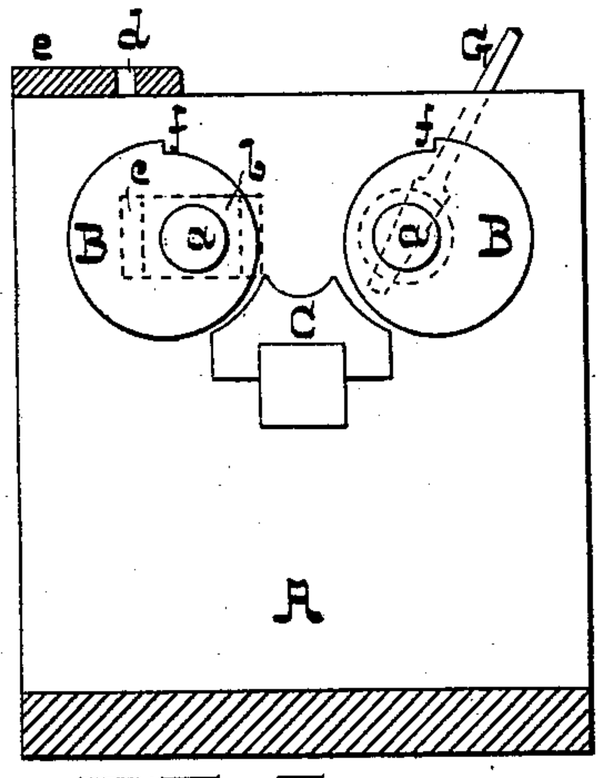
(No Model.)

J. T SMITH.

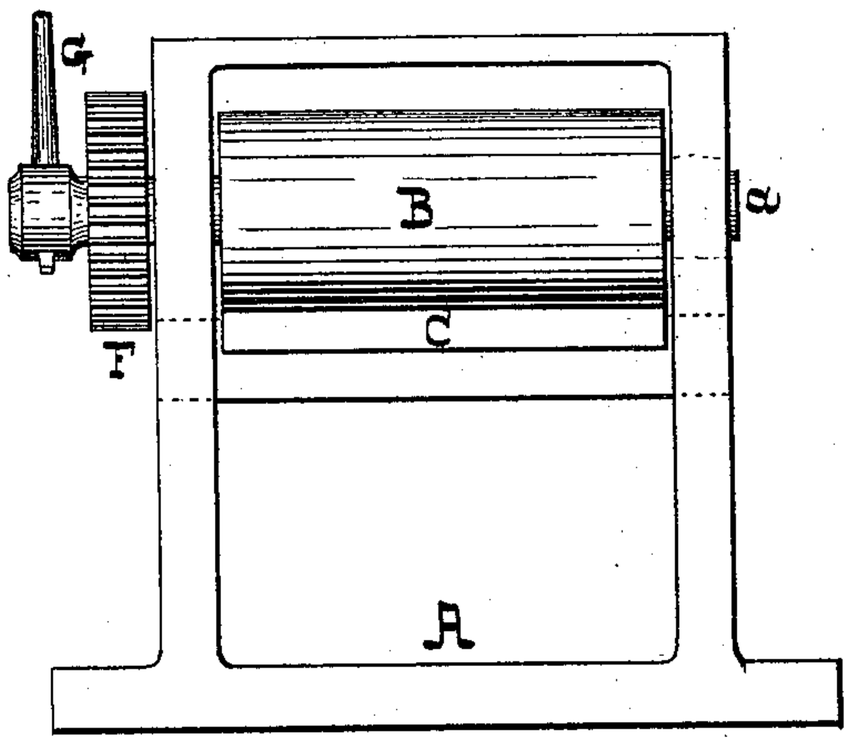
MACHINE FOR MAKING THIMBLES FOR BOLTS.

No. 338,567. Patented Mar. 23, 1886.

