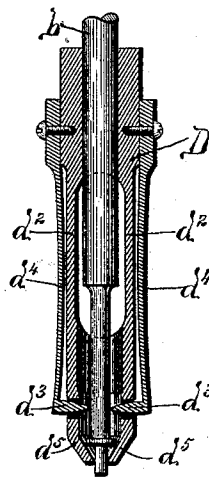


3 Sheets—Sheet 1.

No. 465,148.

Patented Dec. 15, 1891.



H. E. Chase,
Wm. H. Randall,

Inventor
Jacob F. Unbehend
By
H. H. Wilkins & Sons
Attorneys

(No Model.)

3 Sheets—Sheet 2.

J. J. UNBEHEND.
RIVETING MACHINE.

No. 465,148.

Patented Dec. 15, 1891.

Fig. 3.

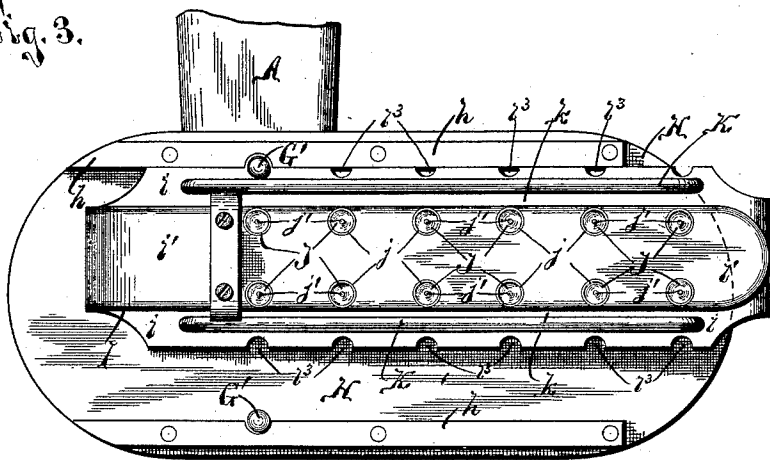


Fig. 4.

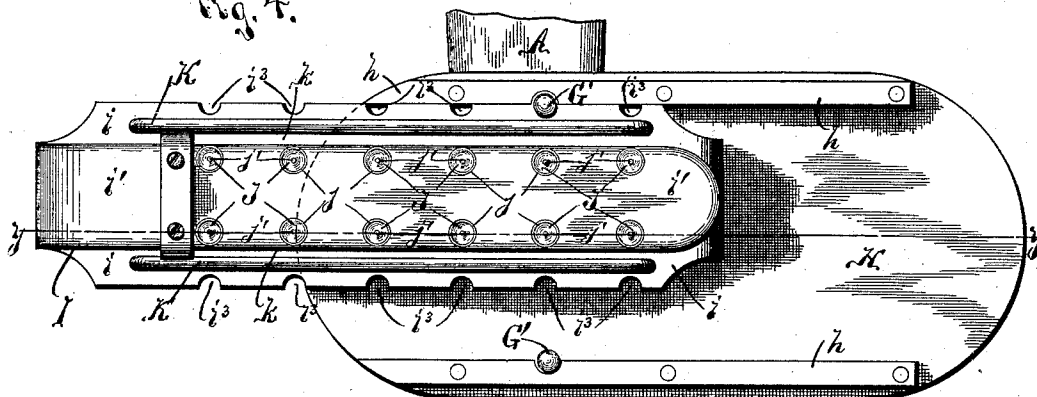
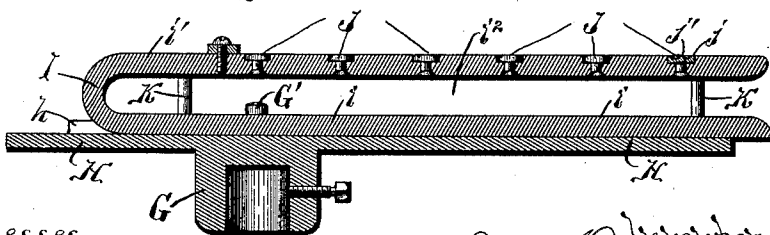


Fig. 5.



Witnesses
H. E. Chase,
Wm. H. Randall,

Inventor
Jacob J. Unbehend
By
H. H. Wilkison & Parsons
Attorneys.

