned and rough bored. The boring machine, composed of an arrangement of chisels carried on the end of a revolving horizontal shaft, is made to work against the solid ingot, so as to take out a center cutting of 9½ inches. This first cut is necessarily made in

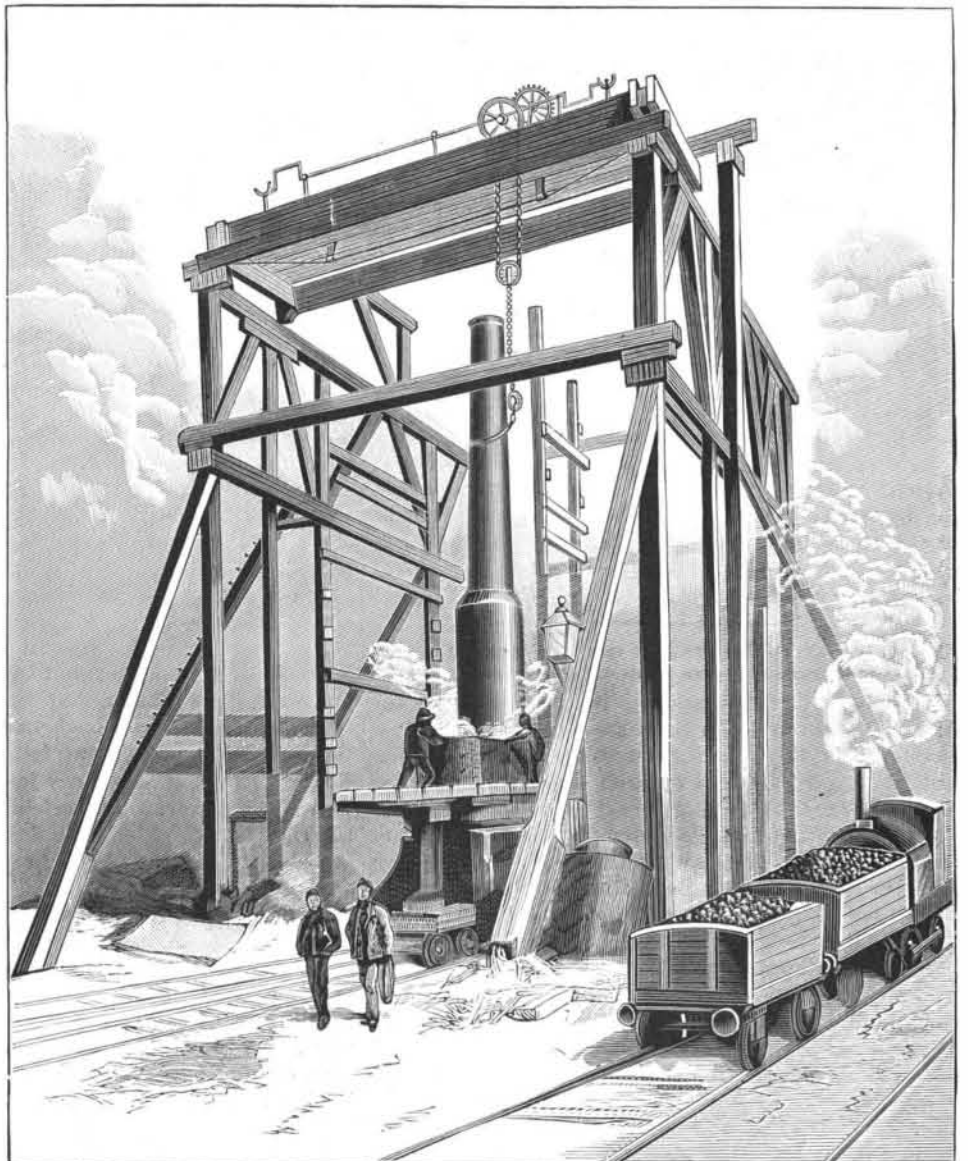
thrusting fashion, but the two others, which enlarge the bore as far as is necessary at this stage, are made by drawing the cutter through the tube. The work is very slow, but the action is virtually automatic, the rate of progress being from four to five inches per hour. The machine goes on night and day, the only stoppages being to examine the work and insure absolute accuracy. After rough boring, the barrel is taken to another shop to be heated and plunged into a bath of oil, to be hardened and tough-



BRIGGS' STOVE FEEDER.

ened; after which it is annealed and then passed on to be fine bored, a delicate and a time-consuming process. Next, the barrel is turned in the lathe—a most powerful machine when heavy gun barrels and cylinders have to be operated upon; and being smoothed inside and out, it is ready to be placed in the shrinking pit to have the successive "jackets" placed upon it, of which the modern steel gun is built up.

When guns were made of iron, the outer jackets were coiled on; but coiling is now superseded, and the shed once devoted to this interesting operation is now employed for other purposes. Steel, unlike forged iron, cannot be welded out of coiled rods or plates, and it is deemed sufficient to give the increased strength required at the breech end by successive coats of metal, which are tightly shrunk on the top of each other. To insure absolute closeness of contact, with some degree of compression, each cylinder is bored so as to be slightly smaller than that which it is to inclose. When heated nearly to redness, it expands so as to slip on



SHRINKING A COIL ON A 110 TON GUN.