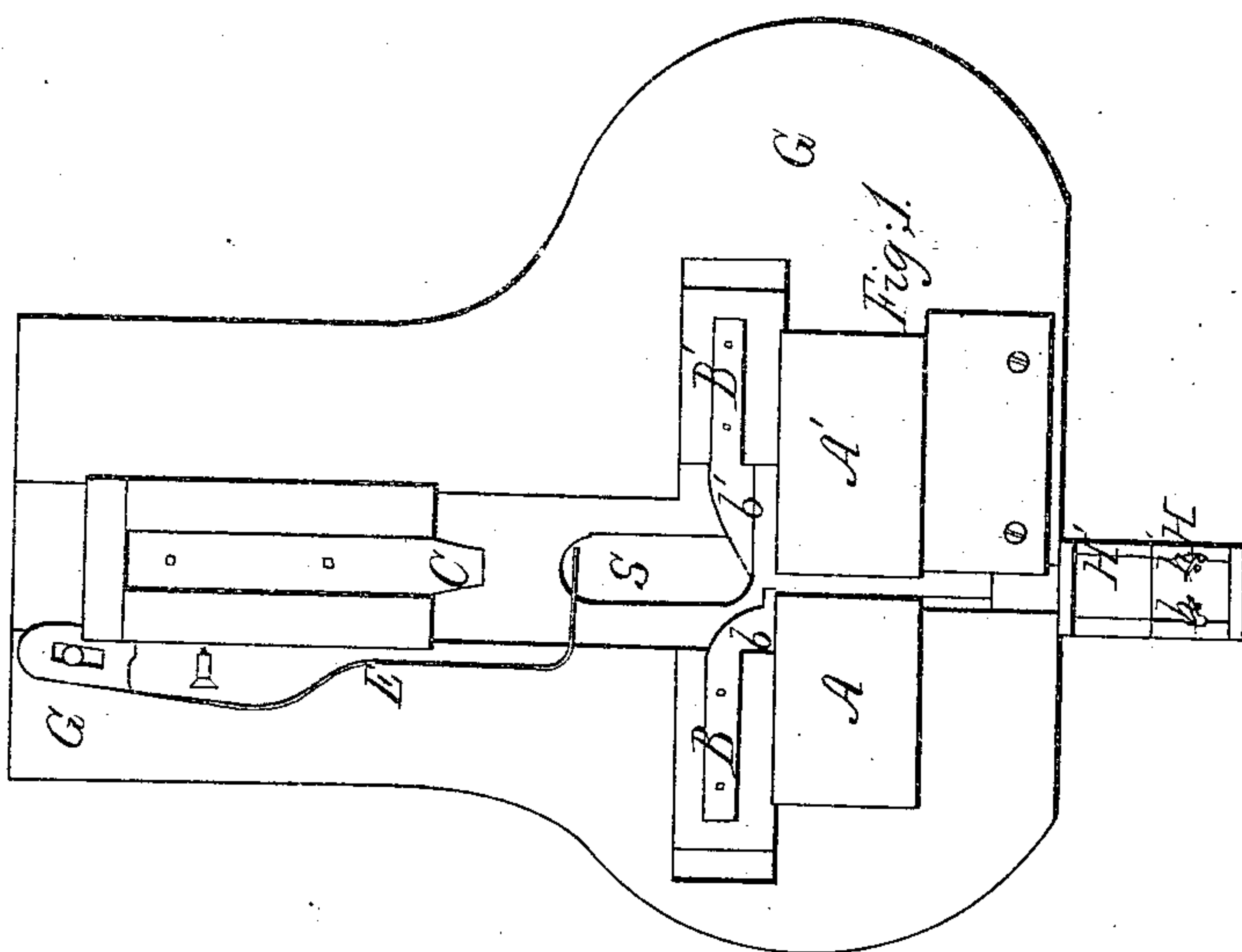
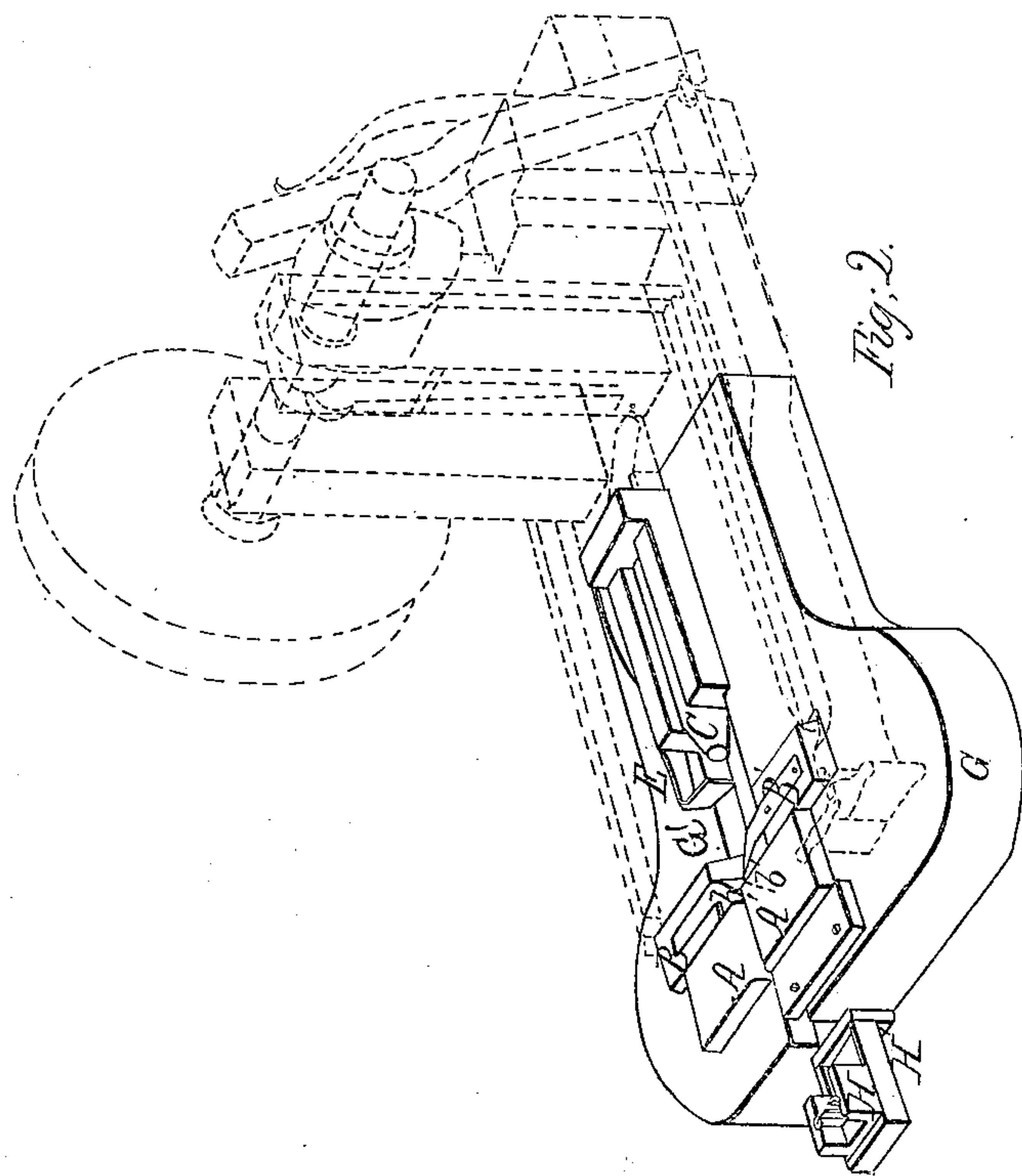


