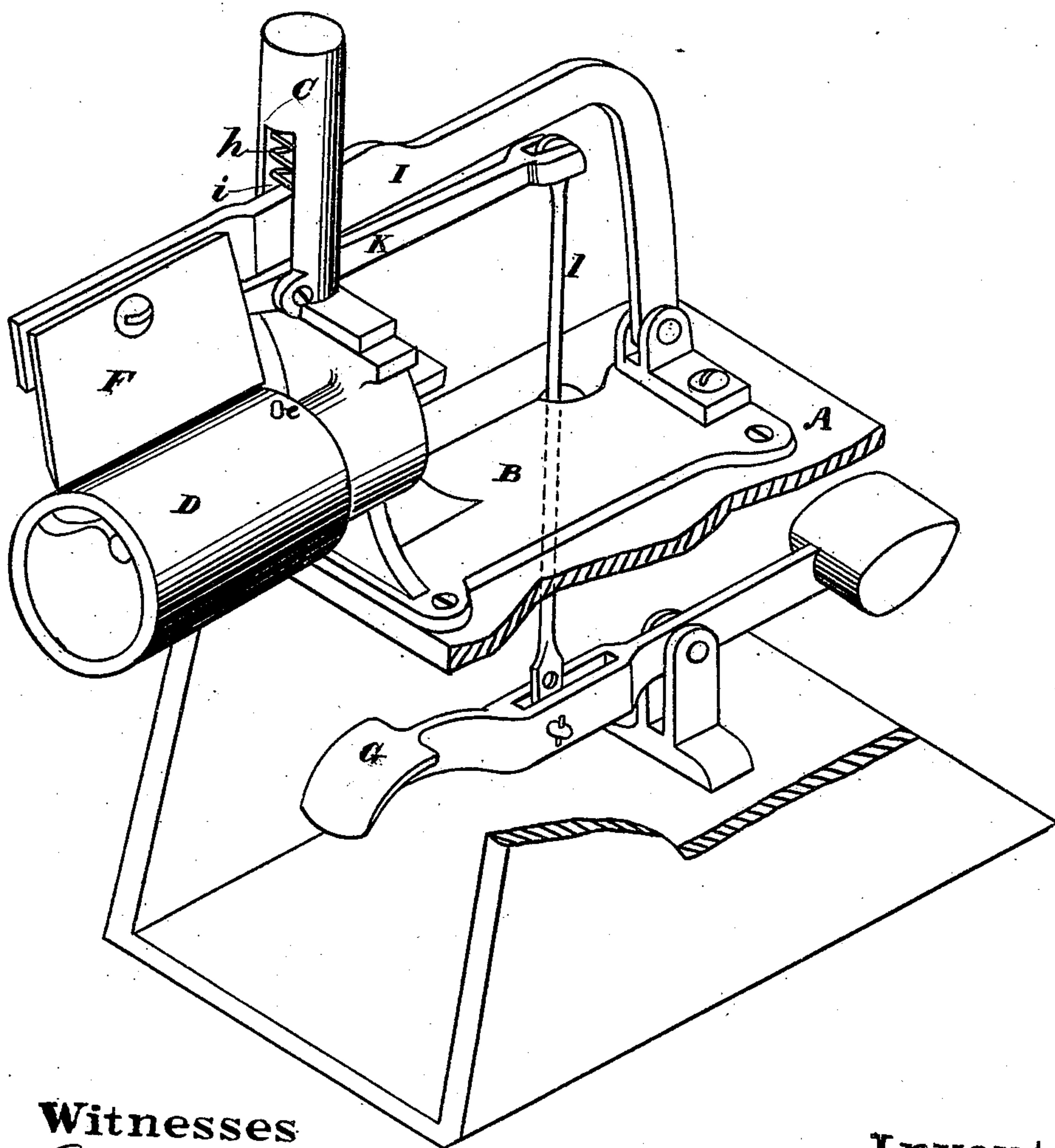


F. C. & C. E. SMITH.
SOLDERING CLAMPS.

No. 179,823.

Patented July 11, 1876.



Witnesses

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UNITED STATES PATENT OFFICE.

FERDINAND C. SMITH AND CHARLES E. SMITH, OF PORTLAND, OREGON.

IMPROVEMENT IN SOLDERING-CLAMPS.

Specification forming part of Letters Patent No. 179,823, dated July 11, 1876; application filed May 16, 1876.

To all whom it may concern :

Be it known that we, FERDINAND C. SMITH and CHARLES E. SMITH, both of Portland, State of Oregon, have invented a Machine for Tinnerns' use; and we do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention without further invention or experiment.

Our invention relates to a machine for tinnerns' use, the object of which is, first, to provide a machine for conveniently soldering cans; and it consists in certain combinations and details of construction, as hereinafter are more specifically described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of our machine.

A is a table or work-bench, upon which I secure the casting which forms the body of the machine. This casting consists of a base, B, which is secured to the top of the table, and an upright standard, C, which extends upward from the casting near the front edge of the table. A horizontal cylinder, D, is detachably secured to the standard, so as to project out beyond the front of the table.

This cylinder D is the form around which the piece of sheet metal is bent, in order to give it a cylindrical form, and it is secured to the upright C by means of a detachable fastening, so that it can be removed when desired, and thus permit of different sizes being attached, according to the diameter of cylinder it is desired to make.

In some cases, however, where the machine is intended for making cylinders of a specific and uniform size, it can form a permanent part of the casting.

One or more projecting pins or stops, *e*, are secured to the cylinder at the proper distance from its front end, to gage the length and position of the piece of sheet metal while it is being bent and soldered.

In connection with this former or cylinder we use a clamp, F, which can be raised by means of a treadle, G, while the sheet of

metal is being bent around the cylinder, and which is forced downward by a spring, *h*, so as to clamp the overlapped edges of the sheet metal when the treadle is released, and thus hold the edges in place while the workman solders them together.

The arm I, which operates the clamping blade or bit F, is hinged to the rear end of the casting, and its upper end is bent forward at right angles, so as to pass through a slot, *i*, in the upper end of the standard C. The spiral spring *h* is placed in the slot *i* above the arm or bar I, so as to press it downward. The clamping bit or blade F, which is as long as the cylinder D, is fastened to the end of this bar directly above the cylinder D, so that its edge will be pressed by the spring along the whole length of the metal cylinder.

For convenience we secure this bit or blade at an angle as represented, so that it will be out of the way of the soldering-iron as it is passed along the same.

The treadle may be connected in various ways with the arm I for raising it, but we have represented an independent lever, K, which passes along under the bar, and is pivoted at its middle to the standard C. The rear end of this lever is connected with the treadle by a connecting-rod, *l*, which passes down through the table, so that when the treadle is depressed the forward end of the lever will be raised, and will also lift the arm I.

This machine will be found to be of great value in the manufacture of tin cans, where it is desirable to have them all of a uniform size, although it will be equally useful in manufacturing all kinds of sheet-metal cylinders which require to be soldered along the joined edge.

The clamp can also be used for holding the edges of square and other shaped work.

This former and clamp greatly assist the workman, so that he can do the work with great celerity.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

The base B, with its upright slotted stand-

and C, in combination with the detachable former D and hinged arm I, with its clamping blade or bit F, operated by the treadle G, connecting-rod I, and lever K, and the spiral spring h, all combined and arranged to operate substantially as and for the purposes described.

In witness whereof we have hereunto set our hands.

FERDINAND C. SMITH.
CHARLES E. SMITH.

Witnesses:

STEPHEN L. POLLOCK,
WILLIAM COLLIER.