

No. 638,815.

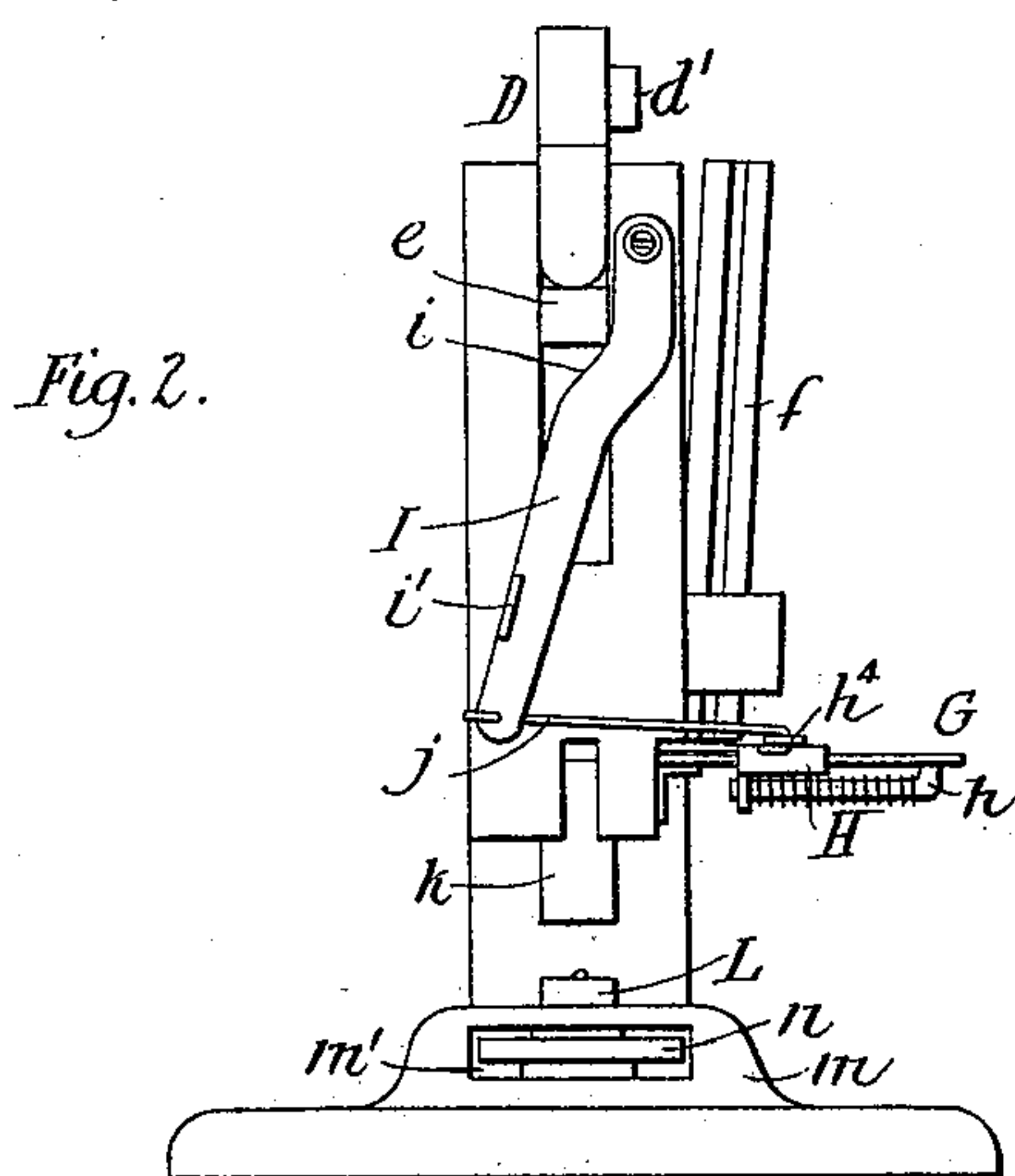