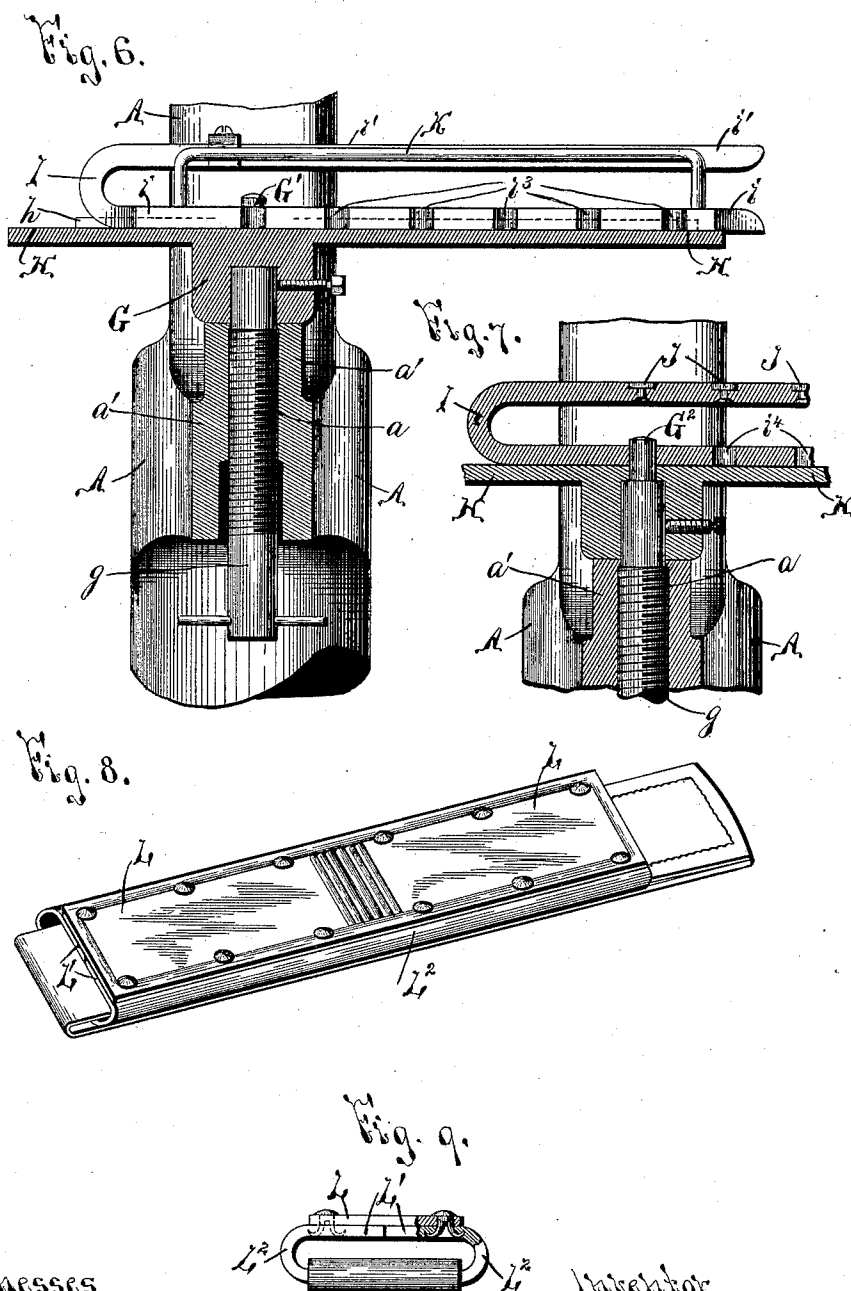
(No Model.)

3 Sheets—Sheet 3.

J. J. UNBEHEND.
RIVETING MACHINE

No. 465,148.

Patented Dec. 15, 1891.



Witnesses
B. C. Chase,
W. H. Randall,

Inventor
Jacob J. Unbehend
By
Atty. Hillier & Parsons
Attorneys

UNITED STATES PATENT OFFICE.

JACOB J. UNBEHEND, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE JUDSON
THOMSON MANUFACTURING COMPANY, OF WALTHAM, MASSACHU-
SETTS.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 465,148, dated December 15, 1891.

Application filed May 26, 1890. Serial No. 353,181. (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 useful Improvements in 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 improved riveting-machine, and has for its object the production of a simple and effective device whereby rivets are inserted at intervals in one or more rows upon leather or other desirable material without necessitating their removal from the die and rearrangement thereupon for the insertion of the separate rivets; and to this end it consists, essentially, in a plunger for inserting the rivets, a support beneath the plunger, a die-plate having one extremity movably mounted on said support and the other extremity looped over the former extremity and provided with two or more dies arranged thereon at suitable intervals.

The invention also consists in a die-plate having its upper die-carrying extremity of less width than its lower supporting extremity, guides supported on said lower portion on either side of the upper end for guiding the article to be riveted, and in the detail construction and arrangement of the parts, all as hereinafter more particularly described, and pointed out in the claims.

