

**NEW CUT-OFF.**

The accompanying engraving represents an improved cut-off for steam engines recently patented by Mr. Thomas E. L. Collins, of Fall River, Mass. The improvement, although especially designed for beam engines, is not confined to this use. The lifters are made in two parts. The fixed portion, A, being attached to the valve rod in the usual way, the adjustable portion, B, is pivoted to the heel of the fixed portion, and is guided and supported by a curved arm that projects downward from the toe of the lifter. Two screws, C, D, pass through the lifter, the screw, C, being swiveled in the adjustable part of the lifter. The screw, D, merely presses against the back of the adjustable portion, giving an additional bearing.

The ordinary cut-off lifters of beam engines are secured to the valve rods by means of set screws and keys; and they can be adjusted only by loosening the set screws and keys and changing the position of the lifters. This operation involves a great deal of labor and requires considerable time, and the engine must be at rest.

The advantages of the improvement above described are apparent. The lifters can be adjusted with great accuracy even while the engine is in full operation, by simply turning the screws, C, D, and the application of the improvement to engines already in use involves no change except in the lifters.

**Browning's Stone Varnish.**

Respecting the colorless preservative solution by which Cleopatra's Needle has been covered, a correspondent recently wrote to the *Times*: "In operating upon the granite, Mr. Browning first gave it a thorough cleansing, removing all the sooty and greasy matters from the surface, and then indurated it with his invisible preservative solution. The effect has been to give a freshness to the granite as if only just chiseled from the rock, retaining the original color, disclosing the several veins, the white spar shining in the sun's rays like crystals, and exhibiting the polished portions as they formerly existed. The solution soaks well into the pores of the granite, and the best authorities consider that it will have the effect of thoroughly preserving the monolith. Mr. Henry Browning has personally superintended the operations."

**COMBINED SAD-IRON AND FLUTING ROLLER.**

We give herewith an engraving representing in section and perspective an improved combined sadiron and fluting roller recently patented by Mr. Carl J. Kramer, of Shreveport, La.

The sad-iron is made hollow, and is open at the top and rear end. It is provided with a door at the rear end, and the inner surface of the bottom is corrugated to facilitate the absorption of heat from the heated iron that is placed in the body of the sad-iron. A concave plate, A, is fitted to the top of the sad-iron to receive the lower fluting roller, B. The fluting roller is hollow, and it is fitted at one end to a hollow movable pivot, C, which conducts the heat from the sad-iron to the fluting roller. The opposite end of the roller, B, revolves on a hollow pivot, D, formed on the rear arm of the handle frame, E.

The upper roller is fitted to a hollow gudgeon, F, which is journaled in the handle frame, and is adapted to a crank by which the fluted rollers are turned. The gudgeon, F, communicates with the passage leading to the lower fluted roll. A movable hollow pivot supports the forward end of the upper roll and communicates with an upward flue, by which the heat escapes. It will be observed that by this arrangement a constant current of highly heated air is made to constantly pass through the rollers.

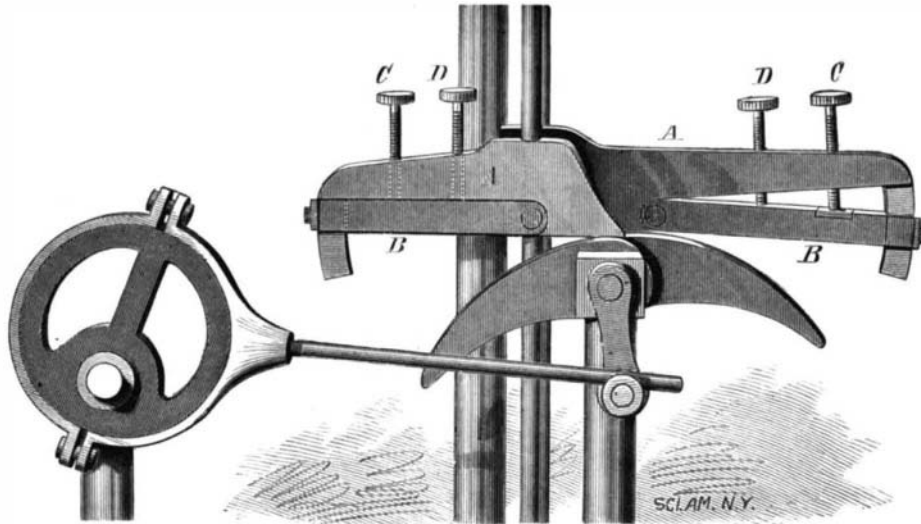
The part of the handle frame carrying the upper roller is movable, and pressure is applied to it through the spring at the top, the tension of the spring being regulated by the screw, G. This screw is provided with a cam, H, by which it may be raised whenever it becomes necessary to take the pressure from the upper roll.