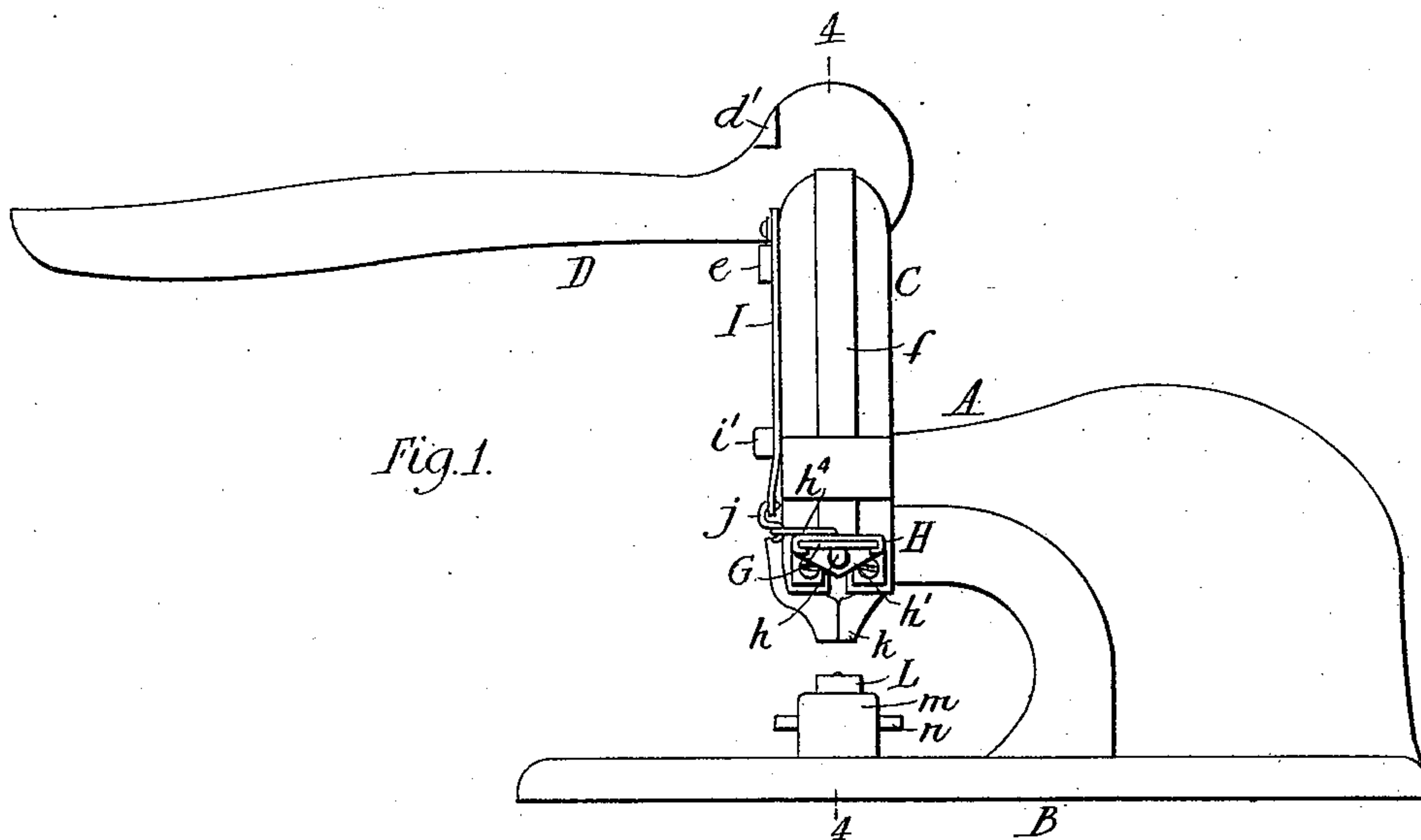
Patented Dec. 12, 1899.

