

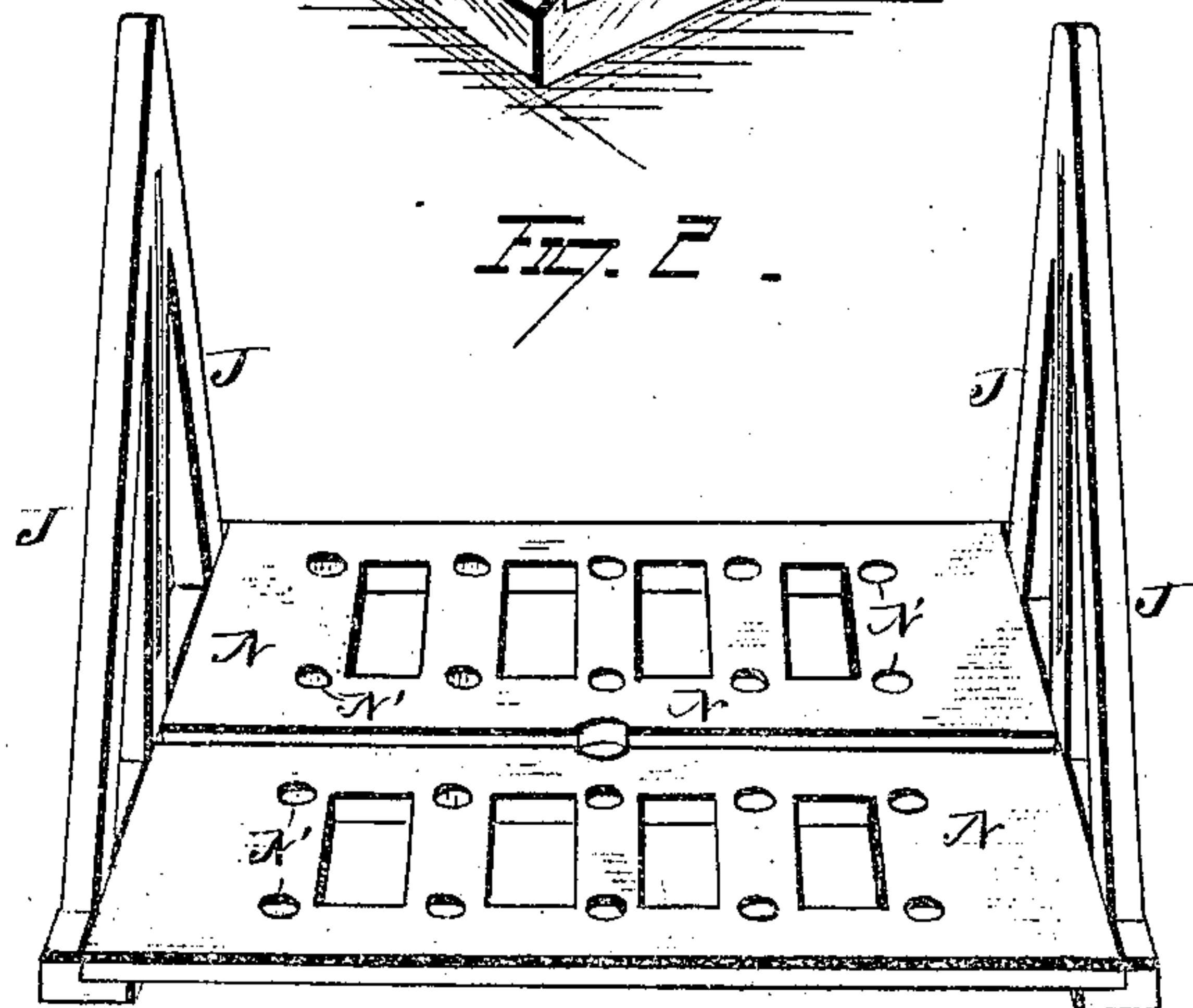