In this sad-iron either a heated iron, coals, or gas may be

used to heat the smoothing and fluting surfaces. Further information may be obtained by addressing Mr. Carl J. Kramer, care of Mr. E. D. McKellar, Shreveport, La.

**MISCELLANEOUS INVENTIONS.**

An improvement in grain bag and fastening has been patented by Mr. A. B. Gardner, of East New York, N. Y. The invention consists in bags having inclined slits formed in their upper ends, forming ears and funnel-shaped mouths, and provided with two rows of eyelet holes to receive the fastening cords, and in a peculiar mode of applying a stiffener.

**COLLINS' CUT-OFF FOR BEAM ENGINES.**

A wooden barrel hoop, having a lengthwise groove for the purpose of increasing its flexibility transversely, has been patented by Mr. John Hartsook, of Sparta, Ill.

An improved device for use in setting dough to rise has been patented by Mr. James L. Campbell, of West Elizabeth, Pa. The improvement consists in a covered tray provided with a pan supporting perforated plate and an upwardly convex radiating plate, the latter placed over a bottom hole.

Mr. James L. Campbell, of West Elizabeth, Pa., has invented an improved device for hatching eggs artificially which is so constructed that the burning of the lamp may be regulated automatically, so as to keep the eggs at a uniform temperature. It is also provided with devices by which it is properly ventilated.

Mr. Ferdinand A. Reichardt, of New York city, has patented an improved device for the preservation and use of volatile substances. It is particularly intended for use in connection with nitrite of amyl, iodide of ethyl, and other

A transposing key board for pianos and organs, whereby the music can or may all be written and played in the key of C natural, and yet will sound in any one of the twelve keys to which the finger board has been adjusted, has been patented by Mr. Asa J. Stafford, of Brushton, N. Y.

The combination of a table with a vertically adjustable top or cover that forms, when raised, a canopy and reflector, and when lowered a casing or safe for the table, has been patented by Mr. Daniel J. Davis, of Red Boiling Springs, Tenn.

Mr. Alexander Cunningham, of Augusta, Ohio, has patented an improved cork for milk jars, which consists of an elastic cork having a convex under surface, and provided with a rubber tube, fitted in an aperture in the cork, and with a bail.

Mr. H. W. Schweckendiek, of Baltimore, Md., has patented an improved temporary binder, consisting of hinged covers and a flexible back, and provided with sliding cords and loops for attachment of the sheets, papers, etc.

An improved device for decomposing water for fuel has been patented by Mr. Milton W. Hazelton, of Chicago, Ill. The object of the invention is to atomize water, and force it by and with a current of hot or cold air up through the incandescent coal lying upon the grate of a furnace or boiler, so that the water becomes decomposed and the oxygen combines with the carbon of the solid fuel, while the combustion of the hydrogen will increase the volume of heat and flame.

Mr. Hugh Nelson, of Philadelphia, Pa., has patented an improved adjustable model for shoe patterns, having

sliding pieces with slots which receive the ends of screw studs passed up from a foundation plate, and provided with nuts, by which the slides are held in any desired position. On the foundation plate are graduated pieces under each slide, by which they are set to the different sized patterns.

An improved calendar, patented by Mr. Emanuel J. Trum, of Brooklyn, N. Y., displays two successive months and days of the week in the proper order opposite figures indicating the days of the month.

Mr. Robert F. Hatfield, of Brooklyn, N. Y., has devised an improved machine for drying clothes, so constructed that the clothes will pass through the machine in one direction and the hot air in the other. It will allow the clothes to be attached outside of the drying room.

Mr. John McAnespey, of Philadelphia, Pa., has invented an improved ice cream freezer which is simple, convenient, and effective, freezing the cream quickly and evenly.

