

R. J. GILMORE.

MACHINE FOR ATTACHING BUTTONS.

No. 310,578.

Patented Jan. 13, 1885.

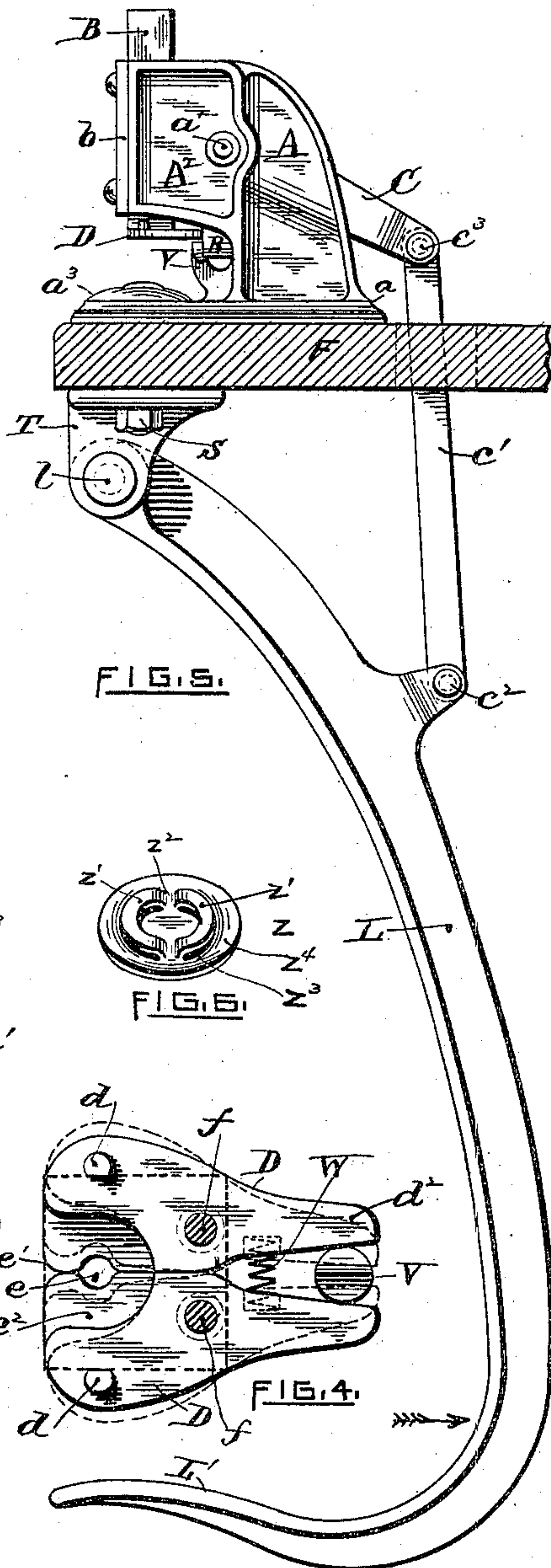
