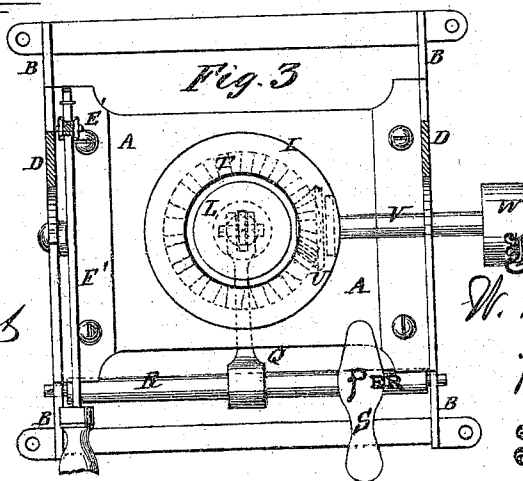
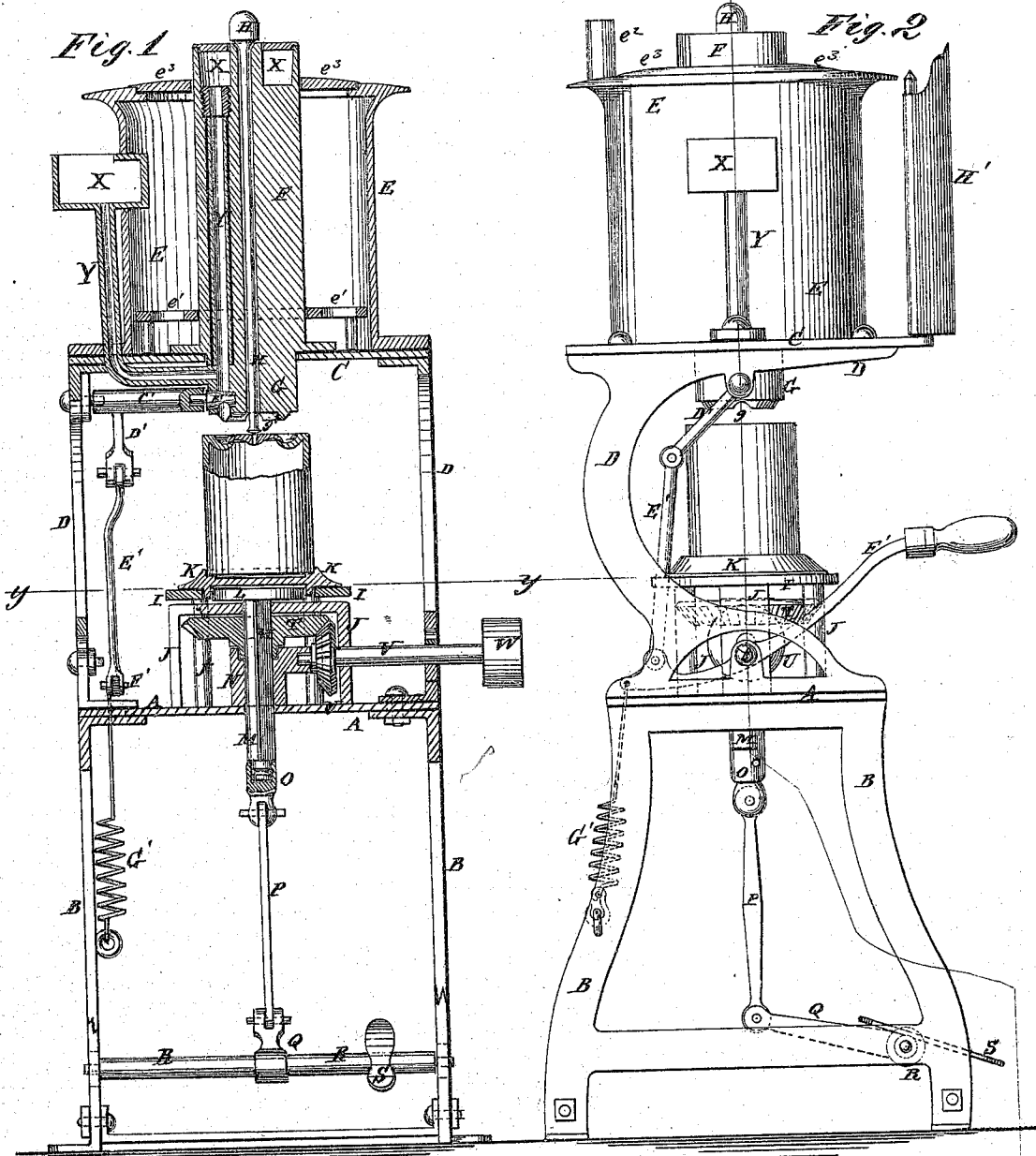


W. B. BISHOP.
 Improvement in Machines for Soldering Can Caps.
 No. 124,930. Patented March 26, 1872.



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WILLIAM B. BISHOP, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR SOLDERING CAN-CAPS.

Specification forming part of Letters Patent No. 124,930, dated March 26, 1872.

Specification describing a new and useful Improvement in Machines for Soldering Can-Caps, invented by WILLIAM B. BISHOP, of Brooklyn, in the county of Kings and State of New York.

Figure 1 is a front view of my improved machine, partly in section, through the line *x x*, Fig. 2, and parts being broken away to show the construction. Fig. 2 is a side view of the same. Fig. 3 is a horizontal section of the same taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of my improved machine for soldering the caps upon sheet-metal cans for which Letters Patent No. 109,577 were granted to me November 29, 1870, so as to make it more convenient in use and more effective and reliable in operation; and it consists in the construction and combination of various parts of the machine, as hereinafter more fully described.

