

Patented Feb. 10, 1885.

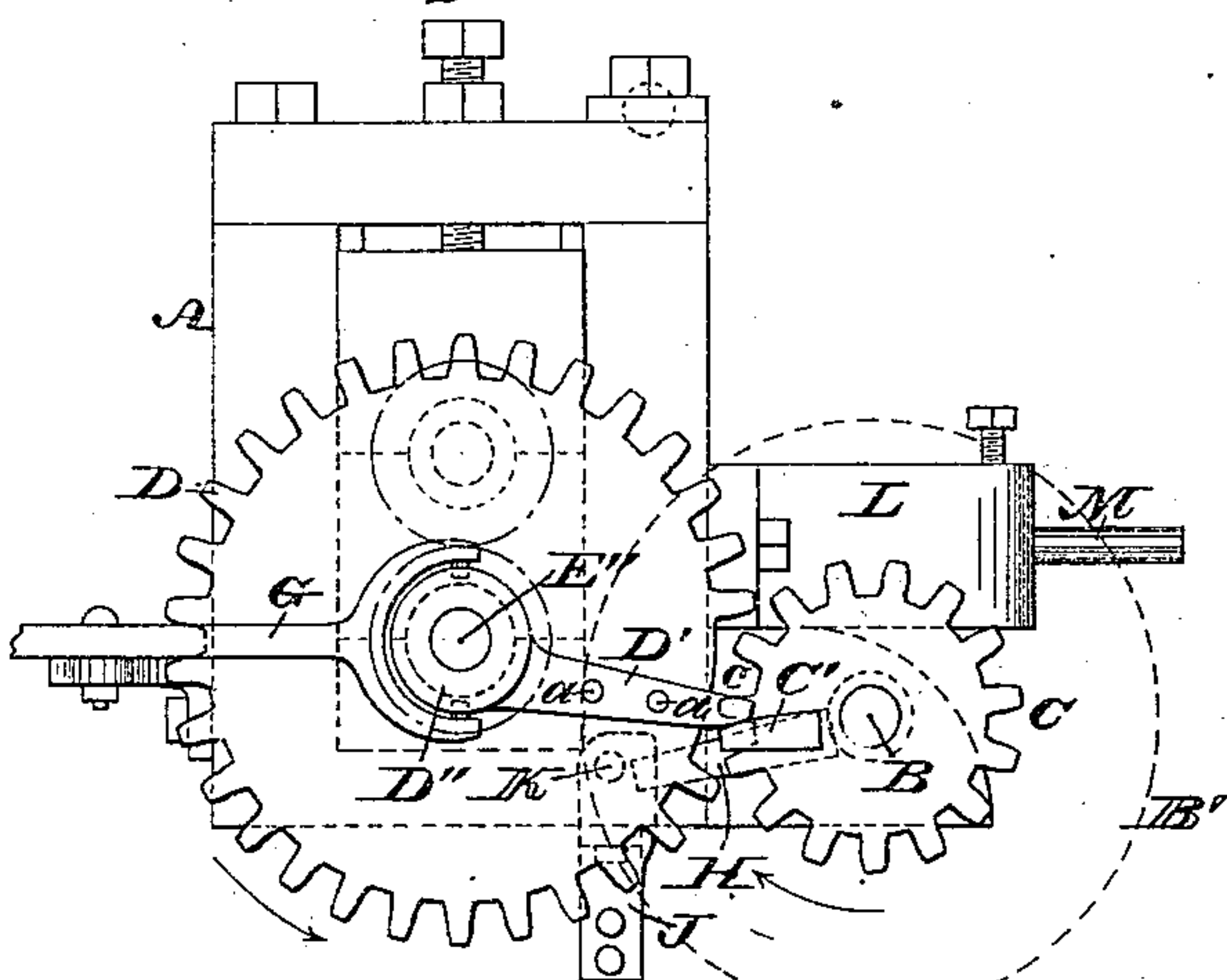
