

(No Model.)

H. MORTENSON.

ROTARY CUTTING AND FORMING MACHINE.

No. 354,168.

Patented Dec. 14, 1886.

Fig. 1.

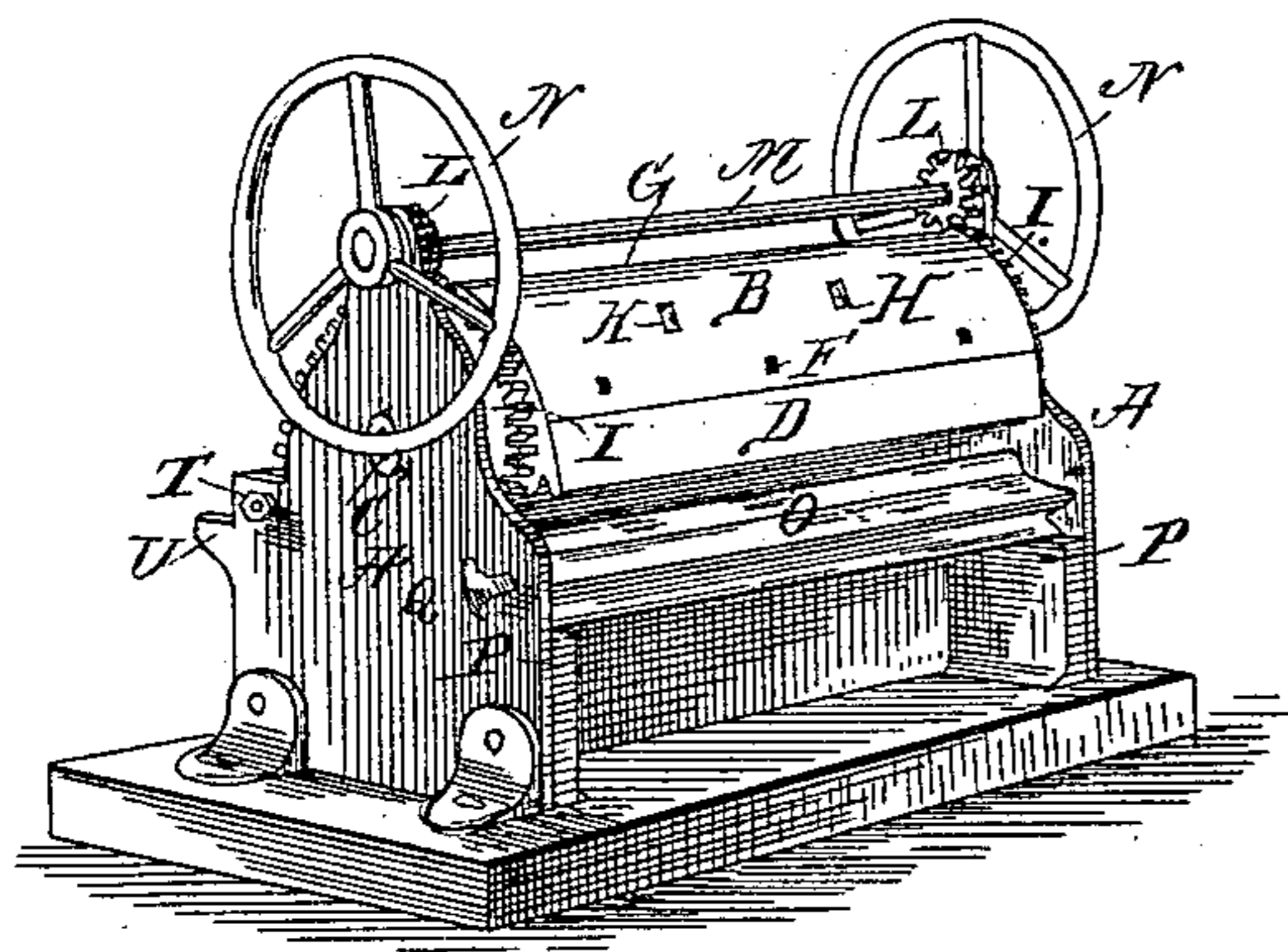


Fig. 2.