J. L. Hall,

Making Rivets,

No 90,661,

Patented June 1, 1869.



Witnesses.

Franklin Parker.
A. Newberry.

Inventor.

J. L. Hall.

United States Patent Office.

JAMES L. HALL, OF ABINGTON, MASSACHUSETTS.

Letters Patent No. 90,661, dated June 1, 1869.

IMPROVEMENT IN BOLT-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES L. HALL, of Abington, in the county of Plymouth, and State of Massachusetts, have invented certain new and useful Improvements in Rivet-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in so arranging the feeding-device, the cutters, the griping-dies, and the heading-device, in combination with an adjustable gauge, that, without changing the dies, rivets of different lengths may be made.

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

In the drawings—

Figure 1 is a plan, showing all those parts of the rivet-machine to which my invention relates, the actuating-devices being omitted.

Figure 2 is a perspective of the same, in which the actuating-devices are represented by dotted lines.

In my description, I omit all reference to the actuating-parts of my machine, and simply describe the tools that do the work.

G and G' represent the bed-plate, to which all the parts are attached.

The feed-device, represented in the drawings, consists of a feed-carriage, H, which is provided with two toggles, *h h'*, which are so arranged, that when the carriage moves backward, they will open and have no action upon the wire, but when a forward motion is given to H, these toggles will close together, and thus grasp the wire and feed it forward.

H' is a slide, upon which the feed-carriage moves.

A and A' are the griping-dies, which may be operated by toggles, indicated by dotted lines in fig. 2, or by any of the ordinary devices.

B and B' are cutting-jaws.

The tool *b* in B, acts as a support to the wire, while the tool *b'* in B', moves up and cuts it off.

C is the header, the motion of which is so timed, that when it moves up to head the rivet, the cutters *b b'* are withdrawn, and the griping-dies A and A' hold the wire firmly in place.

E is a gauge, so arranged, that it is automatically withdrawn, whenever the header moves up.

The operation of my machine is as follows:

The wire of which the rivet is to be made, is fed in between the griping-dies A and A', by hand, or by some suitable feeding-device, until it passes sufficiently through the grippers to form the head, then the header moves up and makes the head. The header is then withdrawn, until it occupies the position shown in the drawings.

Now, the grippers release the hold of the wire, and the wire passes through until the head comes in contact with the gauge E, which regulates the length of the rivet.

The griping-dies again seize the wire, the cutters B and B' move up and cut the wire, leaving the wire projecting beyond the dies sufficiently to form the head of the next rivet, the rivet dropping through the opening T.

The header now moves up, and the entire operation is repeated.

By this arrangement of parts the rivet is not cut off until after the head is formed, and then it may be cut to any desired length, said length depending upon the position of the adjustable gauge E.

If desirable, the gauge E may be dispensed with, the header C performing that function; that is, the actuating-gear of the header C may be so arranged, that after the header has performed its function as a header, it may be withdrawn to the distance required by the rivet, and then act as a gauge.

Having thus described my invention, I now proceed to set forth my claim.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The reciprocating lever H and toggles *h h'*, in combination with the holding-jaws A A' knives B B', gauge E, and heading-plunger C, all arranged and operating together, in the manner described.

JAS. L. HALL.

Witnesses:

FRANK G. PARKER,
A. HUN BERRY.