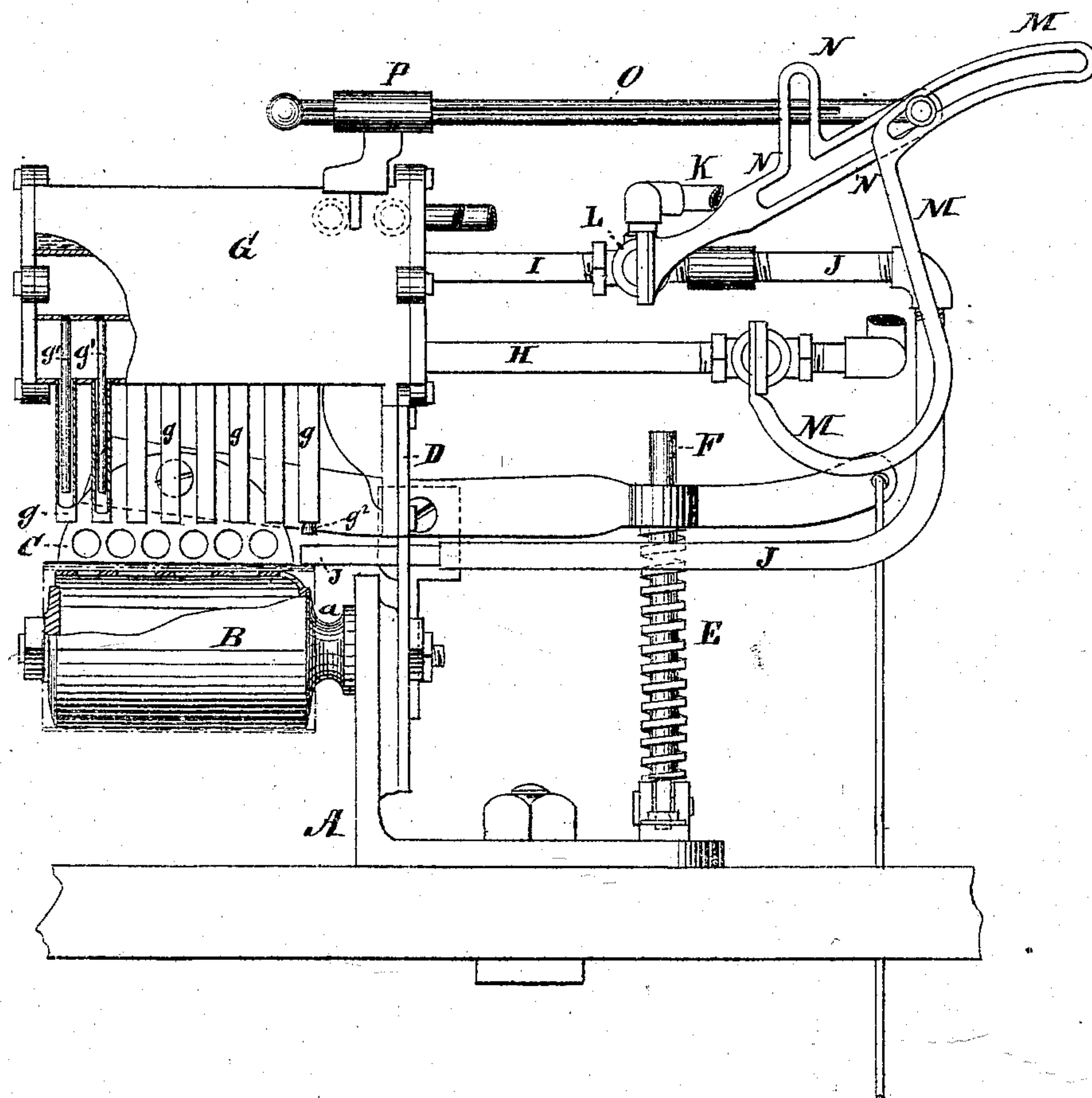


W. D. BROOKS.
Soldering-Machines.

No. 137,888.

Patented April 15, 1873.



Witnesses:
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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM D. BROOKS, OF BALTIMORE, MARYLAND, ASSIGNOR TO MARY C. BROOKS AND GEORGE D. BROOKS, OF SAME PLACE.