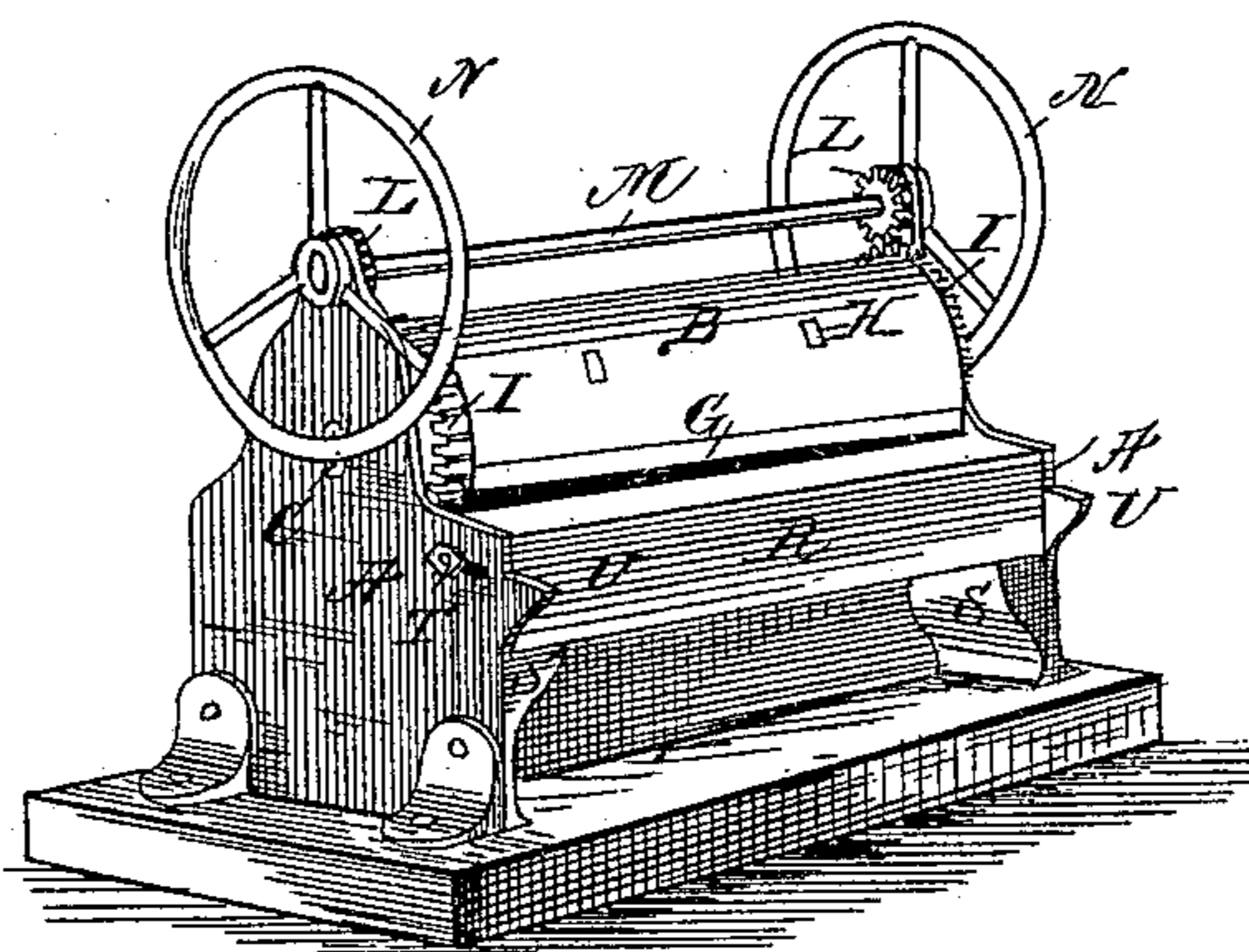


Fig. 3.

