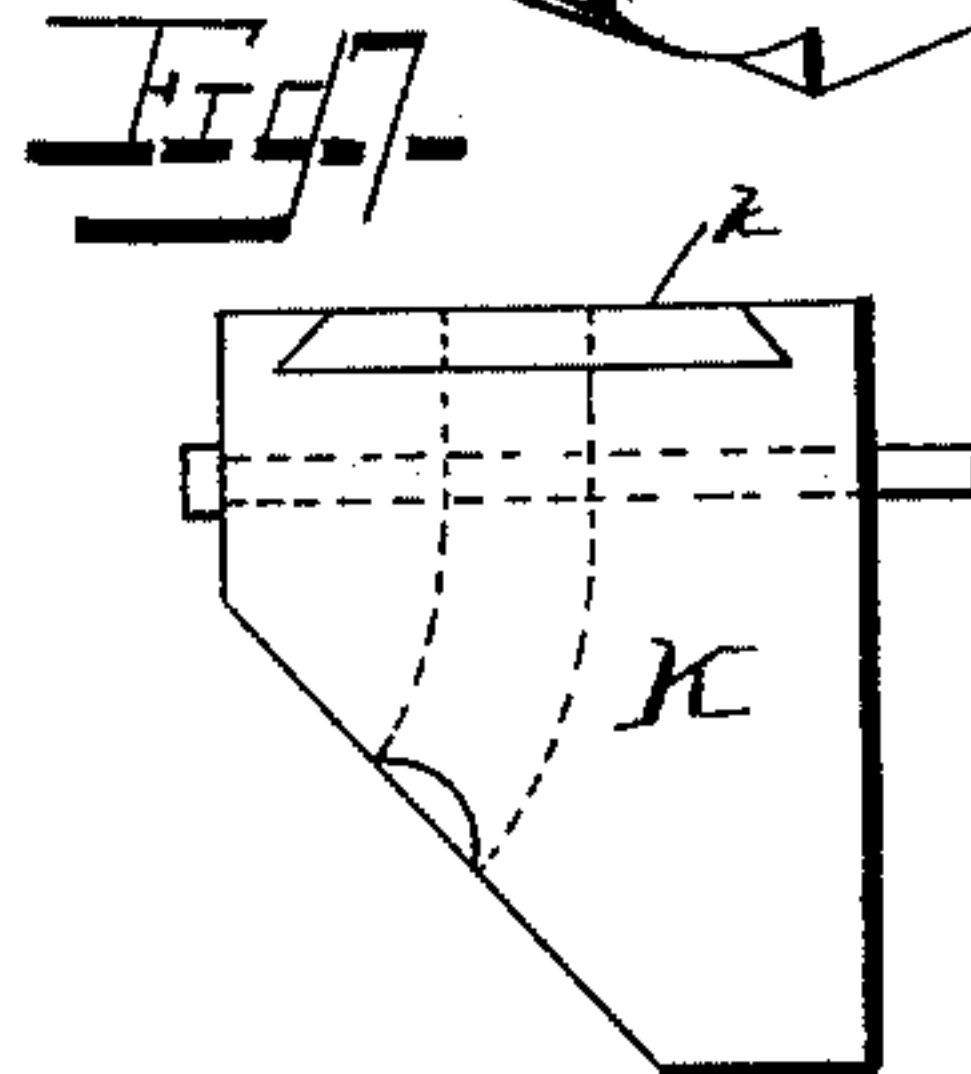