IMPROVEMENT IN SOLDERING-MACHINES.

Specification forming part of Letters Patent No. 137,888, dated April 15, 1873; application filed January 17, 1873.

To all whom it may concern:

Be it known that I, WILLIAM D. BROOKS, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Soldering-Machines for Making Pipes and Cans; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The invention consists in the improvement of machines for soldering cans or pipes, as hereinafter described and subsequently claimed.

The drawing represents a front elevation of my improved machine.

In the drawing, A represents a frame made of suitable material and provided with the hollow cylinder B, attached thereto by a neck, *a*. The cylinder or can-holder B is made of thin metal, apertured on top, and disconnected from frame as much as possible, so as to prevent an unnecessary absorption of heat, and to require but little for raising its own temperature, preparatory to receiving the sheet, which is intended to form the can-body. C is the clamp, made almost in the shape of a knife-blade, pivoted in its shank to the upright D, and resting with its handle upon a spring, E, that surrounds a post, F, passing through a vertical hole in said handle. By this construction the spring holds the clamp down upon the can-body, which has been slipped over or about the cylinder B, while it is readily forced therefrom by a pressure of the foot, or any other agency, upon the end of handle. G represents the casing, which incloses a suitable water-chamber at the top, air-chamber in the middle, and gas-chamber below. The two latter, respectively, have internal and surrounding pendent pipes *g g*, which form the burners. The pipes H I, respectively, connect with the gas and air-chambers and feed the pipes *g g*¹, while an air-pipe, J, passes around and has its outlet just above the top of cylinder B, for the purpose of cooling the soldered seam quickly and effectively. K is an air-pipe connecting with a blower, bellows, or air-forcing pump at one end, while at the other it is attached to the

three-way cock L that connects the two air-pipes I J. By this arrangement of pipes, in connection with the air-supply pipe K and three-way cock L, the incoming current of air may be readily turned into either direction, while the other is shut off. The effect is that, when the gas-cock and the three-way cock of the air-pipe are moved so as to bring the thumb-pieces of cocks in a horizontal plane, and to throw the current into the pipe I, the burners are supplied with oxygen in proper quantity, and freely impinge the flame upon the seam, along which the powdered resin has been already thrown and the wire solder is then passing. When, however, the thumb-pieces of cocks have been brought into a perpendicular position, the supply of air and gas is cut off, while the cold air is forced through pipe J and along the soldered seam, so as to cool it thoroughly and rapidly. It is very desirable that this should all be done by a single and simple movement of the operator, and also that a small supply of gas should be rendered possible, so that the burners may not entirely go out when unnecessary to act upon the solder. My means for accomplishing this consist of the crooked single-slotted bar M, the double-slotted bar N, respectively attached to the thumb-pieces of the air and gas-cocks, and the hand-slide O, movable in a guide, P. By this mechanism, when the slide O is pushed out to its furthest extent the burners are reduced to a feeble flame, which is caused by a filing across the gas-outlet so as to allow a small leakage. When reversed, a full blast for impinging a hot flame upon the seam of can-body is created. In the first instance the air is shut off entirely from the burners and forced through pipe J and upon the seam of can-body, while in the second it all passes into the pipe I.

One or more of pipes *g* may be fitted with a plug, *g*², as shown in the drawing, for the purpose of allowing cans of greater or less length to be soldered.

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

1. The hollow cylinder B, connected with

the frame A by a small intermediate neck, *a*, and in contact therewith at no other point, as described, so that a minimum of the heat which the former receives from the blow-pipes will be lost by transmission to the latter.

2. The combination, with cylinder B that holds the can-body which is being soldered, of an air-pipe, J, arranged horizontally to force a current of cold air across the soldered seam of can, as and for the purpose specified.

3. The can-holding cylinder B, slotted at its top surface under the line of seaming, as described, to prevent the heat from being conducted too rapidly from the can-seam to the

cylinder, and thus producing an imperfect joint.

4. The combination, with the cocks of air and gas pipes, of the single and double slotted bars M N and the hand-slide O, arranged to operate as and for the purpose described.

5. The air-pipe K and three-way cock L combined with burner, blow-pipes I *g*¹, and cooling-pipe J, as and for the purpose set forth.

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Witnesses:

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