J. H. SHEPARD.
RIVETING MACHINE.

(Application filed Mar. 14, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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2 Sheets—Sheet 2.

Fig. 3.

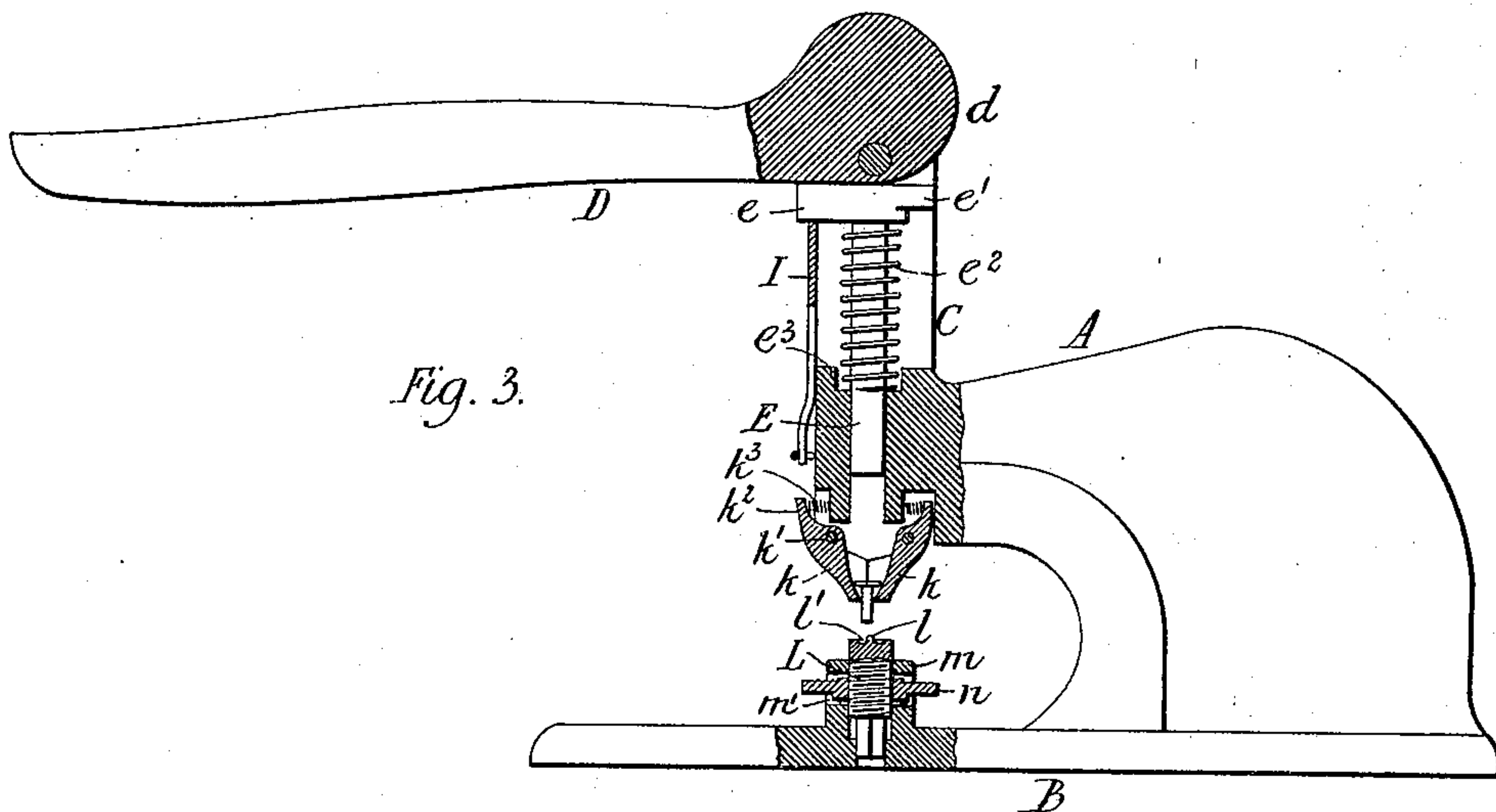
