

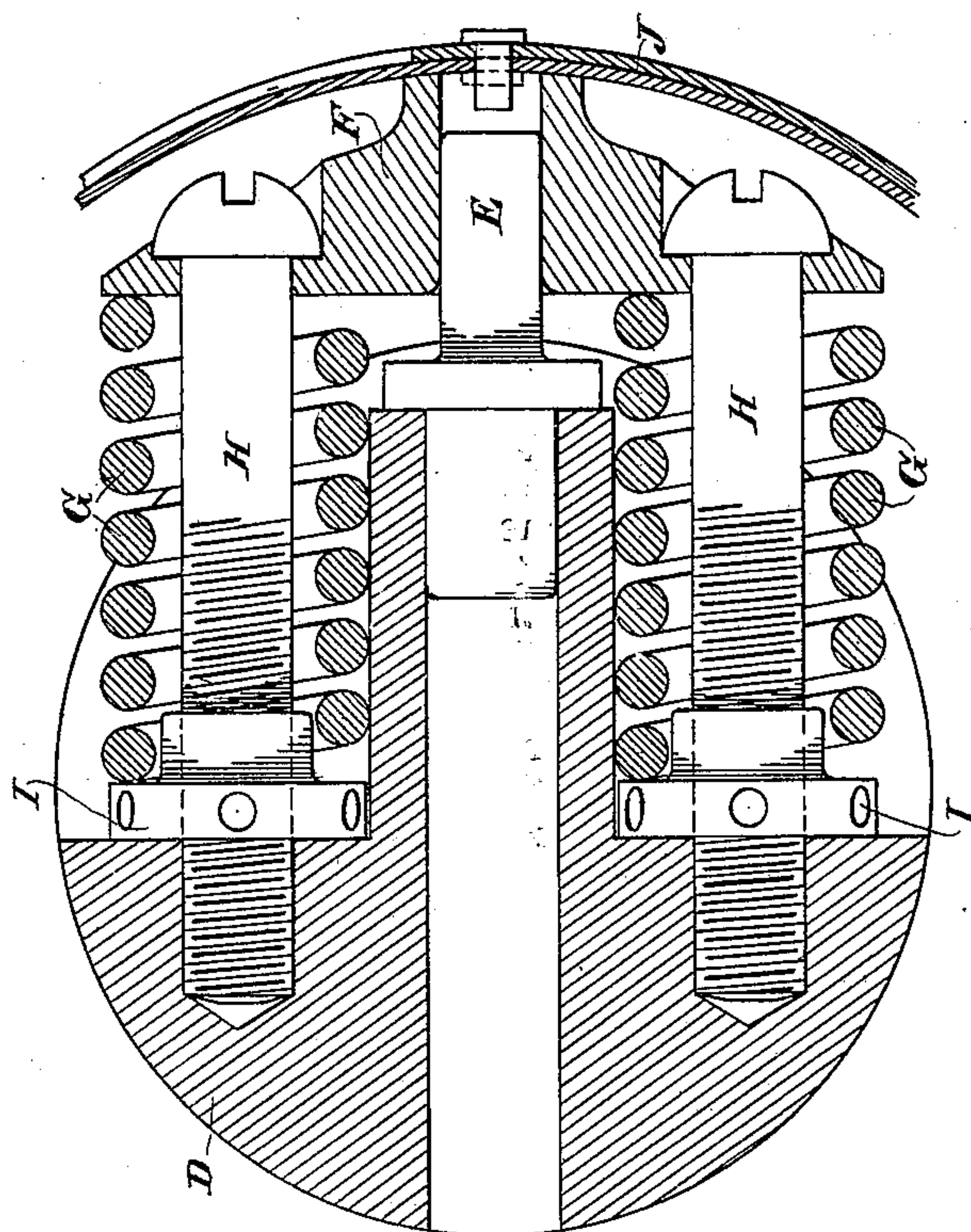