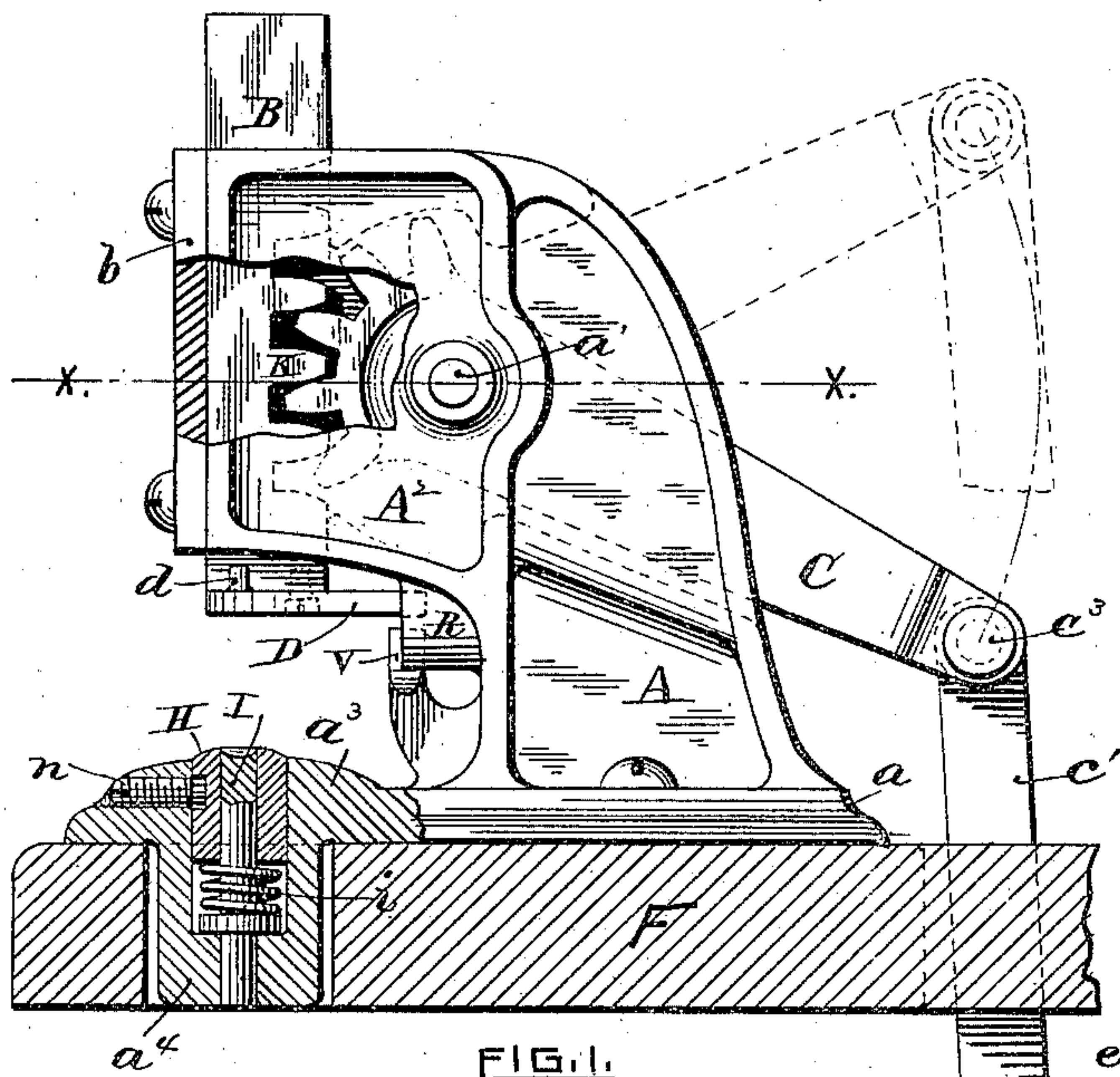
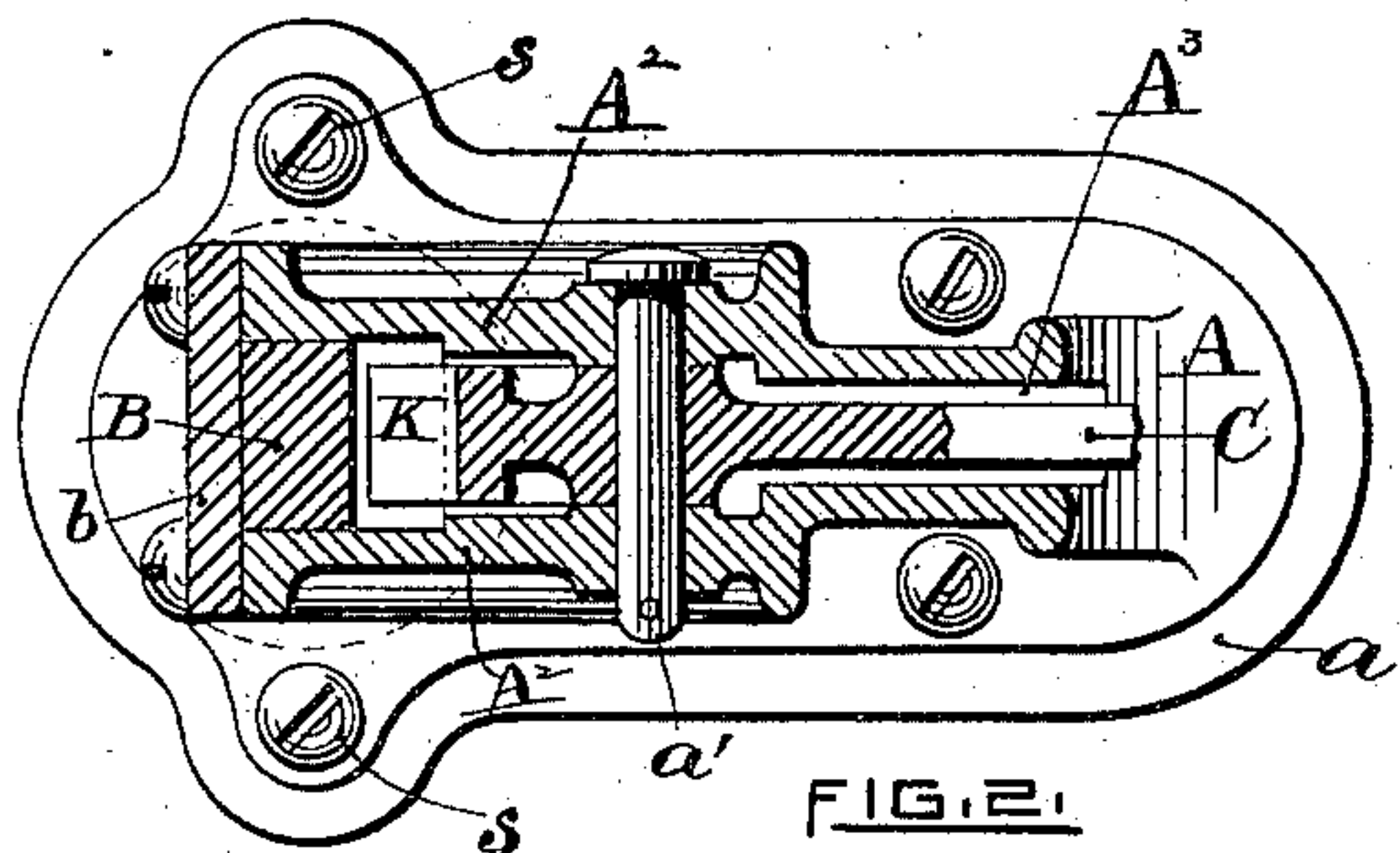
