

C. E. KLEINSCHMIDT & G. P. SCHNEIDER.

Improvement in Machines for Making Links for Railway-Couplings.

No. 132,293.

Patented Oct. 15, 1872.

Fig. 1.

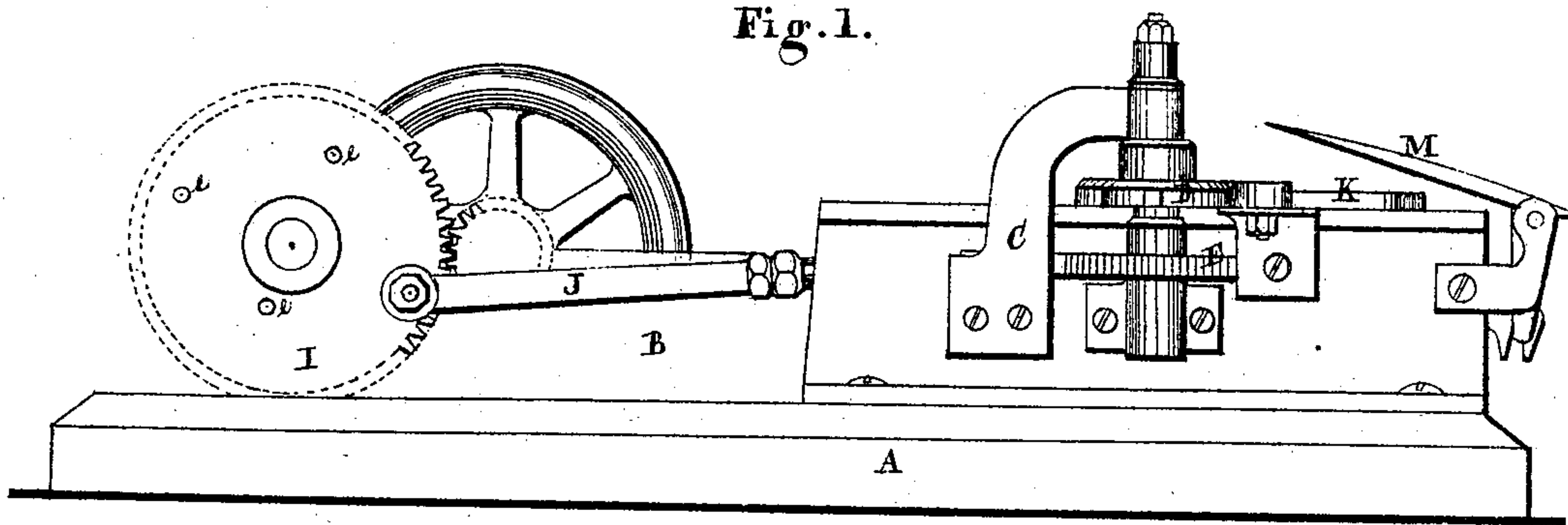


Fig. 2.

