No. 658,029. Patented Sept. 18, 1900.

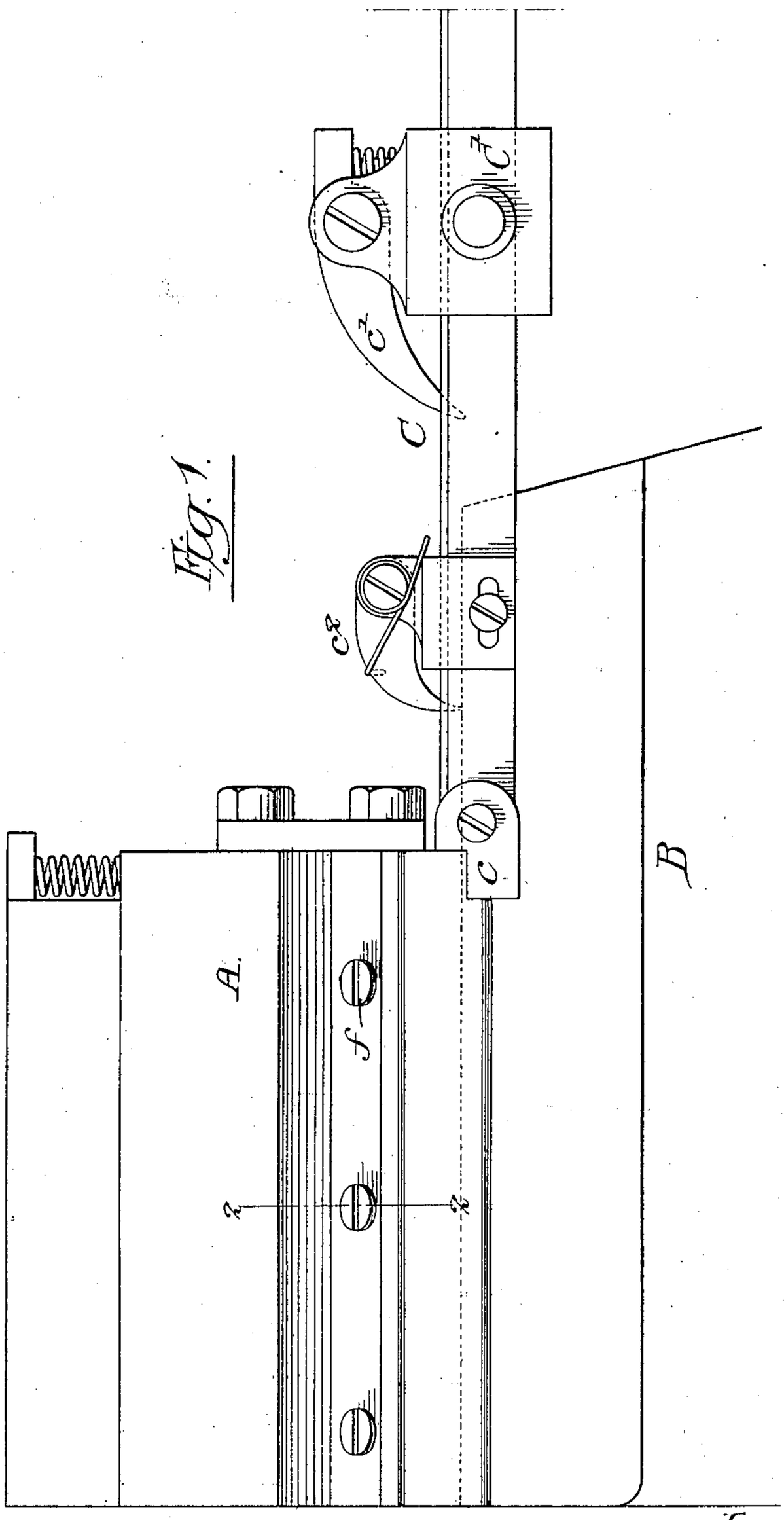
J. S. STOKES.

METAL EDGE BOX MAKING MACHINE.

(Application filed Sept. 25, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



Witnesses:-
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Louis M. F. Whitehead.

