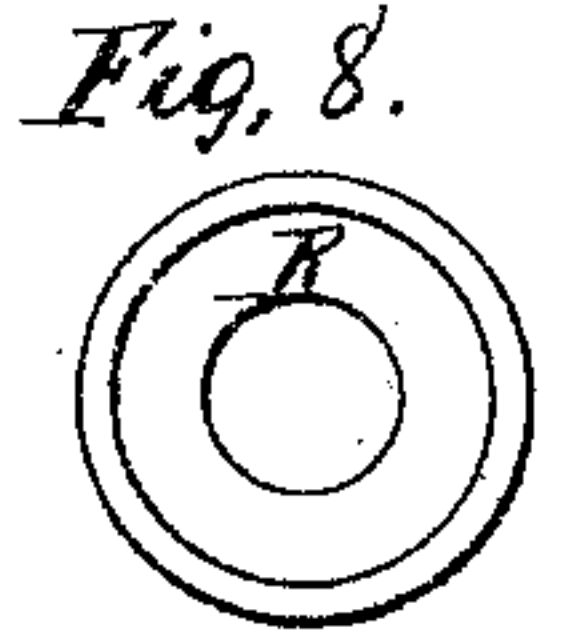
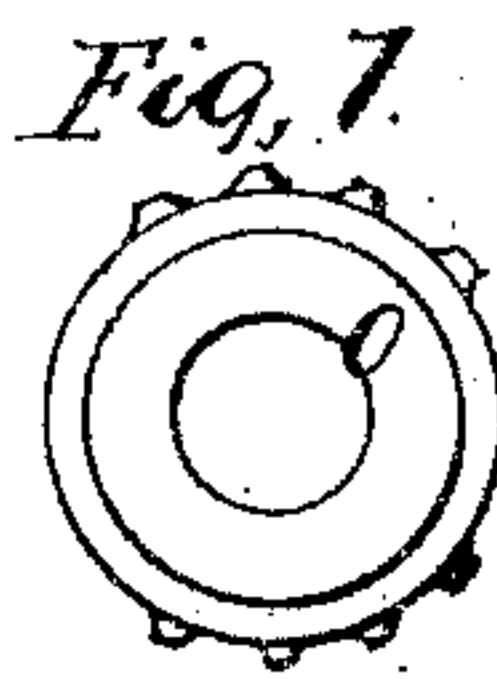
