

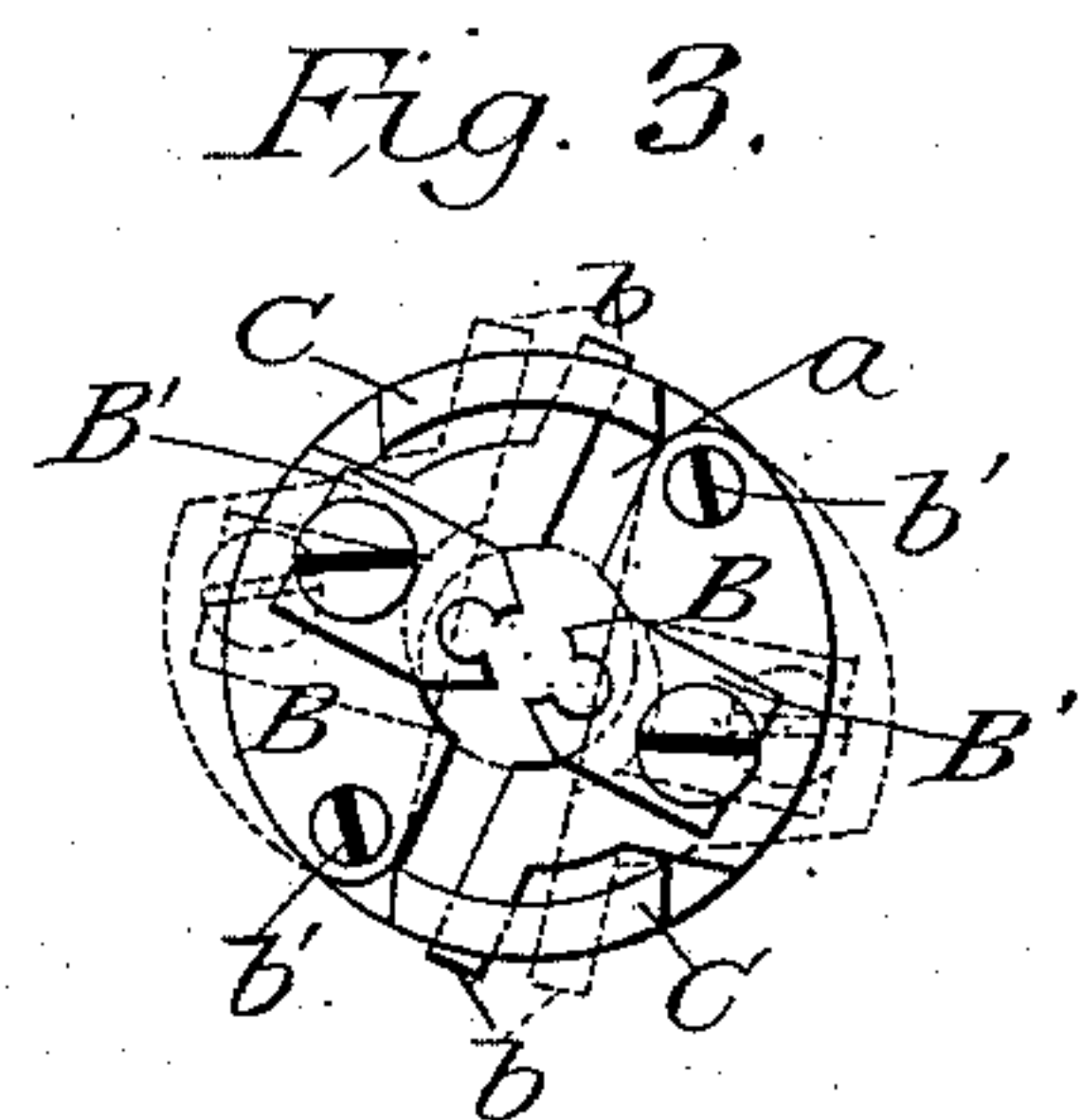