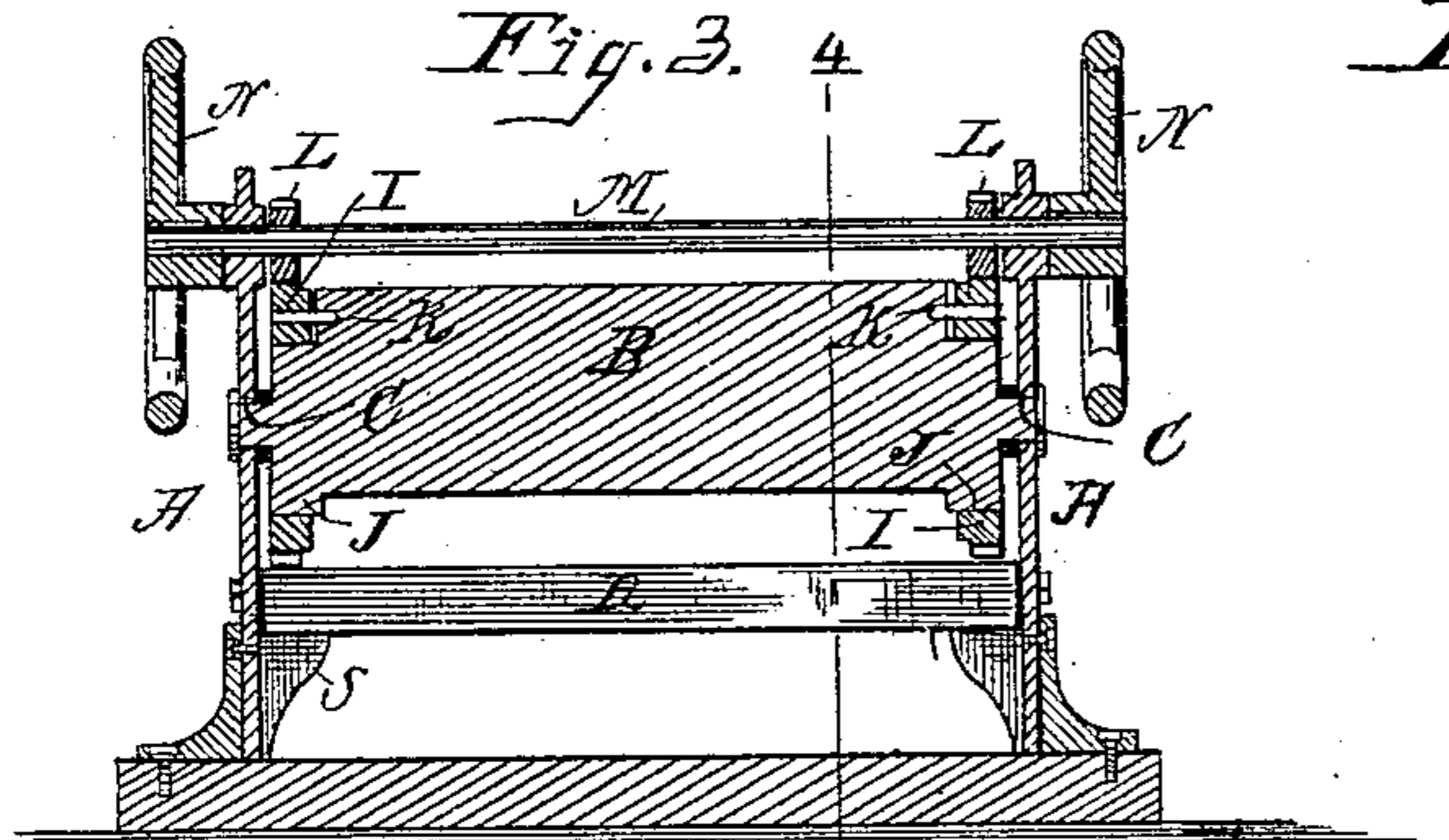


Fig. 4.