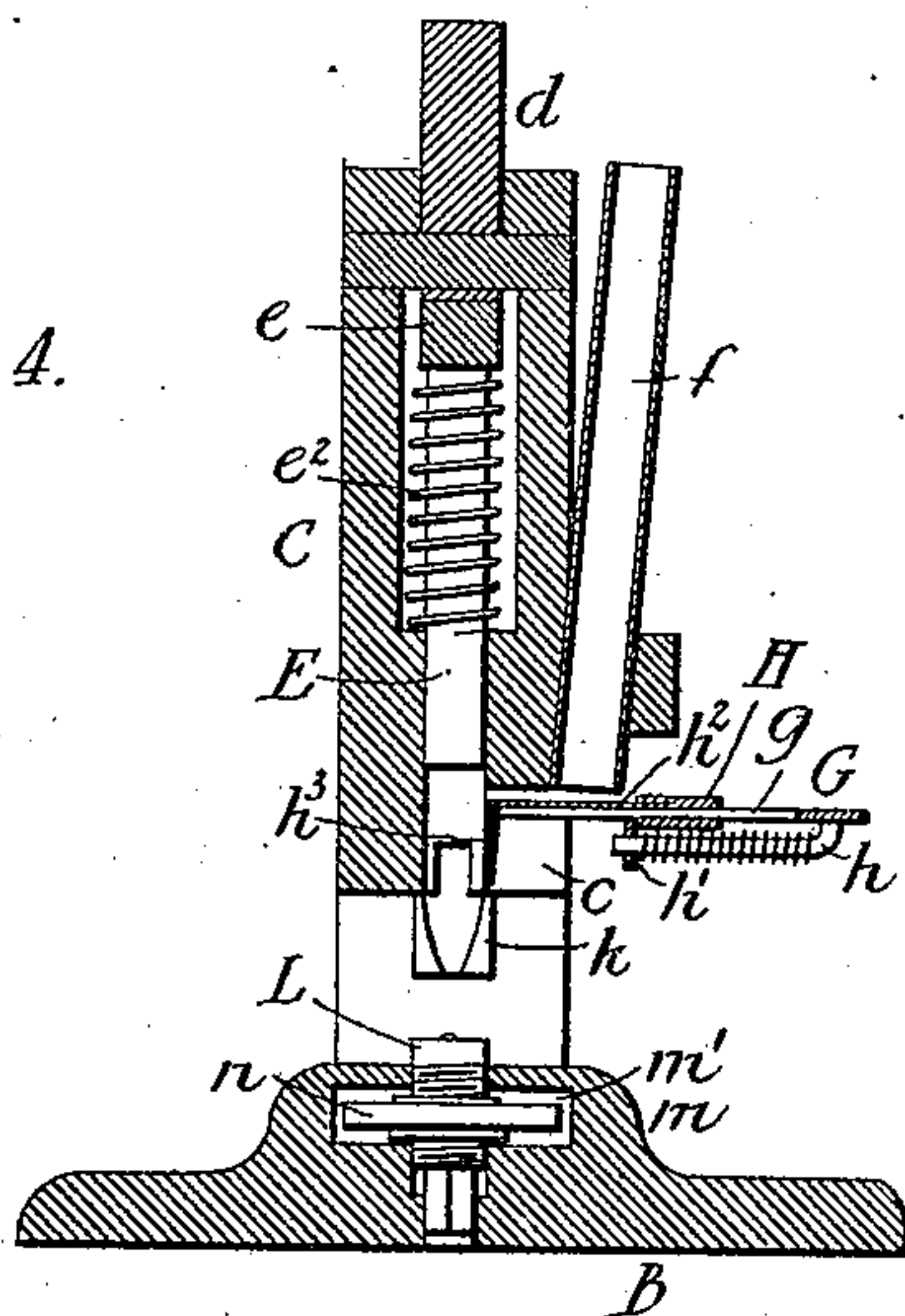


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES H. SHEPARD, OF DALLAS, TEXAS.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 638,815, dated December 12, 1899.