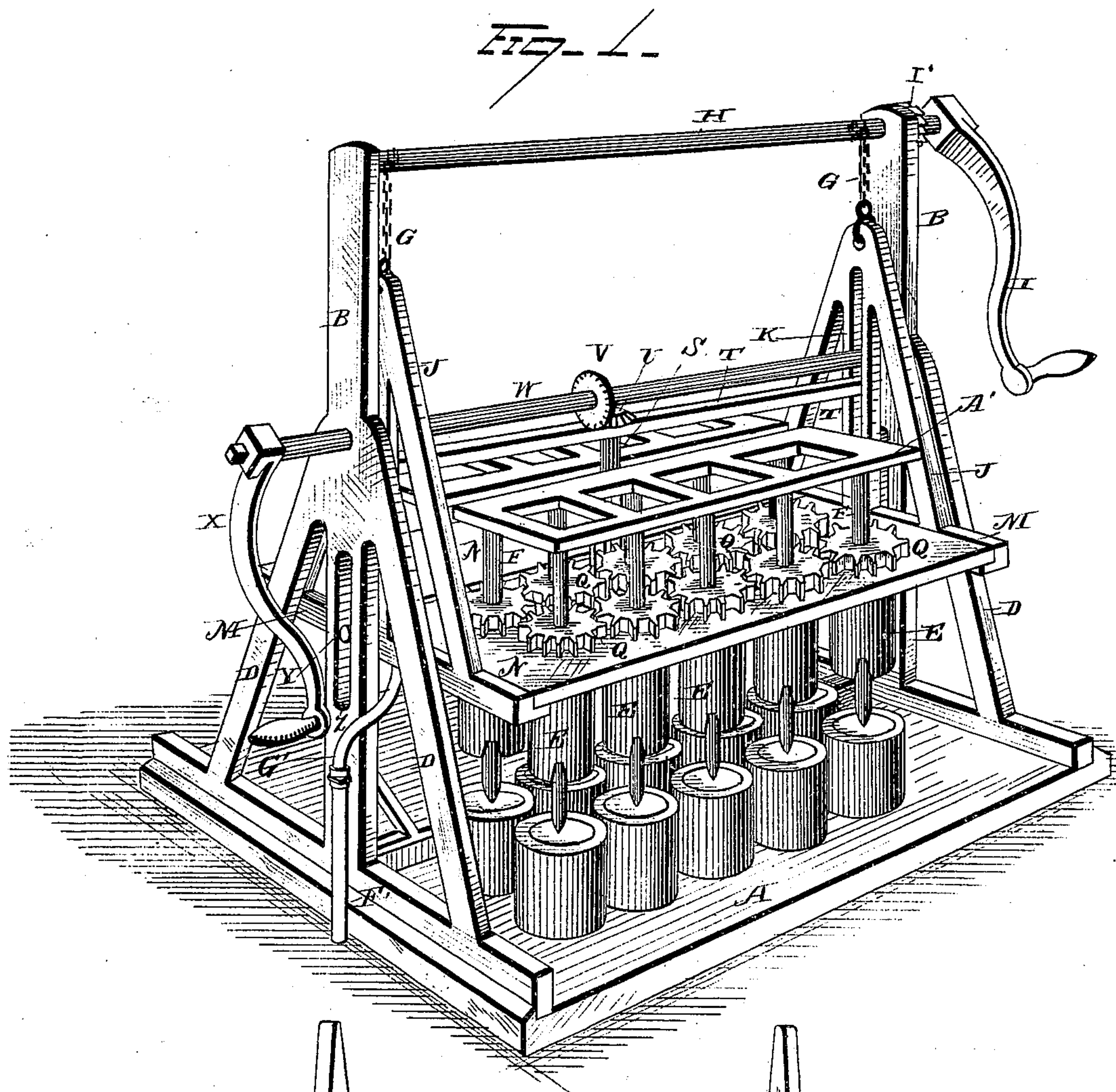
(No Model.)

