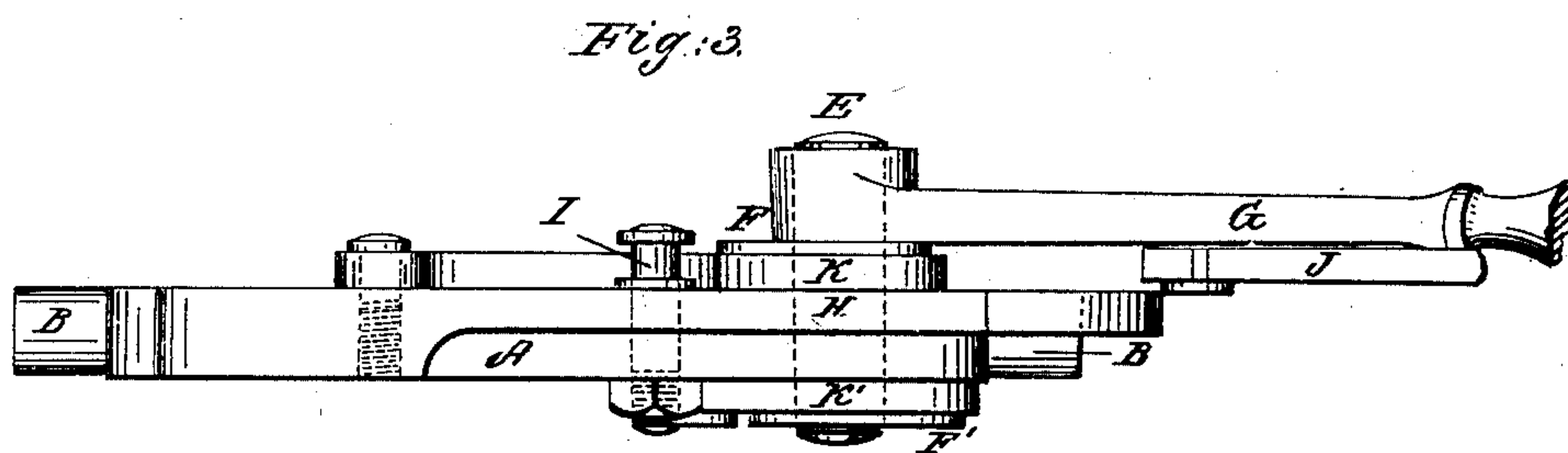
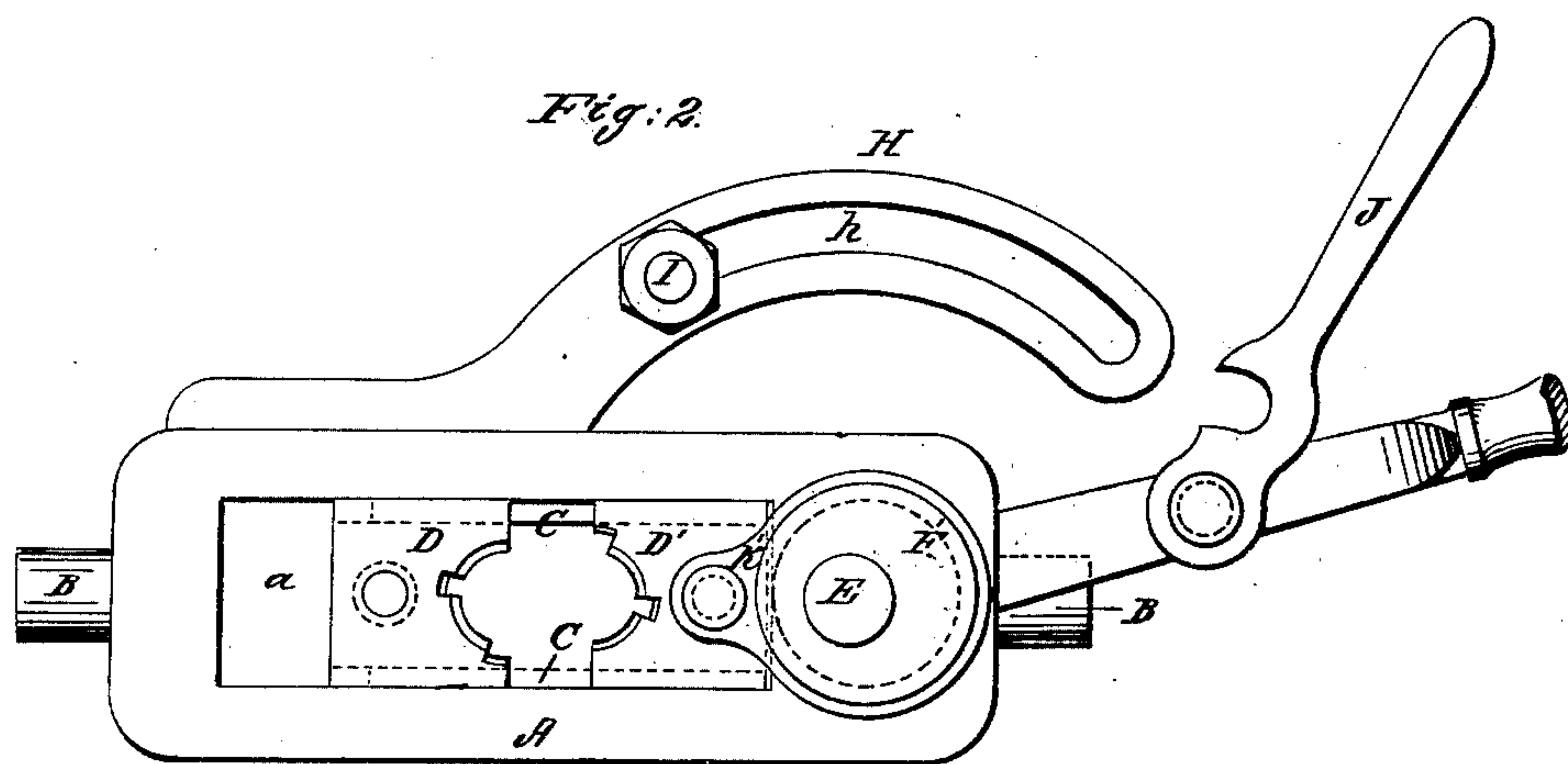