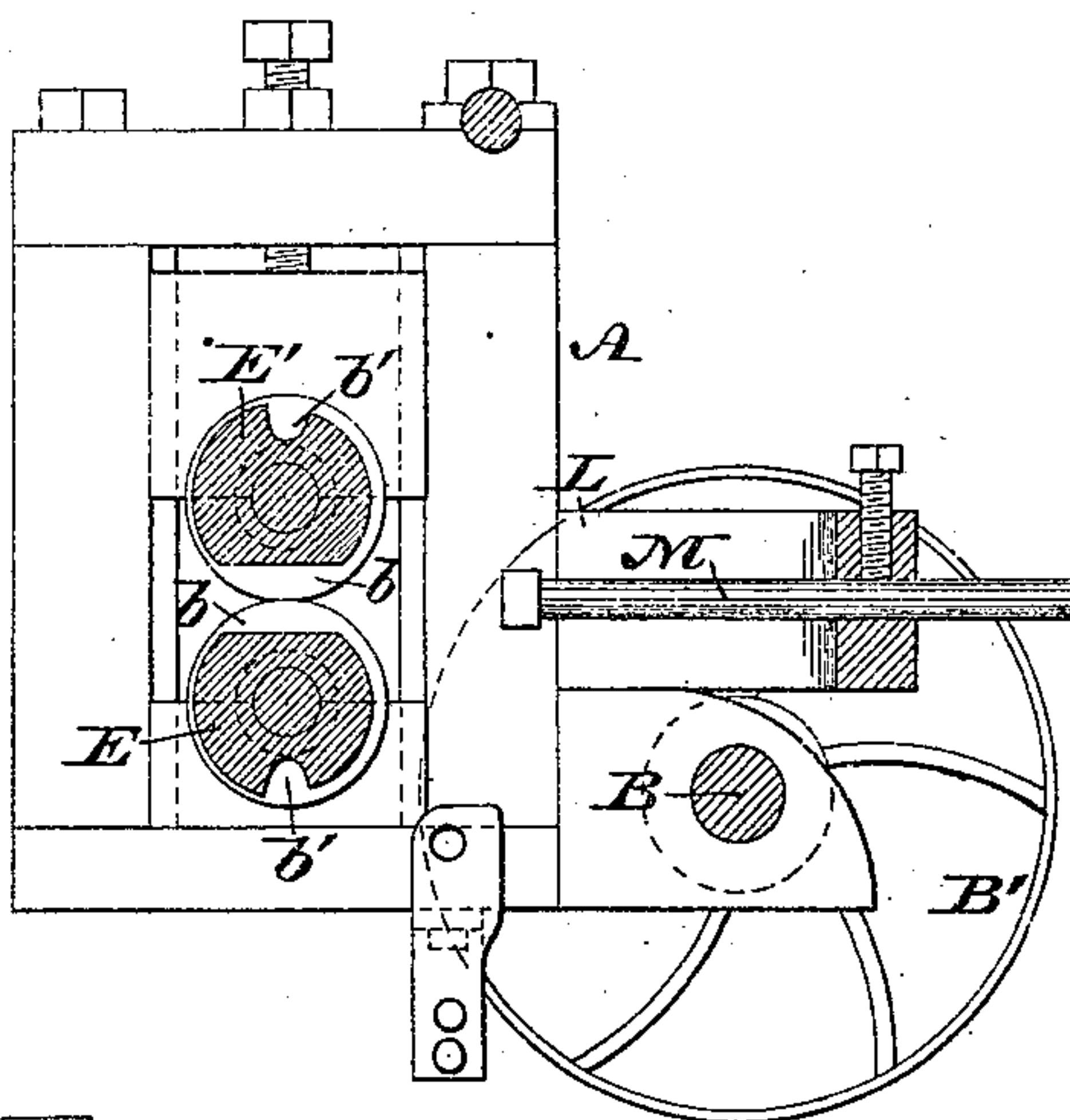
