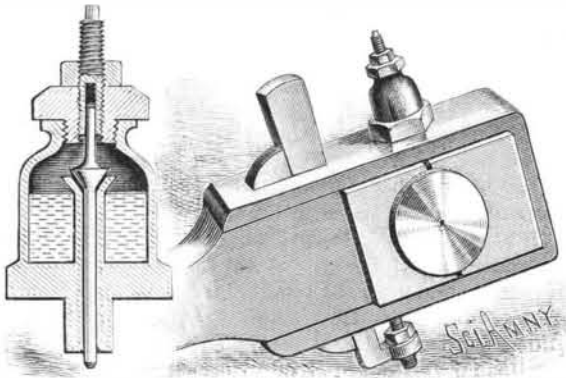
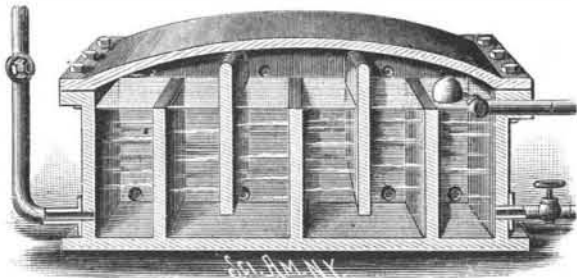


AN IMPROVED LUBRICATOR FOR CRANK PINS, ETC.

An oil cup designed to provide for the regular delivery of small and readily regulated quantities of oil to the revolving crank pin of a locomotive, and one that will not discharge any oil except when the engine is in motion, is shown in the accompanying illustration, and forms the subject of a patent issued to Mr. E. P. Hussey, of Ellis, Kansas. In the center of the cup is an up-

**HUSSEY'S LUBRICATOR.**

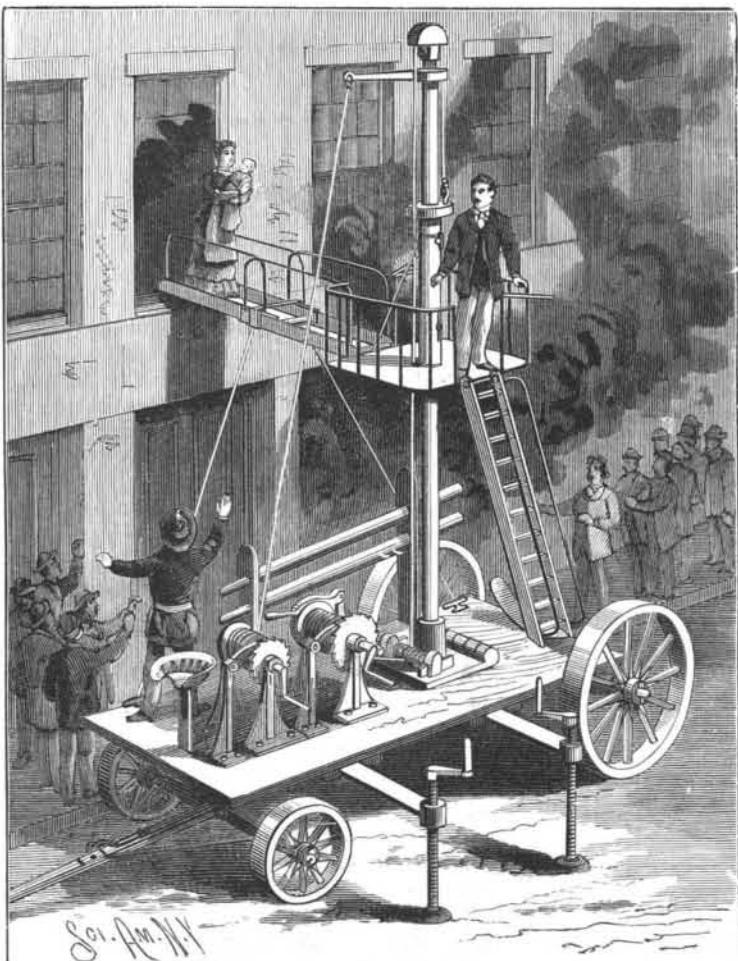
wardly extending tube, with flaring top opening just above the level of the oil, the cap or cover of the cup being fitted with a plug which has a vertical bore in its lower end. The valve has a downwardly extending spindle, fitting loosely within the bore of the tube in the cup, while its stem projects upward within the bore of the plug. The lower projection of the cup is applied to the bearing of the crank pin, in a socket provided therefor, either by a set screw or by threading the lower projection of the cup and the walls of the socket. After the device has been applied, the motion of the crank causes the valve to rise and fall, while also agitating the oil in the cup so that it will strike upon the upper face of the valve and drip downward drop by drop, to be delivered by the spindle directly to the