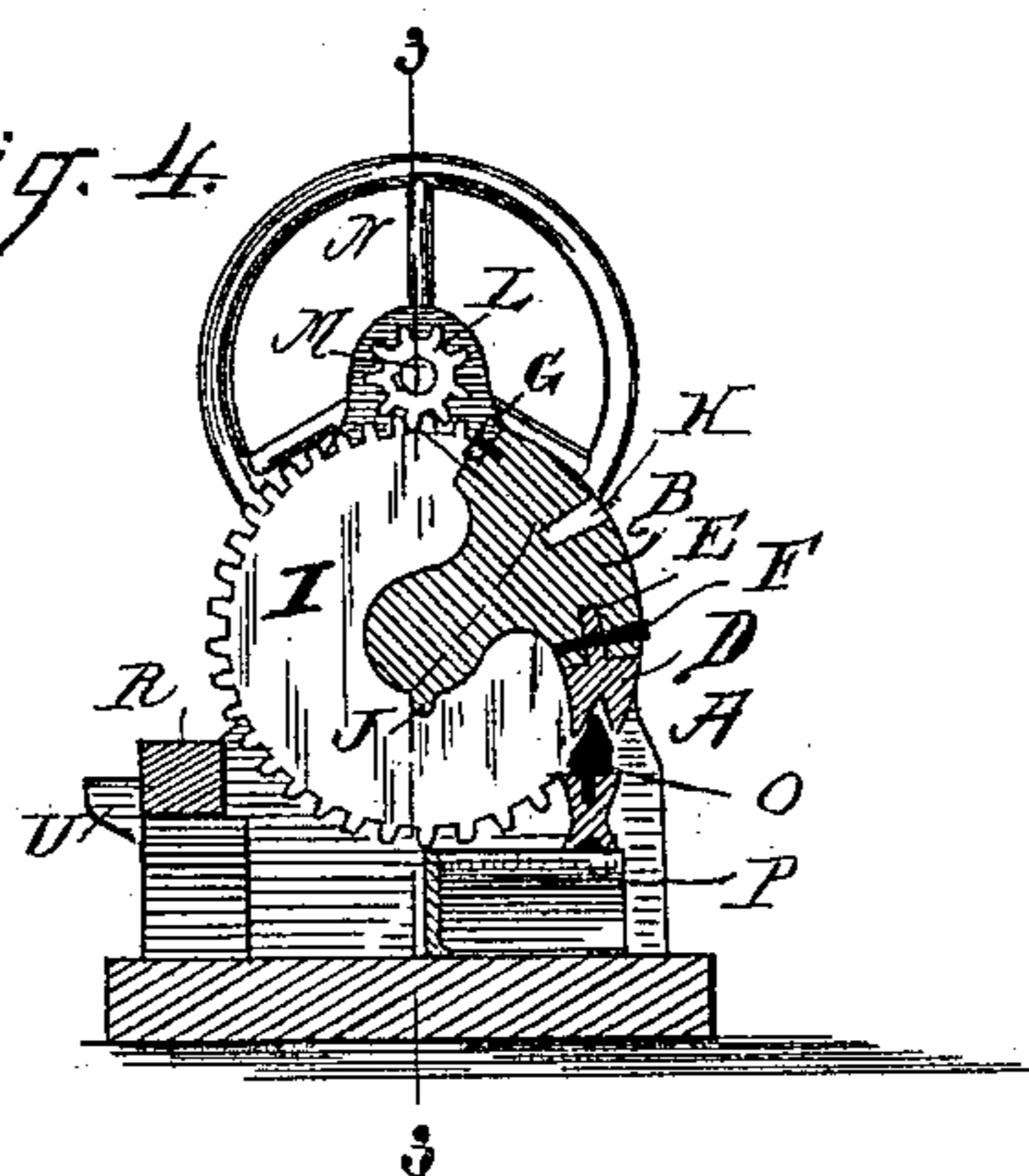


Fig. 5.