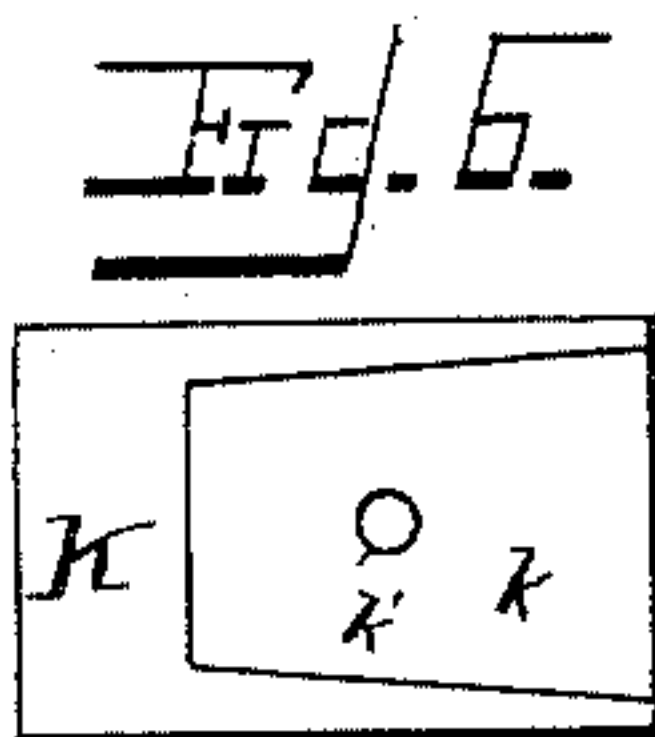
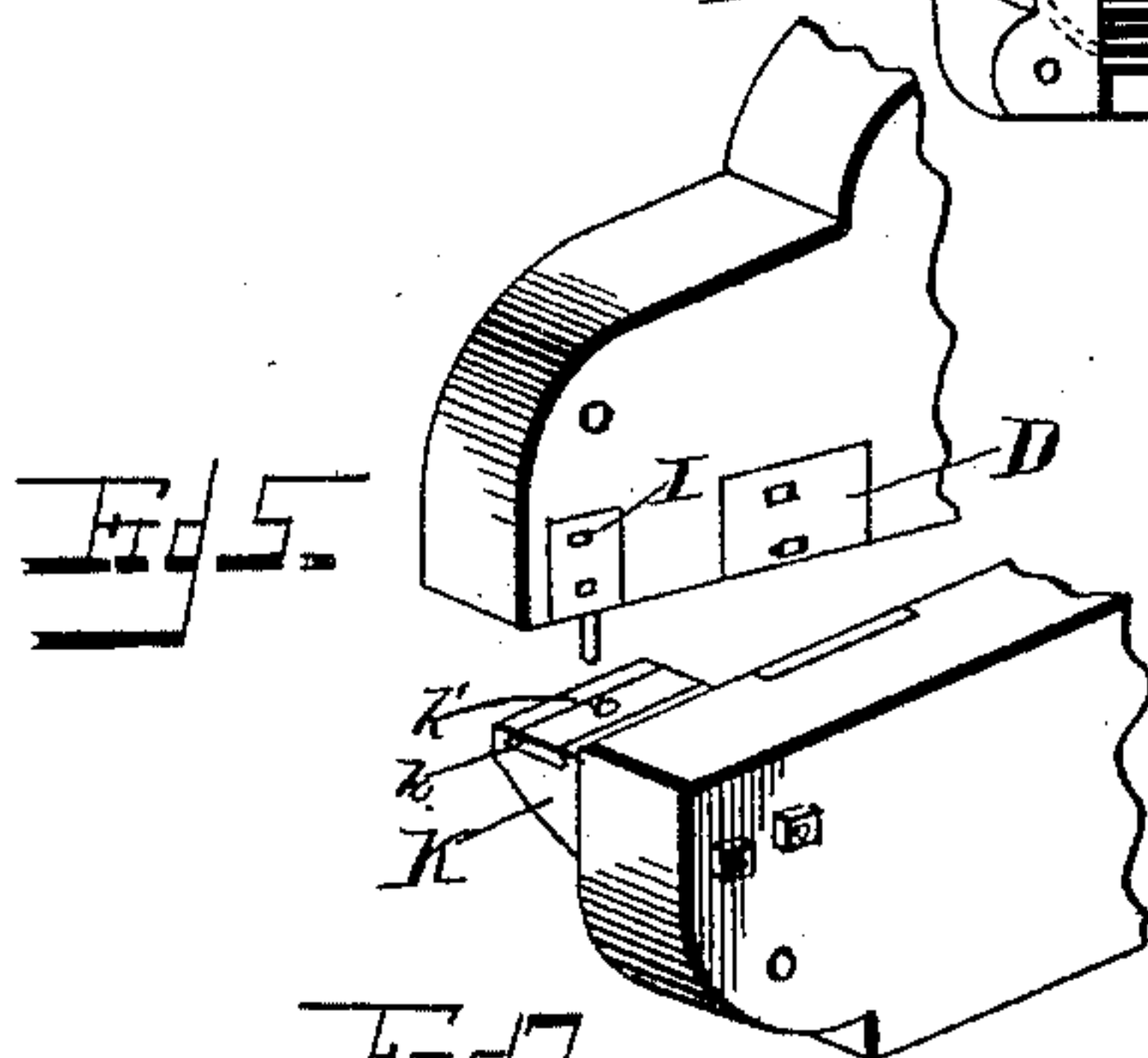