**MOTLEY'S STEAM TRAP.**

crank pin. The play of the valve, by which the flow of oil is regulated, may be limited as desired by adjustment of the threaded plug in the cover or cap of the cup.

AN IMPROVED FIRE ESCAPE.

The fire escape illustrated herewith, which has been patented by Mr. Henry Opp, of Belleville, Ill., embodies a combination of valuable features, including an extensible mast, a cage with bridge and ladder connec-

**OPP'S FIRE ESCAPE.**

tions, and means for adapting the truck to inequalities of the ground, the invention being also applicable to derricks, signal stations, etc. The mast is of metal, in sections of tubular form, one end of each section forming a dowel which enters the end of the adjacent section, two of these sections being shown in the rack at one side of the truck. To adapt the truck to inequalities of the ground, sliding arms are fitted to its under side, which engage screw props or legs, these being readily moved out of the way when not required. When service for the higher floors of a building is required, the ropes are slackened and the mast is overturned, when the cage and upper section are removed, and other tubular mast sections applied, to build up the mast to the required extent. The drum shown at the left in the picture is then rotated, drawing upon a rope attached to an arm extending from the top of the upper section, whereby the mast is elevated, and held in upright position by means of keys. Firemen now enter the cage, and this is drawn up by rotating the other drum, the cage being secured to a vertical sleeve around the mast, from which sleeve a rope passes over a pulley at the top of the mast, thence downward and to the drum. To opposite ends of the cage are pivoted a bridge and a ladder, the bridge being in sections which slide upon each other, and both bridge and ladder being readily swung upward out of the way when not required in service. The cage and bridge are prevented from rotation by means of guy ropes, and pawls, ratchets, and brakes hold the parts firmly in position.

For further information concerning this invention address Mr. Curt Heinfelden, Belleville, Ill.

AN IMPROVED STEAM TRAP.

A steam trap that is designed to prevent impurities in the condensed water from passing to the pump, whether such impurities are of a kind that would naturally sink by gravity or float on the surface of the water, is shown in the accompanying illustration, and has been patented by Mr. James Motley, of No. 26 Liberty Street, New York City. The trap consists of a closed casing with an inlet pipe at one end and an outlet pipe at the other end, these pipes opening into the casing near the bottom, while at right angles to them, within the casing, are transverse partitions, extending alternately from the casing bottom upward to within a short distance of the top of the casing, and downward to within a short distance of the casing bottom. The steam and condensed water entering by the first pipe fill the first compartment and overflow its partition, thence the water passes under the next and over the third partition, and so on for as many partitions as there are in the trap, causing all heavy particles to settle at the bottom between the partitions before the water reaches the outflow pipe at the end. All sediment that may accumulate at the bottoms of the compartments is forced through blow-off cocks at the bottom of each, to be opened as required, according to the purity of the water, and any scum floating on the surface of the water is discharged in like manner from blow-off cocks arranged on the water level. A float valve is arranged to permit the escape of surplus water, when the whole supply is not drawn off through the regular outflow pipe at the bottom.