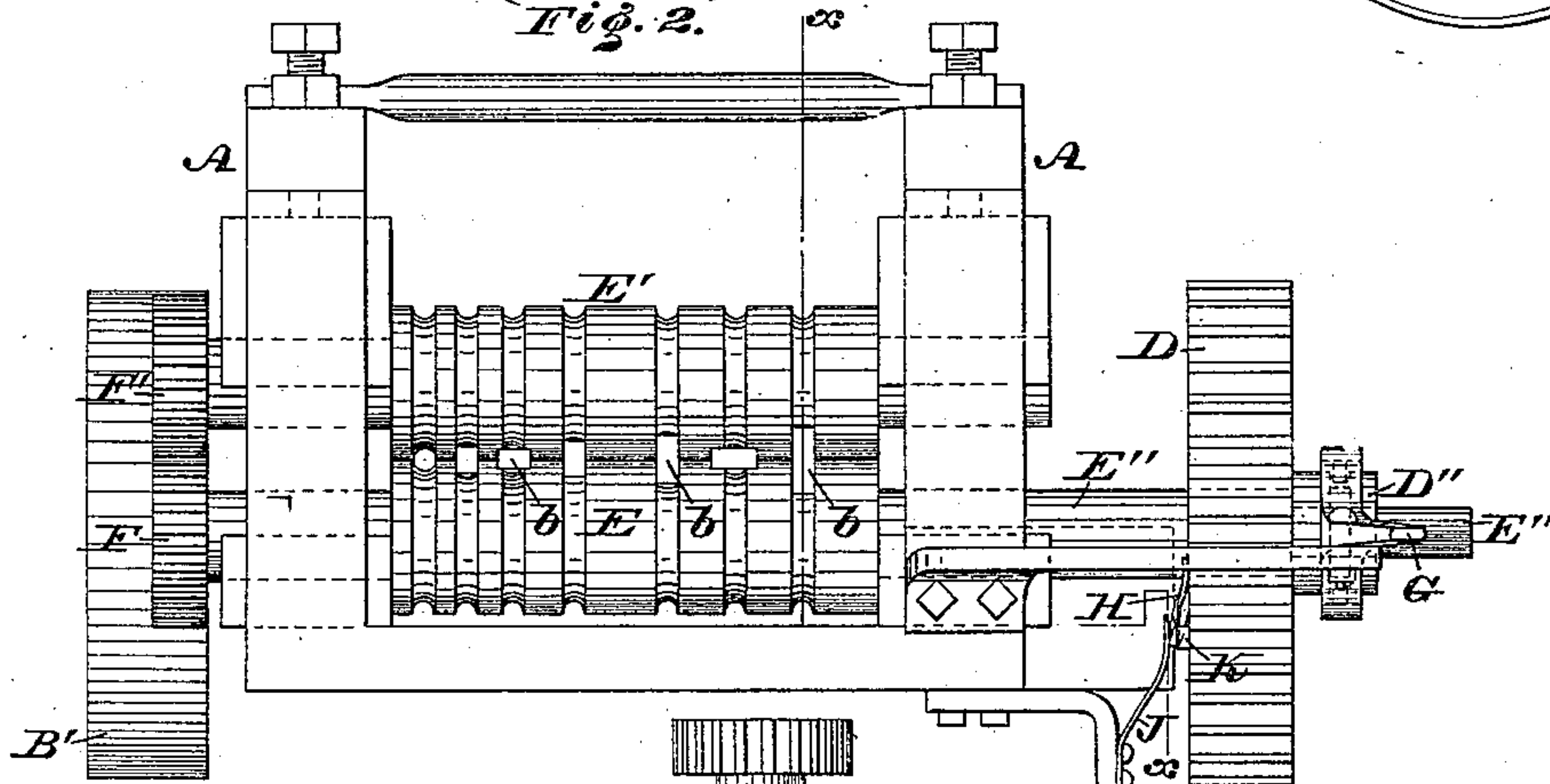
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