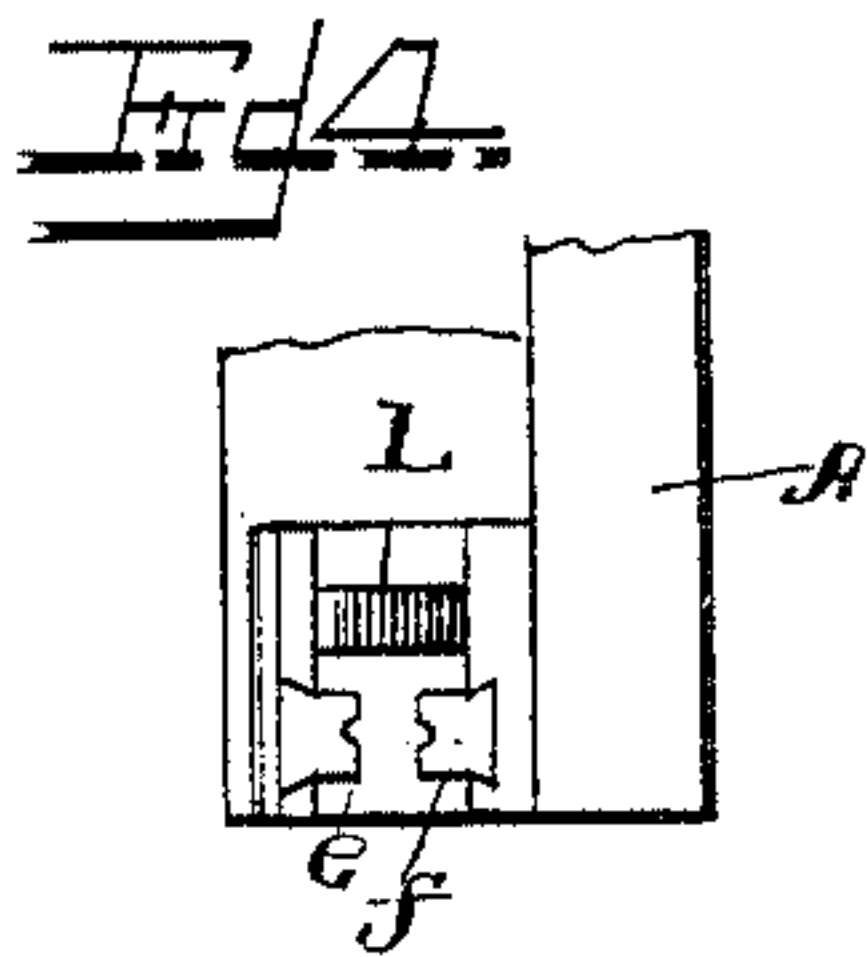