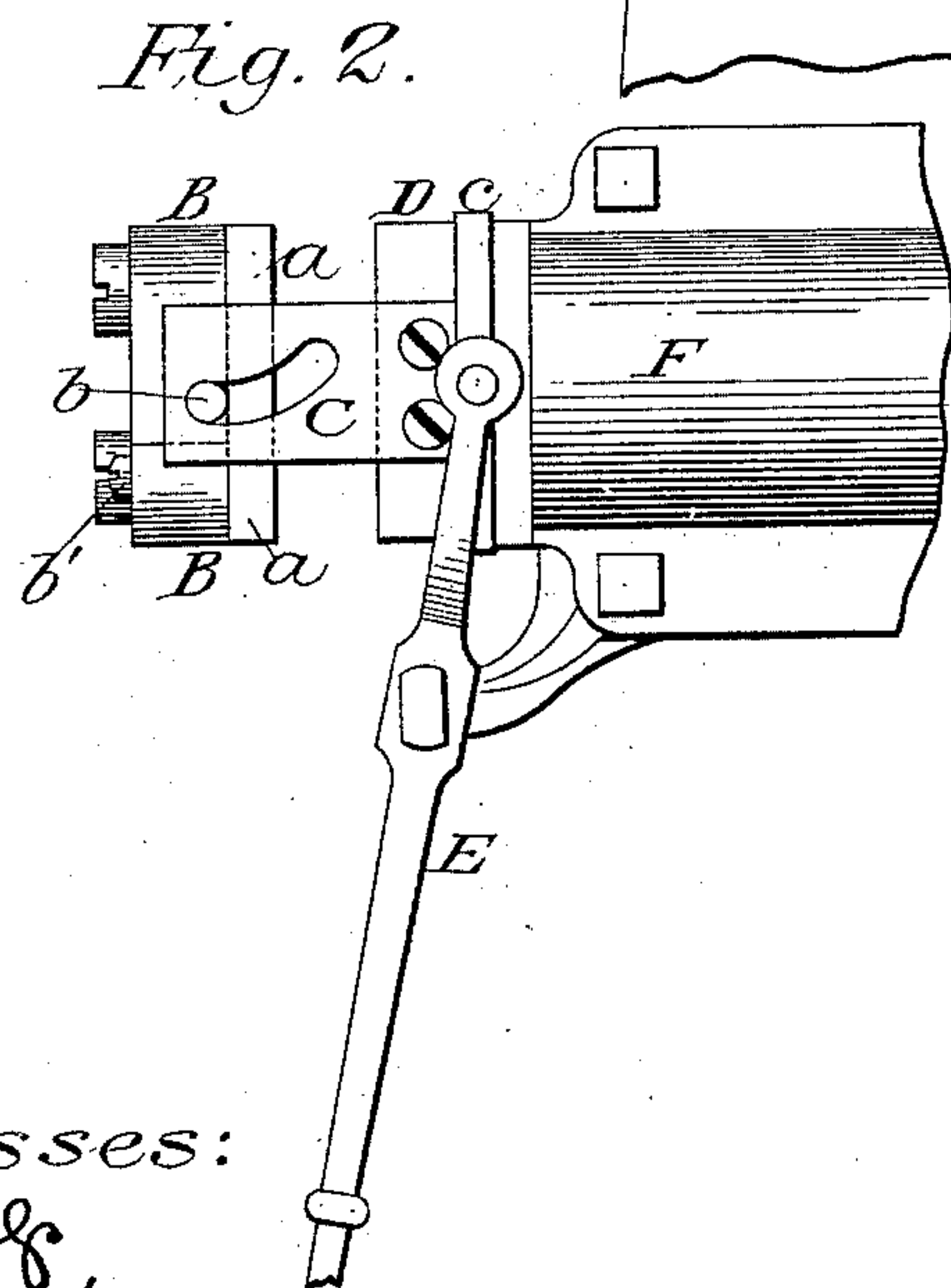