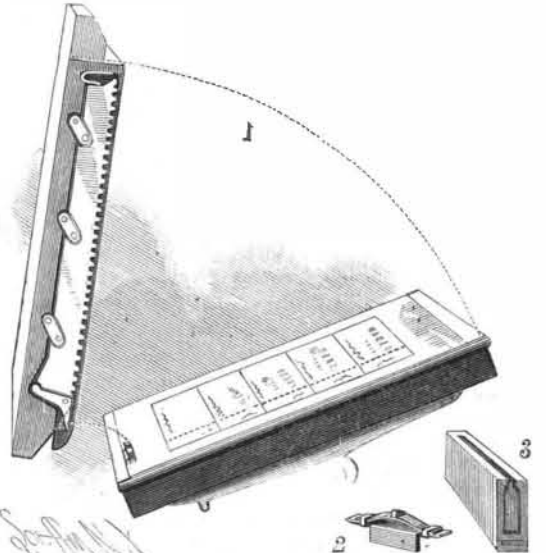
AN IMPROVED REVERSIBLE SCREW DRIVER.

A screw driver adapted for a variety of uses is shown in the accompanying illustration, and has been patented by Mr. Theodore Troy, of Three Rivers, Mich. Besides the main bit, the blade has side bits, either or both of them adapting the tool to be used in various positions, and to be applied either longitudinally or sidewise to the screw. The handle is formed with a transverse socket, adapting it to receive a bar or lever when the main blade is applied sidewise to the screw. The wooden portion of the handle is fitted with annular cheek pieces, having inwardly projecting circular flanges, forming bearings for a circular casting in which the socket is formed, the casting having ratchet teeth around the center of its outer surface. The wooden portion of the handle being further recessed to receive a pawl caused to engage with the ratchet teeth by a rubber spring. Within the ferrule is a spring for holding the blade in position, and the socket in the handle is tapered at both ends to form a double or reversing socket.

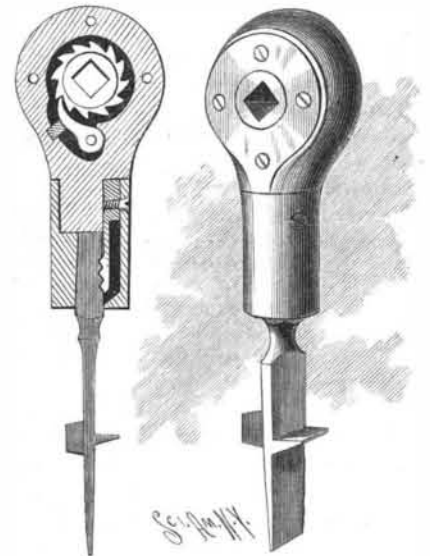
THERE is to be an orange-wine factory established in Florida by some Englishmen. Orange wine, when properly made, is said to be very fine.

AN AUTOMATIC PERFORATOR FOR PRINTING PRESSES.

The illustration herewith, which forms the subject of a patent issued to Messrs. George and Robert Kennedy, of New Westminster, British Columbia, Canada, provides a device for use on printing presses, for perforating paper in the operation of printing, the perforator dropping below the surface of the type when the

**KENNEDY'S PERFORATOR FOR PRINTING PRESSES.**

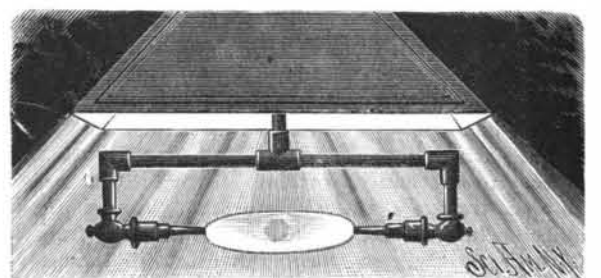
form is being inked, but being raised up into position as the impression is given. Fig. 1 is a vertical transverse section of the bed and platen of a press, showing the application of a perforator, Fig. 3 is a detail view of a hollow rule in which the perforator works, and Fig. 2 represents one of the forms of yielding contacts used on the edge of the platen for operating the perforator. The hollow rule is formed of metal strips connected together in any convenient way, a serrated knife-edged cutter being supported in the hollow upon links pivoted to the back of the cutter and to a strip forming the back of the hollow rule. This perforating device is clamped in the form in the chase