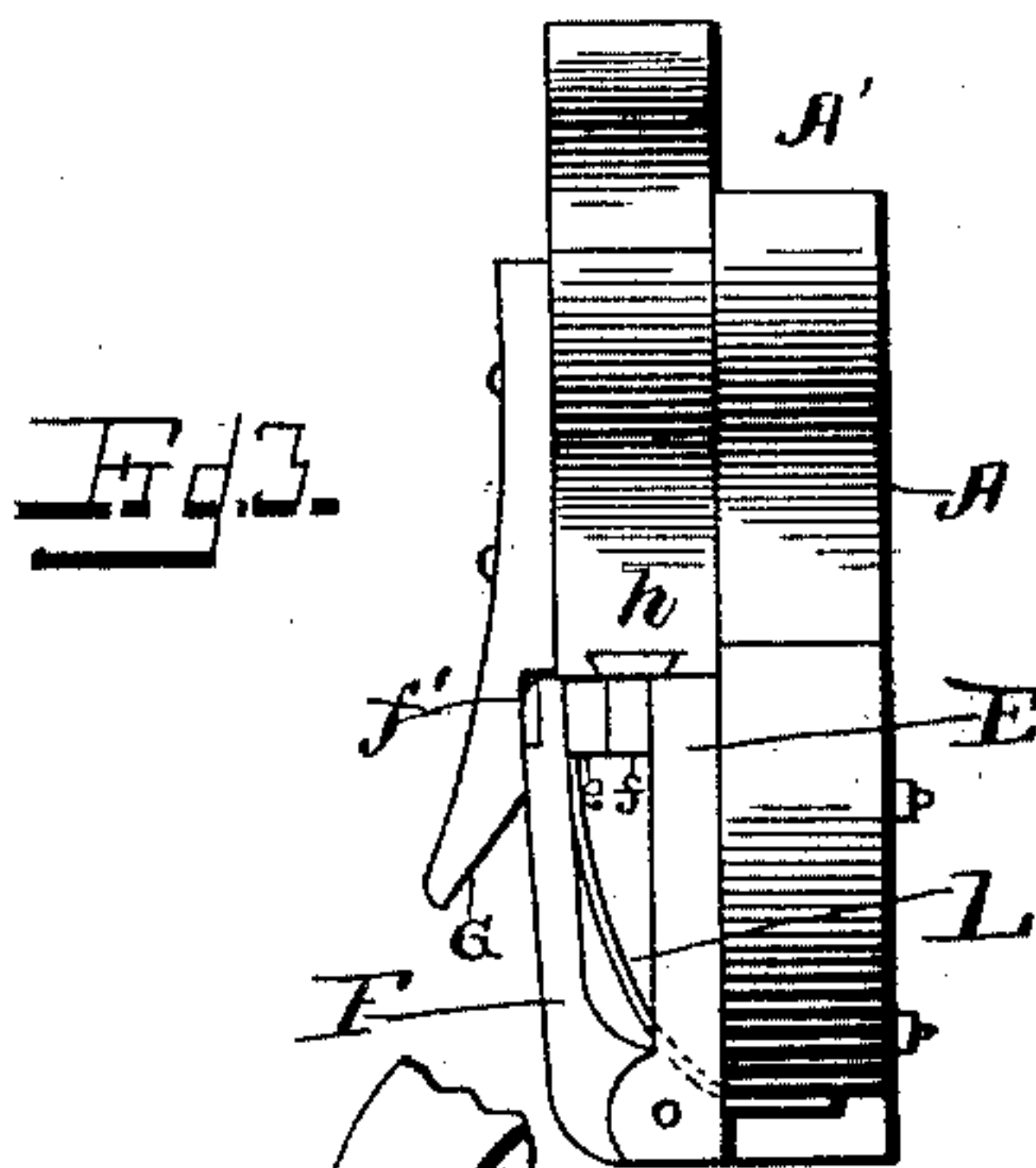
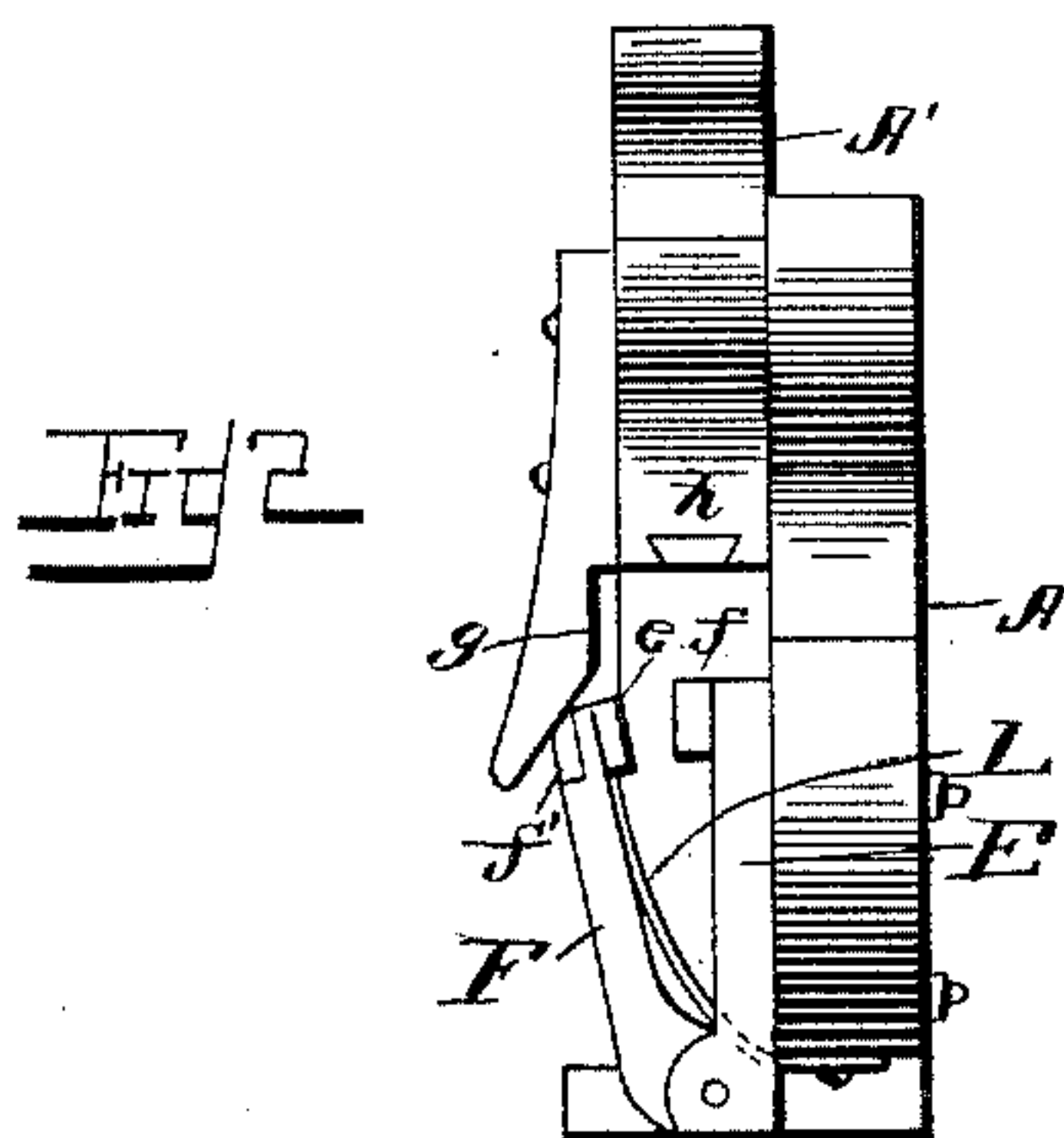