Inventor:-
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by his Attorneys:-
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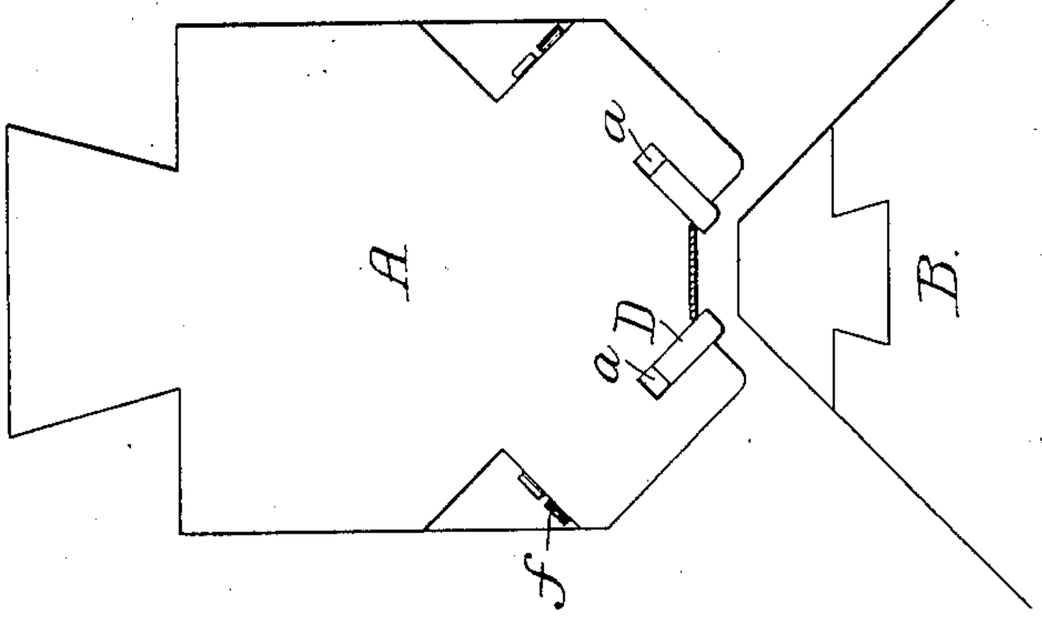


Fig. 4.

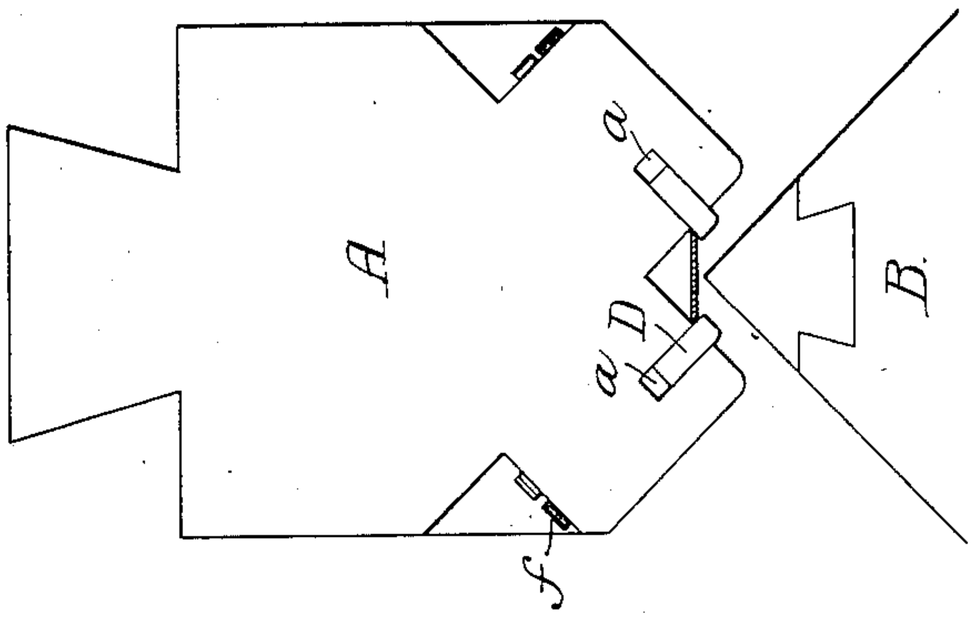


Fig. 3.