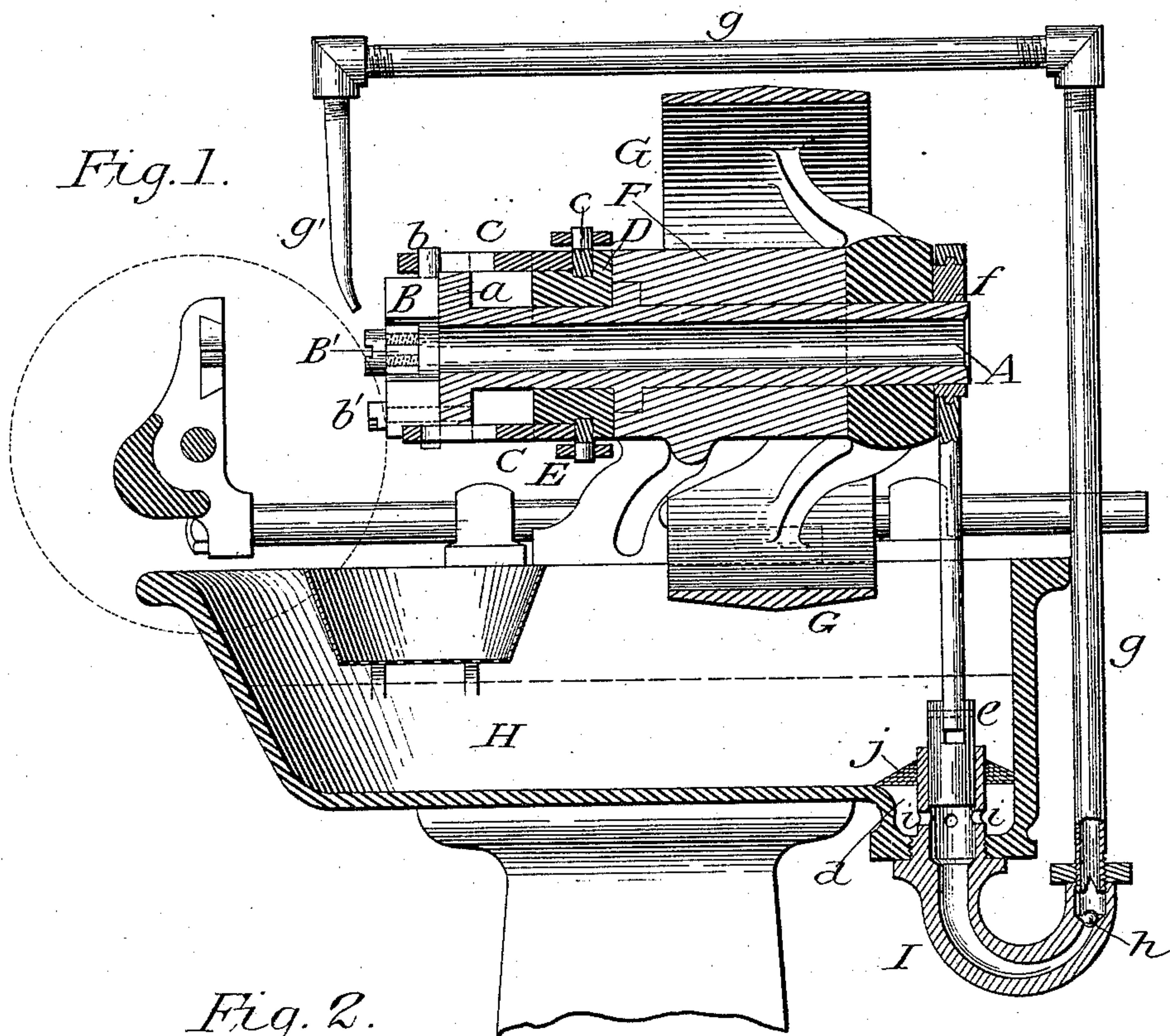
(No Model.)