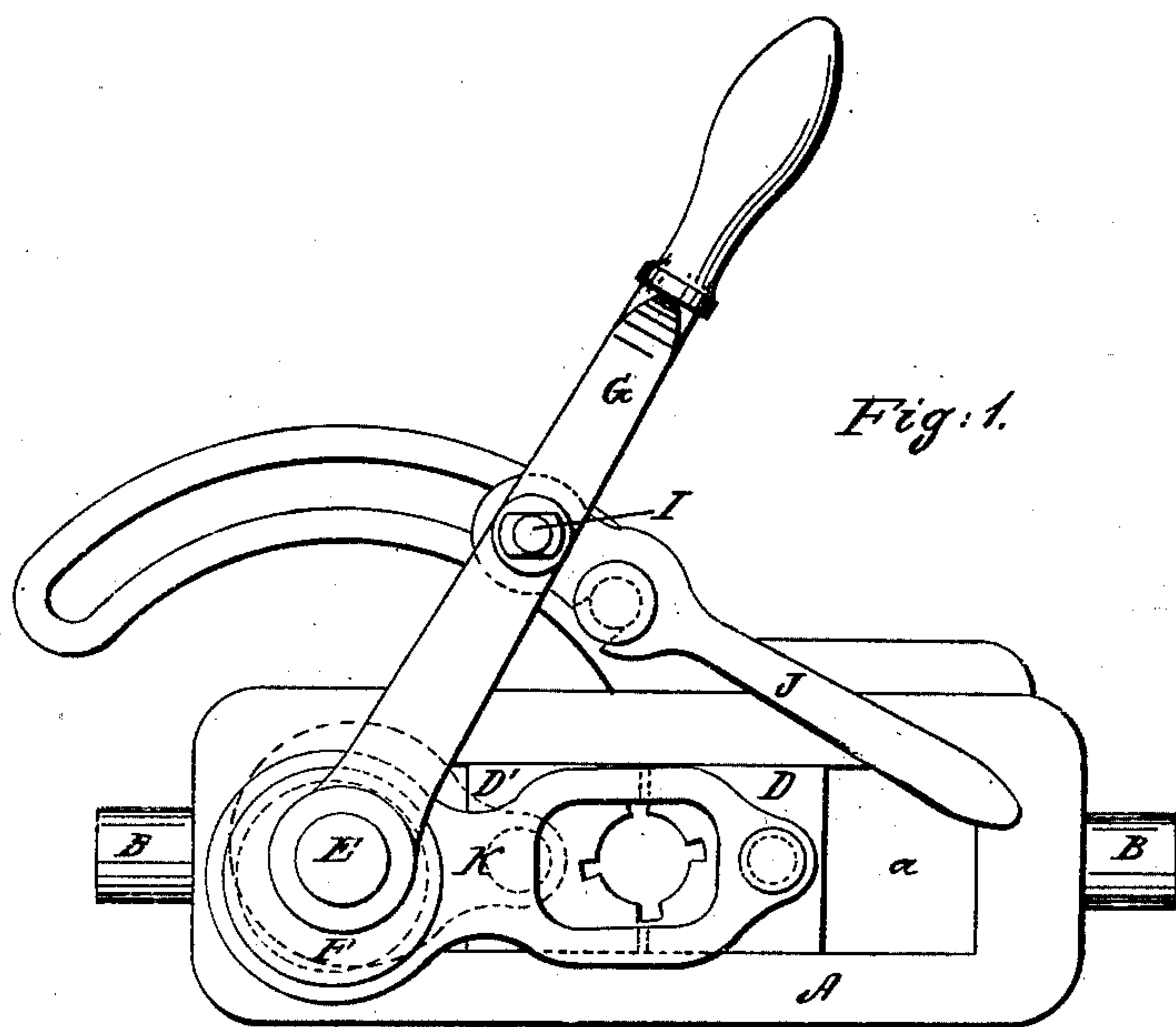


