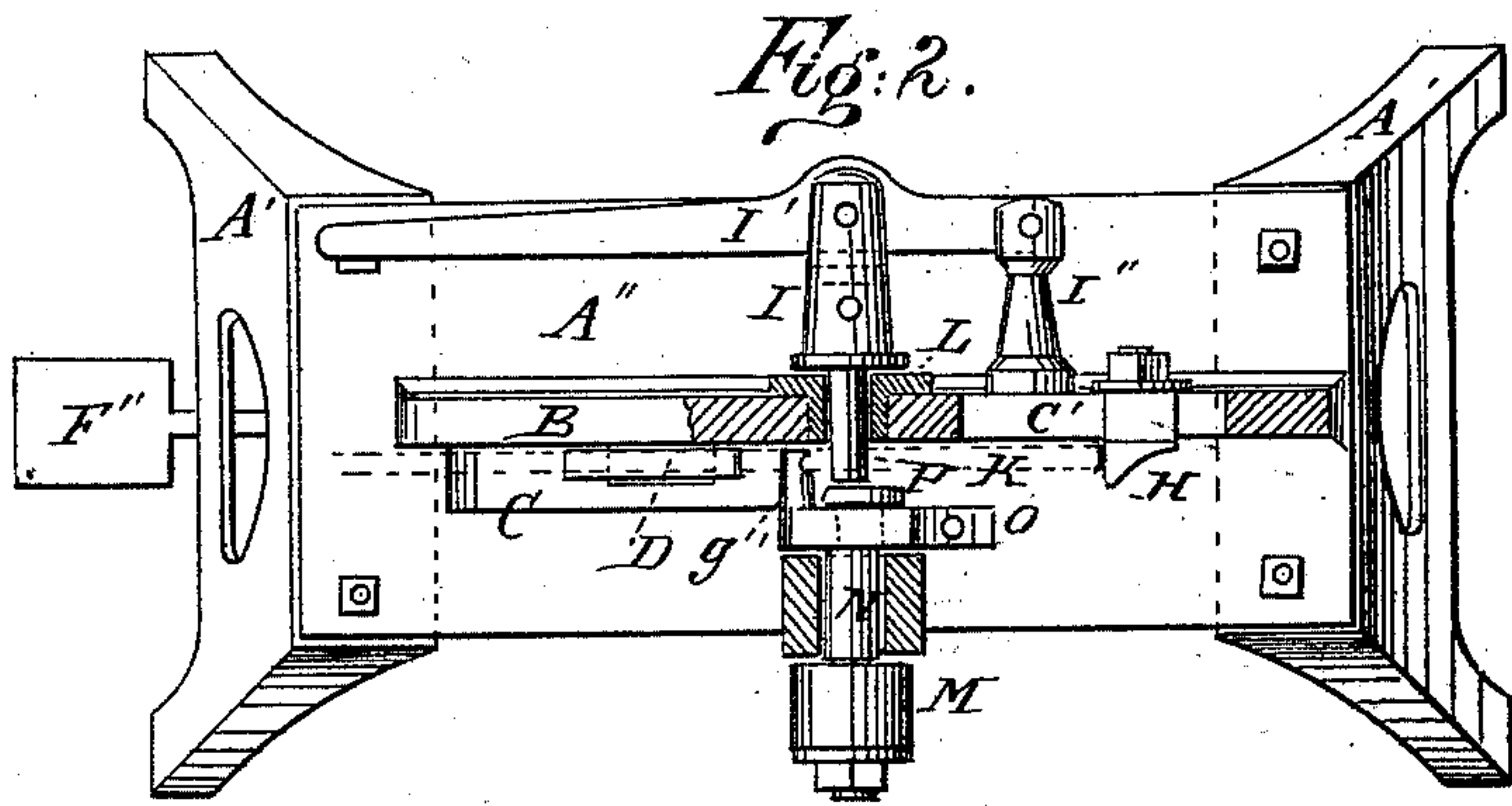
