

(Model.)

S. F. REYNOLDS.
Metal Rolling Machine.

No. 236,085.

Patented Dec. 28, 1880.

Fig. 1.

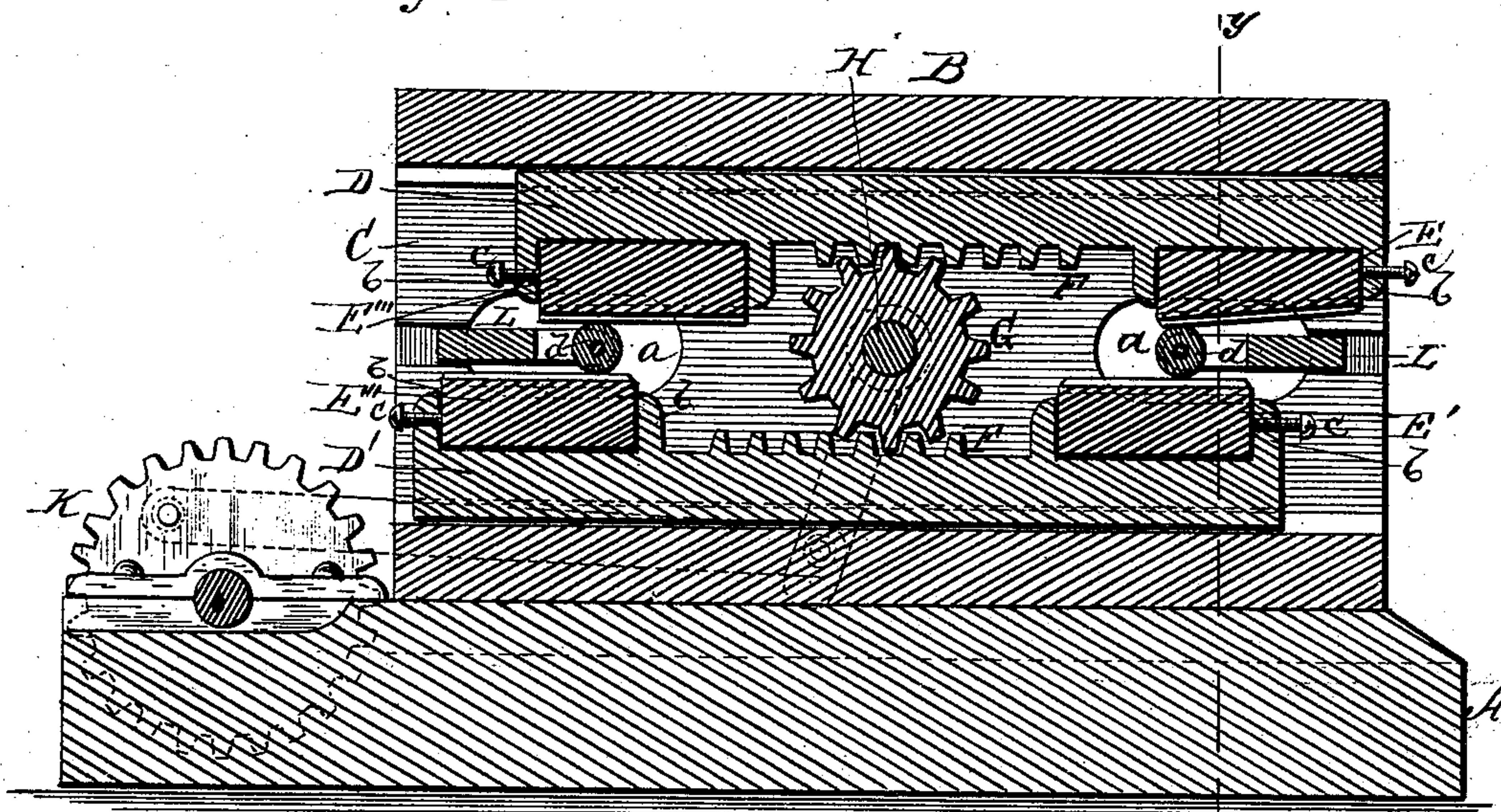


Fig. 2.