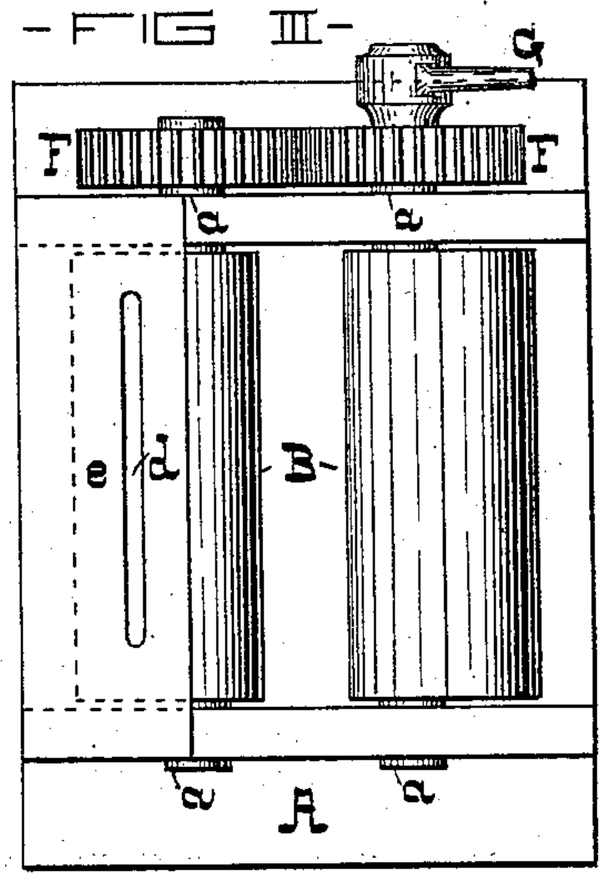
-FIG I-



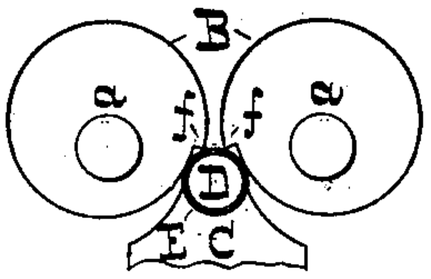
-FIG II-



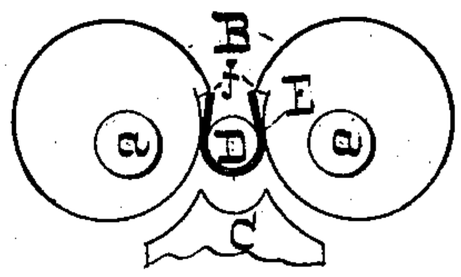
-FIG III-



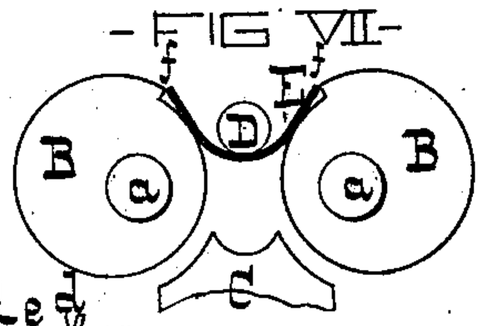
-FIG IX-



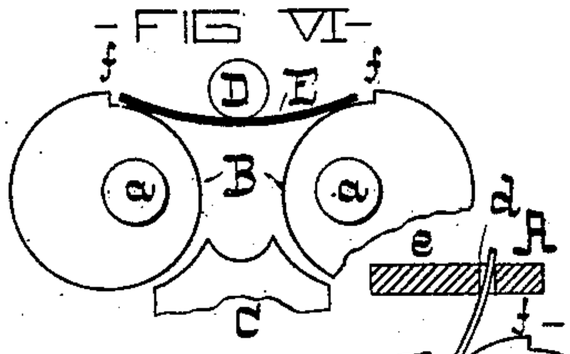
-FIG VIII-



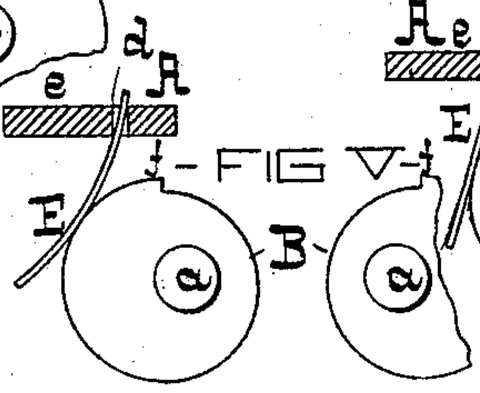
-FIG VII-



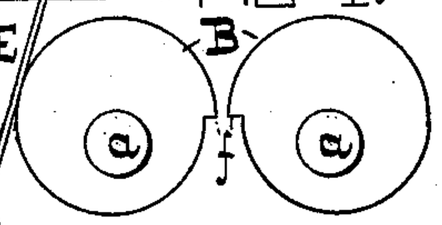
-FIG VI-



-FIG V-



-FIG IV-



-WITNESSES-

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UNITED STATES PATENT OFFICE.