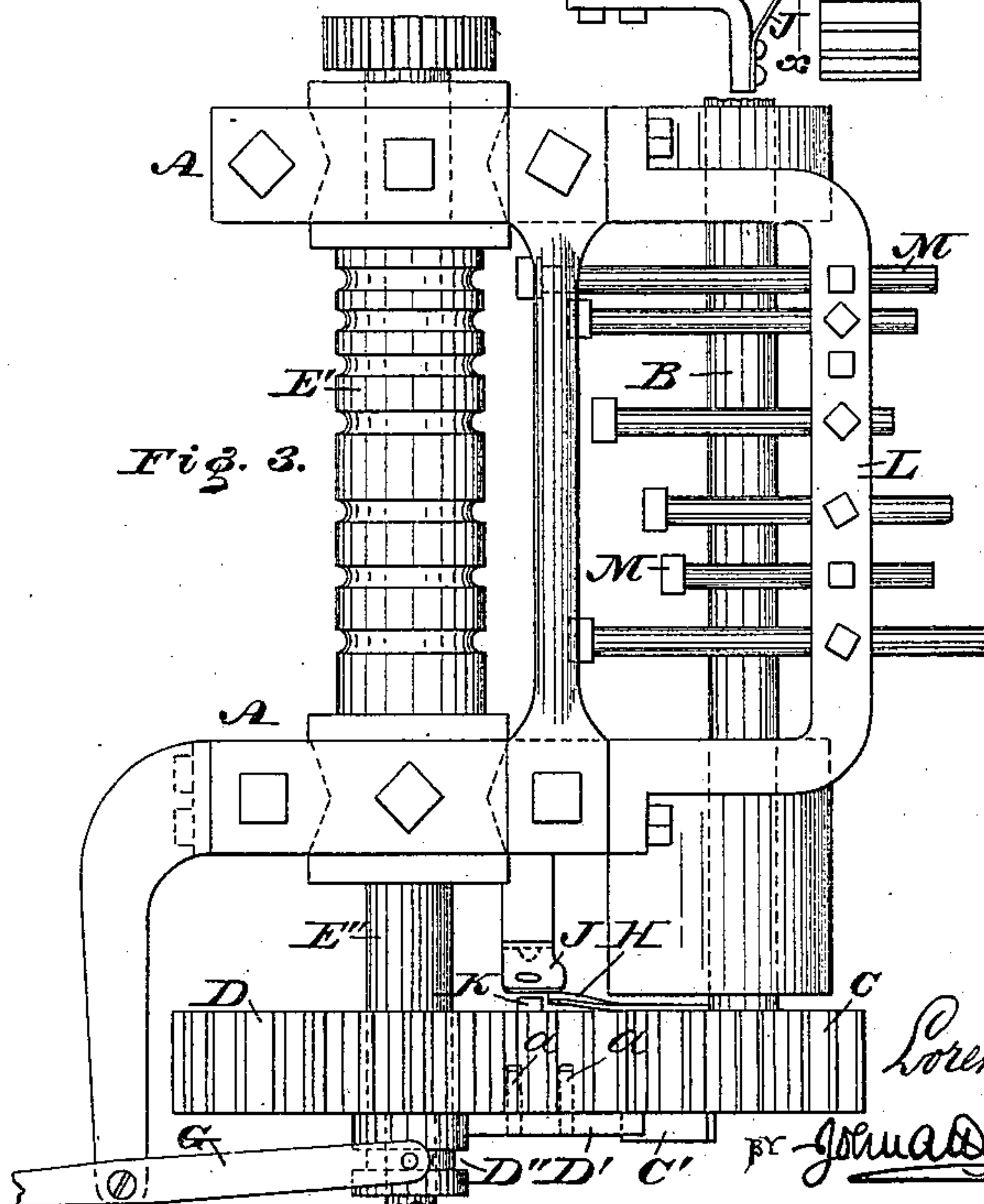
Fig. 4.