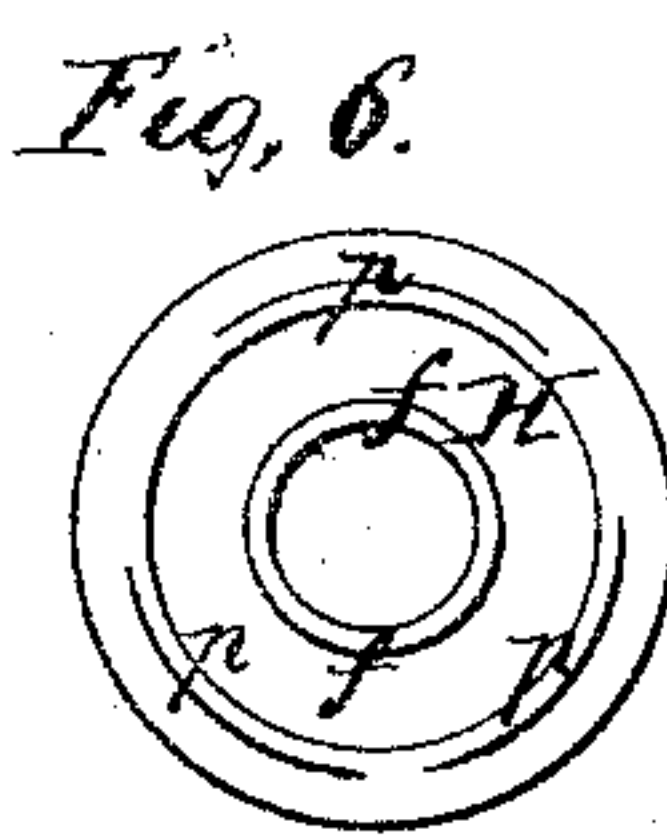
