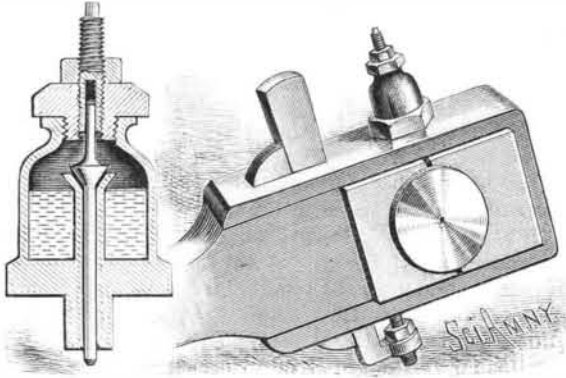
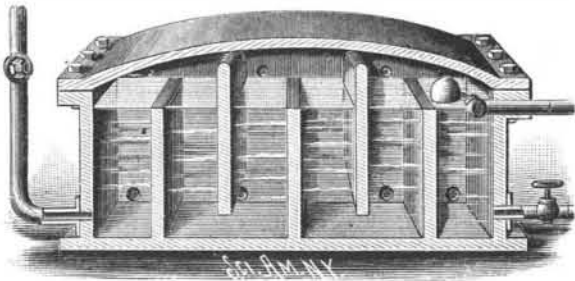


**AN IMPROVED LUBRICATOR FOR CRANK PINS, ETC.**

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.**

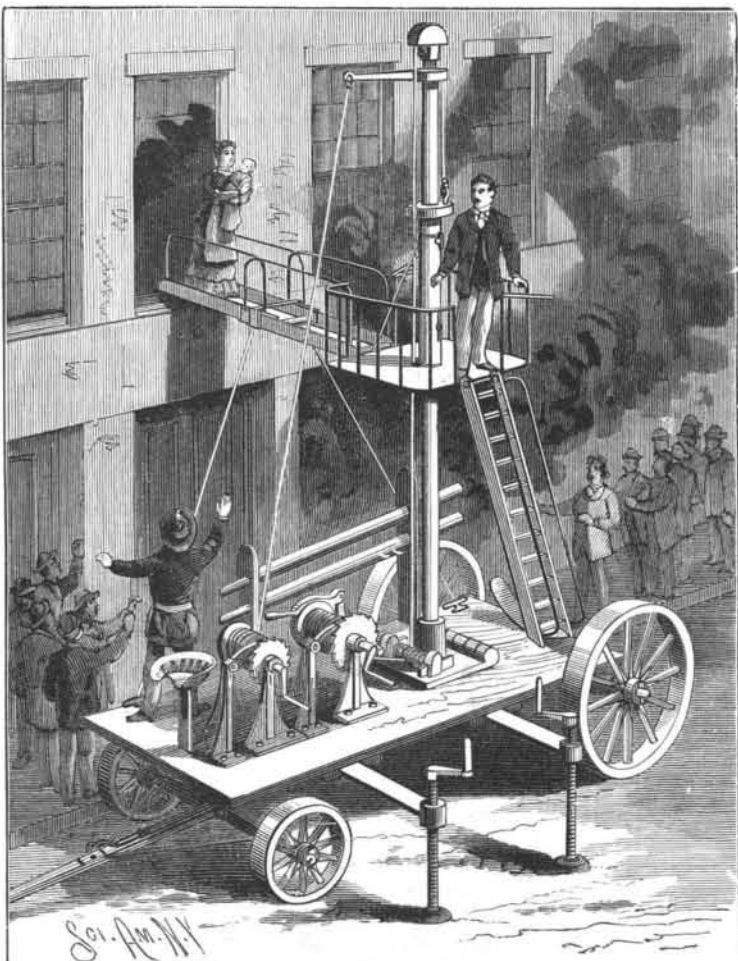
wardly extending tube, with flaring top opening just above the level of the oil, the cap or cover of the cup being fitted with a plug which has a vertical bore in its lower end. The valve has a downwardly extending spindle, fitting loosely within the bore of the tube in the cup, while its stem projects 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 connect-

**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.

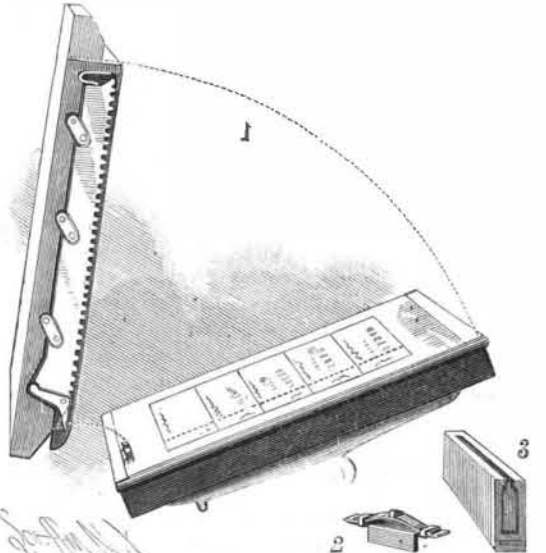
**AN IMPROVED REVERSIBLE SCREW DRIVER.**

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.

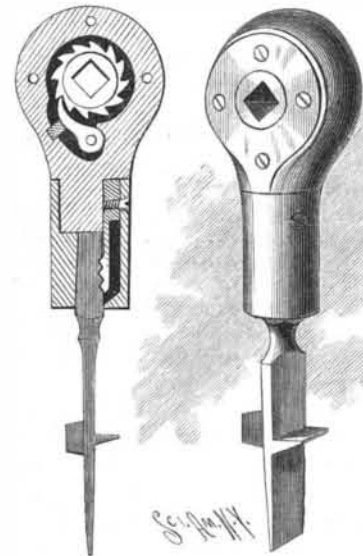
THERE is to be an orange-wine factory established in Florida by some Englishmen. Orange wine, when properly made, is said to be very fine.

**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.**

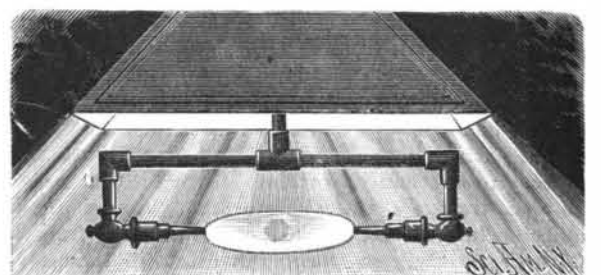
form is being inked, but being raised up into position as the impression is given. Fig. 1 is a vertical transverse section of the bed and platen of a press, showing the application of a perforator, Fig. 3 is a detail view of a hollow rule in which the perforator works, and Fig. 2 represents one of the 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.**