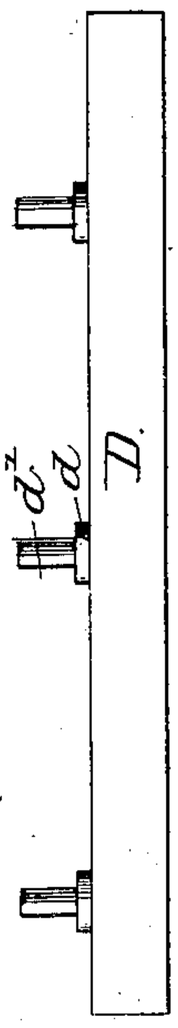
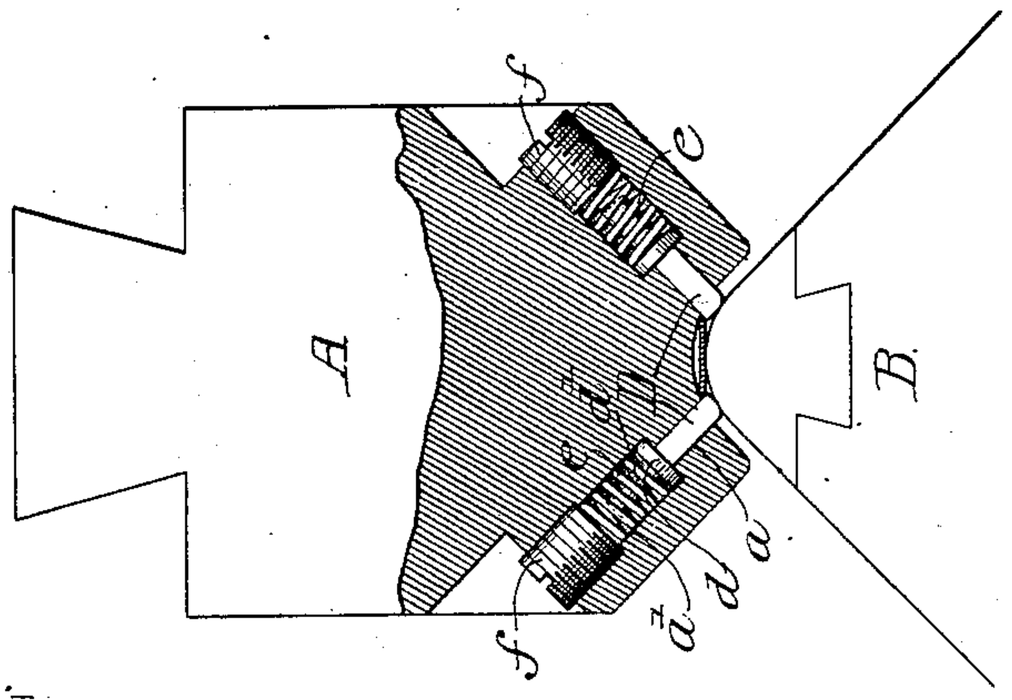


Fig. 2.



Witnesses:-
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Inventor:-
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UNITED STATES PATENT OFFICE.

JOHN S. STOKES, OF MOORESTOWN, NEW JERSEY.

METAL-EDGE-BOX-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 658,029, dated September 18, 1900.

Application filed September 25, 1899. Serial No. 731,655. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. STOKES, a citizen of the United States, and a resident of Moorestown, New Jersey, have invented certain Improvements in Metal-Edge-Box-Making Machines, of which the following is a specification.

My invention relates to certain improvements in metal-edge-box machines in which metal strips are secured to the corners of the boxes.

The object of my invention is to improve the construction of the device for holding the strip to the plunger, so that it will yield and allow the plunger to give an even pressure throughout its length, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a side view showing sufficient of the plunger and the anvil of a metal-edge-box-making machine to illustrate my invention. Fig. 2 is a sectional view on the line 2 2, Fig. 1. Fig. 3 is a detached view of one of the bars, and Figs. 4 and 5 are views showing modified forms of plunger and anvil.

A is the plunger of a metal-edge-box-making machine. B is the anvil. As shown in Fig. 2, the upper surface of the anvil is made rounding, and the groove in the plunger is also made rounding to correspond with the anvil. By this machine boxes having round corners are readily made, and it is desirable to not only press the metal strip, so as to force its prongs into the box, but also to shape the box and strip as well.

Attached to the plunger at *c* is the feed-trough C for the metal strip. On this feed-trough is a slide C′, carrying a feed-pawl *c*′, by which the strip is fed into the groove of the plunger.

c^2 is a retaining-pawl for the strip, so that it will not return with the slide.

At each side of the plunger is a slot *a*, and communicating with this slot are two or more chambers *a*′. In the present instance there are three chambers in each side of the plunger.