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

LORENZO D. FARRA, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF  
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## MACHINE FOR ROLLING IRREGULAR FORMS.

SPECIFICATION forming part of Letters Patent No. 312,107, dated February 10, 1885.

Application filed May 29, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, LORENZO D. FARRA, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Machines for Rolling Irregular Forms of Metal, which improvement is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 is a side elevation of a rolling-machine embodying my invention. Fig. 2 is a front view thereof. Fig. 3 is a top view thereof. Fig. 4 is a section in line *xx*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

15 My invention consists of an improved manner of gearing the rolls of machines for rolling irregular forms of iron, by means of which I obtain a dwell or rest in their rotation, giving time to insert the metal to be rolled.

20 It also consists of a novel manner of making the rolls, whereby the form or metal to be rolled may be easily inserted.

25 It further consists of a novel manner of reliably and quickly throwing the rolls out of gear.

Referring to the drawings, A represents a housing, and B a shaft mounted thereon, the latter having attached to it at one end a driving-pulley, B', and at the other end a pinion, C. Meshing with the pinion C is a mutilated spur-wheel, D, which is secured to the shaft of a roll, E, which by means of gearing F F' communicates motion to the roll E'. To one side of the pinion C is fixed a finger, C', which is so disposed that it acts on a finger or arm, D', which is movably connected with the wheel D, so as to control said wheel, as follows: Encircling the shaft E' of the roll E is a clutch, D'', of which the finger D' is a part. Two pins, *a a*, secured to the finger D', and loosely fitted in openings in the spur-wheel D, serve to make the finger D', clutch D'', and spur-wheel D operate as one.

45 G represents a clutch-lever, which serves to move the finger D' and connected parts clear of the finger C' when so desired. Secured to the pinion C opposite to the finger C' is a wiper, H, so located that it acts upon a spring arm or bar, J, connected with the housing of

the machine, said arm having an opening into which fits a pin, K, projecting from the wheel D. Mounted on the housing is a frame, L, to which are adjustably connected guides or stops M, the object whereof will be hereinafter explained. The rolls E E' are formed with grooves *b*, the contour whereof is that of the form to be rolled. Power is applied to the shaft B, whereby the pinion C is rotated and the lever G is shifted. The mutilated or cut-away portion *c* of the spur-wheel D allows the pinion C one revolution as an idler, giving the operator time to insert his work on the rolls, the pin K being controlled by the spring-arm J, whereby the wheel D remains stationary. On the second turn of the pinion C (see Fig. 1) the finger C' strikes the finger D', rotating the wheel D, and the wiper H moves the spring-arm J, thus releasing the pin K, and the spur-wheel D is put in gear with the pinion C, the rolls being thereby operated.

When it is desired to arrest the motion of the rolls, the lever G is moved so that the finger D' clears the finger C', the pins *a a* serving as a guide to said finger, in order to preserve its connection in proper position with the wheel D.

The guides or stops M serve to allow the bar to be rolled to enter the proper distance, so that when the die *b'*, cut in the grooves of the rolls, comes around, it will properly register with the work already commenced and return the bar to the operator, said die being of the form of the head of a thumb-screw, lag-screw, rivet, &c., shaping the desired form on the end of a bar or rod, to be cut off after being shaped. The facets *b* act as guides to keep the bar true to the grooves or impressions cut in the rolls. The rolls stop a given time in each revolution when the fingers C' and D' are in proper working position. The facets or grooves cut through the rolls at *b b*, Fig. 4, are thoroughfares of size and shape to admit of the bar being worked to pass through to the adjustable stops or gages M.

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

1. Rolls in combination with a mutilated spur-wheel and a spur-wheel meshed there-

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with, each wheel being provided with a finger which engages with the other, substantially as and for the purpose set forth.

2. Rolls in combination with the frame L and guides and stops M, adjustably connected therewith, said rolls having facets *b* and dies *b'*, substantially as and for the purpose set forth.

3. Rolls in combination with spur-wheels, a pin on one wheel, a wiper on the other wheel, and a spring-arm on the housing, said arm being adapted to engage with said pin and said wiper to move the spring-arm clear of the pin, substantially as and for the purpose set forth.

4. Rolls in combination with a clutch, a finger connected with said clutch, a mutilated spur-wheel, pins attached to said finger freely

entering openings in said spur-wheel, and a spur-wheel provided with a fixed finger, substantially as and for the purpose set forth. 20

5. Rolls in combination with spur-wheels, a finger movably connected with one of the spur-wheels, the latter wheel being mutilated, and a finger fixed to the other spur-wheel, a pin projecting from the spur-wheel, a wiper connected with the other spur-wheel, and a spring-arm attached to the housing, said pin and arm engaging and controlling the mutilated wheel, and said wiper disconnecting said pin and arm to release the mutilated wheels, substantially as and for the purpose set forth. 25 30

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Witnesses:

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