**TROY'S REVERSIBLE SCREW DRIVER.**

in the same manner as an ordinary rule, in the position in the form at which the perforations in the printed sheet are desired. Just before the contact of the paper with the face of the type in printing, the yielding contact on the edge of the platen strikes the outer end of an angled lever pivoted in the hollow rule, swinging the cutter forward and outward on its links, causing its serrated edge to project above the face of the type sufficiently to insure the perforation of the paper on that line, as the impression is given. As the platen is removed, the yielding contact is withdrawn from the end of the lever, and a spring at the other end of the hollow rule causes the cutter to swing back into its former position, so that it will not be inked by the rollers passing over the form.

AN IMPROVED GAS BURNER.

A novel arrangement of gas burners, by which the points of the burning jets issuing from two burners will impinge against each other, and thus insure a more perfect combustion of the gas, is shown in the accom-

**SHEEHAN'S GAS BURNER.**

panying illustration, and forms the subject of a patent issued to Mr. Thomas Sheehan, of No. 374 East Main Street, Louisville, Ky. The relative position of the burners beneath the shade is indicated in the drawing, it being considered that the best effects will be obtained in ordinary practice when the two ignited jets overlap about a quarter of an inch, this being effected by turning the gas on or off until the ignited jets are of the

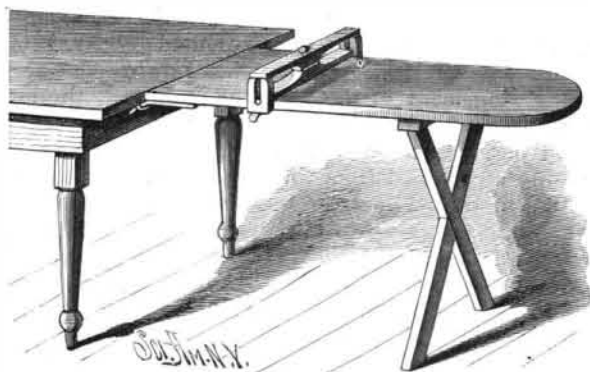


BAYER'S FLOOR CRAMP.

quired size. These burners are designed to prevent the production of any smoke or the giving off of any unconsumed particles, thereby yielding more light for a given amount of gas consumed.

AN IMPROVED IRONING BOARD.

A simple form of ironing board, having a readily adjustable clamp, whereby shirts or other articles may be firmly held while being ironed, is shown in the accompanying illustration. The board has a cleat or cross bar on its under side, near one end, to which are hinged crossed legs, while at the other end are two bent prongs or bars that may be readily inserted in apertures formed on the under side of one end of a table of



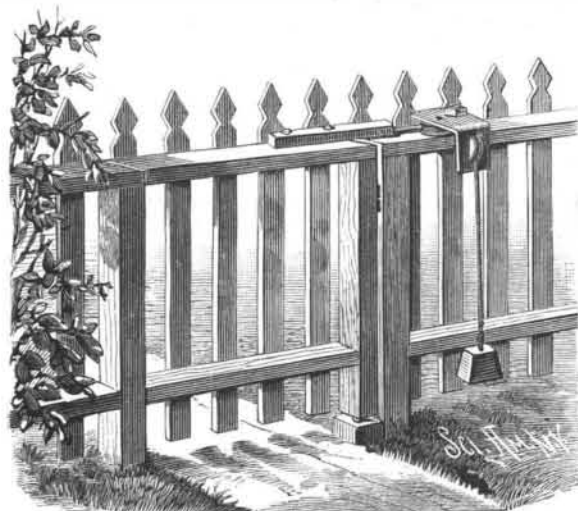
McCORMICK'S IRONING BOARD.

any ordinary form, in connection with which the ironing board may be set up. The clamp consists of slotted end blocks and upper and lower spring bars, extensions of which ride in the slots of the end blocks, turn buttons being secured to the lower faces of the end blocks. When the clamp is placed upon the article to be ironed, the turn buttons are moved so that one end of each button will extend beneath the table, and the article will be firmly held.