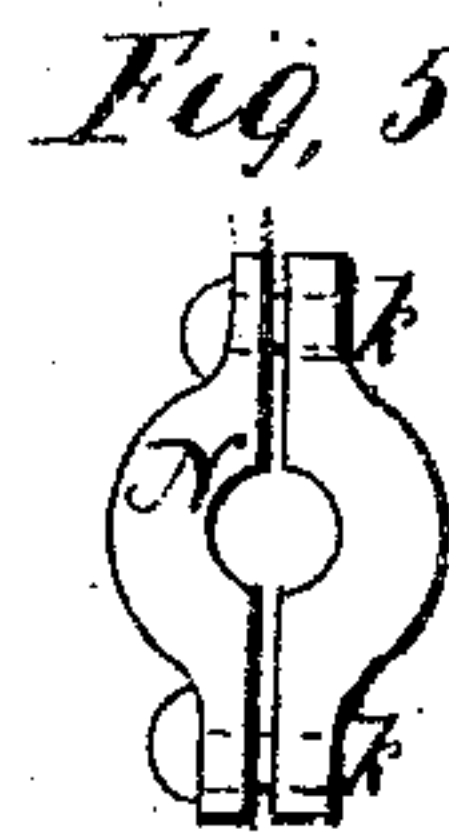
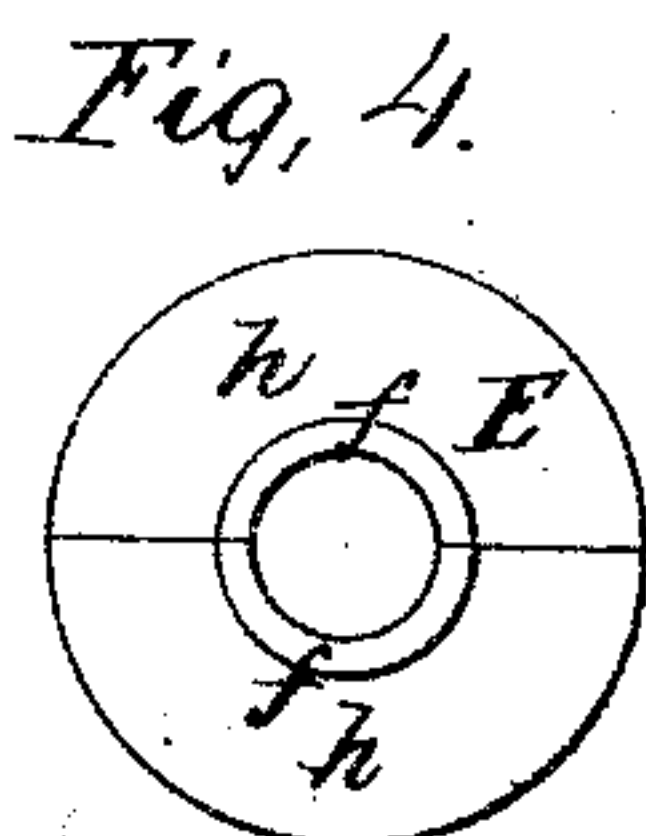