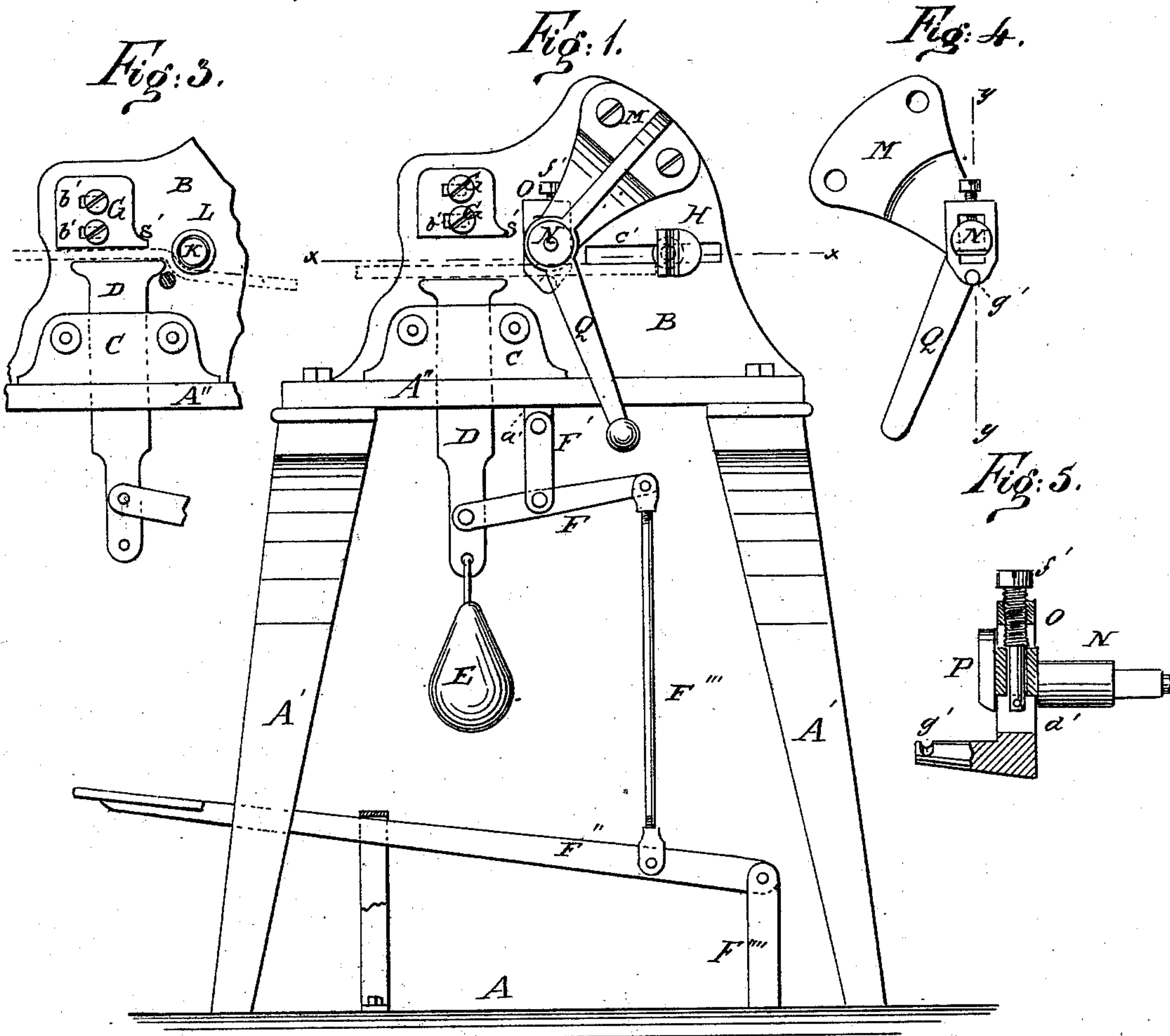