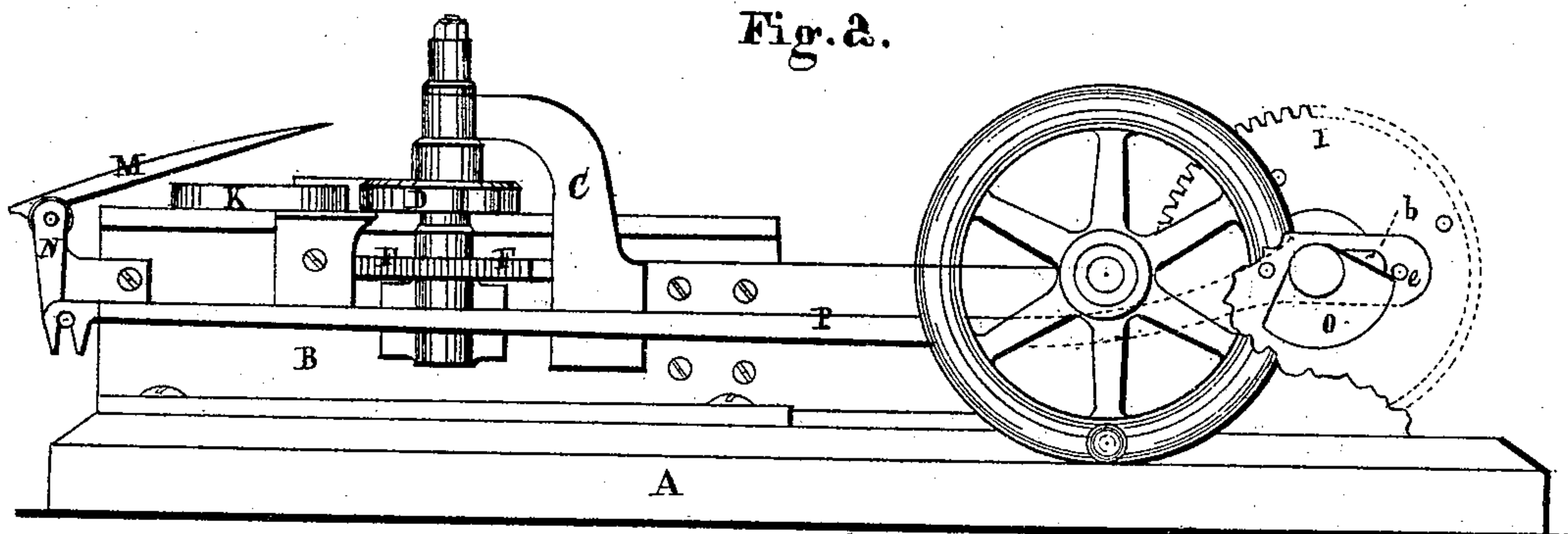
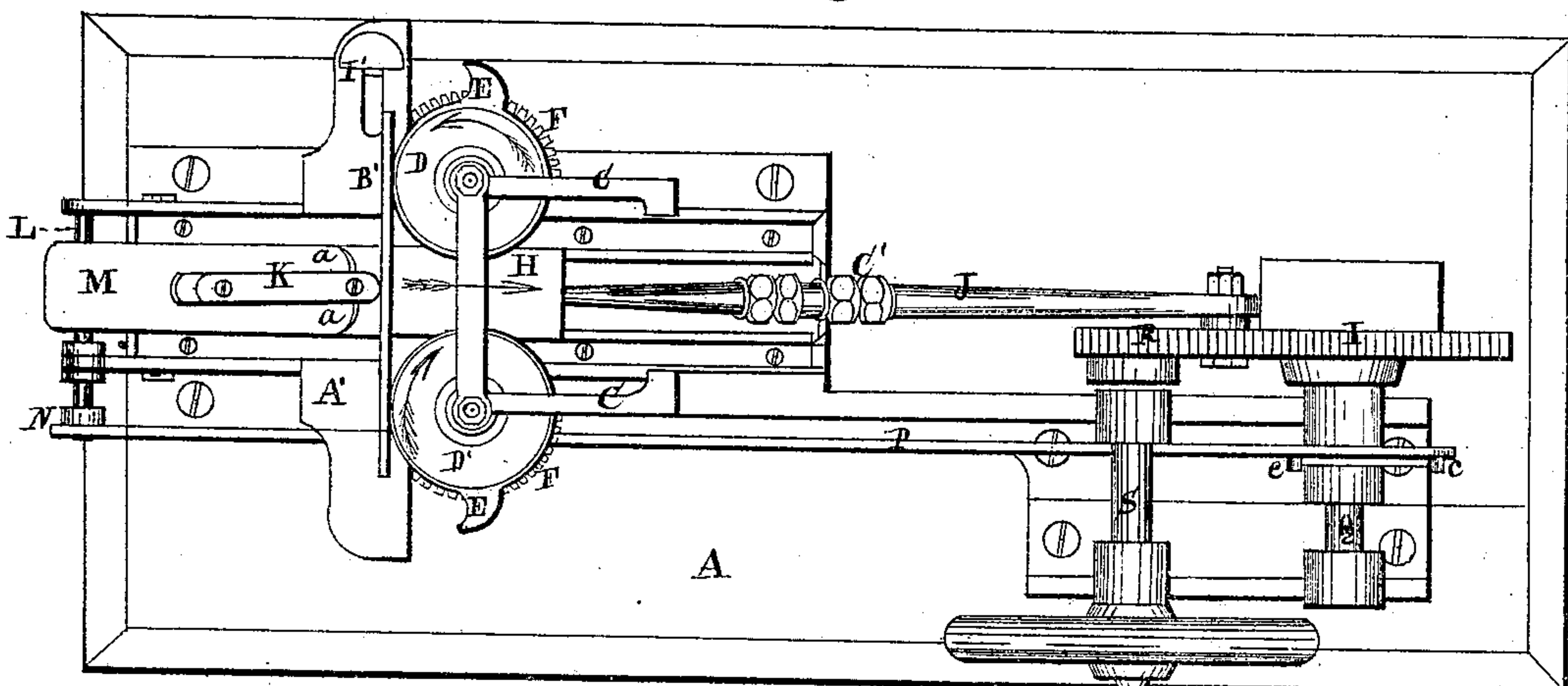