2 Sheets—Sheet 1.

J. ROBERTS.
CAN CAPPING MACHINE.

No. 253,104.

Patented Jan. 31, 1882.



WITNESSES

Geo. O. Seymour.
E. H. Birmingham

INVENTOR

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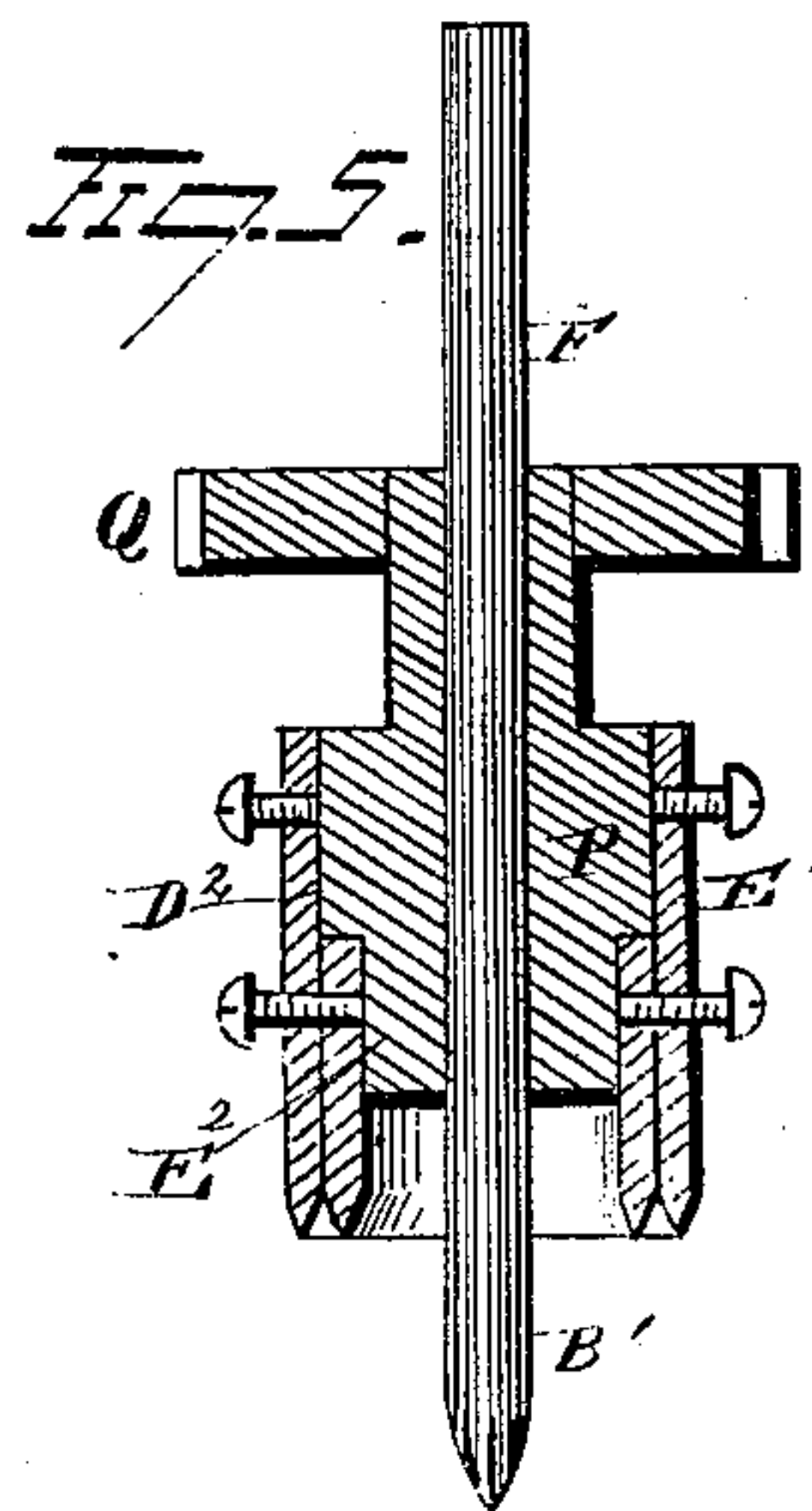
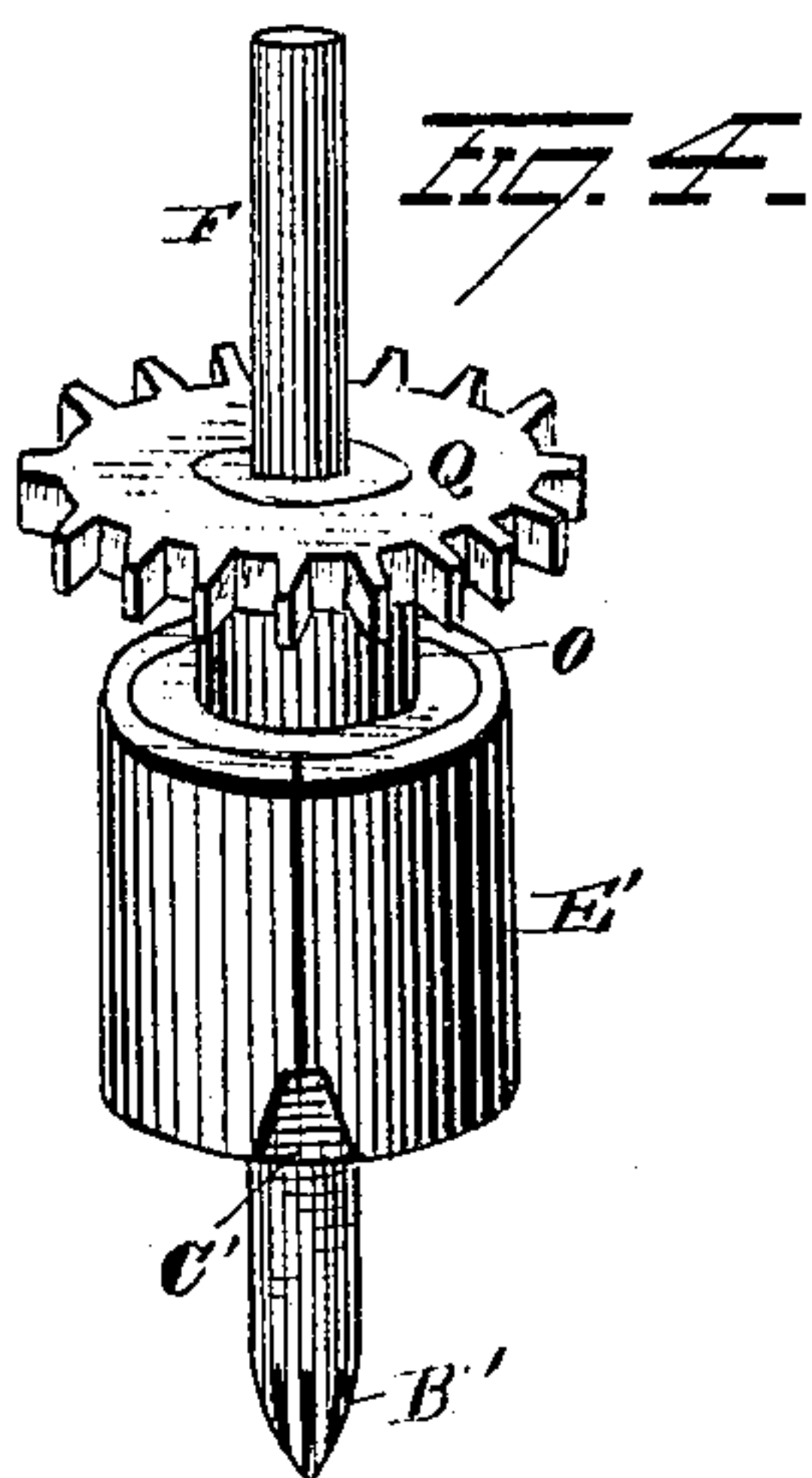
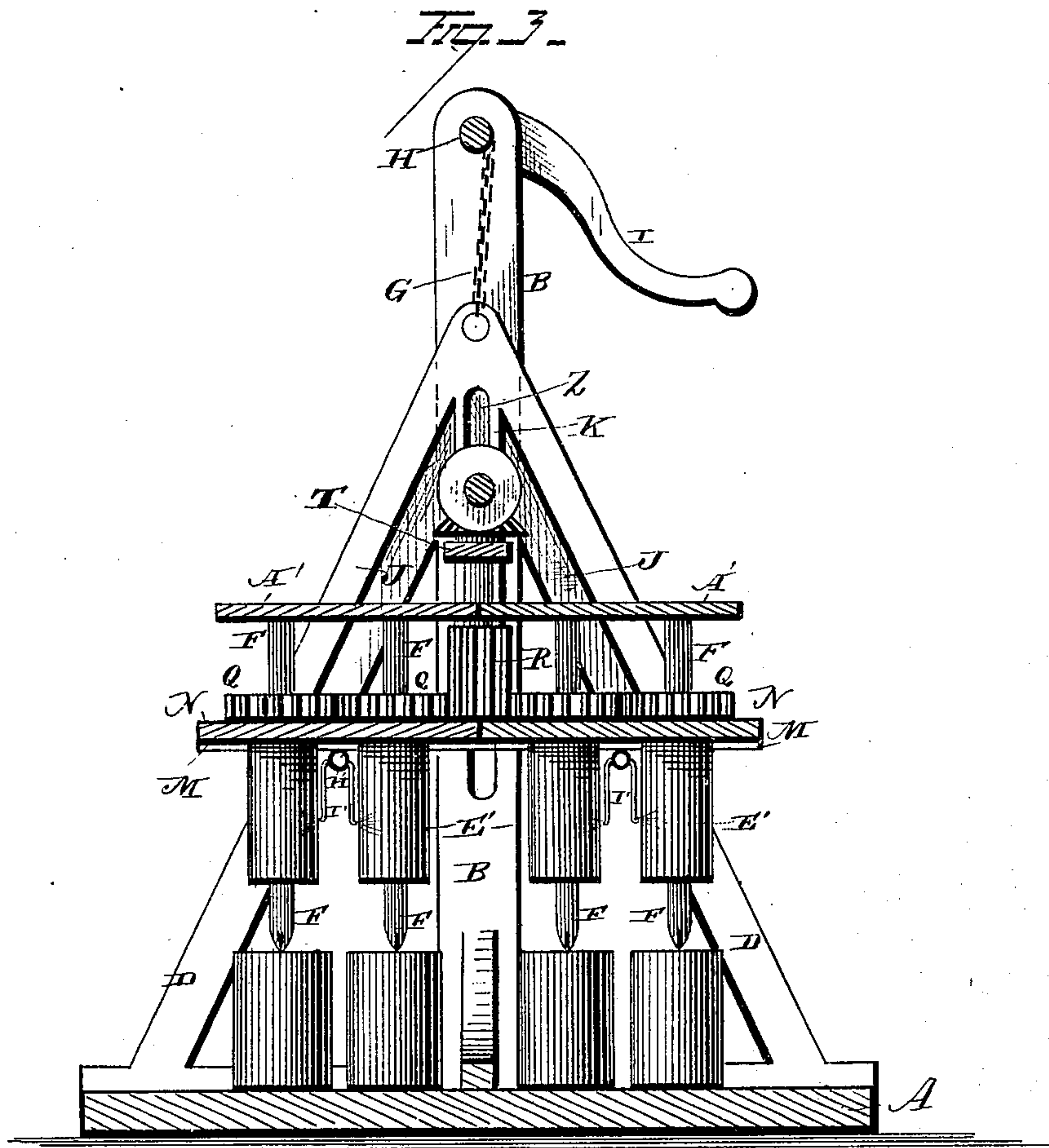
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2 Sheets—Sheet 2.

