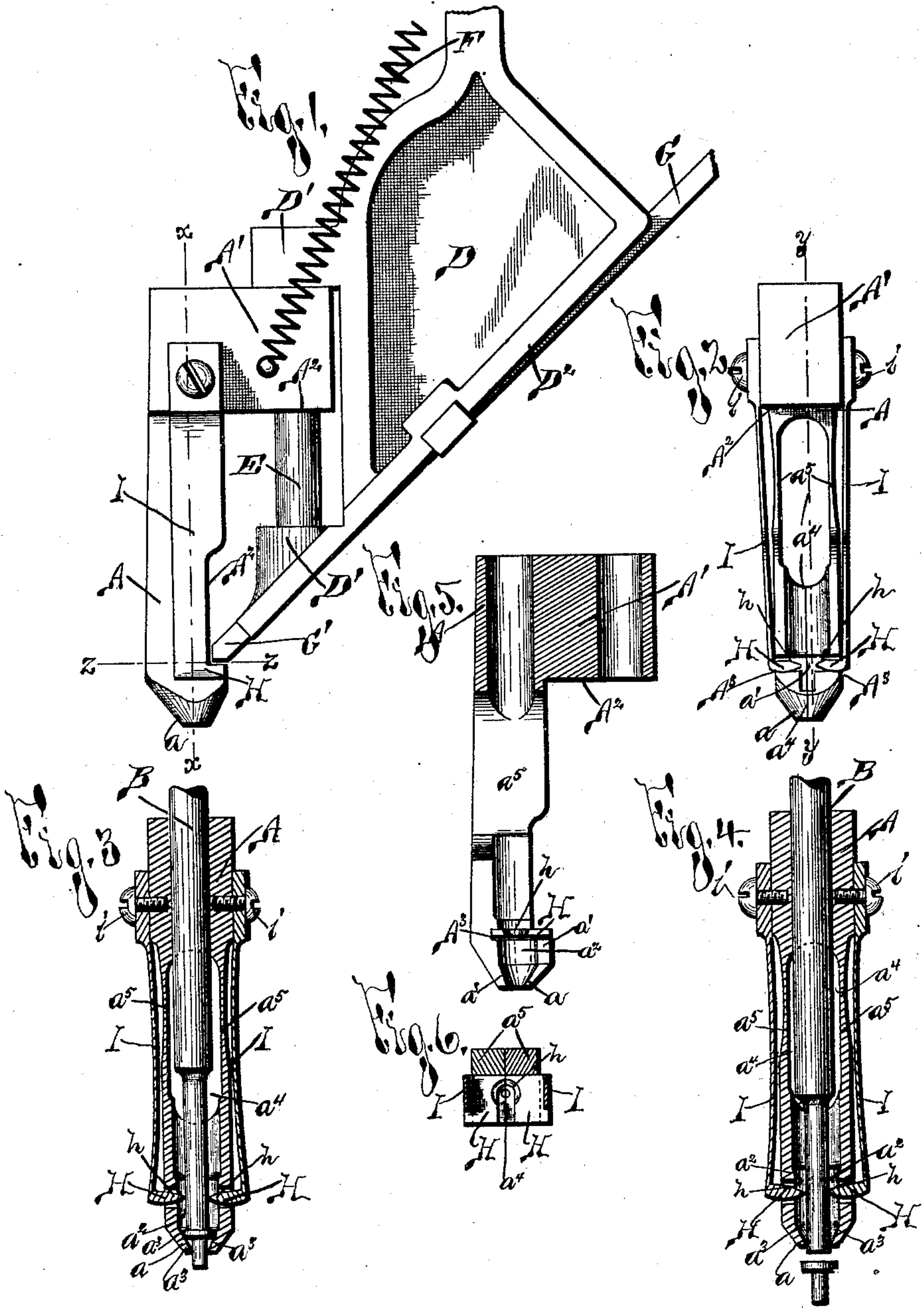


(No Model.)

J. J. UNBEHEND.
RIVETING MACHINE.

No. 468,734.

Patented Feb. 9, 1892.



WITNESSES:

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JACOB J. UNBEHEND, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE JUDSON L. THOMSON MANUFACTURING COMPANY, OF WALTHAM, MASSACHUSETTS.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 463,734, dated February 9, 1892.

