

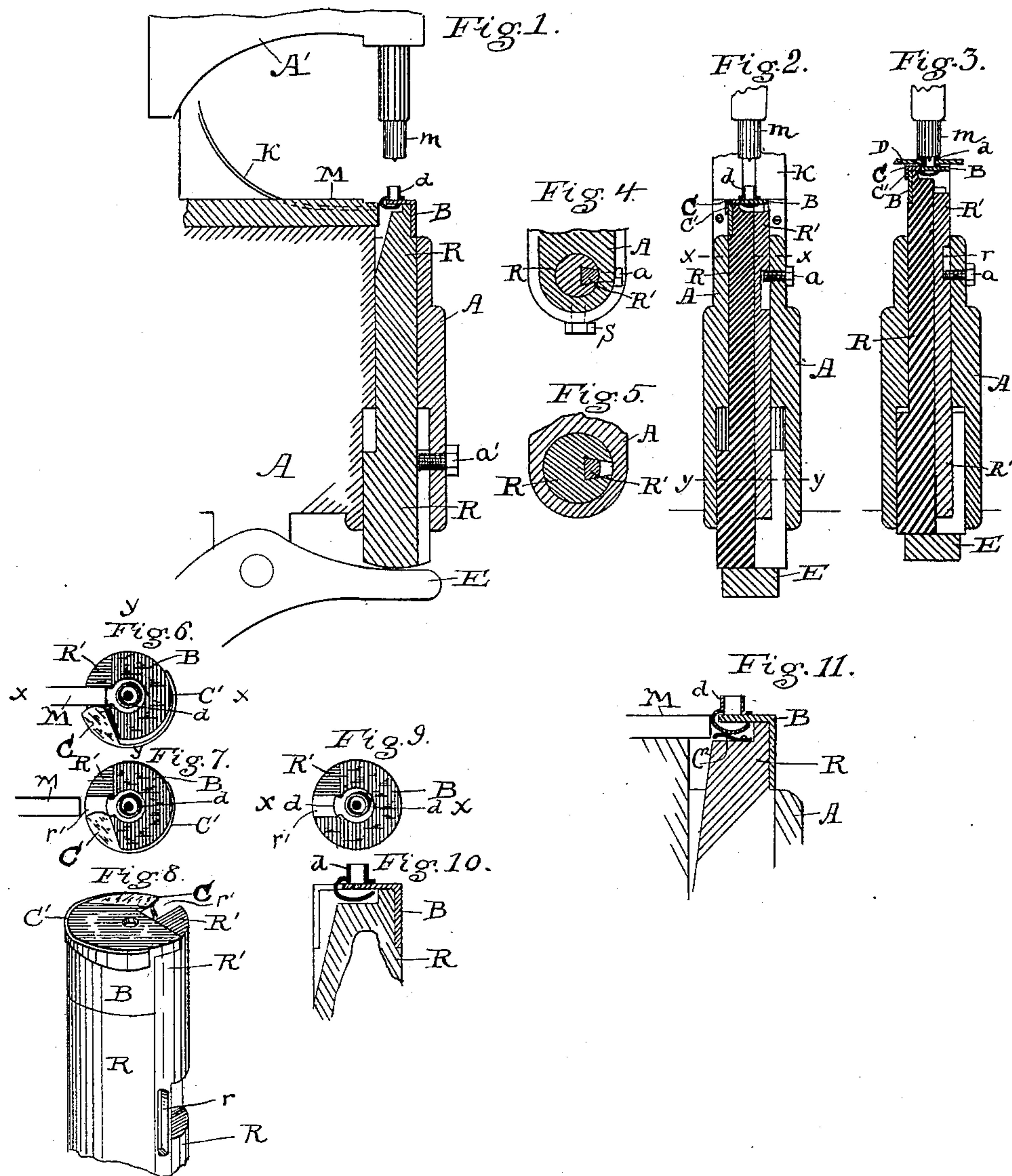
(No Model.)

L. JONCAS.

MACHINE FOR SETTING LACING STUDS.

No. 379,702.

Patented Mar. 20, 1888.



Witnesses:  
Robert A. Davis,  
Milbur F. Lunt.

Inventor:  
Louis Joncas  
by S. W. Bates,  
his atty.



# UNITED STATES PATENT OFFICE.

LOUIS JONCAS, OF LEWISTON, MAINE.

## MACHINE FOR SETTING LACING-STUDS.

SPECIFICATION forming part of Letters Patent No. 379,702, dated March 20, 1888.

Application filed December 27, 1887. Serial No. 258,960. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS JONCAS, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Machines for Setting Lacing-Studs; 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.

My invention relates to riveting mechanism for machines for setting lacing-studs, and it particularly relates to an improved construction of the anvil and adjacent parts used in a machine patented to W. C. Bray, May 22, 1883, No. 277,985.

In the above-mentioned machine the clinching-tool is secured to the goose-neck, and the anvil and its cap are secured to or formed on the top of a reciprocating plunger set in suitable bearings in the bed of the machine. The anvil proper has formed on its upper end a recess extending from the rear side thereof toward the front, of suitable shape and size to receive the outer head of the lacing-stud and permit the stud to feed to a position in axial line with the setting-tools, and no farther, while the cap has a slot cut from its rear upper corner of a shape to receive the outer head and neck of the stud, while the inner head or collar of the stud rests upon the top of the anvil-cap in the well-known manner. The studs are forced or fed by the horizontal plunger into the slot in the cap, which, as these machines have hitherto been constructed, has its horizontal sides or edges parallel, and are thus delivered in the center of the anvil, the tubular portion of the stud being above and the hook portion below the cap. In operating the machine the holes are first punched in the edges of the upper at the points where the hooks are to go, and each hole is placed in turn on the lower end of the clinching-tool. The reciprocating plunger bearing the stud resting on the anvil-cap rises, and the tubular portion of the stud, when it is located in the center of said cap, passes through the hole in the upper and clinches the tubular rivet. As before explained, the notch by which the stud slides into place has its horizontal edges parallel, so that as the stud lay on the anvil-cap

after the plunger was withdrawn there was nothing to prevent the stud when acted upon by the jarring of the machine or from some other cause from moving backward in said notch and becoming displaced from its central position on said anvil-cap, and consequently piercing the upper in the wrong place and not in the hole prepared for it.