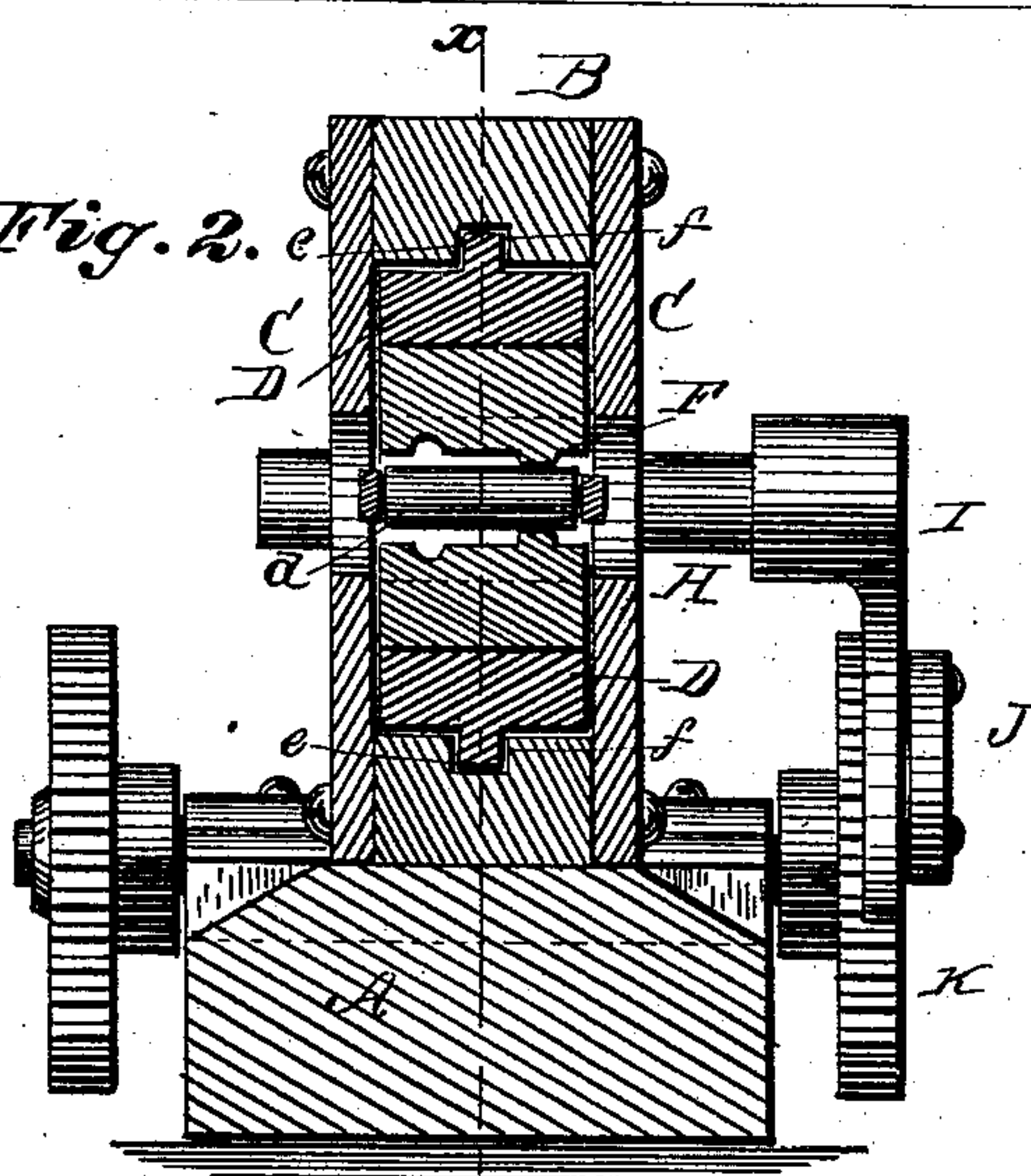


Fig. 3.