A is the lower platform of the machine, which is securely attached to and supported by a frame or legs, B, of such a length as to raise the machine to a convenient height. C is the upper platform, which is supported from the platform A and frame B by the arms, brackets, or frames D. This construction leaves the forward part of the space between the platforms A C wholly unobstructed, so that the cans can be conveniently inserted and removed. E is the furnace in which the fire is formed to heat the soldering-tool, and which is provided with a grate, *e*¹, to support the fuel, an opening to admit air to support combustion, a flue, *e*², for the escape of the smoke and other products of combustion, and a detachable cover, *e*³. F is the heater, which is a bar of cast-iron or other suitable material, placed vertically in the center of the furnace E, and with its lower part resting upon and secured to the bottom of the furnace E or to the platform C. G is the soldering-tool, which is formed upon or connected with the heater F so as to receive heat from said heater to keep the solder melted and cause it to fill the groove in the top of the can which receives the edge of the cap. The face of the soldering-tool is concaved, to receive the cap and to give to its edge a ring-form, and said edge is notched, as

shown in Figs. 1 and 2. The notches *g'* in the edge of the soldering-tool enable it to spread the solder more evenly through the groove in the can-top, and prevent the soldering-tool from pressing the solder out of said groove. The cap is held in place upon the can, while being soldered, by a rod, H, which passes down through a hole through the center of the heater F and soldering-tool G, so that its lower end may rest upon the said cap, as shown in Fig. 1. The upper end of the rod H is weighted, to enable it to hold the cap securely in place while being soldered. I is a ring-shaped table, which is supported from the platform A by legs or supports J. K is a plate, the upper side of which is recessed to receive and fit upon the lower end of the can. The lower side of the plate K has a ring-flange formed upon it to fit into the circular opening through the table I. The ring-flange upon the lower side of the plate K forms a circular recess, into which is fitted a circular disk, L, formed solidly upon or rigidly attached to the upper end of the vertical shaft M. The shaft M passes down through a hollow stud, N, and to its lower end is swiveled a coupling, O, to which is pivoted the upper end of a connecting-rod, P, the lower end of which is pivoted to the outer end of the arm Q, rigidly attached to the shaft R, which revolves in bearings in the frame B, and to which is attached a foot-lever, S. By this construction the operator, with his foot, can raise the shaft M, bringing the disk L into contact with the plate K, and raising said plate to bring the top of the can into contact with the soldering-tool G. T is a bevel-gear wheel, through the center of which the shaft M passes, and which rests upon the upper end of the hollow stud N. The bevel-gear wheel T is connected with the shaft M by a tongue and groove, so that the said gear-wheel may carry the said shaft with it in its revolution, while at the same time allowing the shaft to move up and down freely. Into the teeth of the bevel-gear wheel T mesh the teeth of the bevel-gear wheel U attached to the shaft V, which revolves in bearings in the stud N and the frame of the machine. To the outer end of the shaft V is attached a pulley, W, to receive the belt by which the power is applied. By this construction the can will be revolved when raised, and will remain stationary when low.

ered. In the upper end of the heater F is formed a recess, X, to receive the solder to be melted. Y is a pipe which leads from the solder receptacle X to the soldering-tool G, through a longitudinal hole through the said heater and soldering-tool, to conduct the melted solder to the can. The part of the pipe Y that passes through the heater F is packed with plaster-of-Paris or other suitable non-conducting material, to prevent the solder from being too highly heated while passing through the said heater.

If desired, the solder receptacle X may be inserted in the side of the furnace E, and the pipe Y may pass down along the side of the furnace E and along the lower side of the platform C to the hole in the soldering-tool G, to conduct the melted solder to said tool.

In the hole through the soldering-tool G is placed a valve-plug, B', in the side of which is formed a notch or recess of such a size as to contain enough solder to solder a single can-cap. The valve-plug B' passes in through a hole in the side of the soldering-tool G, and its outer end is squared off to fit into the square recess formed in the end of the shaft C', the outer end of which is pivoted to one of the arms or brackets D. To the shaft C' is rigidly attached, or upon it is formed, an arm, D', to the outer end of which is pivoted the upper end of the connecting-rod E', the lower end of which is pivoted to the rear end of the lever F'. The lever F' is pivoted to the frame-work of the machine, and its forward end projects into such a position that it may be conveniently reached and operated by the operator. G' is a coiled-spring, one end of which is connected with the frame of the machine, and its other end is connected with the rear end of the lever F'.

By this construction, when the can has been raised into contact with the soldering-tool G

the lever F' is operated, which turns the valve-plug B' and discharges the proper amount of solder, which is spread along the groove in the can-top by the soldering-tool G as the can is revolved beneath it.

H' is a shield or fender which is placed in front of the furnace E, upon rods attached to the platform C, to protect the workman from the heat.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The notches *g'* formed in the ring-edge of the soldering-tool G, substantially as herein shown and described, and for the purpose set forth.
2. The loose plate K, in combination with the ring-shaped stationary table I, and with the disk L having a rotary and vertical movement, substantially as herein shown and described, and for the purpose set forth.
3. The solder receptacle X and pipe Y, in combination with the heater F, furnace E, and soldering-tool G, substantially as herein shown and described, and for the purpose set forth.
4. The combination of the measuring valve-plug B' with the soldering-tool G, heater F, pipe Y, solder receptacle X, and furnace E, substantially as herein shown and described, and for the purpose set forth.
5. The combination of the shaft C', arm D', connecting-rod E', lever F', and spring G' with the valve-plug B', soldering-tool G, heater F, solder receptacle X, pipe Y, and furnace E, substantially as herein shown and described, and for the purpose set forth.

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