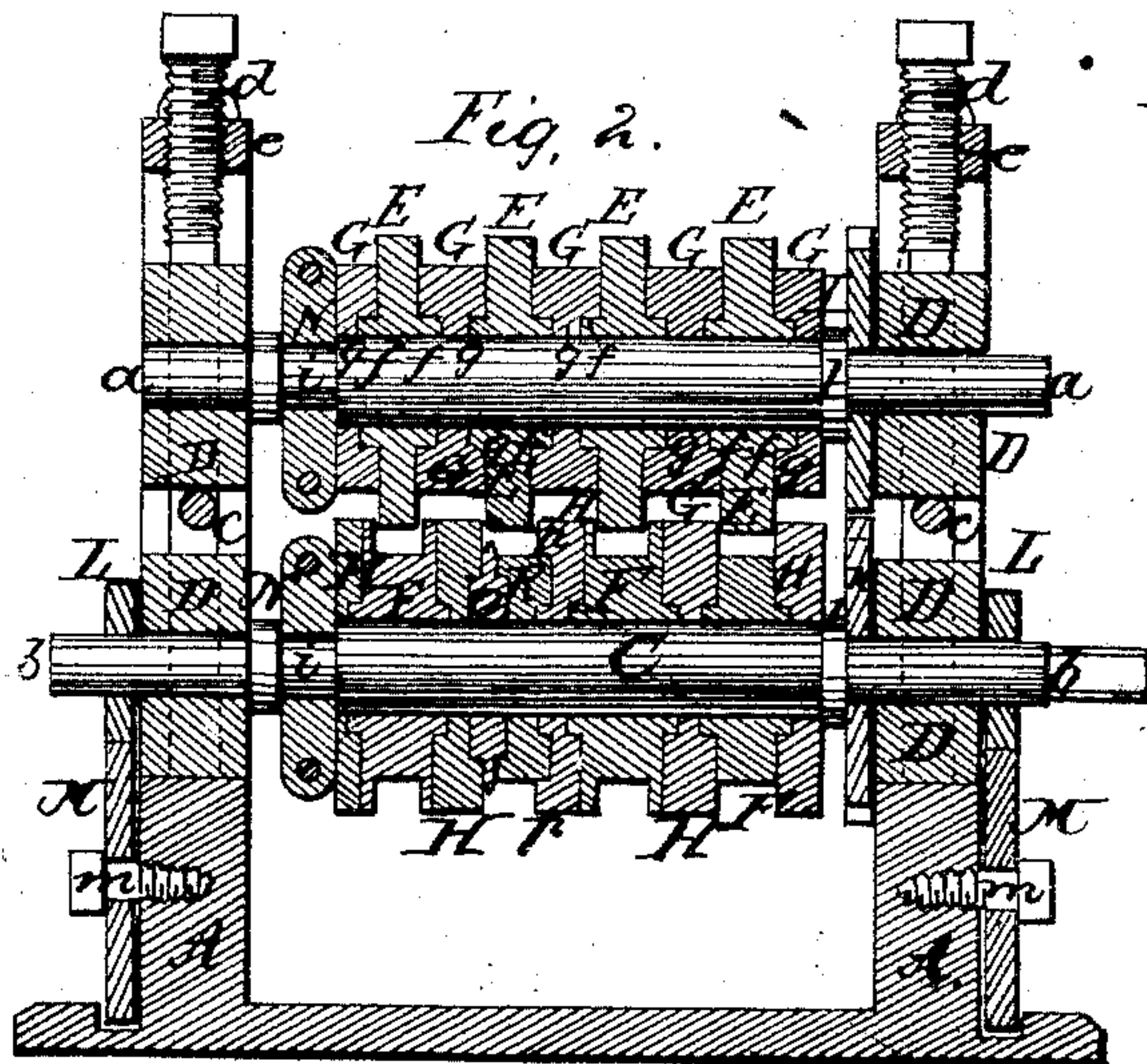
