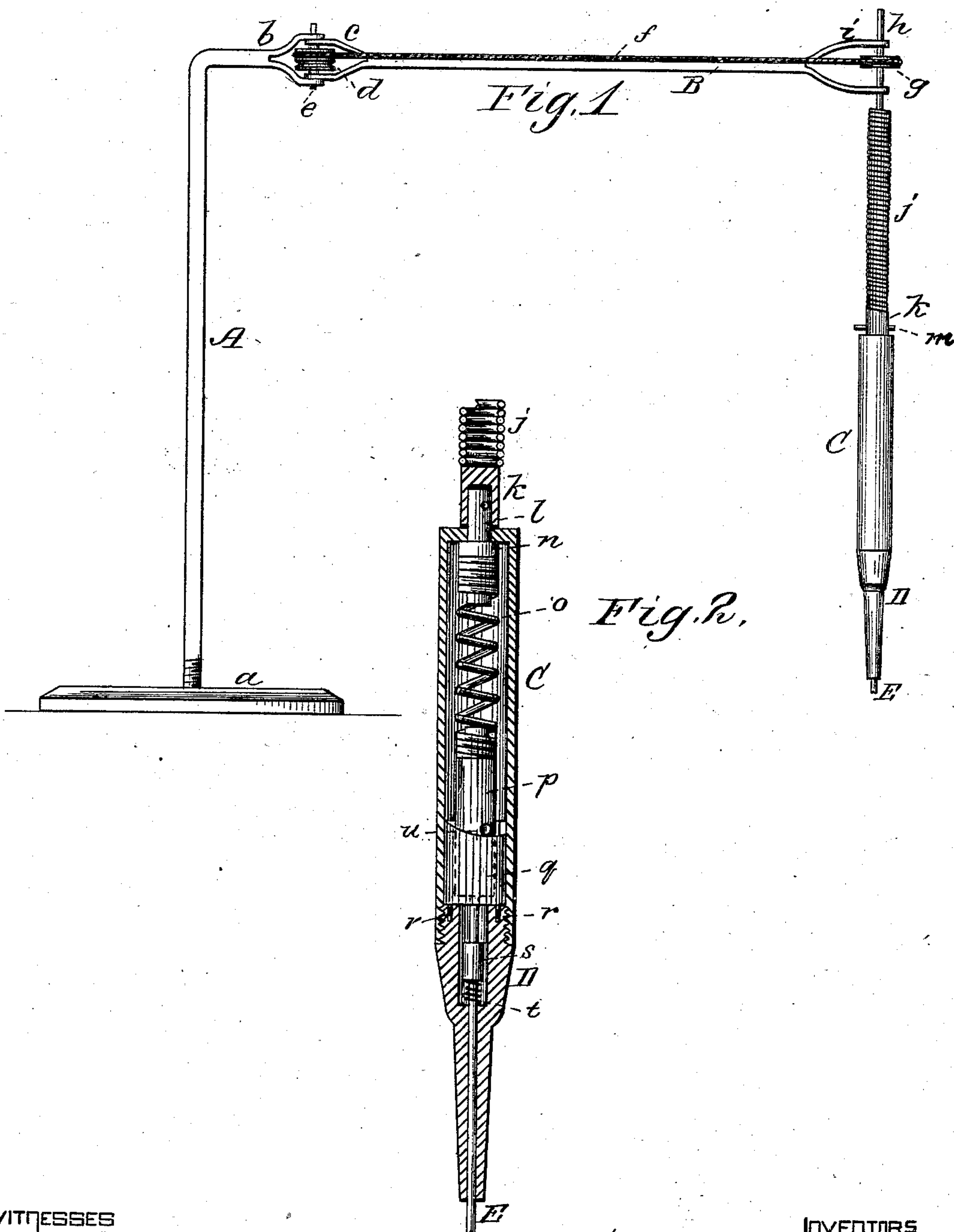


G. B. FITTZ, J. BAXTER & M. E. ROWE.
Jeweler's Frosting-Tool.

No. 217,522.

Patented July 15, 1879.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE B. FITTZ, JOHN BAXTER, AND MARK E. ROWE, OF ATTLEBOROUGH,
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IMPROVEMENT IN JEWELERS' FROSTING-TOOLS.

Specification forming part of Letters Patent No. **217,522**, dated July 15, 1879; application filed
March 27, 1879.