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

Figure 1 represents an elevation of the detached upper portion of my improved riveting-machine. Fig. 2 is a longitudinal sectional view taken on line *xx*, Fig. 1, illustrating the construction and operation of the rivet-receiver. Fig. 3 is a detached plan view of the support beneath the plunger and the die-plate mounted on said support. Fig. 4 is a like view to Fig. 3, illustrating the die-plate as in a different position upon said support from that shown in Fig. 3. Fig. 5 is a longitudinal sectional view taken on line *yy*, Fig. 4. Fig. 6 is a similar view to Fig. 5, illustrating the means for adjusting the support to-

ward and away from the plunger and showing in elevation the die-plate upon said support. Fig. 7 is a detail view similar to Fig. 6 of a modified form of my invention, and Figs. 8 and 9 are respectively isometric perspective and end elevation of a loop riveted by my improved machine.

A represents the frame of my machine, of which only the upper part is here illustrated. Supported by this frame is a sliding or movable block B, carrying a plunger *b* and actuated by a lever C, to which power is transmitted in any desirable manner. As such actuating mechanism forms no part of my present invention, it is unnecessary to further illustrate or describe the same, it being understood that by means of suitable mechanism the plunger *b* is movable toward and away from the article to be riveted. The plunger *b* is movable in a rivet-receiver D, of any suitable construction, being preferably movably mounted on a rod *d* and adapted to be drawn to its normal position by a spring *d'*. Projecting within the rivet-guideway *d²* of the receiver are holders *d³* mounted on springs *d⁴* and adapted to support the rivet until the plunger, when moving downward, forces the same between the holders and into engagement with the jaws *d⁵* at the lower extremity of the rivet-receiver. As set forth in my applications hereinafter referred to the rivet is supported by said holders and the plunger when moving downward forces the rivet-receiver in the same direction until the limit of its motion is reached, whereupon the further movement of the plunger forces the rivet from the lower jaws *d⁵* of the receiver, as seen in Fig. 2. This particular construction of rivet-receiver forms no part of my present invention, and is fully described and claimed in my applications hereinafter referred to.

The rivets are fed to the rivet-receiver one by one by a conveyer E, leading from a hopper F. The construction of this hopper and conveyer also forms no part of my present invention, and is described and claimed in my pending application, Serial No. 295,026.

G represents a support beneath the plunger *b*, which is preferably adjustable thereto by means of a movable screw-threaded rod *g*, en-

gaging threads a , formed in a hub a' , provided upon the frame A.

Formed or provided at the upper part of the support G is the bearing or guide face H, which may be of suitable form and construction, and is here shown as preferably provided with side bars h , projecting upwardly from the longitudinal edges thereof.

I represents the die-plate having its lower extremity i movably mounted longitudinally on said bearing H and preferably formed of less width than the same, whereby the die-plate may be transversely movable thereon. The upper extremity i' of the guide-plate I is folded or lapped backwardly over the lower extremity i , with a space i^2 interposed between the two. Provided on said upper extremity at suitable intervals are dies J. (Best illustrated in Fig. 5.) The dies j are arranged in two series extending lengthwise of the upper extremity of the die-carrying plate, and, as previously stated, the lower extremity i of the die-carrying plate is movable transversely between the guides or stops h . Consequently in order that by the transverse movement of the die-carrying plate a die may be registered with the plunger the distance between two opposite dies or the separate series of dies equals the difference between the width of the die-carrying plate extremity i and the distance between the stops h . In other words, if the distance between the stops or guides h is two inches and the width of the extremity i is one inch and a quarter the distance between each opposite pair of dies is three-quarters of an inch. These dies are shown as formed with the raised outer surface j and the raised center j' ; but it will be understood that their operating-faces may be of any desirable form best adapted for the particular style of rivet to be clinched.

As best seen in Figs. 3 and 4, the upper end i' of the die-plate is of less width than the lower end, and supported on said lower extremity at either side of the upper extremity are guides K. As best seen in Figs. 1 and 6, these guides extend upwardly from the lower extremity, and, as best seen in Figs. 3 and 4, a space k is interposed between their inner faces and the adjacent surface of the die-carrying extremity i' of the die-plate I.

Provided upon the support H, at a suitable position and preferably at one side of a perpendicular to the plunger, is a stop G', here shown as consisting of a pin projecting from the walls h of the bearing H. Formed in the opposite longitudinal edges of the lower extremity of the guide-plate is a series of notches i^3 , adapted to be registered with the stops G' and securely hold the die-plate in its adjusted position.

At Fig. 7 I have shown a modified form of my invention, in which the stop for the die-plate I consists of a projection G² extending upwardly from a point preferably directly beneath the plunger. This projection is formed upon the upper end of the movable

rod g and is engaged with a series of openings i^4 directly beneath the respective dies. It will thus be understood that when desired to insert a new rivet the die-plate is slightly elevated and a socket in the base thereof is registered with said projection, whereupon a die is registered with the plunger for clinching the rivet. With this construction the guide-ribs h may be dispensed with, if desired.