Adapted to each slot *a* is a bar D, (clearly shown in Fig. 3,) and on each bar are pins *d*′, which extend into the chambers *a*′, and fitting tightly on each pin is a washer *d*, acting as a stop for the bar D. Within each chamber is a spring *e*, which rests against the washer *d*, and a screw-plug *f*, screwed into the chamber, so that when the bars are in their normal position they are projected so that the metal strip can be fed between the opposite bars, as shown in Fig. 2, and held in position until the bars strike the anvil, when their further movement is stopped, and the plunger as it moves down forces the prongs of the strip into the box and also shapes the box and the strip. The slot *a* in the plunger A is of such a depth as to limit the inward movement of the bars D, so that the outer surface of the bars will be flush with the inner walls of the plunger and act as a continuation of such walls.

In Fig. 2 I have shown a rounded anvil and plunger for making a round-cornered box, in Fig. 4 I have shown a V-shaped anvil and plunger for making a square-cornered box, and in Fig. 5 I have shown an anvil having a flat surface for making an octagon box. It will be understood that the shape of the anvil and plunger may be varied according to the shape of the box to which the strip is applied. The side walls of the plunger in each case extend beyond the movable retaining-bars D, and these side walls tend to form the box and retain the sides in position while the plunger is forcing the prongs of the strip into the material of the box. Thus a more perfect corner is obtained than heretofore, and by the construction above described round or fancy-shaped corners can be made with metallic securing-strips at the corners.

I claim as my invention—

1. The combination in a metal-edge-box machine, of a plunger, an anvil, one of said parts being adapted to fit in a groove in the other, yielding strip-retainers projecting through the inner walls of the grooved part, whereby the box will be shaped and held by the inner walls of the grooved portion beyond the strip-retainers, substantially as described.

2. The combination in a metal-edge-box machine, of a grooved plunger, an anvil shaped to conform to the groove of the plunger, yielding strip-retainers projecting through the inner walls of the plunger, some distance from the outer edges thereof, where-

by the material of the box will be shaped and held by the plunger while the strip is being secured thereto, substantially as described.

3. The combination in a metal-edge-box machine, of a grooved plunger, an anvil shaped to conform to the groove of the plunger, longitudinal slots formed in the opposite inner walls of the plunger, bars adapted to said slots and projecting beyond the surface of the walls, and springs back of the bars so that the bars will be pushed into the grooves as the box is formed, substantially as described.

4. The combination in a metal-edge-box-making machine, of a plunger, an anvil, said plunger being recessed to receive the anvil, means for feeding a metal strip into the recess, spring-controlled bars for retaining the strip in the recess of the plunger, said bars having pins adapted to openings in the sides of the plunger, screw-plugs adapted to said openings, and springs arranged on said pins and interposed between the bars and said screw-plugs, substantially as described.

5. The combination of an anvil, a plunger grooved to conform to the anvil, two slots in the inner walls of the plunger some distance from the edge thereof, yielding retaining-bars adapted to the slots and so proportioned that when forced in their edges will be flush with the surface of the groove in the plunger, substantially as described.

6. The combination of an anvil having a rounded projecting portion, a plunger having a rounded groove corresponding to the shape of the anvil and having straight sides beyond the rounded portion, longitudinal slots in the anvil some distance from the outer edge thereof, and yielding retaining-bars for the strip whereby the strip is held between the bars at the round portion, substantially as described.

7. The combination of a plunger, an anvil, one of said parts having a groove, yielding strip-retainers adapted to hold the strip within the groove, the outer surface of each strip-retainer when forced back forming a continuation of the face of the groove, and stops to limit the movement of the said strip-retainers, so that the said retainers not only hold the strip in place prior to its being forced upon the box but tend to shape the box while the strip is being secured thereto, substantially as described.

8. The combination of a plunger, an anvil, one of said parts having a groove, yielding strip-retainers adapted to hold the strip within the groove, the outer face of each strip-retainer when forced back forming a continuation of the face of the groove so that the said retainers not only hold the strip in place prior to its being placed upon the box but tend to shape the box while the strip is being secured thereto, substantially as described.

9. The combination in means for securing the edges of boxes having rounded corners, of a plunger, an anvil, one of said parts having a rounded projecting portion, the other part having a rounded groove corresponding in shape to the projecting portion, and yielding strip-retainers adapted to hold the strip within the groove, said strip-retainers having bearing-faces to rest upon the box-blank and shape it to the rounded projecting portion, substantially as described.

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

JOHN S. STOKES.

Witnesses:
MURRAY C. BOYLE,
JOS. H. KLEIN.