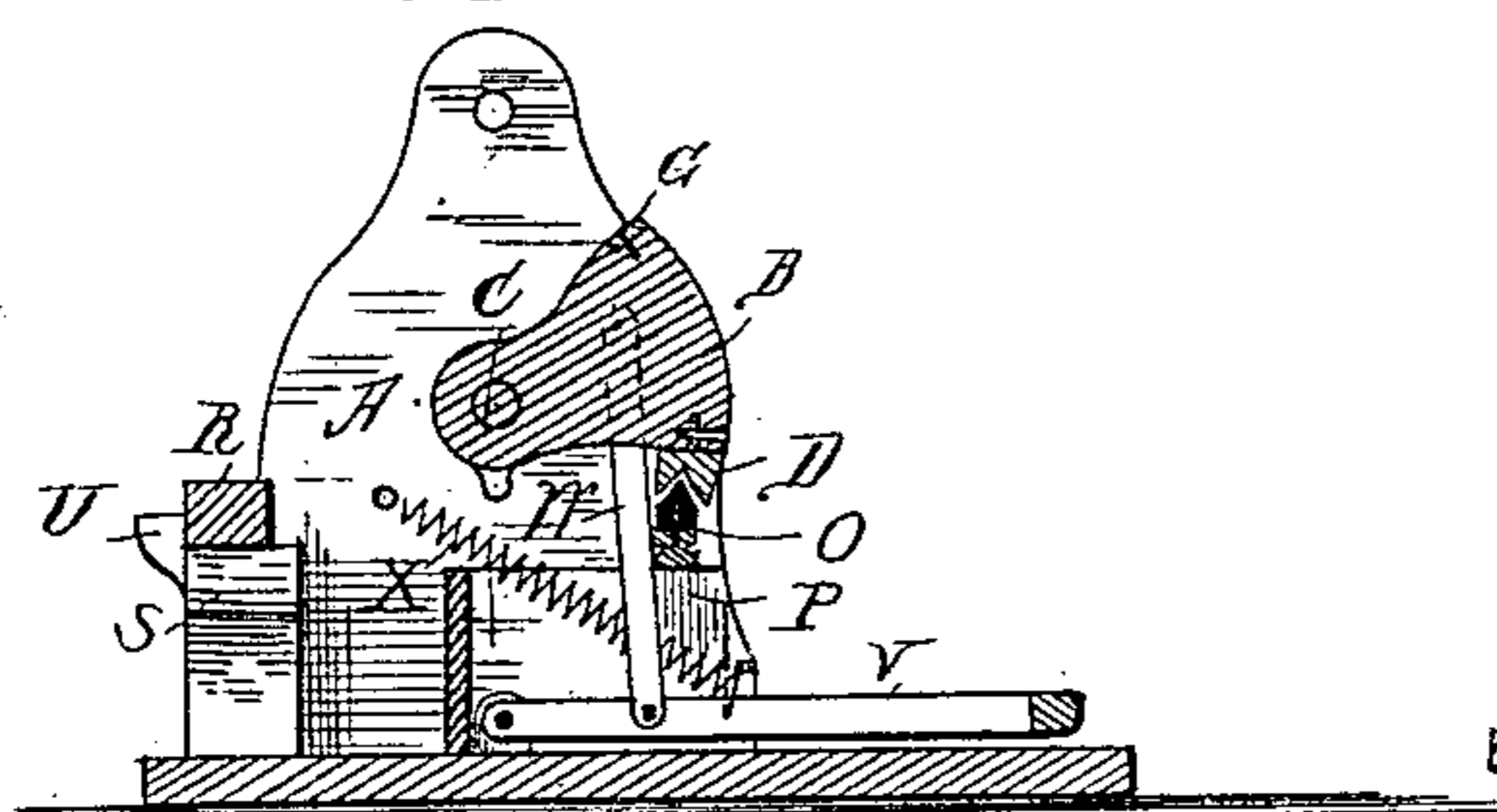