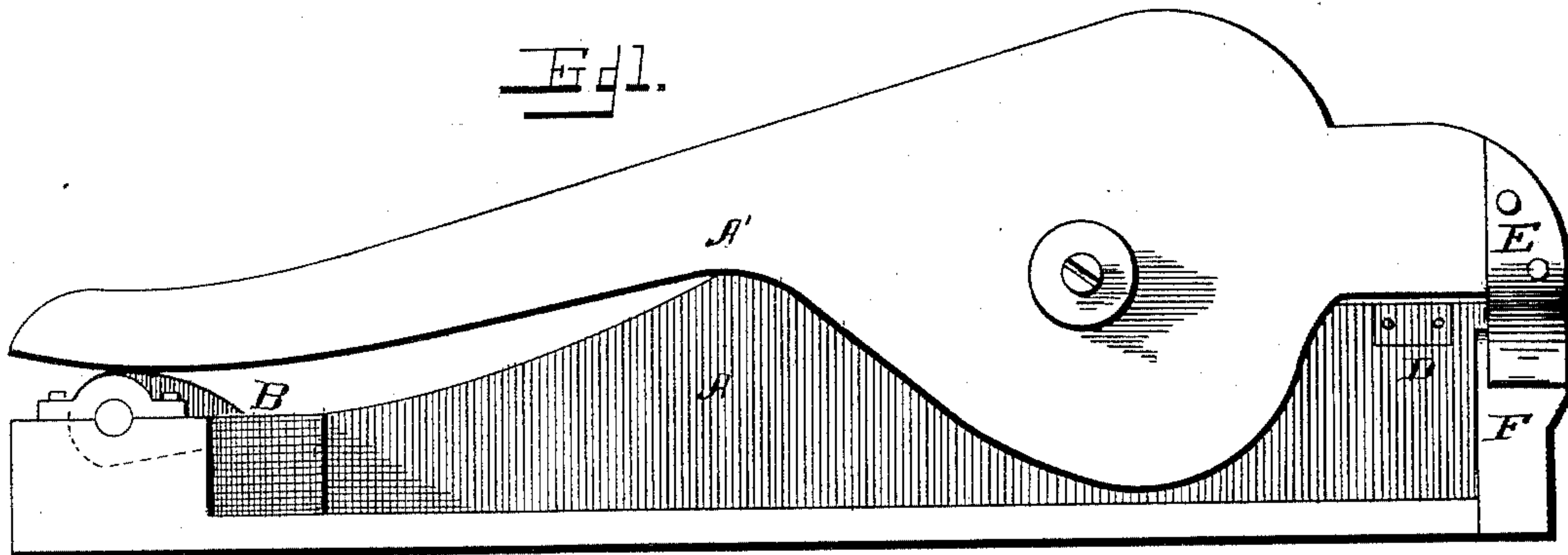