Application filed March 14, 1899. Serial No. 709,001. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. SHEPARD, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Riveting-Machines; and I do 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 ap-

10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates more particularly to 15 that class of riveting-machines which are adapted for employment in connection with tubular rivets.

The objects of this invention are to simplify and improve the general construction of such 20 machines and to provide a novel and efficient means for effecting automatically the feeding of the rivets into position to be engaged by the plunger.

Other novel features of construction are set 25 forth in the following description of the various details of the machine, which description is to be read in connection with the accompanying drawings.

In the drawings, Figure 1 is a side elevation 30 of a riveting-machine embodying my invention. Fig. 2 is a front elevation. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a transverse sectional view on line 4 4 of Fig. 1.

35 Referring to the said drawings by letter, A denotes the body of the machine, mounted on a suitable base B and provided at its forward end with a head C, in the bifurcated upper end of which is pivotally mounted the plunger- 40 operating lever D. The plunger E is vertically movable in the head C, being guided by lugs e e' , which extend from its upper end between the bifurcations, the lug e projecting outwardly beyond the head, for a purpose 45 presently to be explained. The plunger E is depressed against the action of a spring e^2 , coiled around it and interposed between the lugs e e' and a shoulder e^3 , by a cam d , provided on the lever adjacent to its pivot. The 50 downward movement of the lever, and consequently the depression of the plunger, is limited by a stop d' on the lever, which will en-

gage the side of the head when the lever reaches its lowermost position.

In one side of the head, toward its lower end, 55 is a slot c , through which the rivets are fed to the plunger. The rivets are stacked in a chute f , the open lower end of which is opposite to the slot, and means are provided for automatically conveying the rivets from the chute 60 into position to be engaged by the plunger as follows: Extending from the head, near the upper end of the slot c , is a plate G, having a slot g slightly wider than the diameter of the body of a rivet. The rivets fall by gravity 65 through the chute, and the lowermost rivet when being fed occupies the slot g , the head of the rivet resting in the plate. A follower-plate H is slidably mounted on the plate G and is normally moved inwardly by the action of a 70 spring coiled around a pin h and contacting with a lug h' on the follower-plate and through which the pin passes. The follower-plate is provided at its forward end with an extension h^2 , which normally covers the slot in the plate 75 G, and thereby affords a temporary support for the rivets. At the extremity of the extension h^2 is a downwardly-extending finger h^3 , curved slightly in cross-section. At the outer side 80 of one of the bifurcations of the head is pivoted a lever I, the lower end of which is connected by a rod j with an apertured lug h^4 , carried by the follower-plate. Intermediate of its ends the lever I is offset, providing an inclined or cam edge i , which is in the path 85 of the lug e of the plunger. In practice the lever D normally occupies the position shown in Fig. 1, the plunger being at its highest position and the follower-plate being moved inwardly by the action of its spring. The slot 90 in the plate G is thus covered by the extension h^2 , and the latter affords a support for the rivets. The lever D being now swung over its cam forces down the plunger, and the lug e on the latter engaging the lever I the fol- 95 lower-plate and its extension are moved rearwardly, thereby uncovering the slot g and permitting the lowermost rivet to occupy it. The lever D is then swung back to its normal position, which elevates the plunger and 100 moves the follower-plate inwardly by the action of its spring, the finger of the plate extension engaging and carrying the rivet into position beneath the plunger. Obviously a

rivet may be fed into position by moving the follower-plate independently of the lever D, and to enable this to be readily done I provide on the lever I a handle i' , as shown.