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WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH ROBERTS, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-THIRD
TO WM. F. ROBERTS, OF SAME PLACE.

CAN-CAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 253,104, dated January 31, 1882.

Application filed June 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ROBERTS, of Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Can-Capping Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in devices for capping fruit-cans, the object being to provide an article of this character capable of simultaneously capping a number of cans, and which shall combine cheapness and simplicity of construction with durability in use and ease of operation.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a can-capping machine constructed in accordance with my invention. Fig. 2 is a detached view, in perspective, of the frame which supports the soldering-irons, with the irons and cogs removed. Fig. 3 is a view in vertical cross-section of the frame, showing the irons in position, and also the apparatus for heating them. Fig. 4 is a view in perspective of one of the soldering-irons, and Fig. 5 is a view thereof in vertical cross-section.

The standard of the machine consists of a table, A, adapted to receive the trays containing the cans to be capped, of upright posts B, from which an adjustable frame is suspended, and of braces D, arranged to give rigidity to the posts B. The adjustable frame aforesaid, which supports the soldering-irons E', the centering-irons F, and the mechanism for rotating the former, is suspended by chains G from a shaft, H, journaled in the upper ends of posts B, and adapted to be revolved by handle I. The said frame consists of two angular side pieces, each consisting of two inclined beams, J, vertically-slotted uprights K, and horizontal flanged bars M, adapted to receive and sup-

port adjustable plates N, from which the soldering-irons E depend.

The plates N, which extend to the uprights K, and which are arranged to be withdrawn from the machine from opposite sides thereof, are provided with perforations N', adapted to receive the upper ends, O, of the blocks P, to which the soldering-irons E' are attached. Centrally-perforated cogs Q are rigidly secured to the ends O of the blocks P aforesaid, which project above the plates N and are arranged to mesh with each other. Motion is transmitted to all of the cogs, or the whole number on one plate, through one which meshes with the upright pinion R, secured to shaft S, mounted in a cross-beam, T, interposed between the two posts B. The upper end of shaft S is provided with a bevel-gear, U, which engages with a bevel-gear, V, mounted on shaft W, interposed between the posts B, and actuated by means of a handle, X. Both the cross-beams T and the shaft W, in being joined at opposite ends to the posts B, are passed through the vertical slots in the uprights K of the frame C, which is steadied in its reciprocating motion between the said posts by means of pins Y, secured to the outer faces of the flanged bars M, and which are received within elongated slots Z, formed in the posts.

The centering-irons F, which axially traverse the cogs Q and the vertically-perforated blocks P, are rigidly secured to two plates, A', located respectively on opposite sides of the shafts and pinion R. The said irons have cuts or grooves B' in their lower ends to facilitate the escape of hot air from the cans.