JAMES T. SMITH, OF BALTIMORE, MARYLAND.

MACHINE FOR MAKING THIMBLES FOR BOLTS.

SPECIFICATION forming part of Letters Patent No. 338,567, dated March 23, 1886.

Application filed November 28, 1885. Serial No. 184,147. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. SMITH, of the city of Baltimore, and State of Maryland, have invented certain Improvements in a Machine for Making Thimbles for Stay-Bolts, of which the following is a specification.

In the drawings forming a part hereof, Figure I is an end view of the machine, with one side of the frame removed. Fig. II is an exterior side view. Fig. III is a plan of the machine. Figs. IV to IX, inclusive, are views of certain parts of the machine, illustrating various steps in the operation of forming a thimble.

A is the frame of the machine.

B B are eccentric rolls having gudgeons *a*, which rest in boxes *b*, situated in the frame A. The boxes *b* are shown only in dotted lines. The holes (denoted by *c*) in the frame A, in which the boxes *b* rest, are considerably longer than the boxes, and the side spaces are filled with keys. (Not shown.) By this means the distance between the rolls B can be increased or diminished in the manufacture of thimbles of different sizes, as will be hereinafter explained.

C is a hollow-faced block, upon which the thimble rests during the last stage of the bending operation.

D is a mandrel, and E the strip of sheet-iron from which the thimble is to be formed. The gudgeons of the rollers are connected by gears F F, and one gudgeon has an enlargement in which a hand-lever is inserted to turn the rolls.

Parts of the invention not yet alluded to will be described and their uses set forth in the description of the operation of forming thimbles by means of my improved machine.

The first operation consists in giving to the flat strip or blank E a slight curvation, in order that when said strip is subjected to a compressing strain edgewise it may bend in the proper direction. To effect the primary curvation before referred to, the eccentric rolls are placed in the position indicated in Fig. IV—that is to say, with their full sides on top and the blank strip E inserted through a slot, *d*, in the upper plate, *e*, of the frame, with its side resting against one of the rolls. The rolls are now turned by means of the hand-lever G until the blank is curved, as shown in Fig. V, when the lever is moved back and the blank removed. The rolls are next turned so as to bring their full sides outward, and the curved blank, which has been heated, laid on their upper surfaces with its edges placed in contact with the projections *f*, and the mandrel around which the thimble is to be rolled placed on its upper side. The rolls are now turned so as to make the projections *f* approach each other, and the blank is bent around the bolt. These successive stages in the bending operation are shown in Figs. VII, VIII, and IX, the last named showing the projection as bearing on the surface of the blank and forcing its edges in contact with the mandrel, the whole being supported by the hollow-faced block C. The rollers are now opened and the completed thimble with its contained mandrel removed.

I claim as my invention—

1. In a machine for bending thimbles, a frame, a pair of rotative rolls having projections on their surfaces extending longitudinally thereof, adapted to engage with the edges of a sheet-metal blank inserted between the said rolls, gearing to connect the said rolls and effect their rotation in opposite directions, and a hollow-faced seat for the thimble, situated between the said rolls, all combined substantially as specified.

2. In a machine for bending thimbles, a frame, a pair of eccentric rolls supported by the said frame and connected by means of gearing so as to rotate in opposite directions, and means, substantially as described, to hold the blank at one of its ends in contact with one of the said eccentric rolls so that in the revolution of the said roll the said blank may be slightly bent and thereby adapted for insertion between the said rolls, and subsequently bent around a mandrel, substantially as specified.

JAMES T. SMITH.

Witnesses:
WM. T. HOWARD,
DANL. FISHER.