My present improved riveting-machine is particularly applicable for forming loops similar to the one illustrated in Figs. 8 and 9, in which it is desirable to rivet a top strap L to the opposite upturned extremities L' of the looped strap L².

Upon reference to the drawings of my improved die-plate it will be readily understood that the upper die-carrying extremity i' of the die-plate I enters the looped strap L² and that the upper portion of said strap rests upon the top face of said die-plate extremity. This strap is securely held in position by means of the guide-bars K, which tightly press the same against the edges of the die-carrying extremity of the die-plate. The die-plate is then moved longitudinally and transversely on the bearing or guide H, and the plunger is actuated with every change of position to insert a rivet, whereupon the same is clinched by the dies consecutively registered with the plunger until the loop is riveted, as shown in Figs. 8 and 9, whereupon it may then be withdrawn. Heretofore loops of this character have been riveted by means of ordinary solid tubular rivets having one extremity upset upon a washer placed upon the top of the strap L. This operation necessitates a great expense for time, and, owing to the presence of the washers and the upset rivet extremities, the finished article does not present as neat an appearance as that constructed by my improved riveting-machine.

The operation of my invention will be readily perceived from the foregoing, and it will be understood that the construction of the die-plate may be varied to suit the particular length, width, and character of loop to be riveted, and hence I do not limit my invention to its precise form of construction.

It will be noted that I have herein shown and briefly described, but have not claimed, the rivet-receiver set forth in my pending application, Serial No. 295,027, filed December 31, 1888, which forms no part of my present invention, and is reserved for the aforesaid application, Serial No. 295,027, which expressly claims such construction.

Having thus fully 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 movable plunger for inserting the rivets, a support beneath the plunger, having a bearing-face, opposite stop-shoulders on the support, a die-carrying plate having a bearing-

face movable transversely on the bearing-face of the support between said stop-shoulders, said die-plate bearing-face being of less width than the distance between the guide-shoulders, and two or more dies arranged transversely upon the die-carrying plate, said dies being arranged substantially as herein described, substantially as and for the purpose herein specified.

2. In a riveting-machine, the combination of a movable plunger for inserting the rivets, a support beneath said plunger, a looped die-plate having one extremity movably mounted on said support, two or more dies provided at intervals on the opposite extremity of said die-plate, and a guide on said support for aligning the die, substantially as and for the purpose specified.

3. In a riveting-machine, the combination of a plunger, a support beneath said plunger, a pair of stop projections on the support, a die-plate movably mounted on said support and formed of less width than the distance between said stops, two or more dies provided at intervals on said die-plate, and notches formed at intervals in the die-plate for engaging said stop projections and retaining the die-plate in its adjusted position, substantially as and for the purpose set forth.

4. The herein-described die for riveting-machines, the same consisting of a plate having a guide, a movable looped plate having one extremity movable on said guide and formed of less width than the guide and having the other provided with two or more dies arranged thereon at intervals, stop projections on the support, and notches formed on the die-plate at intervals for engaging the stop projections, substantially as and for the purpose specified.

5. In a riveting-machine, the combination of a plunger, a vertically-adjustable support beneath said plunger, a looped plate having one extremity movably mounted on said support and the other folded over said extremity, with a space interposed between the two, and dies arranged at intervals on said latter extremity, substantially as and for the purpose described.

6. In a riveting-machine, the combination of the plunger, a support beneath said plunger, a die-plate movably mounted on said support, dies provided on said plate at intervals, and a guide K on said die-plate for guiding the article to be riveted, substantially as and for the purpose set forth.

7. In a riveting-machine, the combination of the plunger, a support beneath said plunger, a guide on said support, a die-plate movable in said guide, a stop provided on said support for engaging said die-plate, dies provided on said plate at intervals, and a guide K on said die-plate for engaging the article to be riveted, substantially as and for the purpose specified.

8. In a riveting-machine, the combination of the plunger, a support beneath said plunger, a looped plate having one extremity movably mounted on said support and having its other extremity of less width than the former and looped above the same, dies provided on said upper extremity, and guides supported on said lower extremity on either side of the upper extremity for guiding the article to be riveted, substantially as and for the purpose specified.

9. In a riveting-machine, the combination of a movable plunger for inserting the rivets, a support beneath said plunger, a guideway on said support, a die-plate having one extremity movable in said guideway and having its opposite extremity folded upon the former extremity, with a space between the two, projections G' on opposite sides of said guideway, notches provided at intervals in the opposite sides of the lower extremity of said guide-plate, and dies provided at intervals on said upper extremity, substantially as and for the purpose set forth.

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 9th day of May, 1890.

JACOB J. UNBEHEND.

Witnesses:

CLARK H. NORTON,
M. BAXTER.