To all whom it may concern:

Be it known that we, GEORGE B. FITTZ, JOHN BAXTER, and MARK E. ROWE, of Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and valuable Improvement in Jewelers' Frosting-Tools; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of our invention, and Fig. 2 is a vertical section of the device detached from the support and driving-power.

This invention has relation to machines or devices employed for the purpose of ornamenting the surface of metals, usually termed "frosting;" and the object thereof is to provide a device or machine that can be operated by any suitable power, whereby the tool or graver can be made to do its work rapidly, and cover in a short space of time the surface of the metal with minute indentations, known in the trade as "frosting."

The several details of construction and combination of parts will be hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, A represents a standard, of any suitable form or construction, connected to a base, *a*. The upper end of the standard A is formed with a horizontal bifurcated elbow, *b*, to which is pivoted the bifurcated end *c* of an arm, B. The bifurcated ends *b c*, when placed together, allow of sufficient space for a double pulley, *d*, which is rigidly secured to the spindle *e*, said spindle also serving as a pivot to connect the arm to the standard as well as journals for the pulley. The pulley *d* receives a suitable endless belt or other connection from the motor or power, by which the pulley is rapidly rotated, and, by the endless belt or cord *f*, communicates its motion to a pulley, *g*, rigidly secured to a spindle, *h*, having its bearings in the bifurcated end *i* of the arm B.

The lower end of the spindle *h* is secured to

the end of a coiled spring, *j*, the other end of the spring being secured to socket-head *k*. The head *k* has connected thereto a cylindrical shaft, *l*, fitting within the socket in the head, and secured or fastened by a pin, *m*, passing through the head and shaft. This shaft *l* is formed with an annular shoulder, *n*, for supporting the flanged end of a hollow cylinder, C, the lower end of the latter having upon its interior screw-threads, for attaching the screw-threaded end of a sleeve, D, gradually diminishing in circumference from its upper to its lower end. Secured to the shaft *l* is one end of a coiled spring, *o*, the other end thereof being secured in any suitable manner to cylindrical hammer *p*, the lower end of the hammer fitting in a cam sleeve or socket, *q*. This cam sleeve or socket has dowel-pins *r* upon its lower end, which fit within small holes in the screw-threaded end of the sleeve D, so that the socket *q* is held stationary and prevented from turning.

The frosting-tool E, upon its lower end, is serrated or formed with several small points, for the purpose of producing the fine and minute indentations upon the surface of the metal. The frosting-tool E passes down through a central hole in the sleeve D, and has near its upper end a head, *s*, disposed within an opening or chamber in the screw-threaded end of the sleeve D. Around the frosting-tool E is placed a small coiled spring, *t*, between the head *s* and bottom of the chamber in the sleeve D. Above the head *s* the tool E extends into a hole formed in the cam-socket *q*, so that the end of the tool will receive the blow of the hammer *p*.

The operation of the device is very simple, requiring little labor to frost pieces of jewelry. By the belt and pulley *f g* the hammer *p* is caused to rotate with great rapidity, and the pin *u* upon the hammer, traversing the incline upon the cam-socket during such rotation, gives the hammer a vertical reciprocating motion, striking at intervals the upper end of the frosting-tool E, making upon the metal the required frosting appearance.

The pivoted arm B allows the tool to be held over a space large enough to frost any

piece of jewelry, and the spring *j* admits of the tool being held at all times in a vertical position, no matter how uneven the surface of the metal may be; and the small spring *t* keeps the upper end of the tool in position to be acted upon by the hammer, insuring the perfect operation of the device, and accomplishing its work with great skill and rapidity.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the hollow cylinder C, shaft *l*, spring *o*, and hammer *p*, of the removable sleeve D, tool E, and cam-socket *q*, substantially as and for the purpose set forth.

2. The standard A, having pivoted thereto

arm B, in combination with the frosting device consisting of spindle *h*, having secured thereto pulley *g*, spring *j*, detachably connected to the cylinder C, the spring *o*, hammer *p*, cam-socket *q*, and tool E, with spring *t*, constructed to operate substantially as and for the purpose described.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

GEORGE B. FITTZ.

JOHN BAXTER.

MARK E. ROWE.

Witnesses:

GEORGE A. ADAMS,

E. R. READ, Jr.