T. WHITAKER.
Screw Cutting Die.

No. 21,531.

Patented Sept. 14, 1858.



UNITED STATES PATENT OFFICE.

THOMAS WHITAKER, OF CINCINNATI, OHIO.

SCREW-CUTTER.

Specification of Letters Patent No. 21,531, dated September 14, 1858.

To all whom it may concern:

Be it known that I, THOMAS WHITAKER, of Cincinnati, Ohio, have invented a new and useful Improvement in the Heads or Die-Boxes for Cutting Screws; and I hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

My improvement relates to that class of screw cutting machines, in which the bolt revolves, and the die head is drawn on by the action of the threads of the die upon the bolt, while provision is made for the instantaneous separation of the dies, while the machine is in motion, and the closing of them again on the bolt, at the will of the operator; and it consists in a simple and more compact arrangement of parts, whereby the dies are completely under the control of the operator, and may be promptly replaced by others, when it is desired to do so.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings Figure (1) is a front view of the head with dies closed. Fig. (2) is a rear view with the dies separated. Fig. (3) is a plan, or top view of the same.

I construct the stock or die plate (A) with a rectangular or oblong opening (a) in the middle, and a trunnion or pivot (B) at each end. I then insert tongues (c, c), which serve as guides to the dies, on both sides of, and extending from the middle toward both ends of, the oblong opening of the stock. But, care must be taken that these tongues shall be so much shorter than the opening, that the dies may be inserted between their ends and the shorter sides of the oblong opening. Through one end of the stock or die plate, I pass a shaft (E) and affix to it two sheaves of equal, but opposite, eccentricity, (F, F'), one on each side of the die-plate (A). There is then a yoke (K, K'), on each side of the die-plate, which connects one of the dies with each of the two eccentrics F, F'; and a lever (G) is also affixed to the same shaft (E), which, by its vibration, serves to separate or close the dies, by means of the sheaves or yokes, whenever it is the wish of the operator to do so.

(H) is a segmental arm attached to the head piece, and having its slot (h) concentric with the shaft (E).

(J) is a hook pivoted to the lever (G), and which being caught over the pin (I), made fast to any part of the slot (h), will hold the dies in a corresponding position. The adjustment of the pin in the slot, regulates the distance between the dies, when in position to cut the thread on the bolt; and thus determines the size of the screw. The yoke (K) has an oblong opening to permit the passage of the bolt.

The parts may be so arranged as to derive an accumulative force, by setting the shears (F, F') so as that the "dead point" is approached in the act of closing the dies. The operation of the machine is as follows: The dies being opened or separated, as shown in Fig. (2), the bolt would pass between them without coming in contact with the cutters, but, when it is desired to prepare the cutters for the end of the bolt, the lever (G) is moved toward the pin (I), which is adjusted in the slot (h) of the arc (H); so as to give the required distance between the cutters (D, D'), when the hook (J) is passed over the pin (I) and secures the dies in their proper position, so as to cut a screw of a certain diameter. When the revolving bolt has passed sufficiently through the die head, to cut the screw as far as desired, the hook (J,) is disengaged from the pin (I), the lever (G) is drawn back, and the cutters are again separated, as shown in Fig. (2). And, if it is desired to replace the dies (D, D') by others, it is only necessary to detach them from the yokes (K, K'), to move them toward the ends of the oblong opening (a), when they may be taken out between the ends of the guides c, c, and the ends of the opening, and others inserted in their places.

I am aware that the slot (h), the adjusting pin (I), the hook (J), and the lever (G), have been previously used, in a similar connection, for regulating and adjusting the cutters of a die head; and I, therefore, do not claim them as my invention, but

What I do claim as new, and of my invention is—

The combination of the shaft (E), the sheaves (F, F'), the yokes (K, K') and the guides c, c, with the dies (D, D'), when arranged substantially as described, for the purposes set forth.

In testimony of which invention I hereunto set my hand.

THOMAS WHITAKER.

Attest:

GEO. H. KNIGHT,
SAML. H. WHITAKER.