5 From the slot c the rivet falls between two jaws k k , which grasp it in position with the head uppermost until the plunger descends to separate them and force out the rivet into the material to be riveted. The jaws k are
10 each pivotally mounted on a pin k' , and above this pivot there is an arm k^2 , between which and the head is confined a spring k^3 , whereby said jaws are normally held in contact, it being understood that the opening formed by
15 the recesses in the inner face of the jaws is of sufficient size to admit the body of a rivet when the jaws are closed.

The anvil L is of cylindrical form and is provided in its upperface with a conical projection l and around said projection with an annular recess l' , whereby the lower end of the rivet is upset. This anvil is made to be adjustable in height according to the thickness of material to be riveted and to this end is
25 mounted to be vertically movable in a block m and is threaded for engagement with an adjusting-nut n , confined in a recess m' in the block. The lower end of the anvil is squared and is guided in a square opening in
30 the base. Obviously by turning the nut n the anvil may be raised or lowered with reference to the thickness of material or to the length of rivet.

In the operation of my invention after a
35 hole has been made in the material the latter is placed on the anvil with its hole in line with the plunger, and the levers D or I, as the case may be, being operated a rivet is conveyed to the jaws. The lever D is then
40 swung over, and the rivet is forced into the hole of the material and by engagement with the anvil is upset at its lower end. In swinging the lever back to its normal position a second rivet is brought into position, and so on.

45 My improved machine having the above-described provision for the automatic feeding of the rivets may be rapidly operated with the exercise of but little labor and skill. The construction of the machine being simple and involving but few parts, there is little
50 liability to disorder, and, moreover, the machine may be thereby made at a low cost.

I claim as my invention—

55 1. In combination with the plunger of a riveting-machine and with a rivet-chute, of means for feeding rivets to the plunger consisting of a plate having a slot which receives the bodies of the rivets, a spring-controlled

follower-plate slidable on the aforesaid plate and having an extension terminating in a
60 finger projecting through the slot and to engage a rivet, and a lever having rod connection with the follower-plate and adapted to be manipulated by hand or actuated by a device on the plunger to move the plate rear-
65 wardly to engage a rivet, the feeding of the latter being accomplished through the action of its spring.

2. In a riveting-machine and in combination with a spring-sustained plunger, means
70 for actuating it, and a rivet-chute, a fixed plate or shelf its inner end terminating in a recess at the line of the inner wall of the plunger-guideway and provided with a slot within which the rivets are suspended, ter-
75 minating in said guideway, a follower or pusher engaging the slot of the fixed plate or shelf, a spring for retracting the follower or pusher, and means for limiting its forward movement, whereby the rivets are fed directly
80 into the guideway of the plunger.

3. In a riveting-machine and in combination with the base-head having a vertical guideway terminating in a pair of rivet-retaining jaws having a fixed relation to said
85 base-head, a plunger operating in said guideway above the jaws, a rivet-chute, a fixed plate or shelf terminating in a recess at the inner wall of the plunger-guideway above the jaws and provided with a slot terminating in
90 said guideway, a follower or pusher having a finger depending in said slot, a spring for retracting said finger, and means for limiting the travel of said finger at the inner wall of the guideway.
95

4. In a machine for setting rivets, a seating for the anvil comprising a base-plate having an aperture of angular cross-section, a cap on the base-plate providing a recess said
100 cap having an aperture in line with the aperture of the base-plate, in combination with an anvil having a lower angular portion engaging the aperture in the base-plate but having vertical movement therein said anvil having its upper end loosely passed through the
105 aperture in the cap and provided with an intermediate threaded portion, and a shouldered nut engaging the threaded portion of the anvil and confined within the recess.

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

JAMES H. SHEPARD.

Witnesses:

H. B. COCKE,
R. L. MAUPIN.