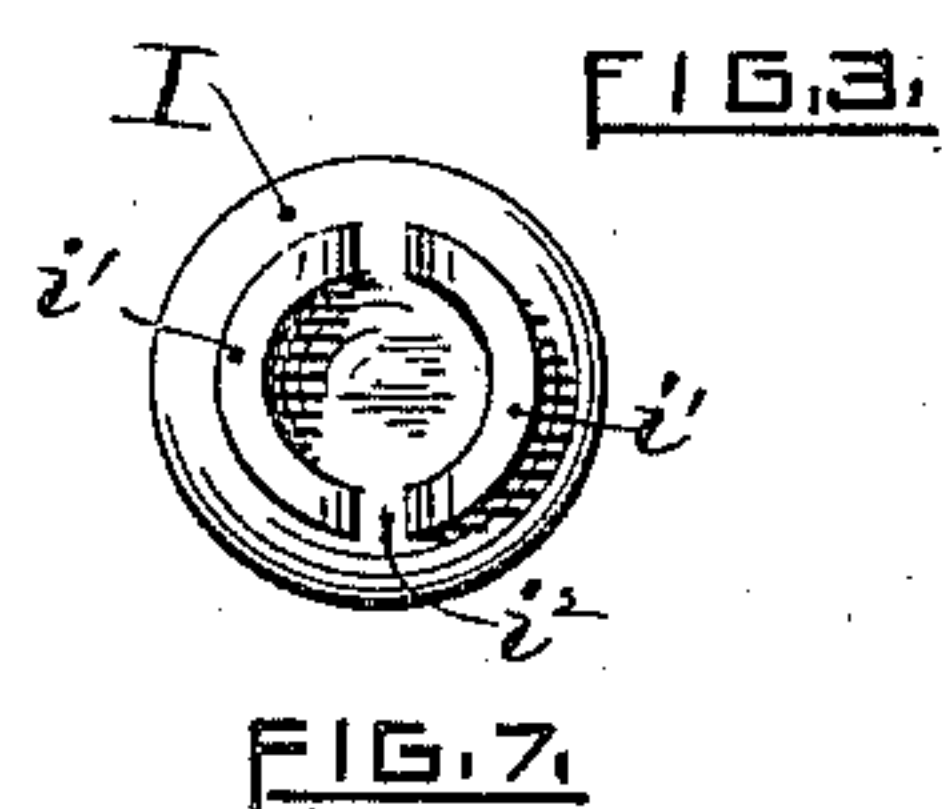