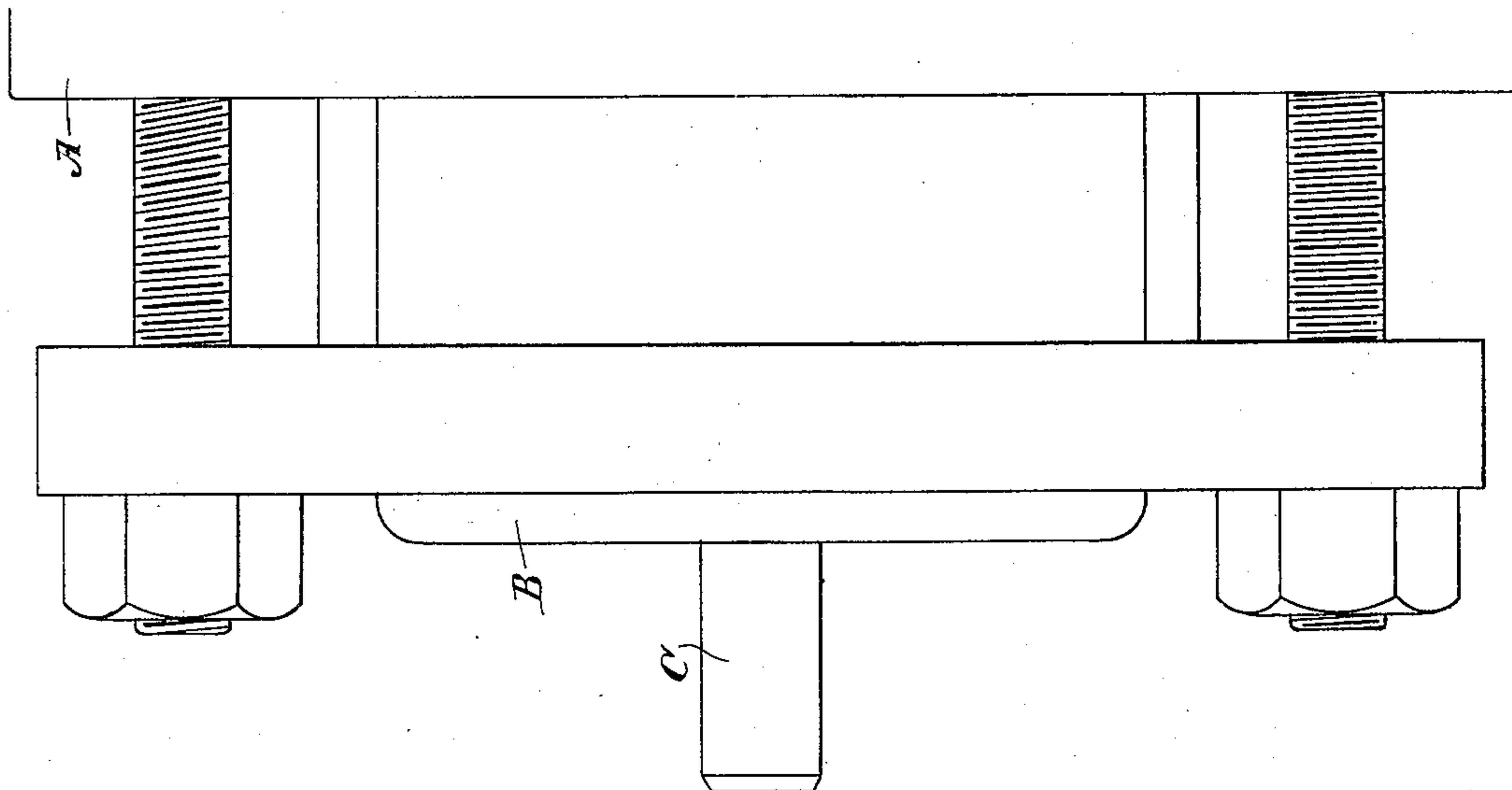
No. 617,834.