Fig. 3.



Witnesses.

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Fig. 4.

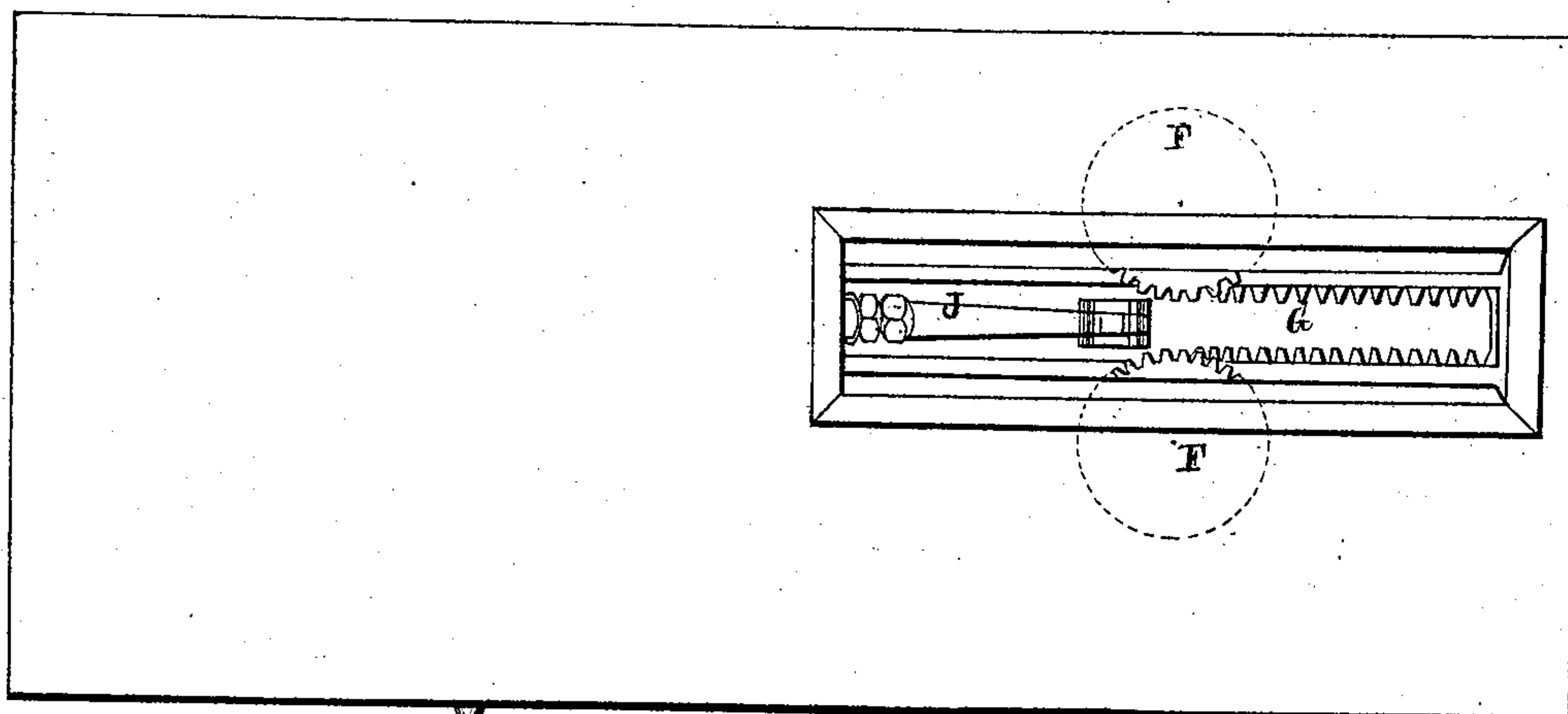


Fig. 5.