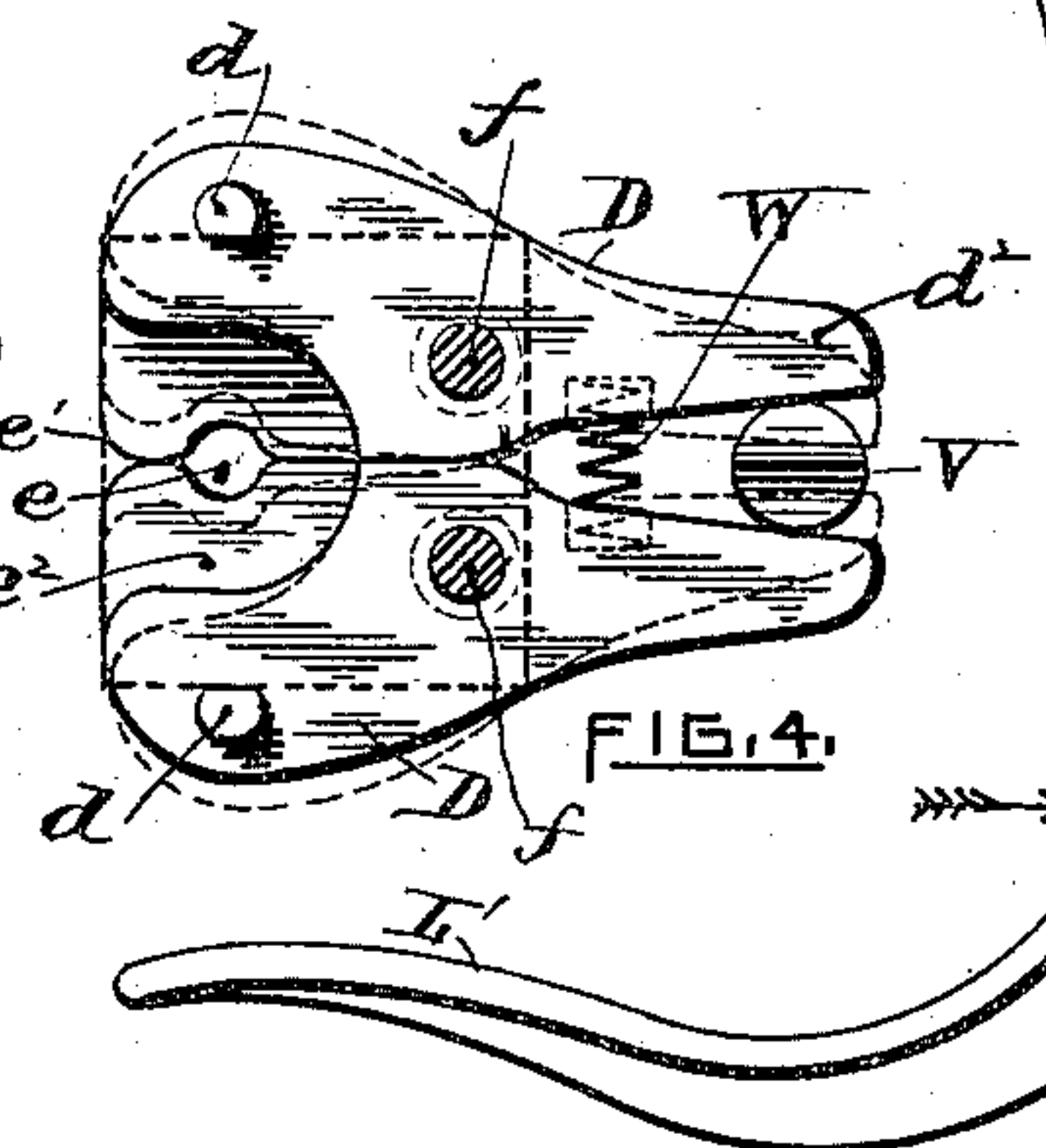
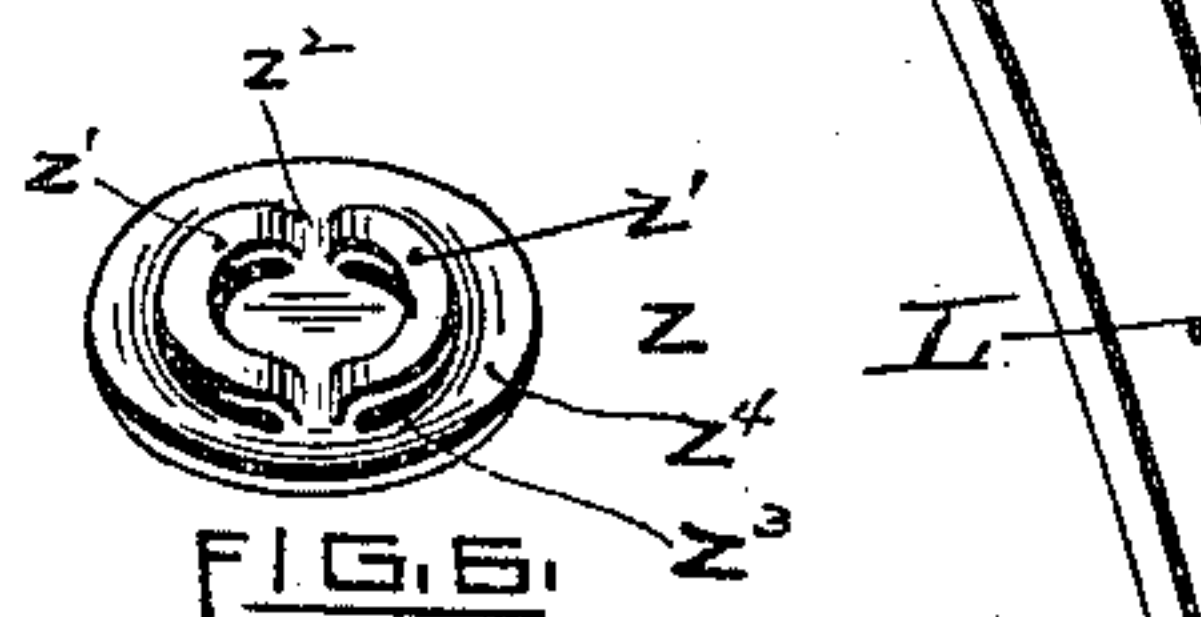