Application filed December 31, 1888. Serial No. 295,027. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. UNBEHEND, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Receivers for Riveting-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to an improvement in
10 a receiver or pocket for rivet-inserting machines, and is especially designed for use in rivet-machines of the kind described in my application (Case A) of even date herewith, and has for its object the production of a simple
15 and effective device through which the plunger is operated and to which a rivet is conducted by a suitable conveyer and then held thereby in the desired position, shank downward, in the path of the plunger or other inserting
20 mechanism.

To this end it consists, essentially, in a receiver or pocket through which the plunger is operated and which is provided with yielding shoulders or rivet-holders adjacent to the
25 discharge of the conveyer yieldingly holding the rivet and adapted to be forced outward or disengaged therefrom when the inserting mechanism forces the rivet downward through the receiver into the desired position.

30 It furthermore consists in the detail construction and arrangement of the parts, all as hereinafter more fully described, and pointed out in the claims.

In specifying my invention reference is had
35 to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is an elevation of my improved rivet receiver or pocket in operative position
40 upon a supporting-bracket, a detached portion of the conveyer and plunger being also shown. Fig. 2 is an elevation of the detached receiver or pocket, further illustrating the construction and arrangement of the yielding
45 rivet-holders. Fig. 3 is a longitudinal vertical section of the receiver or pocket, taken on line $x x$, Fig. 1, the yielding holders for the rivet being sprung out to allow the rivet-head to pass thereby when actuated by the insert-
50 ing mechanism clearly illustrating the construction and arrangement of the parts. Fig.

4 is a like longitudinal section to that illustrated in Fig. 3, the rivet being shown as being disengaged or discharged from the guideway in the receiver. Fig. 5 is a longitudinal
55 vertical section taken through the receiver on line $y y$, Fig. 2, illustrating the detail construction of the parts; and Fig. 6 is a horizontal cross-section taken on line $z z$, Fig. 1, illustrating a rivet in said receiver.

A represents my improved receiver or pocket, through the chamber or guideway a^2 of which a plunger B or other suitable actuating mechanism is operated, forcing the rivet
60 through said receiver or pocket into any desirable article placed beneath the discharge a of the same and interposed between said discharge a and any suitable die or stop, (not shown,) but which may be of the kind illustrated in my aforesaid application (Case A.)
70 The receiver or pocket A is supported in any desirable position upon a suitable bracket D, and, as preferably constructed, has a movement upon said bracket in the same line as that of the rivet when being inserted into the
75 desired article.

When inserting rivets into any article, it is very desirable that the rivet shall be fed directly to the same in the desired position, and it will be seen that this movement of the re-
80 ceiver or feeding-tube allows articles of various thickness to be interposed between the discharge a of said receiver and the stop or die for the rivet, since, if the article is thin, the receiver is actuated to contact with the
85 same, or if it is thick the movement of the receiver is stopped by contact of the rivet with the article to be provided with the rivet. To allow of this movement of the receiver A, I provide thereon the extension A' , mounted
90 upon the rod E, secured in lugs D' of the receiver-supporting bracket D. As presently described, when the plunger is inserting the rivet the receiver A moves downward on this rod E until the lower face A^2 of the exten-
95 sion A' abuts against the top face of the lower projection D' , or until the rivet abuts against the article to be provided with the rivet. After the operation of the rivet-inserting mechanism the receiver is withdrawn from this po-
100 sition by means of a suitable spring F or other desirable means secured thereto.

The conveyer G is mounted in any suitable manner, preferably in a bearing-face D² of the bracket D, and is provided with its discharge G', mounted in a slot A² of the receiver, which is provided with a cut-out a', through which the rivet is inserted into the chamber or guideway a² of the receiver. Directly on a line or beneath the discharge of the conveyer G, I provide shoulders or holders H, which project within the receiver or feeding-tube through slots A³, provided therein, and which shoulders are adapted to engage the rivet, preferably by the head, when the same is fed into the receiver by the conveyer G. When the plunger or inserting mechanism is forced downward upon the rivet, which is held by these holders or plates in the desired position, shank downward, it will be seen that to insure operation of the machine the said shoulders must be yielding or must be removable from the rivet-head. To attain this result I secure the outer ends of these shoulders or holders to springs I, preferably fastened to the outside of the receiver by screws or other desirable means. When the plunger engages the head of the rivet, forcing the same downward, these shoulders H will be readily forced from under the head against the action of the springs I, which retain these shoulders H in this their normal position. To allow of the ready springing apart of the shoulders, I preferably form the same with a bevel h upon the top face thereof, which bevel also serves to center the rivet. As shown in Figs. 3 and 4, these shoulders H, projecting within the guideway a², are of sufficient size to allow the head of the rivet to be easily forced therethrough, and at the discharge of the receiver I provide the shoulders or jaws a³. When the rivet has been forced downward and has been disengaged from the holders H, the same continues in its downward movement until its head abuts with the shoulder a³ in the discharge of the receiver, at which point its downward movement is stopped, and the receiver is immediately forced downward, suitably approximating the discharge a to the article to be provided with the rivet. The discharge a of the receiver is adapted to closely press the rivet-shank when the same is being forced therethrough for the purpose of positively guiding the same into the article to be riveted.