E. A. SPERRY.

MACHINE FOR CUTTING SCREW THREADS.

No. 294,092.

Patented Feb. 26, 1884.



Witnesses:
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E. J. Gaddis

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UNITED STATES PATENT OFFICE.

ELMER A. SPERRY, OF CORTLAND, NEW YORK, ASSIGNOR TO JESSE
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MACHINE FOR CUTTING SCREW-THREADS.

SPECIFICATION forming part of Letters Patent No. 294,092, dated February 26, 1884.

Application filed September 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELMER A. SPERRY, a citizen of the United States, residing at Cortland, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Screw-Thread-Cutting 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 the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of open-die screw-thread-cutting machines in which the power is instantly applied in one direction while the machine is in operation; and it consists, first, in such an arrangement and combination of the parts of the apparatus which control the dies that said dies are brought into engagement with the blank without being at any time disconnected from the power.

In the drawings, Figure 1 represents a longitudinal section of the machine. Fig. 2 represents a top elevation of a portion of the machine, showing the lever controlling the cam-plates. Fig. 3 represents a front view of the die.

It will be seen from the drawings that A represents a hollow spindle of a bolt-machine, provided at its extremity with a face-flange, *a*, to which are pivoted the die-carriers B B, each of which is provided at its extremity, opposite the pivot, with a radially-projecting pin, *b*, adapted to operate in the slots provided in the cam-plates C C. These plates project from the shifting-sleeve D, which is loose on the shaft, and is grooved to receive the ring *d*, for attachment of the shifting-lever E, which is pivoted, suitably, to a projection of the journal E, as shown. The flange *a* is provided on its periphery with slots or depressions, in which are fitted the cam-plates C C, which slide therein longitudinally, but are rigidly insured thereby against transverse strain. The dies B' B' are adjustably or otherwise attached to their carriers B B, and are brought in and out of en-

gagement with the work by a swinging movement of said carriers about their pivots *b' b'*. The dies are shown in their extreme open positions in Fig. 3 by dotted lines. The pulley G is attached rigidly to the shaft, and no portion of the system, whether in or out of operation, is at any time disengaged from the power.

For supplying constant lubricant to the dies I have devised a pump, now to be described.

The base H of the machine forms a reservoir for the lubricant, and is provided at the back in its floor with a depression or well, *d*, the aperture of which is screw-threaded, and provided with the cylindrical portion of a curved casting, I. The bore of said cylindrical portion forms the pump-barrel, and is provided with a loose plunger, *e*, driven from the eccentric *f*, secured to shaft A, as shown. The perforation in the outward end of the casting I is threaded, to receive the piping *g*, leading to the nozzle *g'*. The inserted end of said pipe *g* serves to retain the ball *h* in a suitable counterbore below, this forming the only valve of the pump. The pump-barrel is pierced at *i* a little below the plunger when in its uppermost position, but in such proximity thereto that it is entirely covered thereby before said plunger has completed its downward stroke. An annulus, *j*, of wire-cloth or other suitable screen, is provided over the well, to prevent egress of foreign substances.

The operation of the devices detailed above is as follows: The blank or work is secured in a chuck of usual form. The machine receives a constant rotation in one direction from the pulley G. The dies being closed, the blank is fed to them, and when the operation has proceeded sufficiently they are disengaged from said blank, while still in constant rotation, by manipulating the lever E and sliding the collar D and cam-plates C C to such a position that the pins *b b*, by engagement in the cam-slots, rock the die-carriers B B to their outermost position. (Shown in dotted lines in Fig. 3.) The threaded blank is then withdrawn and a new one provided, and the operation repeated.

The pump operates as follows: At each upward stroke of the plunger, when its lower

extremity has passed and opened passage *i*, the lubricant, by gravity, fills the barrel, and in that portion of the stroke below said opening said plunger forces it out to the tube *g*,
5 past the valve *h*, which retains it during the upward stroke of the plunger, as can readily be understood. A detachable pan with a perforated bottom is provided under the dies, for the retention and ready removal of chips.

10 The pump, *per se*, is not sought to be covered in this application, as that device in its relation as shown is designed to make subject-matter for a separate application.

Many slight alterations may be made in the
15 detailed construction without departing from the spirit of the invention. For instance, gearing may be used, instead of the pulley *G*, in the larger machines, and a hand wheel or crank in hand-machines.

20 By my construction I do away with the necessity of a clutch such as is usually employed in similar machines.

I am aware that the dies in open-die machines have been operated by means of cam
25 plates and slots; but the movement of parts,

effecting the change simultaneously, brought the system in or out of connection with the power. No such device is desired to be secured herein; but

What I claim as new, and desire to secure 30 by Letters Patent, is—

1. Jointly with the rotating spindle *A*, eccentrics *f f*, carriers *B B*, and cam-plates *C*, the base *H*, serving as a reservoir, and means for automatically forcing a lubricant from this
35 base to the dies, as set forth.

2. In combination with the die-carriers *B*, pivoted to the spindle *A*, and longitudinally-sliding cam-plates *C C*, the eccentrics *f* and pulley *G*, the whole being adapted to throw
40 the dies in and out of action without disconnecting the power, as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ELMER A. SPERRY.

Witnesses:

M. M. WATERS,
J. McLERNAN.