FIG. 5.



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Charles Harrigan

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by Geo. H. Remington
Atty.

(No Model.)

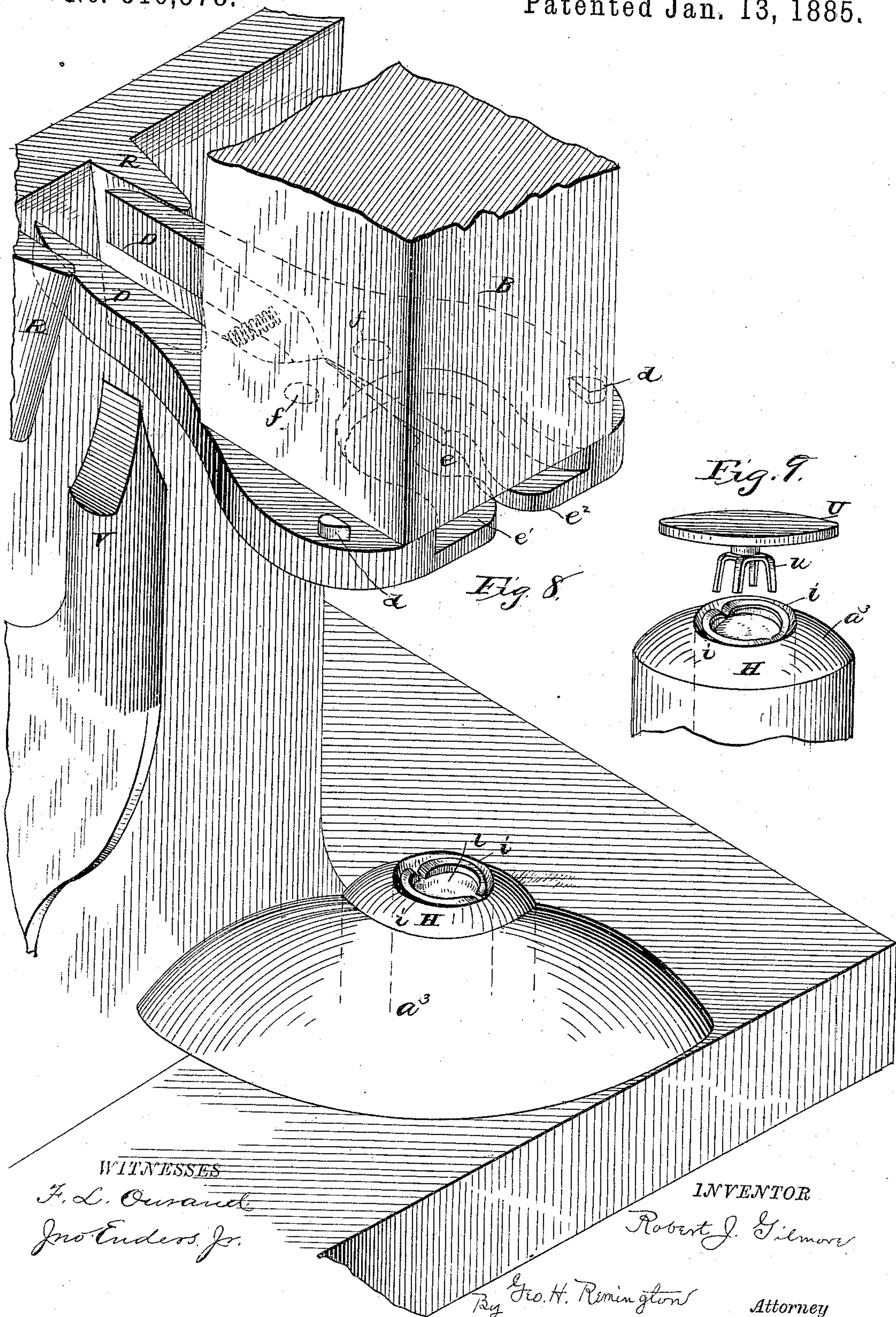
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

ROBERT J. GILMORE, OF PROVIDENCE, RHODE ISLAND.

MACHINE FOR ATTACHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 310,578, dated January 13, 1885.

Application filed May 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. GILMORE, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machines for Attaching Buttons; 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 or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in machines for attaching buttons to garments; and it has for its objects to produce a cheap and efficient machine for rapidly attaching buttons to garments and other articles, and is particularly adapted to be used in connection with the button and fastener for which Letters Patent of the United States were granted to me August 14 and July 24, 1883, and numbered, respectively, 283,235 and 281,992. In the drawings, Figure 1 represents a side elevation of the improved machine, a portion thereof being broken away. Fig. 2 represents a horizontal sectional view taken on the line *x* *x* of Fig. 1. Fig. 3 represents an enlarged view of a portion of the front of the machine, showing the lower portion of the plunger and button-holding device, the button being in position ready to be connected with the fastener, the latter being shown resting upon the bottom die or anvil. Fig. 4 represents an enlarged plan view of the spring jaws or fingers. Fig. 5 represents a view of the machine complete and secured to a work-bench, showing the treadle by which it is operated. Fig. 6 represents an enlarged perspective view of the fastener, and Fig. 7, an enlarged face view of the die or anvil upon which the fastener rests during the operation of attaching the button to the fabric. Fig. 8 represents an enlarged perspective view of a portion of the machine; and Fig. 9 is an enlarged perspective view of the die-seat and dies and a button-fastener.