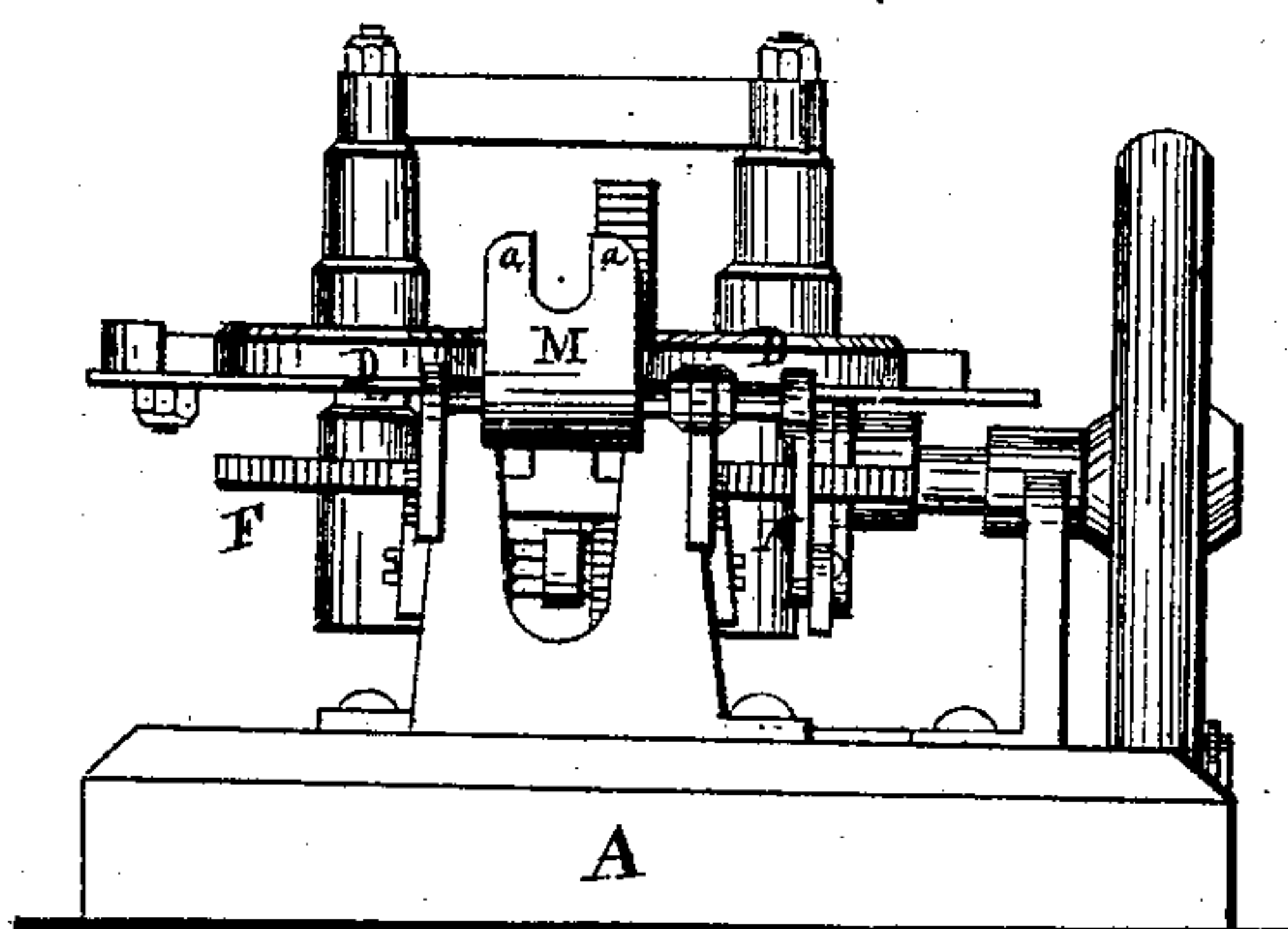


Fig. 6.