Patented Jan. 17, 1899.

R. S. MOORE.
RIVETING MACHINE ATTACHMENT.

(Application filed Oct. 13, 1898.)

(No Model.)



Witnesses,
J. H. Morse
J. F. Aschock

Inventor,
Robert S. Moore
Dewey Strong & Co.
attys.

UNITED STATES PATENT OFFICE.

ROBERT S. MOORE, OF OAKLAND, CALIFORNIA.

RIVETING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 617,834, dated January 17, 1899.

Application filed October 13, 1898. Serial No. 693,386. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. MOORE, a citizen of the United States, residing in Oakland, county of Alameda, State of California, have invented an Improvement in Riveting-Machine Attachments; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an attachment for riveting-machines.

It consists in the parts and the constructions and combinations of parts hereinafter described and claimed.

The figure is a horizontal section through my attachment.

When plates of metal are to be riveted together, holes are bored or punched through the overlapping edges, the rivets having a head on one end placed on these holes, and the opposite end is headed or upset upon the opposite side of the sheets. Considerable difficulty is experienced in making a perfect joint in this manner, because the plates to be riveted are liable to become slightly separated while the upsetting of the rivet is taking place, and the result will be to often upset the central portion of the rivet in the open space between the plates before the head is formed upon the end of the rivet. Plates thus riveted together will have an open space between them, and the joint will not be tight.

The object of my invention is to overcome this difficulty, and it is effected by an elastic device which presses and holds the plates firmly together until the rivet has been upset or headed and the plates secured.

The device is applicable to any form of riveting apparatus.

In the present case I have only shown so much of a vertical post riveting-machine as is necessary to illustrate my invention.

A is the cylinder of a hydraulic ram; B, the plunger movable therein and carrying upon its end the punch C, which presses against the head of the rivet after the latter is inserted.

D is a vertical post, as shown in the present case, and E is the die, against which the inner end of the rivet contacts and by which it is upset or headed when the plunger B is forced forward against the head of the rivet.

F is a disk having a central opening through which the die E is freely movable, and this disk forms the support against which the plates to be riveted together are placed, with the holes coinciding so that the rivet may be put into the holes, and the plunger, if advanced, will force the rivet against the die E, as before described.

In order to hold the plates to be riveted closely together until the rivet is upset, the disk F is supported upon spiral springs G, which, as here shown, encircle bolts H, which are screwed into the post D, as shown. The post is cut away upon each side of the center to form flat bearing-surfaces, into which the bolts are screwed, and nuts I are fitted upon the inner ends of these bolts and turnable thereon, so as to move them along the threads of the bolts. By means of these nuts the tension of the springs and the pressure of the disk against the plates are regulated. The outer ends of the springs G press against the inner face of the disk F, and thus hold it normally pressed out against the heads of the bolts H, as shown. In this position the die E does not project through the central opening in the disk F, but is retracted within it. Consequently when the pressure of the plunger is brought upon the rivet-head the plates which are to be riveted (shown here at J) will be forced firmly into contact by the pressure against the disk F, the tension of the springs being sufficient for that purpose. The continued pressure of the plunger will force the disk and the plates J back until the inner end of the rivet comes in contact with the stationary die E, when the inner end will be upset and properly headed upon the inner surface of the inside plate. By this means the plates are held together as firmly as possible while the rivet is being upset, and there is no possibility of any portion of the shank of the rivet being upset and protruded between the plates, so as to keep them permanently separated and prevent a tight joint.

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

1. In a riveting-machine, the combination of a post, cut away upon each side to form bearing-surfaces, yielding supports mounted on said surfaces, an upsetting-die carried by

the post between said supports, a disk or plate adapted to support the parts to be riveted, said disk or plate mounted on said supports, and having a central opening for the die, and a plunger adapted to force the disk backwardly by the act of riveting until the rivet is upset by contact with the die.

2. In a riveting-machine, a movable plunger and a stationary die, a disk or plate fitting around and movable with relation to the die and forming a support for the parts to be

riveted, springs pressing against the rear of the disk, screw-threaded bolts and nuts turnable thereon to regulate the tension of the springs.

In witness whereof I have hereunto set my hand.

ROBERT S. MOORE.

Witnesses:

THOMAS J. BARBOUR,
FRANK M. LELAND.