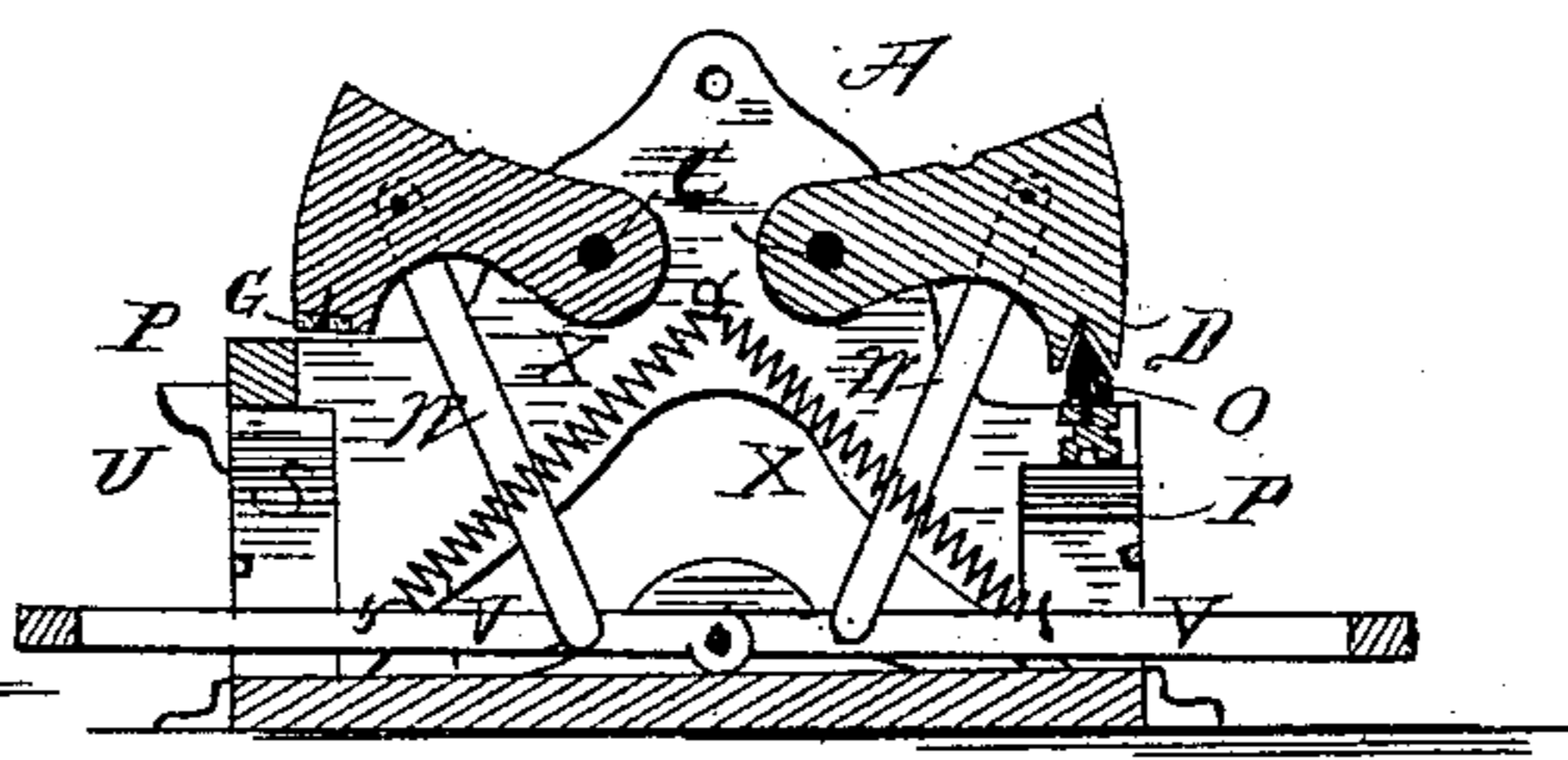