This invention has been patented by Mr. Robert E. McCormick, of New London, Huron County, Ohio.

AN IMPROVED DEVICE FOR CLOSING GATES.

The accompanying illustration represents an exceedingly simple and readily applicable device for closing



RIGG'S DEVICE FOR CLOSING GATES.

gates, which has been patented by Mr. James W. Rigg, of Mount Carmel, Ill. Upon the inner or hinged end of the top of the gate frame is fastened a bar, which projects beyond the gate, over the top horizontal beam of the fence. At the rear of this bar an angular frame is secured upon the top beam of the fence, and in this frame are journaled two pulleys, one in a horizontal and the other in a vertical position, the latter projecting through a slot in the frame. A cord attached to the end of the bar upon the gate passes around the horizontal pulley and then over the vertical pulley, through the slot in the frame, a weight being attached to the other end of the cord, near the ground. It will be seen that, when the gate is opened, the bar projecting beyond its hinged end operates as a lever, raising the weight, and when the gate is not held open, the weight will automatically close it.

A FLOOR CRAMP FOR CARPENTERS, JOINERS, ETC.

The manner of operating a simple, handy, and inexpensive implement for tightly closing up the joints of flooring boards and deck planks, prior to nailing or otherwise securing them, is shown in the accompanying illustration, the small figure being a vertical cross section of the tool. The device consists of an elongated bed plate having backwardly projecting spurs on its bottom, and an upright hand lever carrying a pawl at the base of its arm. This lever is made with a cam head embraced by and turning between a toothed rack and a supporting flange rising from the bed plate, a push bar sliding in parallel bearings on the bed plate, made with a cross head and connected by a slotted link to the cam of the lever. The tool is very powerful, and is designed to cramp from eight to ten boards at a time if desired, the pawl engaging the rack teeth to hold the boards tightly in position when the hand is removed from the operating lever. The device may also be used for cramping the wainscoting of a room, for clamping doors together, and for a variety of similar work.

This invention has been patented by Mr. Alexander S. Bayer, and further information relative thereto may be obtained of Mr. Charles F. Mott, No. 90 Argyle Street, Halifax, N. S., Canada.

AN IMPROVED SURGICAL INSTRUMENT HOLDER.

An improved device, whereby various implements, such as scissors, hooks, saws, lancets, or various forms of blades, may be readily and quickly inserted alternately in one handle, and held firmly therein, is shown in the accompanying illustration. It has been recently patented by Mr. Leonhard Schwab, of No. 102 Graham Avenue, Brooklyn, E. D., N. Y. The handle has a vertically slotted head, with a recess on one side of the base of the slot, in which a thumb wheel is held upon a threaded pin projecting through the handle from side to side. In one edge of the handle is a concave surface whereby the milled periphery of the thumb wheel may be readily engaged by the operator, and projecting through the handle above the thumb wheel is a rivet. The shank of the instrument, as shown in the detail views, is made flat, of a width equal to that of the handle; it has a central longitudinal slot, and aligning semicircular recesses on each side. When the shank of the instrument is inserted in the handle, the slot in the shank passes over the rivet and the threaded pin, the shank coming in contact with and resting upon the bottom of the handle slot, when a slight turn of the thumb wheel fixes the tool firmly in the handle. With this construction one handle will answer for a great many tools.

AN IMPROVED METHOD OF RAISING BREAD, ETC.