The soldering-irons consist each of an open ring of steel, E', secured to the blocks P, and cut away at each end to form slot C', which permits the escape of steam and vapor and allows the top of the can to be easily inspected.

The blocks P are provided with two collars, D² and E², either of which is adapted to receive a soldering-iron according to the size of can-caps to be soldered. If the can-caps are large, an iron of corresponding size should be secured to the collar D², while if the can-caps are small an iron of corresponding size should be attached to collar E². The blocks P are also centrally perforated to receive the centering-irons

F, and to allow them free reciprocation therein. The irons are heated without removing them from the machine by means of gas-jets, of which there is one to each iron.

5 The heating apparatus consists of two gas-pipes, F', connected by flexible pipes G' with the ends of pipes H', longitudinally traversing the under face of each of the plates N, the said
10 pipes H' being provided with gas-jets I' equal in number to the number of irons which it supports.

The object in providing flexible communication between the pipes F' and H' is to permit the adjustable frame to be moved up or down,
15 as may be necessary, without disturbing the operation of the heating apparatus.

If desired to heat the irons apart from the machine, or if for any reason it becomes necessary to remove them—as, for instance, to substitute for them others of different size—either
20 of the plates N may be withdrawn, as before described, together with the irons and cogs which they severally support, by raising either of the plates A' until the centering-irons F', secured to them, are entirely released from engagement with the perforated blocks P and their cogs. The adjustable frame is adapted
25 to be held in any desired adjustment by means of a ratchet, I', secured to the shaft H.

30 Having described my improved machine, I will now briefly set forth its method of operation.

The centering-irons of both plates A' are first raised by the shaft H, which, when revolved,
35 will elevate the adjustable frame, and, engaging the plates A', elevate them also; or, if desired, either or both sets of centering-irons may be elevated without disturbing the frame by lifting the plates A' by hand or by other
40 means provided. When the centering-irons are raised above the table A to a height a little greater than the height of a can the cans are inserted under the frame in trays and arranged in such order that when it is lowered
45 the centering-irons will severally rest on the center of the cap of each can. The soldering-irons, previously heated by the apparatus herein described, are now lowered to engage with the top of the cans by reversing the handle I,
50 and rotated through motion transmitted from the handle X through a train of gearing described. When the caps have been soldered onto one tray of cans it can be readily substituted by another by raising the centering and
55 soldering irons through handle I.

By means of my improved machine, which may be arranged to accommodate any number of cans, they may be capped rapidly, easily, and perfectly, and with a corresponding economy
60 of time and labor.

I would have it understood that I do not limit myself to the exact construction shown

and described, but hold myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention. 65

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

1. In a can-capping machine, the combination, with a standard, an adjustable frame suspended therefrom, and a removable plate supported in said frame, of a series of soldering-irons having cog-wheels attached thereto and arranged to retain the soldering-irons in place,
70 and suitable gearing for imparting rotary movement to the series of soldering-irons simultaneously, substantially as set forth. 75

2. In a can-capping machine, the combination, with a standard having a shaft journaled therein, a frame, and flexible connection between said shaft and frame, and a plate supported in the lower end of said suspended frame, of a series of soldering-irons connected with said plate, cog-wheels attached to each
80 soldering-iron, and gearing for imparting simultaneous rotary motion to the entire series of soldering-irons. 85

3. In a can-capping machine, the combination, with a standard, of a frame, perforated plates removably secured thereto, soldering-irons attached to said plates, cogs secured to the several irons and arranged to mesh with each other, centering-irons adapted to reciprocate in the vertical axes of the cogs and soldering-irons, and gearing to revolve them, substantially as set forth. 90 95

4. In a can-capping machine, the combination, with a standard, of an adjustable frame, two perforated plates mounted in said frame and adapted to be inserted therein or withdrawn therefrom from opposite sides of the standard, soldering-irons mounted in each of said plates, gearing to rotate them, and centering-irons rigidly secured to frames located
100 above the plates and adapted to reciprocate in the vertical axes of the cogs and soldering-irons, substantially as set forth. 105

5. In a soldering-iron, the combination, with a block provided with two or more collars of different sizes, of a metallic ring secured according to its size to one of said collars, the ends of the ring being cut away to form a slot where they come together, substantially as set forth. 110 115

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of June, 1881.

JOSEPH ROBERTS.

Witnesses:

W. S. WILKINSON,
LEWIS G. MEYERS,
GEORGE W. ROBERTS.