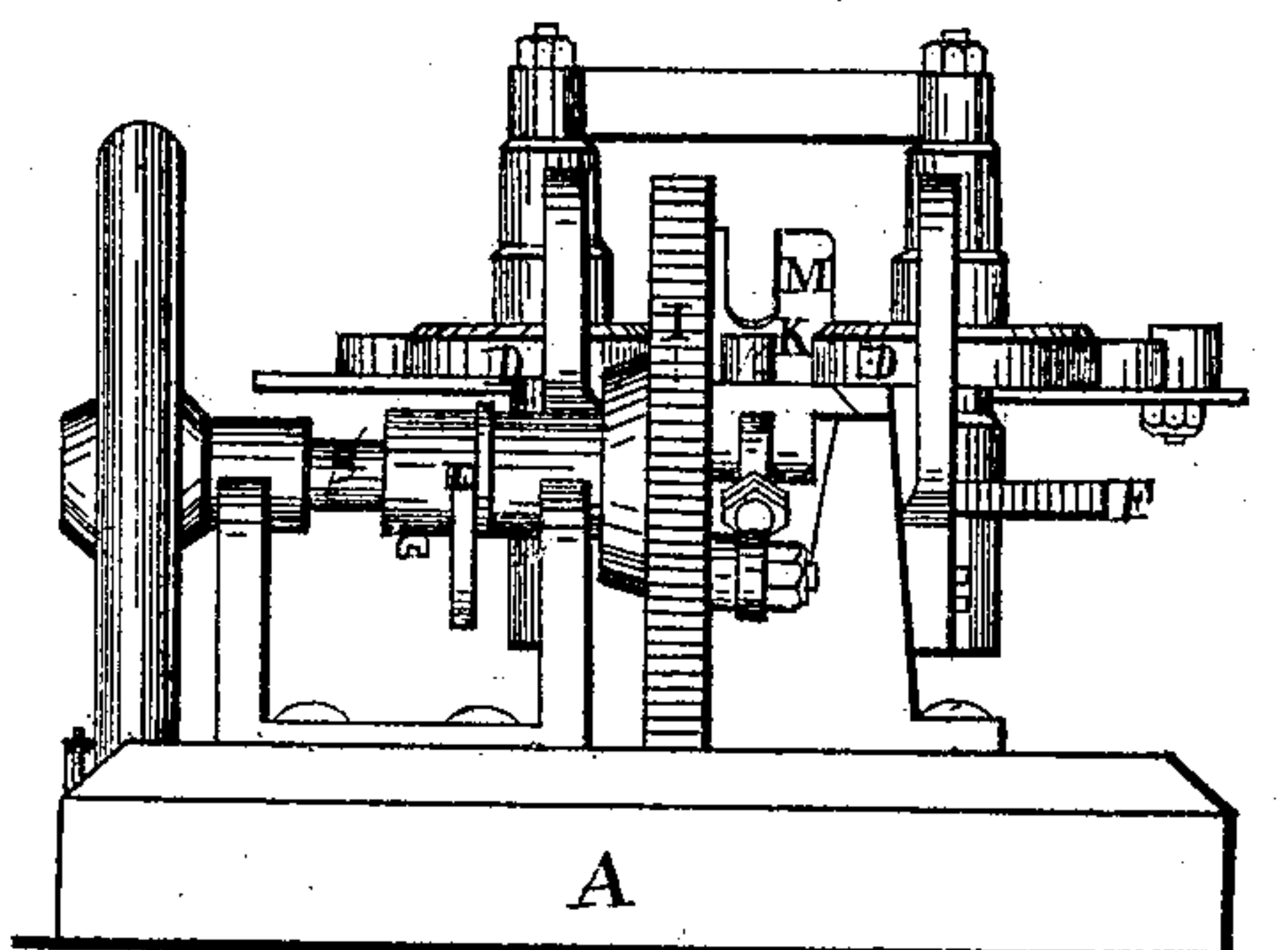


Fig. 7.