(No Model.)

S. BLENKHORN.
BOLT HEADER.

No. 468,383.

Patented Feb. 9, 1892.



Witnesses
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Alex. Stewart.

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UNITED STATES PATENT OFFICE.

SIDNEY BLENKHORN, OF CANNING, CANADA.

BOLT-HEADER.

SPECIFICATION forming part of Letters Patent No. 468,383, dated February 9, 1892.

Application filed May 25, 1891. Serial No. 394,038. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY BLENKHORN, of Canning, in the Province of Nova Scotia, Canada, have invented certain new and useful Improvements in Bolt-Headers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to that class of machines in which a rod or straight bar of iron is grasped and headed up to form bolts; and the objects are not only to provide a simple and efficient bolt-header capable of being operated by any one, but one which with little or no alteration will serve as a punch for forming bolt-holes or as a cutter for sheet-iron bars, &c.

The invention consists in certain novel details of construction and combinations and arrangements of parts to be hereinafter described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of a header constructed in accordance with my invention. Fig. 2 is a front elevation of the same. Fig. 3 is a similar view with the jaws closed. Fig. 4 is a top plan of the lower jaw, showing the grippers. Fig. 5 is a side elevation showing the heading attachment removed and the punch in place. Figs. 6 and 7 are details of the punch-die.

Similar letters of reference in the several figures indicate the same parts.

In carrying the present invention into practice use is made of the old and well-known form of jaws heretofore employed in shears and indicated in the drawings by the letters A A', the former indicating the lower jaw, preferably rigidly connected with the base upon which the whole device stands, and the latter the upper jaw pivoted to the lower jaw and operated by means of the cam B, journaled in bearings in the lower jaw and driven from any suitable source of power. Both jaws are made massive and strong about the pivot, and the short forward ends may be provided with the usual shearing edges or cutters D at a point near the pivot, leaving the extreme ends free for the attach-

ment of the bolt-header to be now described.