Fig. 6.



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ROTARY CUTTING AND FORMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,168, dated December 14, 1886.

Application filed September 29, 1886. Serial No. 214,834. (No model.)

To all whom it may concern:

Be it known that I, HANS MORTENSON, a citizen of the United States and of the State of New York, residing at the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Rotary Cutting and Forming Machines for Sheet Metal, of which the following is a specification.

My invention relates to that class of machines which are used for cutting and bending sheet metal for the purpose of making cornice and for similar purposes, and particularly to constructing a machine on the rotary principle which is both a cutting and forming machine, and which can be worked either by hand, foot, or steam power; and my invention also relates to the details, which will be hereinafter set forth and claimed.

In the drawings, Figure 1 is a view of the forming side of the machine. Fig. 2 is a view of the cutting side of the machine. Fig. 3 is a vertical longitudinal section, and Fig. 4 a vertical cross-section, of my machine. Fig. 5 shows my machine with the hand-wheels and cog-wheels removed and the foot-treadle appliances attached, and Fig. 6 shows a modification of my machine, in which the cutter and the former are separate, so as to enable two persons to perform the different operations on the same machine at the same time.

Similar letters of reference designate similar parts in all the drawings.

A is the frame of the machine, formed of two upright ends bolted to a connecting-strip.

B is the rotary cutter and former, turning in the bearings C C in the frame A, and having on one of its faces the adjustable die D, which is held in place by the pins E E E and keys F F F, or any other suitable device. On the opposite edge of the rotary cutter and former is the steel cutter G, secured firmly thereto, and sockets H H are for the insertion of hand-levers when an additional power is needed.

The cog-wheels I I are secured upon the shaft of the rotary former and cutter B by lugs J thereon, fitting into recesses in the cog-wheels I I, and by pins K K, passing through holes in the cog-wheels I I, or other suitable

devices, so that the cog-wheels I I can be detached from the cutter and former B and the foot-treadle attachments used instead.

The cog-wheels I I gear with the small cog-wheels L L on the shaft M, which is rotated by means of the hand-wheels N N; or a pulley-wheel to receive a belt may be substituted in place of one of the hand-wheels N, if it is desired to use steam-power.

O is the stationary die, which rests upon the shoulder P of the frame, and is held in place by the thumb-screw Q.

R is the stationary cutter-bar, resting on the brackets S S and secured by the nut and pin T.

U U are brackets on the frame A, upon which a former may be laid and metal bent by hand by inserting it between the former and the cutter-bar R.

In the modification shown in Fig. 5 the parts N N, L L, M, and I I have been removed and the foot-treadle V connected by the rods W W with the pins K K, to bring forward the former B, which is thrown back again by the springs X X. The same arrangement of a foot-treadle is shown for operating the double machine in Fig. 6.

In Fig. 5 the treadle arrangement is shown attached to the forming side of the machine, and it is plain that it should be attached on the opposite side when it is desired to operate the machine by foot-power as a cutter; or the rods W W could be disconnected from the pins K K and the rotary former and cutter thrown over by hand-levers inserted in the sockets H H.

The operation of my invention is as follows: The sheet of metal which it is desired to bend is placed upon the stationary die O, and by means of the hand-wheels N N the cutter and former B is revolved, so as to bring the die D down upon the metal, forming it over the die O. The motion of the hand-wheels N N is then reversed, thereby raising the cutter and former B, when the sheet of metal can be placed in another position and the operation repeated to give it any desired form.

To use the machine as a cutter, the rotary cutter and former B is thrown over into the position shown in Fig. 2, when the sheet of metal can be cut between the cutter-bar R and

the cutter G by forcing down the latter by means of the hand-wheels N N and their connections.

By means of my machine I am enabled to
5 combine both a cutter and former in one machine, which lessens the cost of construction very materially, and is a great saving in space, as only one machine need be provided for, instead of two, as formerly. Besides, the machine being open from side to side under the
10 cutter and former B, a sheet of metal can be passed through the whole distance from side to side, and thus a very wide sheet can be used, if it is desired to do so.

15 Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a sheet-metal cutting and forming machine, the combination of the frame A, the rotary cutter and former B, provided with the
20 cutter G and die D, and the cutter-bar R and die O, substantially as and for the purposes set forth.

2. The combination of the frame A, provided
25 with the cutter-bar R and die O, cutter and former B, cog-wheels I L, shaft M, and hand-wheel N, substantially as and for the purposes set forth.

3. The combination of the frame A, cutter and former B, provided with the cutter G and die D, stationary die O, thumb-screw Q, and the stationary cutter-bar R, substantially as
30 and for the purposes set forth.

4. The combination of the frame A, provided with the cutter-bar R, die O, and fastening
35 devices T Q, and the rotary cutter and former B, provided with the cutter G and die D, substantially as and for the purposes set forth.

5. The combination of the frame A, provided with the cutter-bar R and die O, fasten-
40 ing devices T Q, the rotary cutter and former B, provided with the cutter G, die D, and sockets H, substantially as and for the purposes set forth.

6. A stationary frame provided with a sta-
45 tionary cutter and die, a rotary cutter and former pivoted therein, provided upon one of its edges with a cutter, and on the other edge with a die, whereby the machine can be used on one side for forming and on the other side
50 for cutting, substantially as and for the purposes set forth.

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