(No Model.)

J. H. VINTON.

DIE FOR BUTTON SETTING MACHINES.

No. 382,340. Patented May 8, 1888.

Fig. 1

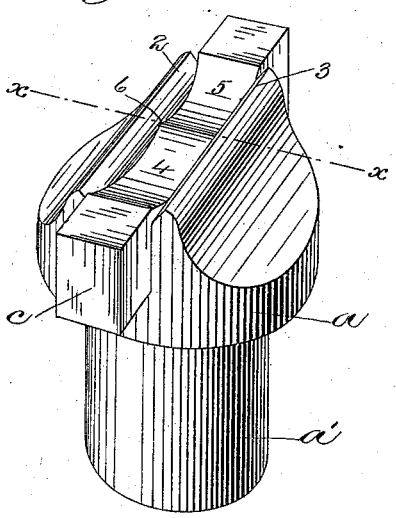


Fig. 2.

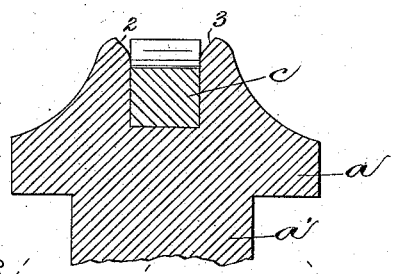
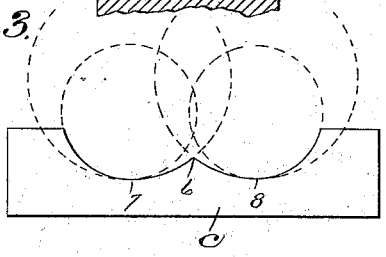


Fig. 3.



Witnesses.
Fred L. Emery.
B. J. Noyes

Inventor:
John H. Vinton
By Lemby & Gregory,
Atty's.

UNITED STATES PATENT OFFICE.

JOHN H. VINTON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE PENINSULAR NOVELTY COMPANY, OF GRAND RAPIDS, MICHIGAN.

DIE FOR BUTTON-SETTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 382,340, dated May 8, 1888.

Application filed December 21, 1886. Serial No. 222,166. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. VINTON, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Dies for Button-Setting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is an improvement upon the button-setting machine shown in United States Letters Patent No. 332,977, granted to me December 22, 1885, and has for its object to construct a die which will guide and bend or clinch the points of the button-fasteners inward upon the under side of the material in a much better manner than heretofore.

In accordance with this invention a diametrically-slotted anvil-block is employed, which is fixed in any suitable manner to the lower jaw or support of the instrument. The upper edge of each side wall of the slot in the anvil-block is beveled to guide the points of the fasteners should they be bent or twisted out of true in passing through the material. A die made of a small bar of metal, having its upper surface cut away to present two adjacent concaved surfaces, is placed in the slot in the anvil-block, the two concaved surfaces, together with the side walls of the slot, which project upward somewhat higher than the die, forming concavities having parallel sides. The concaved surfaces of the dies are preferably curved to correspond with the arcs of two circles having different centers, such arcs conjoining to form a single curved surface. The two concavities are curved alike, but opposite to each other, and the points of the fasteners when forced through the material first strike the most distant portions of the curved surfaces, and are then bent inward toward each other, and finally slightly upward, to embed the points of the fasteners sufficiently into the material to prevent any material from being caught or torn by it.

Figure 1 shows in perspective the anvil-block and die embodying this invention, the same being very much enlarged to more fully illustrate the invention; Fig. 2, a section of the anvil-block and die shown in Fig. 1, taken on the dotted line *x x;* and Fig. 3, a side view of the die detached, to more clearly show the form of the curved surfaces therein.

The anvil-block *a* has a suitable base, *a'*, by which it is attached to one of the jaws or supports of the button-setting machine or implement.

The anvil-block *a* is slotted diametrically, and the upper edges of the side walls of the slot are slightly beveled, as at 2 3, for a short distance. A bar, *c*, shown as a bar of metal of sufficient width to fit the slot in the anvil-block *a*, is cut away upon its upper side to present two concaved surfaces, 4 5, each terminating at a central point, 6. These two curved surfaces 4 5 are each formed by the union or conjoining of the arcs of two circles, as shown in Fig. 3, wherein the arc of the smaller circle forms the outside or most distant portion of each curved surface from the other, and the arc of the larger circle forms the remaining portion, the arcs of the two larger circles crossing each other at the meeting-point 6, while the arcs of each small and large circle so unite at or about the points 7 8, as indicated by dotted lines, to form a smooth curved surface.

The button-fastener, which preferably has two prongs, is forced through the material, and oftentimes its points are more or less turned out of true, and it is the function of the beveled sides 2 3 to guide or direct the said points properly against the curved surfaces of the die.

The side walls of the slot cut in the anvil-block are of sufficient height to extend somewhat above the die, so that the said side walls below the beveled portions 2 3, together with the curved surfaces, form a die with concavities having parallel sides.

The points of the fasteners, protruding from the under side of the material, first strike the curved surfaces upon the outer extremities, as upon the arcs of the smaller circle, and are bent inward toward each other, following somewhat upward upon the arcs of the larger circles until they meet.

By this peculiar formation of the button or clinching surface of the die the points of the fasteners, first striking the arc of the smaller circles, are abruptly turned toward each other, and by following along the clinching-surfaces

on the arc of the larger circle the said points are gradually moved toward each other until approaching the point 6, when the extreme points are upturned sufficiently to so embed them in the leather or other material as to prevent any material from catching and tearing upon the points. Therefore, by employing a concaved clinching-surface formed by the conjoining of two different arcs, the legs of the fastener may be turned toward each other, and when clinched a longer portion to the legs of the fastener lie on the under side of the material to give a good hold for a button than were the clinching-surfaces made to present an arc of one circle only.

I claim—

1. A die for button-setting machines having two concave clinching-concavities in line with each other, the bottom of each concavity presenting a smooth clinching-surface formed by the union or conjoining of the arcs of two circles of different diameters, leaving a defined edge, as 6, between the two concavities to operate, all substantially as described.

2. The anvil-block *a*, slotted diametrically and having the beveled edges 2 3, combined with a die cut away upon its upper side to form two concaved clinching-surfaces, substantially as described.

3. The anvil-block *a*, slotted diametrically, combined with the die cut away upon its upper side to present two concaved clinching-surfaces, the side walls of the slot in the anvil-block and the curved clinching-surface taken together forming concavities with parallel sides, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. VINTON.

Witnesses:
BERNICE J. NOYES,
F. L. EMERY.