An invention which has for its object the protecting of dough, etc., from currents of air while being prepared for baking, keeping its surface in a moist condition, and retaining the heat of fermentation, is illustrated herewith. It forms the subject of a patent recently issued to Mr. Joseph D. Cox, of Rochester, N. Y. One of the figures shows a convenient form of vessel to serve both purposes of mixing and raising, and the other is a more desirable form of chamber for the second raising, when the dough is made into loaves, and placed in pans or tins, according to the course ordinarily followed by housekeepers.

In both cases the down-projecting rim of the cover sits into an annular channel or trough, filled with water or other liquid, preventing the inward passage of air, but permitting the escape through the water of gases and vapors generated by the fermentation within. The length of time the dough is left in the two vessels varies according to the temperature, but the periods are about the same as ordinarily occupied, the mixing pan, for instance, being employed to keep the dough in over night, and the other vessel, placed in a warm situation, for the second raising during an hour or two in the morning. By thus keeping the surface of the dough moist, while facilitating the escape of the gases of fermentation, it is sought to prevent the forming of a tough, hard upper crust, while making the bread more palatable and digestible.

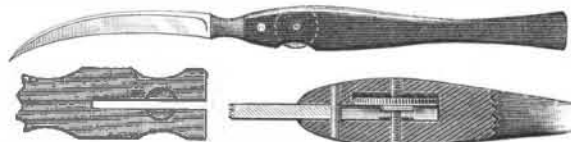
AN IMPROVED SCAFFOLD BRACKET.

A bracket designed to be cheap, durable and efficient, and that is adapted to serve a variety of uses, is shown in the accompanying illustration. It forms the subject of a patent issued to Mr. William H. Higgins, of Forest City, Pa. The parts are so made that the platform-supporting arms of the bracket may be adjusted to a horizontal plane, and the bracket may be attached to



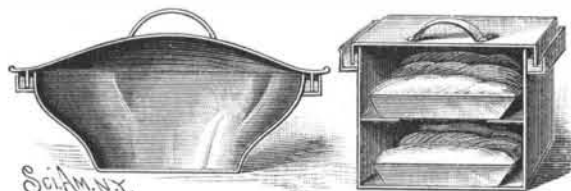
HIGGINS' SCAFFOLD BRACKET.

a roof or to the upper or under side of a ladder. In connection with a ladder the bracket may be used as an entirety, or may be separated into three distinct parts, which, with the aid of double hooks, may each be secured to the ladder. The side bars used in this bracket are formed with peculiar shaped, flattened, hooked ends, the ends of the hooks extending outward at an angle from the bars, and having spurs extending



SCHWAB'S SURGICAL BLADE AND HANDLE.

outward from the hooks, the bars having elongated slots in connection with these hooked ends, in which are pivotally mounted S hooks, the latter carrying adjustable leaves, with sleeves rigidly fixed thereto to slide on the hooks. The illustration shows only a few of the many uses to which this bracket may be applied, the small figure indicating the form of a slotted extension for a foot for the bottom of the ladder, to secure

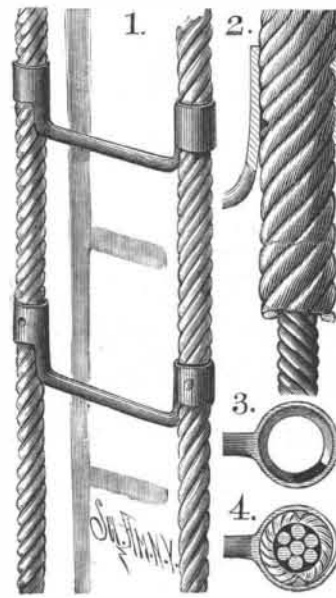


COX'S BREAD RAISER.

a firm and even foothold for the ladder upon uneven ground.

AN IMPROVED ROPE LADDER.

A rope ladder with peculiarly constructed rungs, and ropes of metallic cable covered with fibrous strands, making an article especially adapted for fire escapes, is shown in the accompanying illustration, and has been patented by Mr. Harlow French, of No. 340 West Fortieth Street, New York City. The rungs



FRENCH'S ROPE LADDER.