My invention is directed to remedying the defect pointed out and to supplying a locking or holding device by which the studs are held in an exactly central position on the anvil-cap, thereby preventing the imperfect work spoken of.

My invention consists, therefore, of a retaining-catch which impinges against the hook when the latter is in position and retains it there until it is riveted to the upper.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 shows a sectional view of the plunger, anvil, and adjacent parts on the line X X of Fig. 6. Fig. 2 is a similar section on the line Y Y of Fig. 6. Fig. 3 is the same as Fig. 2 with the plunger moved up to its highest point. Fig. 4 is a section on the line X X of Fig. 2. Fig. 5 is a section on the line Y Y of Fig. 2. Figs. 6 and 7 are plan or top views of the anvil-cap and adjacent parts. Fig. 8 is a perspective view of the same. Fig. 9 shows a plan of the anvil-cap as formerly used. Fig. 10 is a vertical section through X X of Fig. 9. Fig. 11 shows a central vertical section showing a modification of my device.

I will proceed to describe the construction and operation of so much of the machine as is necessary to understand my improvement, showing said machine as it was constructed before the application of my invention.

A shows the cylinder or case, which contains the reciprocating plunger.

R is the plunger, whose top is formed into an anvil having the anvil-cap B, of the form shown in Figs. 9 and 10. This cap is of circular form, except that it has a segmental section cut out of one side, the edges of said section being at right angles with each other. The plunger R has a sliding section, R', which is formed to fit a dovetailed groove in the plunger. This sliding section R' has a vertical motion relative to the plunger, said motion being limited by the screw-stud a, which



fits in a groove formed in the sliding section. The upper end of the section R' has the form of a segment, and is so constructed that when raised to its highest point relative to the plunger (see Fig. 8) it fits in the segment formed in the cap, leaving therein a square notch,  $r'$ , as in Fig. 9, one side of which notch the upper end of the section R' forms, as explained.

E represents the lever which produces the reciprocating motion in the plunger, and M shows the horizontal plunger which feeds the studs to the anvil cap or pocket.

K represents the way by which the studs are fed down from the reservoir.

A is the goose-neck, and  $m$  the clinching-tool.

In operating the machine, the plunger R being down and the section R' being up to form the completed anvil-cap, the stud is pushed into the notch  $r'$  by the plunger M and onto the anvil-cap, the tubular portion above and the hook below, as in Fig. 10. The upper which is to receive the stud is held against the lower end of the clincher  $m$ , the end of the clincher entering the hole which has previously been punched. In the machine as hitherto constructed and used, as the plunger R was lifted, and before the stud entered the leather, it was held in its proper position on the anvil-cap simply by its own weight, and, as a result, the jar of the machinery had a tendency to displace it by swinging it round or causing it to work backward in the notch  $r'$ , and when it reached the leather it would frequently fail to enter the hole punched for it and would make a new hole in the upper. After the upper end of the stud enters the leather, the section R' ceases to ascend, being stopped by the stud  $a$ , so that as soon as the stud is set it can be slipped out of the notch  $r'$  by drawing it on one side or straight backward, as desired.

When my improvement is used, all the parts of the machine, excepting the anvil-cap, are of precisely the same construction, as I have already pointed out.

To the side of the anvil-cap I solder or otherwise secure the end of a spring, C', which is made of the same curve as the cap. On the unattached end of the spring C' is formed the flat catch C. This catch C is thinner than the

cap and it fits in a recess in the upper portion of said cap, their upper surfaces being flush with each other. The extreme end of the catch is rounded in a horizontal plane and it projects slightly over the edge of the notch  $r'$ . It occupies such a position that when the stud is in place on the anvil-cap the corner of the catch impinges against the neck of the stud and holds it firmly in place.

The operation of my device is obvious. When the stud slides into place, passing along the notch  $r'$ , the spring gives way, as seen in Fig. 6, and when the plunger is withdrawn the catch closes in and holds the stud, as in Fig. 7. When the plunger R is raised, the stud holds its exact position and enters the hole prepared for it in the upper without fail.

I do not desire to confine myself to the exact construction here shown, for it is obvious that a catch for holding the stud in place and embodying my invention may be constructed and arranged in various ways—as, for instance, like that shown in Fig. 11, where a spring, C<sup>2</sup>, is secured to the anvil immediately under the hook and arranged to hold the stud in place by pressing upward on the hook.

Clamps or catches in great variety might be made to hold the stud in place, and I desire to cover, broadly, suitable mechanism for holding the studs while the plunger is being raised.

I claim—

1. In a machine for setting lacing hooks or studs, the combination herein described, with an anvil-cap for receiving the studs, of a catch for holding said stud in position on said cap, substantially as shown.

2. In a machine for setting lacing-studs, an anvil cap, substantially as herein described, for receiving the studs, said cap being provided with a notch to admit said studs to said cap, a flat catch having a curved end projecting over the edge of said notch, and a spring for said catch, whereby the said stud is held in place on said anvil.

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

LOUIS JONCAS.

Witnesses:

J. W. MITCHELL,  
ETTA G. GETCHELL.