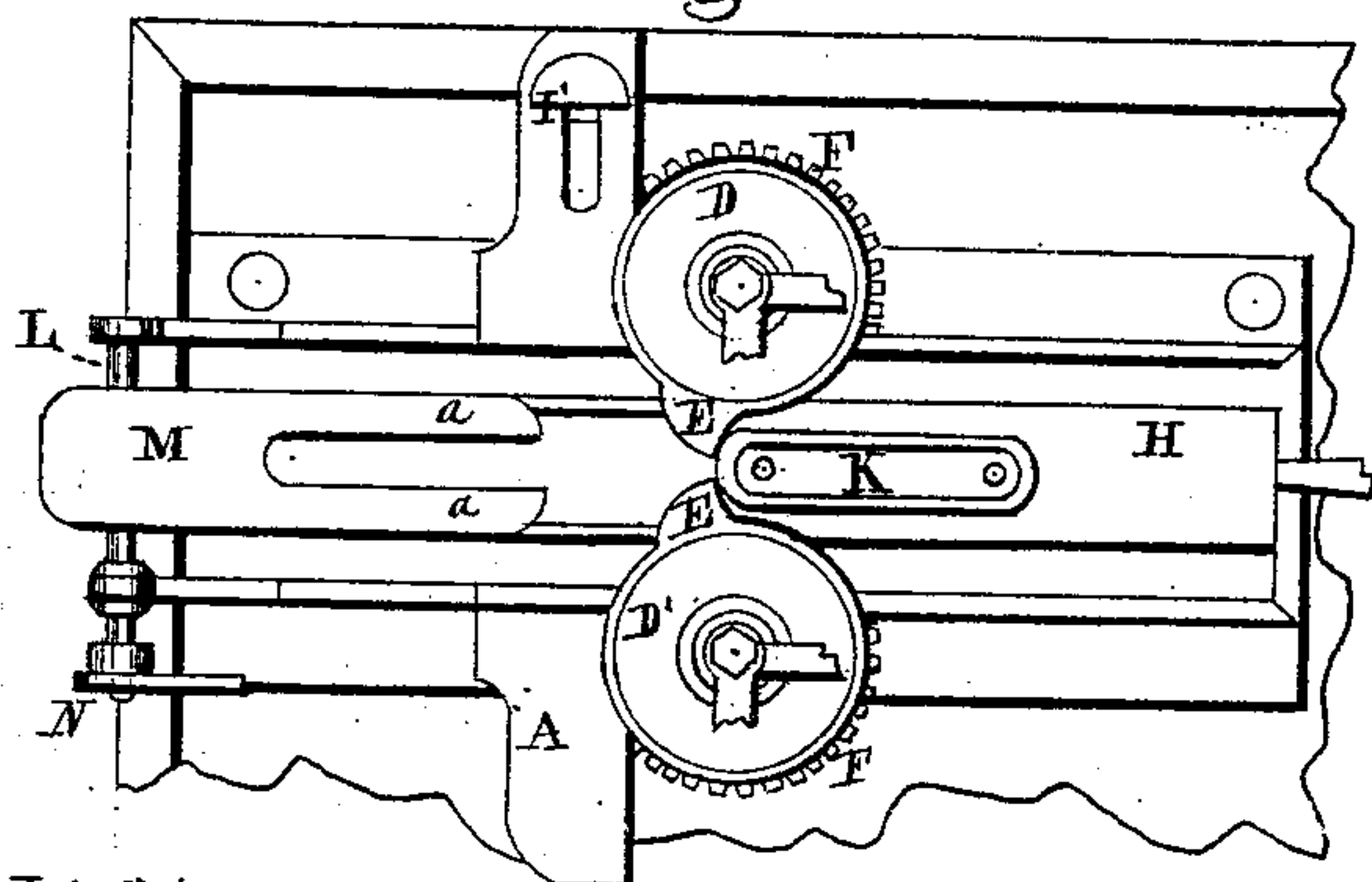