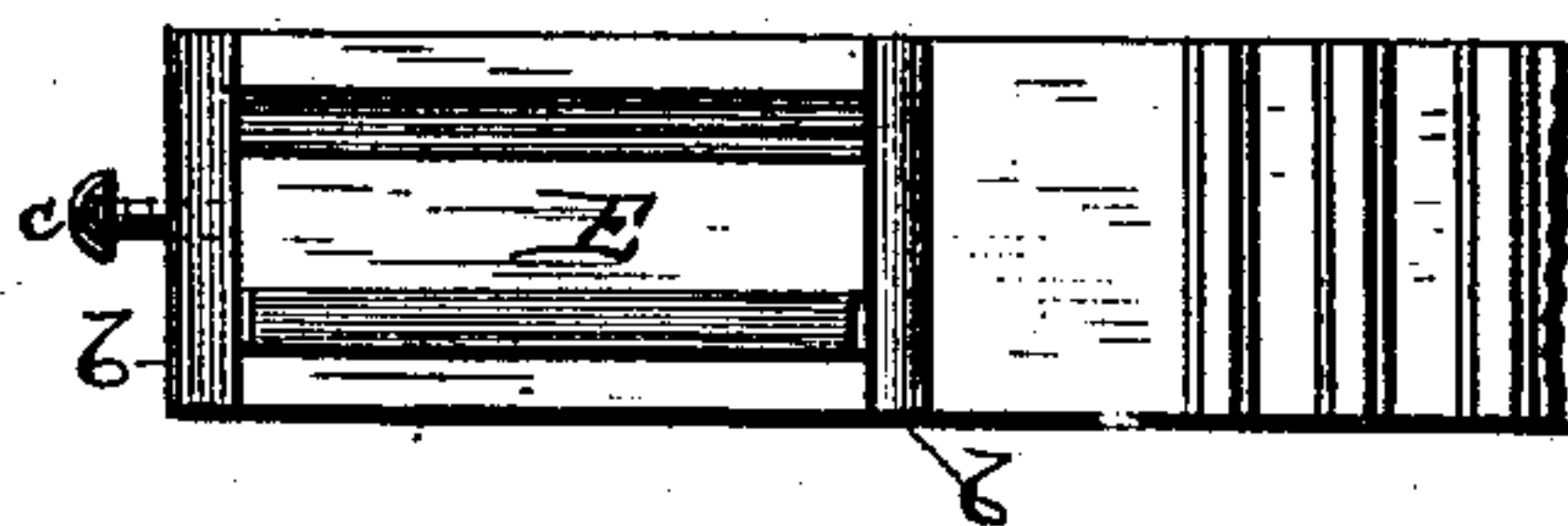
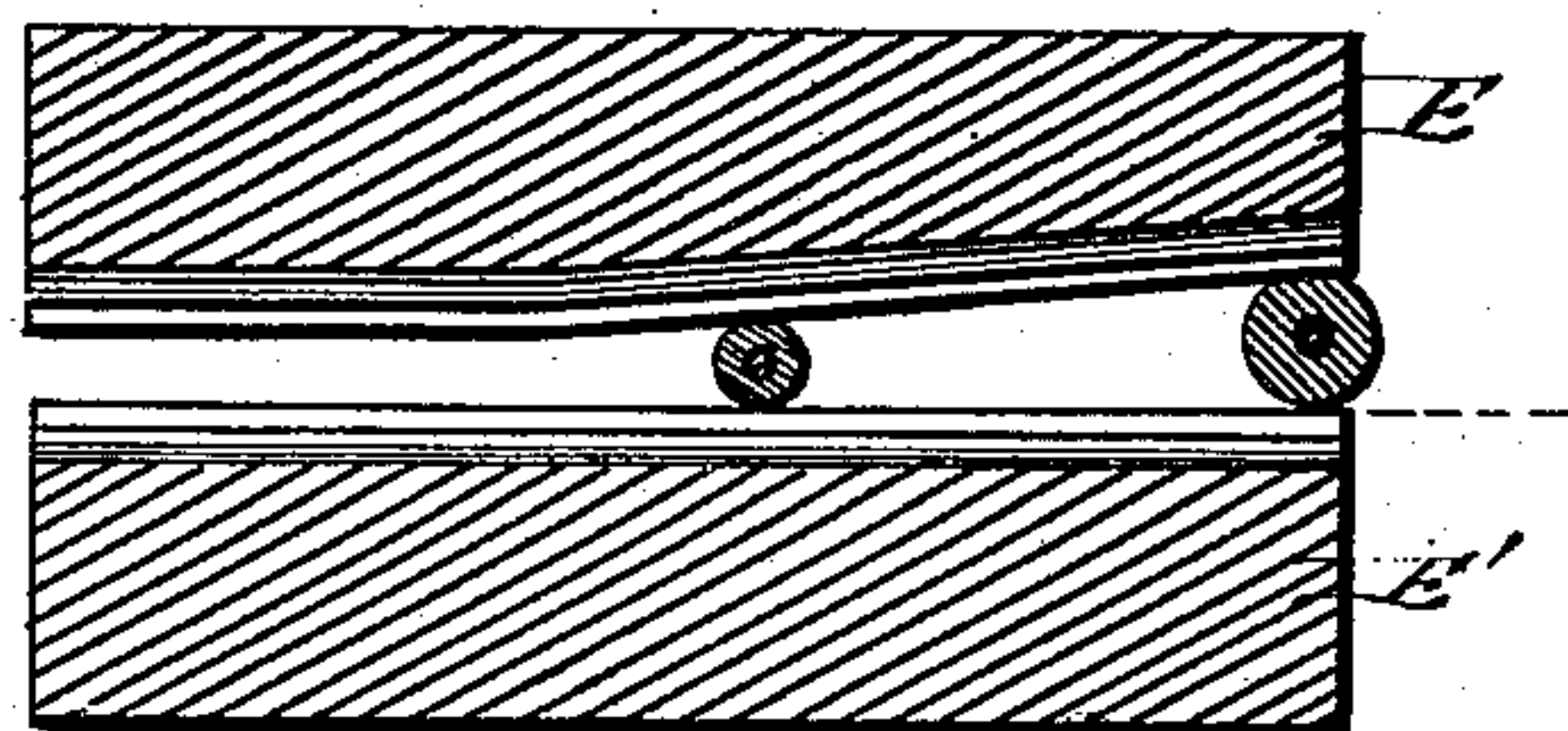