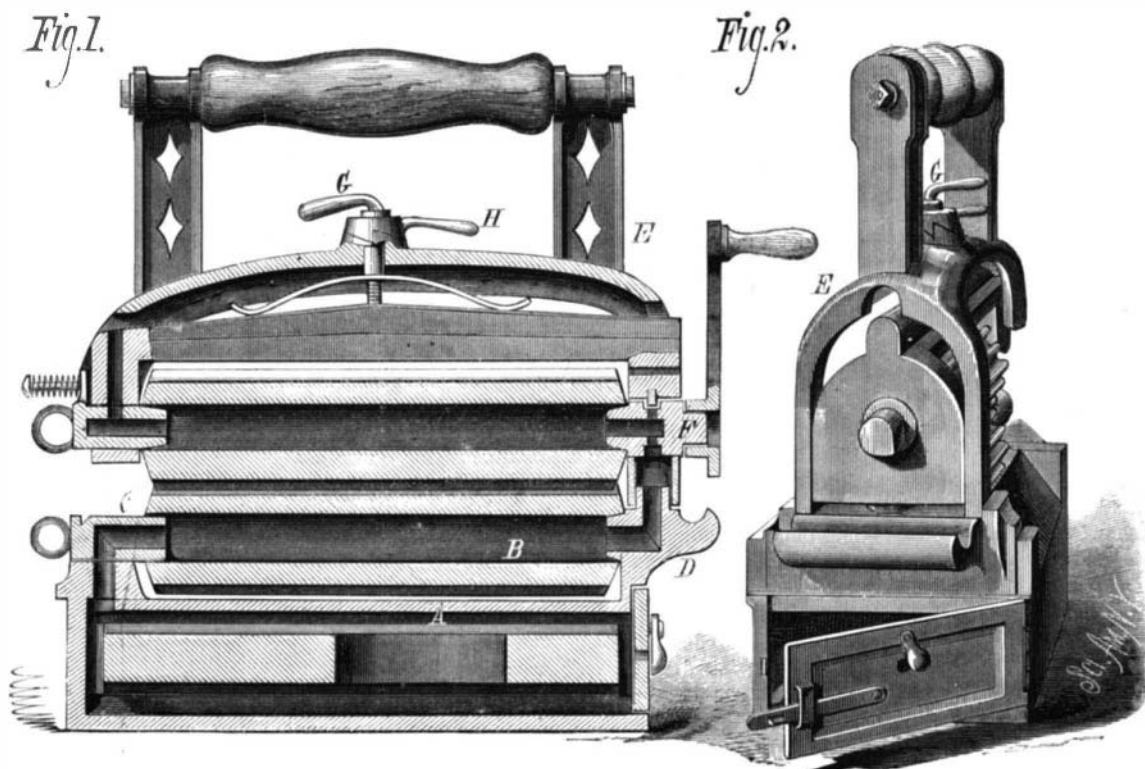
An improved blanket for army use, which shall also be adapted for use as an overcoat with a cape or hood, as may

be desired, has been patented by Mr. Charles A. Hodgman, of Tuckahoe, N. Y. It consists in a blanket of woven material or rubber cloth of the required size, nearly square in shape, with a semicircular extension at one side, and fitted with sleeves. The blanket is provided with loops for gathering-strings, whereby, when it is used as a coat, it may be gathered around the neck, with the semicircular portion hanging as a cape, or turned and secured over the head as a hood.

An improved construction of abdominal corsets, by which the corset is made to fit comfortably to the body of the wearer without being liable to rise up in front, as is the case with the abdominal corsets in which the stays or bones run from the top down to the bottom of the corset, has been patented by Mary Ann Day, of Brooklyn, N. Y. The corset has a great degree of

flexibility and sets easily on the body of the wearer, as well in a sitting as in a standing position.

**HOLES IN HARD STEEL** may be made with nitric acid. To apply it cover the steel plate, at the place where you wish the hole, with a thick layer of melted wax; when cold make a hole in the wax of the size you want the hole in the plate, then put on one or more drops of strong nitric acid, leave it on for some time, wash off with water, and if not eaten through, apply other drops of the same liquid, and continue this until the plate is perforated.—*Ironmonger.*

**KRAMER'S COMBINED SAD-IRON AND FLUTING ROLLER.**

volatile substances. The invention consists in a combined casing and plug or piston of novel construction, adapted to the holding and carrying of a number of pearls or capsules containing volatile substances. When desired the pearls may be crushed and the contents liberated by moving the piston.

Mr. John Epting, of Stroudsburg, Pa., has invented an improved floor scrubber, having projecting elastic plates at each end of the metal frame, half inch wide, to protect the washboards of a room, when scrubbing, from being scratched by the frame, and to facilitate the cleaning of the corners.