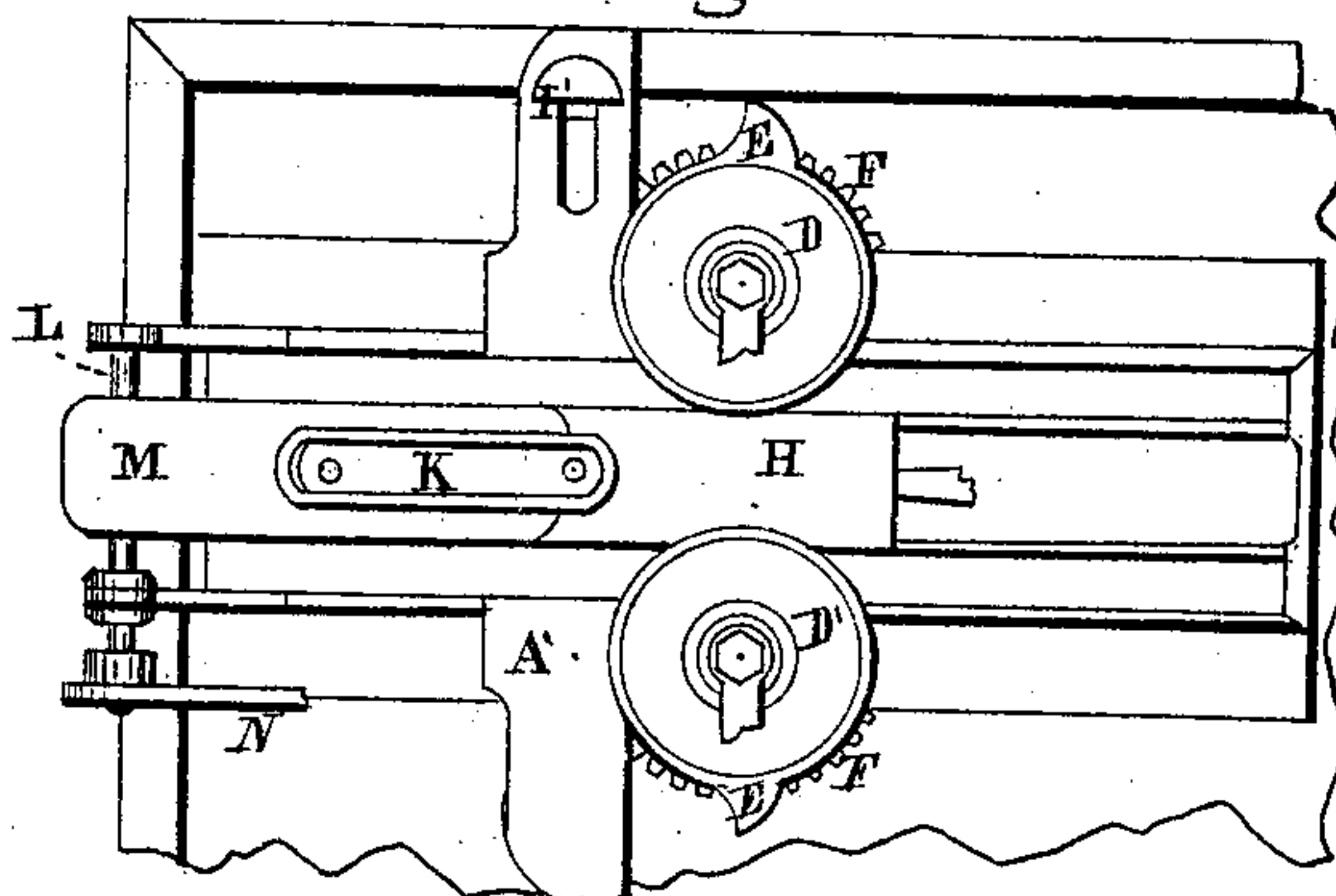