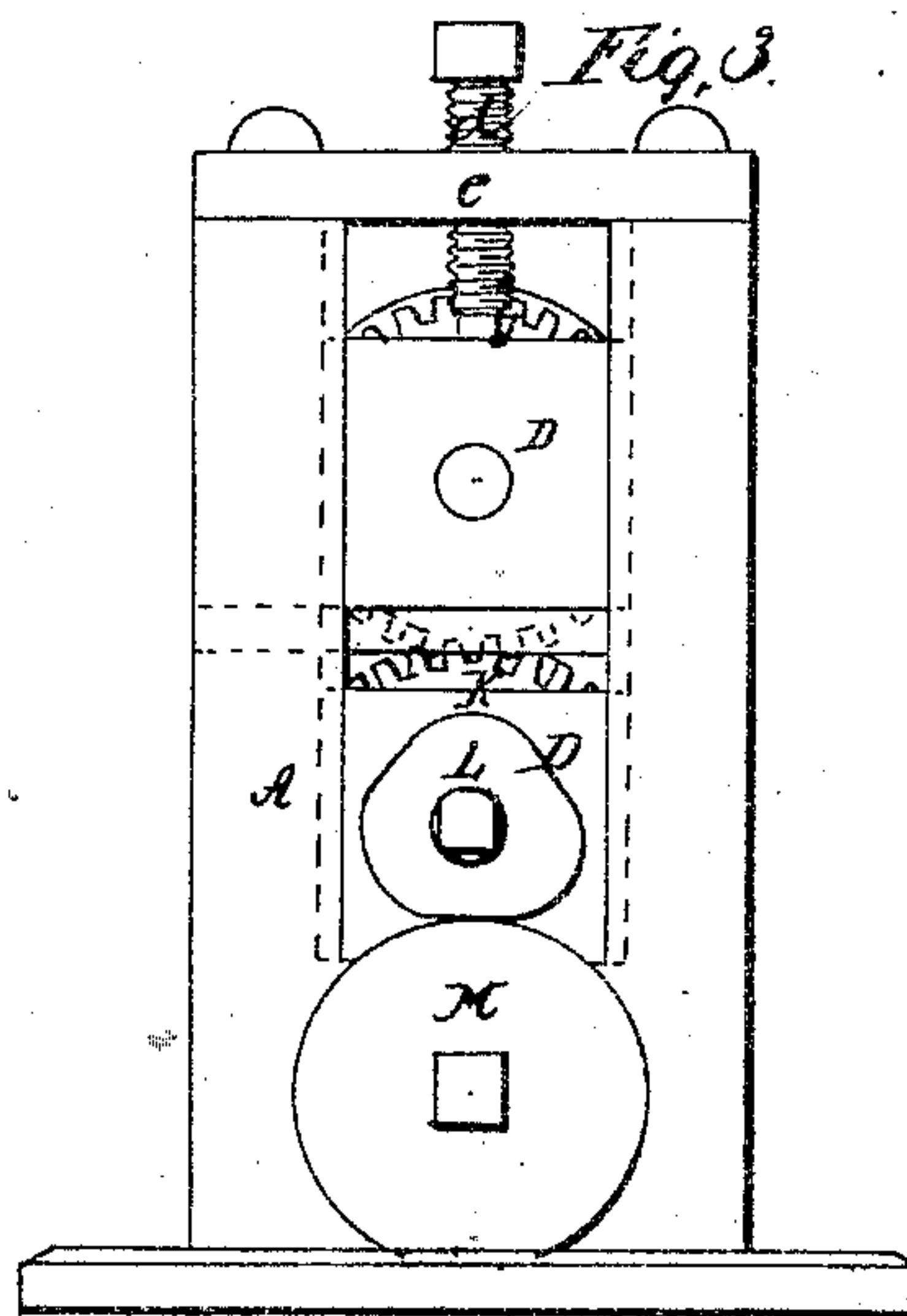
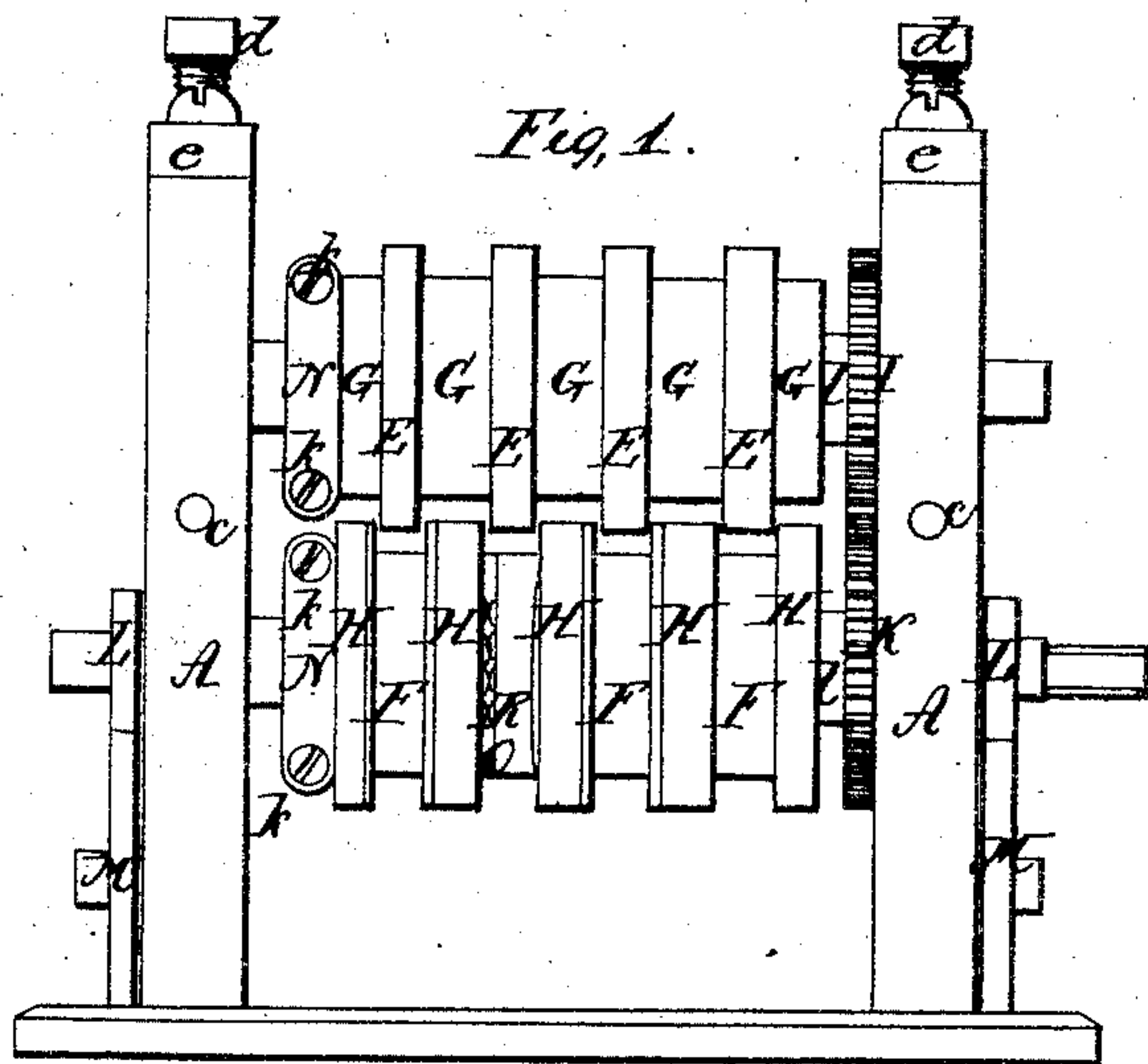