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL F. REYNOLDS, OF AUBURN, NEW YORK.

METAL-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 236,085, dated December 28, 1880.

Application filed July 3, 1880. (Model.)

To all whom it may concern:

Be it known that I, SAMUEL F. REYNOLDS, of Auburn, in the county of Cayuga and State of New York, have invented certain new and
5 useful Improvements in Dies for Forming Metal; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and
10 use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and
15 useful improvements in rolling-machines, having for its object to improve the operation of the same; and it consists in the construction and arrangement of parts as will be hereinafter more fully set forth.

20 In the annexed drawings, which fully illustrate my invention, Figure 1 is a section on line *x x*, Fig. 2. Fig. 2 is a section on line *y y*, Fig. 1. Fig. 3 is a detail view of the die; and Fig. 4 is a modification.

25 Like letters of reference indicate like parts.

This machine is designed for rolling axles, hame-staples, &c., where it is desired to break down the ends of a piece of metal and form a shoulder thereon.

30 A represents the bed, B the top plate, and C the sides, of the frame of the machine. The sides C are provided with the openings *a*, for the introduction of the metal.

D D' are two sliding plates, having the
35 chucks *b*, for the reception of the dies E E' E'' E''', said dies being held in position by the set-screws *c*. The dies are arranged upon either end of the sliding plates, and the racks F are placed in the center of same. These
40 racks are engaged by a pinion, G, arranged upon a shaft, H, said shaft being provided with an arm, I, to which is secured a connecting-rod, J. The connecting-rod J is attached at its other end to a wheel, K, which is re-
45 volved by suitable gearing, by which means there is imparted to the pinion G an intermittent rotary motion to move the racks and sliding plates back and forth in opposite di-
rections.

50 L is a gage, adjusted by means of set-screws,

and having a roller, *d*, which bears against the metal when between the dies, and prevents the same from sliding thereon, thereby insuring the rolling.

The sliding plates are provided with the
55 ribs *e*, which fit in corresponding grooves *f* in the bed and top plate, to insure the proper movement of the plates.

It will be observed that the upper die, E, is slightly inclined. The metal is introduced be-
60 tween these dies E E', the gage having first been properly adjusted, and the said metal is broken down to the size desired, leaving the same in a partly-finished state. The metal is
65 then placed between the straight dies E'' E''', which round it off, leaving it without any flat spots.

In making wagon-axles, car-pins, and work of this kind, that requires a collar or shoulder,
70 I first make the dies with a groove through the face the shape of the collar or shoulder desired. I then place the dies in the chucks, and adjust them to the size of the axle or pin wanted. The metal is then heated and placed against
75 the gage between the bevel and straight dies and broken down. The metal is then placed between the straight dies and rounded up or finished.

In Fig. 4 I have shown a modification, which
80 is, that the dies may be made with the straight bottom surface and the upper straight and beveled surface, thereby saving two sets of dies; but this would require a machine to move the plates double the distance, and I
85 therefore prefer the two sets of dies.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a rolling-machine, the sliding plates
90 moving in opposite directions and carrying the racks, chucks, and dies, and the gage L, adapted to rest between the dies and adjusted substantially as and in the manner set forth.

In testimony that I claim the foregoing as
95 my own I have hereto affixed my signature in presence of two witnesses.

SAML. F. REYNOLDS.

Witnesses:

WM. B. UPPERMAN,
H. A. HALL.