Extending upwardly from the discharge-opening a of the receiver is a slit or slot a⁴, dividing the same into two halves and allowing them to be sprung apart when the rivet is forced through the discharge. The rivet-shank is of sufficient size to slightly spring apart the spring-halves a⁵ of the receiver, in order that the same may be firmly grasped by said receiver when being inserted by the plunger, and the shoulders or jaws a³ are beveled so that the rivet may be readily forced through the said receiver. The receiver is formed of spring metal, and when the rivet has been inserted and the plunger

withdrawn readily springs back to the desired position, and the retaining-shoulders H, by reason of the springs I, also spring back to their normal position upon the withdrawal to its normal position of the plunger.

The operation of my machine is as follows: A rivet is inserted into the guideway of the receiver or pocket A by the conveyer G directly upon the retaining-holders H, which hold the rivet in the desired position, shank downward. The plunger is then actuated to insert the rivet, forces the same downward, springs the retaining-holders back out of engagement with the rivet, forces the same down the guideway of the receiver, and then engages the head thereof with the shoulder or jaws a³ in said receiver, forces downward the receiver to the desired position, and then springs apart the halves of said receiver, allowing the rivet to be forced therethrough.

It will be understood that where articles of the same thickness are to be provided with rivets it is usually unnecessary to allow of a movement to the receiver, and it will be also seen that in some cases the shoulders a³ may be dispensed with and the rivet forced directly through the guideway without springing apart the receiver and that other changes may be made in the detail construction and arrangement of the receiver without departing from the spirit of my invention, which is the production of yielding shoulders which shall retain the rivet in the desired position, shank downward, until the operation of the plunger, preventing all tipping of the rivet when being discharged into the receiver and insuring a positive operation of the same.

My improved rivet-receiver may also be used as described in my application (Case A) of even date herewith, Serial No. 295,026, for the purpose of feeding rivets one by one to a saw or other device for bifurcating the same in order to prepare them for ready entrance into articles, allowing the bifurcated shank to be clinched, thus securely retaining the rivet in position.

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

1. In the receiver of a rivet-setting machine having separable jaws, the combination of a chamber having slots in the walls thereof and yielding plates attached at their outer ends to suitable supports, their inner ends projecting through the slots and being adapted to support a rivet, substantially as described.

2. In the receiver of a rivet-setting machine, the combination of a chamber, the slots in the walls thereof, yielding plates projecting through said slots and adapted to support a rivet, and movable arms to which said plates are attached, substantially as specified.

3. In the receiver of a rivet-setting machine, the combination of a reciprocating chamber or guideway a² for guiding the rivets and adjusting the same to the desired po-

sition, a guide for said chamber, and reciprocating mechanism for reciprocating said chamber, with slots A^3 in the walls of said chamber a^2 , and yielding plates or shoulders 5 H, attached at their outer ends to suitable supports, their inner ends projecting through the slots A^3 and adapted to support a rivet, substantially as and for the purpose set forth.

4. In the receiver or feeding-pocket of a 10 rivet-setting machine, the combination of a reciprocating split chamber a^2 , reciprocating mechanism for reciprocating said chamber a^2 , shoulders a^3 , provided upon the opposite divisions of said chamber, and slots A^3 in the 15 walls thereof, with yielding shoulders or plates H attached at their outer ends to suitable supports, their inner ends projecting through said slots and being adapted to support a rivet, substantially as and for the purpose 20 specified.

5. In the receiver or feeding-pocket of a rivet-setting machine, the combination of yielding holders or shoulders H, the springs I, connected to said holders, and the jaws or shoulders a^3 , connected to the spring a^5 , the 25 said holders and jaws being secured to the arm A^3 and so arranged in relation to each other that the opening between the jaws or shoulders a^3 registers with the like space of the holders H, substantially as and for the 30 purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 26th 35 day of December, 1888.

JACOB J. UNBEHEND.

Witnesses:

A. E. PARSONS,
CLARK H. NORTON.