H. J. Batchelder.

Rolling Horseshoe Blanks.

N^o 55,602.

Patented Jun. 19, 1866.



Witnesses,

*Samuel H. Piper
George Andrews*

*Inventor,
Hazen J. Batchelder,
by his attorney
R. H. Eddy*

UNITED STATES PATENT OFFICE.

HAZEN J. BATCHELDER, OF BOSTON, MASSACHUSETTS.

IMPROVED MACHINE FOR MAKING HORSESHOES.

Specification forming part of Letters Patent No. 55,602, dated June 19, 1866.

To all whom it may concern:

Be it known that I, HAZEN J. BATCHELDER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Machine for Rolling Metal or Converting it into Blanks for Making Horseshoes; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a longitudinal and vertical section, of such machine. Fig. 3 is an end view of it. Fig. 4 is a side view of one of the circular dies, E, to be hereinafter explained.

In the said drawings, A denotes the frame of the machine. B C are two horizontal and parallel shafts, whose journals *a a b b* are sustained in vertical sliding boxes D D. When in their positions the upper pair of such boxes rests on cross-rods *c c*, extending through the standards of the frame. Screws *d d*, screwed down through the caps *e e* of the standards, serve to regulate the height of movement of the upper boxes, and, of course, that of the rolls applied to the upper of the shafts.

Each roll is composed of a series of annular dies or rollers, E E E F F F, each of which is made in two semicircular parts, *h h*. (See Fig. 4.) These parts have lips *f f* projecting from their opposite sides, and encompass the shaft B or C, on which they may be placed, such lips being to enter corresponding recesses *g g*, made in rings G G or H H, which also go around the shaft.

Furthermore, each of the shafts B C is provided with a channel, *i*, extending around it close to the end of the first ring G, such channel serving to hold two clasps, N N, formed as shown in side view in Fig. 5. These clasps are connected by screws *k k*, and they serve, with the channel *i* and shoulders *l l*, formed on the shaft, to keep the roll-sections in their places.

The object of making each circular die of each shaft B C in two parts, *h h*, and providing it with lips, as described, and using rings G G and a channel, *i*, and its clasps N N to the shaft, is to enable either of the dies to be readily removed from its shaft without requiring the removal of any or all the others. As the dies may need repair, or to be removed for other purposes, my improvement enables them to be separated from the shaft or fixed in place therein with great ease and facility, in comparison to what would be required were all

the dies, like the rings between them, whole circles.

I and K are the gears fixed on the shafts B C, and for the purpose of causing the upper of them, with its dies, to be revolved with and by the other.

The lower shaft has two cams, L L, fixed on its journals. These cams rest on the peripheries of friction-wheels M M, supported on center pins, *m m*, the whole being arranged as shown in the drawings. These cams, as the shaft *c* revolves, raise it at times or impart to it its proper vertical movements necessary to cause the dies to impart to the bar of iron the requisite variations of thickness.

One of the rings H of the lower shaft is represented as having a die, P, formed on its side, in manner as shown in Figs. 2 and 6, the latter figure being an inner-side view of the said ring H. This die is for varying the width of toe-blank, as may be necessary, from the toe to the heel of the horseshoe.

O is what I term the "creasing-die," which is made like the other circular dies, except that it is to project beyond the die R sufficiently to make the nail-hole creases of the horseshoe-blanks. This die O, with its adjacent die R, are formed in section, as shown in Fig. 2 and in end views as exhibited in Figs. 7 and 8.

By revolving the lower shaft, C, the dies of both shafts will be put in motion simultaneously.

I claim—

1. The mode of constructing each of the rolls—viz., not only with each of its dies made in sections and with lips to each, as described, but with rings to encompass the lips, the said sections and rings being held in place by a shoulder, *l*, and a channel, *i*, and clasps N N, or their equivalents, the whole being substantially as and for the purpose specified.

2. The separate creasing-die O, made as described, in combination with two of the rings, H H, and a sectional die, R, arranged between them, the whole being as set forth.

3. The combination of the lateral die P, for obtaining variation of width of the blank, with the two ring-dies H H, the dies E, O, and R, and the mechanism for moving the roll-shaft C vertically for the purpose of effecting the variations of thickness of the blank, as described.

HAZEN J. BATCHELDER.

Witnesses:

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