To the inner side of the lower jaw is securely affixed by bolts or otherwise the stationary gripper-jaw E, to the lower portion of which is hinged the movable gripper-jaw F. The hinge is preferably at the bottom of downward extensions on the gripper-jaws, and at the top said jaws are provided with half-dies *e f*, respectively, between which the bolt-blank is grasped. On the outer edge of the movable gripper-jaw is a wearing-surface *f'*, with which an incline G on the upper jaw of the header co-operates to close the gripping-jaws, as shown clearly in Figs. 2 and 3, and at the top the incline merges into a portion lying in substantially the same plane as the direction of movement of the header, such as the straight portion *g*, the function of which is to hold the jaws in tightly-closed position without retarding the downward movement of the upper header-jaw during the last portion of its stroke, or the portion where the greatest power is required—i. e., while the head is being formed. In the upper header-jaw, directly over the seat in the grippers, is a removable header-die *h*, consisting of a steel plate dovetailed into the said jaw and having a suitable head-concavity therein, and for the sake of cheapness and convenience the half-dies *e f* are also made removable, each being formed with dovetail projections fitting into corresponding recesses in the faces of the jaws, as shown in Fig. 4. Both the incline and gripper-jaws, it will be noted, are bolted in position, and besides being capable of ready application to an ordinary machine of this character are easily renewed when broken, or removed when it is desired to employ the machine exclusively for other purposes, as for cutting or punching. When for the latter, a punch I is bolted in a recess in the upper jaw and a die K is bolted to the lower jaw. (See Figs. 5, 6, and 7.) The punch-die consists of a block which is securely bolted to the inner face of the lower jaw, and carries a steel face-plate *k*, dovetailed into its upper surface, a perforation *k'* being formed through both face-plate and block, as shown in Figs. 6 and 7.

The operations of cutting and punching are too obvious to need description, and in the operation of heading-up bolts it will be

seen that the bolt-blanks, previously reduced to the proper length and size for the dies, are inserted between the gripping-jaws, and as the header descends said jaws are brought together and the blank held firmly while the head is being upset. A spring L may be employed to separate the jaws as the header rises, thus letting the headed bolt drop to the ground.

10 In order to facilitate the insertion of the bolt-blanks, the gripper-die occupies a forwardly-extending or overhanging portion of the jaws, and the blanks may thus be inserted and held from below while the jaws are closing.

15 Having thus described my invention, what I claim as new is—

1. In a bolt-header, the combination, with the pivoted header-jaw having the incline thereon, of the header-jaw having the stationary half of the gripper-die secured thereto and the movable half of said die co-operating with the incline to grip the blank, substantially as described.

25 2. In a bolt-header, the combination, with the pivoted header-jaw having the incline thereon, of the header-jaw having the stationary half of the gripper-die secured to one side thereof and the movable half of said die hinged to the stationary half and co-operating with the incline to grip the blank, substantially as described.

30 3. In a bolt-header, the combination, with the pivoted header-jaw having the incline removably secured thereto, of the co-operating header-jaw having the hinged members of the gripping-die removably secured thereto, substantially as described.

40 4. In a bolt-header, the combination, with the lower header-jaw having the stationary half of the gripping-die secured thereto and the movable half hinged thereto, of the mov-

able header-jaw having the incline thereon co-operating with the movable section of the gripper and having the section of the incline at the top substantially coinciding with the line of movement of the header-jaw, whereby the grippers are held together and the motion of the header is not retarded at the end of its stroke, substantially as described.

50 5. In a bolt-header, the combination, with the lower header-jaw having the stationary half of the gripping-die secured thereto and the movable half hinged to the stationary half, of the pivoted header-jaw having the incline on one side with the straight portion at the top of the incline co-operating with the movable gripper-die to hold the blank without retarding the movement of the header-jaw, substantially as described.

60 6. In a bolt-header, the combination, with the lower header-jaw having the stationary half of the gripping-die secured thereto on one side the movable half hinged to the stationary half and having the wearing-plate at the upper edge, of the upper pivoted header-jaw having the removable face-plate and the incline on the side of the jaw co-operating with the movable half of the gripper, substantially as described.

70 7. In a machine such as described, the combination, with the co-operating jaws, of the dies held in dovetail recesses, substantially as described.

80 8. In a machine such as described, the combination, with the pivoted jaws having the cutters thereon, of the blank-gripping die secured to the side of the lower jaw and the incline for closing said die secured to the side of the upper jaw, substantially as described.

SIDNEY BLENKHORN.

Witnesses:

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