The letter A indicates the frame or standard of the machine, having a base, *a*, by which it is attached to a bench or table, F.

A² indicates the sides of the frame, which

extend over and beyond the center of the die-support, the front of the frame being covered with a cap or plate, *b*.

Between the sides of the frame, in the space A³, is located a toothed lever, C, which is fulcrumed at *a'*, and which intergears with the toothed plunger B, as shown in Fig. 1 of the drawings.

The letter D indicates two jaws, which are pivoted to the lower end of the plunger at *f*, as shown in Fig. 4. These jaws are cut away at their forward ends on their upper sides, as indicated by the letter *e'*, forming an approximately semicircular recess for the reception of the head of the button, the said jaws being also cut away or recessed at *e*, forming a passage for the tubular shank of the button. The rear ends, *d'*, of the jaws are kept normally separated by the spring W, and, when the plunger is elevated, sit between the inclined ribs R, by which they are forced together so as to open the front ends, in such manner that the button can be readily placed in the recesses therein.

Below the ribs R, and midway between the two, is an angular projection, *r*, (shown in dotted lines in Fig. 3,) which enters between the rear ends of the jaws as the plunger descends, so as to spread said ends apart and contract the forward ends, in order to grasp and hold the button while the fastening is being effected. The lower face of the base of the frame is provided with a downwardly-projecting boss, *a'*, which sits in a suitable opening in the bench. The said boss has a vertical recess, in which is fitted a sleeve, H, which is confined by a set-screw, *n*, against the upward pressure of a spiral spring, *i*, placed below it.

I indicates the lower die, which is located in the sleeve above mentioned. The upper end or face of the die I is concave, and is provided with semi-annular projections *i'*, for the purpose hereinafter explained.

The letter L is the treadle-lever, fulcrumed below the bench and connected by a link, *c'*, to the toothed lever *c*, the lever being so suspended to return the plunger to its normal position automatically.

The following is a description of the operation of the machine: Assuming the plunger to be in its normal position—that is, fully ele-

vated—the jaws D being pressed together at their rear ends by the inclined ribs R and spread apart at their forward ends, a button, U, is then placed between the front ends of the jaws, and resting in the recess between the same. The operator then, by means of his foot resting upon the treadle-lever at L', forces the lever ahead in the direction indicated by the arrow, at the same time retaining hold of the button by its prongs, until the plunger has moved downward about one-fourth of an inch, at which point the ends d^2 of the jaws clear the inclined ribs R, the spring W causing them to embrace the button shank, the V-shaped projection V assisting in spreading the said rear ends, so as to cause the jaws at their forward ends to positively hold the button. Prior to placing the button, however, a fastener, z , Fig. 6, has been placed upon the anvil I, and the garment or other article also placed in position above the same and below the plunger. Now, by completing the stroke of the lever L, the plunger is forced down, pressing the prongs of the button through the garment and against the concave surface z^4 of the fastener, which deflects said prongs under the bridges z' , causing them to turn upward, re-penetrate the fabric, and enter the hollow shank of the button. By relieving the pressure on the lever its weight causes all the parts to fall into normal position.

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

1. In an instrument for attaching buttons to garments, the combination of the vertically-working plunger and its operating-lever and treadle, the recessed jaws pivoted to the lower end of said plunger, the spring located between their rear ends, and the inclined ribs for pressing said rear ends together when the plunger is in a normal position, substantially as and for the purpose specified.

2. The combination, with the plunger and its operating-lever and the recessed jaws, of the inclined ribs and the angular projection, arranged, as described, to open and close the jaws, substantially as and for the purposes specified.

3. The combination, with the plunger and its operating-lever, the recessed jaws, inclined ribs, and angular projections, of the die supported in a boss, and having a concave surface adapted to receive the button-fastener and deflect and fasten the prongs of the button, substantially as specified.

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

ROBT. J. GILMORE.

Witnesses:

GEO. H. REMINGTON,
WM. R. DUTEMPLE.