R. H. BRIGGS & J. H. DOUGHERTY.
Machine for Making Eye-Bolts.

No. 223,472.

Patented Jan. 13, 1880.



WITNESSES:

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Chas. Nield.
C. Sedgwick.

INVENTOR:

BY *R. H. Briggs*
J. H. Dougherty
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UNITED STATES PATENT OFFICE.

RICHARD H. BRIGGS AND JAMES H. DOUGHERTY, OF WHISTLER, ALABAMA.

MACHINE FOR MAKING EYEBOLTS.

SPECIFICATION forming part of Letters Patent No. 223,472, dated January 13, 1880.

Application filed September 12, 1879.

To all whom it may concern:

Be it known that we, RICHARD H. BRIGGS and JAMES H. DOUGHERTY, of Whistler, in the county of Mobile and State of Alabama, have invented a new and Improved Eyebolt-Machine, of which the following is a specification.

Figure 1 is a front elevation of the machine. Fig. 2 is a plan of a portion of the machine on line *x x*, Fig. 1. Fig. 3 is a front elevation of a portion of the machine. Fig. 4 is a rear elevation of the dog, hanger, and crank. Fig. 5 is a vertical section of the dog on line *y y*, Fig. 4. Fig. 6 is a view of an eyebolt as made by the machine.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an improved machine that may be operated by hand or other power for the manufacture of eyebolts of any required dimensions.

In the drawings, A represents the base of the machine; A', the legs, and A'' the horizontal table. B represents the vertical frame. C is a projection having a socket, and is bolted against the face of the frame B, and holding and guiding the movable clamping-jaw D. The prolongation or shank of this jaw D projects downward through a slot in the table A'', and to its lower end is secured a weight, E, to keep the jaw D retracted. To this prolongation of the jaw D also is pivoted a lever, F, that is fulcrumed in the swinging bar F', which bar F' is pivoted on a lug, *a'*, that is secured on the under side of the table A''. This lever F is connected with a lower lever, F'', by the connecting-rod F''', and the lever F'' is fulcrumed in a post, F''', that is fixed on the base A.

G is the stop, held to the frame B by bolts or screws, and made laterally adjustable by means of the slots *b' b'*, through which the bolts pass, and this stop G is provided with a projecting finger, *s'*. H is the adjustable gage, movable in the slot *c'* in the frame B.

The clamping-jaw G performs the function of a stop to the jaw D in its upward movement. If the stop G were moved so that finger S was brought in contact with the man-

drel K, the bent end of a large rod could not be properly turned down to the shank of the bolt, and if the stop were withdrawn to its extreme limit the dog O, in making the bend *m*, would double a small rod up between the finger S and the mandrel. Hence the stop G must be laterally adjusted to suit the size of the rod.

I is a socket holding the mandrel K, which mandrel K moves horizontally in the guiding-thimble L, that is fixed in the frame B. This socket I is pivoted on a lever, I', that in turn is fulcrumed in the stud I'', that projects horizontally from the frame B.

On the opposite side of the frame B from the socket I and its attachments, and near the top of the said frame B, is fastened a projecting and downward-bent hanger, M, that supports a shaft, N, on the inner end of which shaft N is the dog O, provided with the finger *g'*, adjustable on said shaft by means of the slot *d'* and screw *f'*, and the dog O is held in position by the nut P on the inner end of the shaft N. On the outer end of this shaft N is secured a crank, Q, to which power is applied to operate the dog O.

In operating the machine, the stop G and the dog O are first adjusted to suit the length of the rod that is to be used for eyebolts, and the gage H is adjusted to suit the length required to make the circle of the eye on the bolt. The machine is then ready for work, and the rod on which the eye is to be made is heated and placed in the machine over the clamping-jaw D, over the finger *g'* of the dog O, and under the mandrel K until it touches the gage H. The foot is then placed on the lever F, which causes the clamping-jaw D to force the iron rod up against the stop G and hold it firmly there, and while the rod is thus held the crank Q is turned to force the finger *g'* of the dog O against the rod, and by pressure against the finger *s'*, so as to make the bend *m*, shown in the eyebolt in Fig. 6. The crank Q is then reversed, and the finger *g'* of the dog O made to force the rod around the mandrel K to form the circle of the eye. Then the pressure is removed from the lever F, the mandrel K is withdrawn by the lever I', the

dog O is raised, and the finished eyebolt is withdrawn from the machine.

In the same machine mandrels of different sizes may be used for forming eyes of any desired size on the bolts.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of the vertically-adjustable clamping-jaw D with the mandrel K, the stop G, and dog O, substantially as herein shown and described.

2. The combination of the stop G, clamping-jaw D, and gage H with the dog O and mandrel K, substantially as herein shown and described.

RICHARD HENRY BRIGGS.
JAMES HENRY DOUGHERTY.

Witnesses:

EDMUND HANG,
L. CRABTREE.