Fig. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES E. KLEINSCHMIDT AND GEORGE P. SCHNEIDER, OF CLEVELAND, O.

IMPROVEMENT IN MACHINES FOR MAKING LINKS FOR RAILWAY COUPLINGS.

Specification forming part of Letters Patent No. 132,293, dated October 15, 1872.

To all whom it may concern:

Be it known that we, C. E. KLEINSCHMIDT and G. P. SCHNEIDER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Machine for Making Links; and we do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figures 1 and 2 are side elevations of the machine. Fig. 3 is a plan view. Fig. 4 is a view of the under side. Figs. 5 and 6 are end views. Figs. 7 and 8 are detached sections.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a machine for forming railway coupling-links, chain-links, &c., by the use of a former, around which the iron for the links is bent by means of a pair of rotating compressors or rolls actuated by a rack and pinion; and the object thereof is to produce any number of links that may be required, of an equal and exact size and shape, ready for being welded, and to form said links in a more expeditious manner than they can be formed in the ordinary way.

The following is a more full and complete description of the machine and of its operation.

In the drawing, Figure 1, A represents a base or platform, on which the bed B of the machine is secured. To each side of the bed is attached a stay, C, in which is pivoted a roll, D D', in the position shown in Figs. 5 and 6. From one side of each of the rolls projects a lug, E, Fig. 3, of the shape and in the relative position to each other as shown in said Fig. 3, the purpose of which will presently be shown. To each of the shafts bearing the rolls referred to, and immediately below them, is secured a cog-wheel or pinion, F, which is made to engage a rack, G, Fig. 4, attached to the under side of a slide, H, Figs. 7 and 8, and whereby said roll is given a rotary movement while the slide is being reciprocated by the wheel I, to which it is connected by the pitman J. K, Figs. 2 and 3, is a former or die, around which the iron for the link is bent. Said former is secured to the face of the slide and moves therewith, as and for a purpose presently shown. To the shaft L, Fig. 3, is secured the rear end

of a lifter, consisting of a bifurcated plate, M. The space between the two fingers a, Fig. 7, of the plate is a little more in width than the width of the former or die, and between which the die is received for dislodging the link therefrom, as will hereinafter be shown. Said lifter is given a vibratory movement by means of the crank N actuated by the cam O, to which it is connected or related by the rod P, Fig. 2. Said cam is secured to the shaft Q carrying the wheel I, and which operates the rod by impinging on the pins e, Figs. 2 and 3, projecting from the end of the rod. In the end of said rod is a slot, b, Fig. 2, through which the shaft Q passes, and whereby it is allowed to move longitudinally on the shaft when actuated by the cam for the purpose of vibrating the lifter. Motion is given to the wheel I by means of the pinion R, actuated by the power applied to the shaft S.

Having described the construction and arrangement of the machine, the practical operation of the same is as follows: A piece of iron of the proper length, which is determined by the gage I', to form a link is cut from the rod or bar. The ends are then chamfered so as to form a lap-joint or weld. The rod thus prepared is laid upon the table A', which is represented by B', Fig. 3. It will be observed that the relative position of the rolls and the end of the former K to each other is such as to admit the piece B' to lie between the two rolls and end of the former—that is to say, the position of the former or die is in advance of the edge of the rolls, as shown in said Fig. 3. Now, on operating the machine, so as to move the slide H in the direction of the arrow, the former will bend the rod at its middle and carry it back between the rolls, the sides of the rolls pressing or rolling the rod around and against the sides of the die. By the time that the former or die has been carried back so far as to bring the ends of the rod close to the rear end of the former the lugs E of the rolls sweep around and close the ends of the rod around upon the end of the former, as shown in Fig. 7, thereby completing the shape of the link, which at this time surrounds the former or die, from which it is removed by the lifter M, which, at the moment that the slide is about to return falls flat upon the top of the bed directly in front of the rolls and lugs. As the

slide returns the fingers *a* of the lifter slip under the end of the link, and when wholly under, as shown in Fig. 8, the lifter is elevated by the cam to the position shown in Figs. 1 and 2, thereby lifting the link from the former or die back, over which it will slide and drop in front of the machine. At the moment that the link is dislodged from the die the machine is in position for receiving another piece for a link, which in like manner is bent around the former as in the previous instance, and so on. The piece of rod is forced around the die by the joint action of the rolls and lugs, and dislodged therefrom by the lifter *M*. Links of various lengths can be made by this machine by changing the die or former for such size and shape link that may be required. In the event that a shorter link should be required than that shown in the drawing, the die used for that one is removed and a shorter one used in place therefor. The end of the die nearest the rolls must in every case remain at the same point of distance from the rolls. In thus making a short link the stroke of the slide should be less, which is done by shifting the connection of the pitman with the wheel *I* to a point nearer the center, as to the hole *e*, Fig. 1, or

to either of the others, as the case may be. In thus changing the connection of the pitman with the wheel the pitman must also be shortened up, which is done by the screws, sockets, and center-piece *C'*, whereby the two ends or sections of the pitman are attached to each other. Corresponding to this change made in the movement of the slide the movement of the rolls must also be changed so as to bring the lugs in such relation to the end of the short die that it shall act on the ends of the link at the proper time, which is also readily done by adjusting the rolls so that the lugs shall be nearer the end of the die; hence they will move on the ends of the rod or link in time to force them around the end of the die.

We claim as our improvement in machines for making links—

The rolls *D D'* provided with lugs *E*, slide *H*, reciprocating former or die *K*, lifter *M*, rod *P*, and cam *O*, substantially as herein described.

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Witnesses:

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