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W. A. & T. H. TARRANT,
METAL BRAKE.

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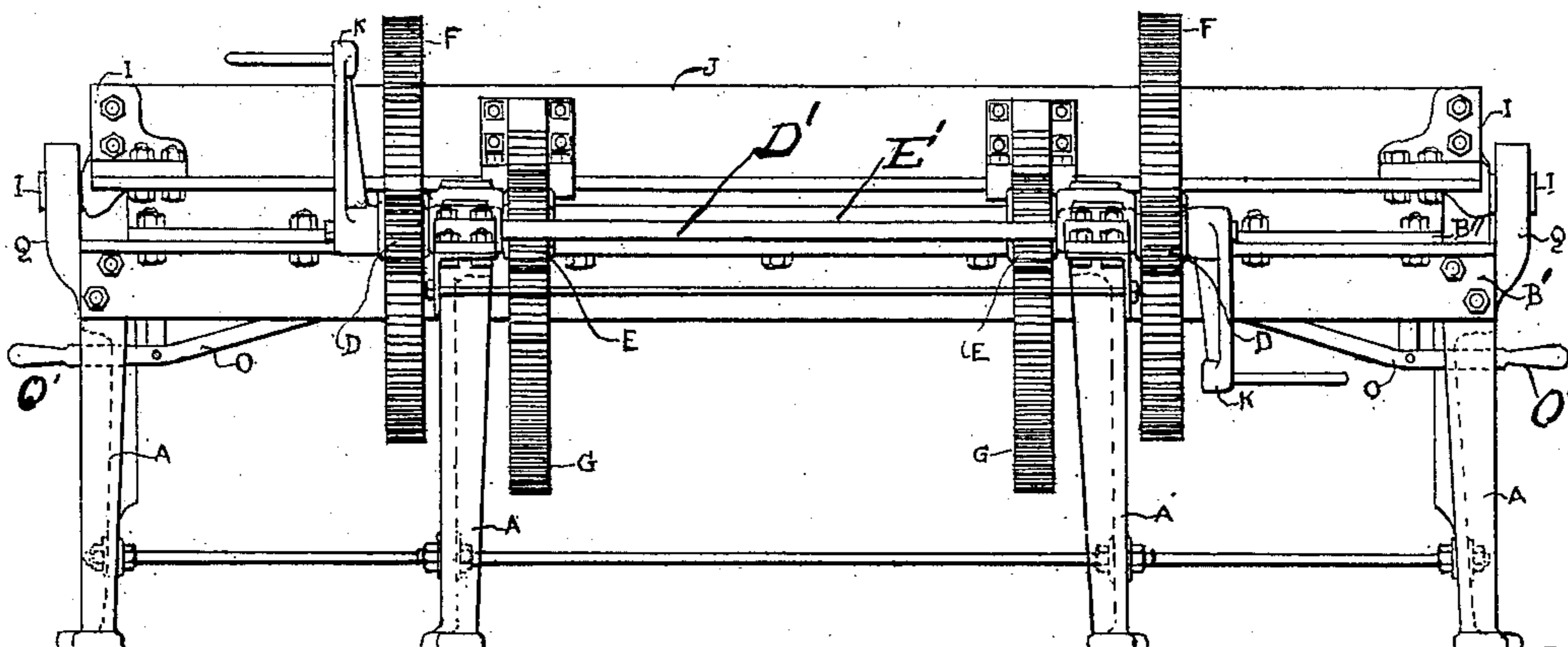


Fig 1

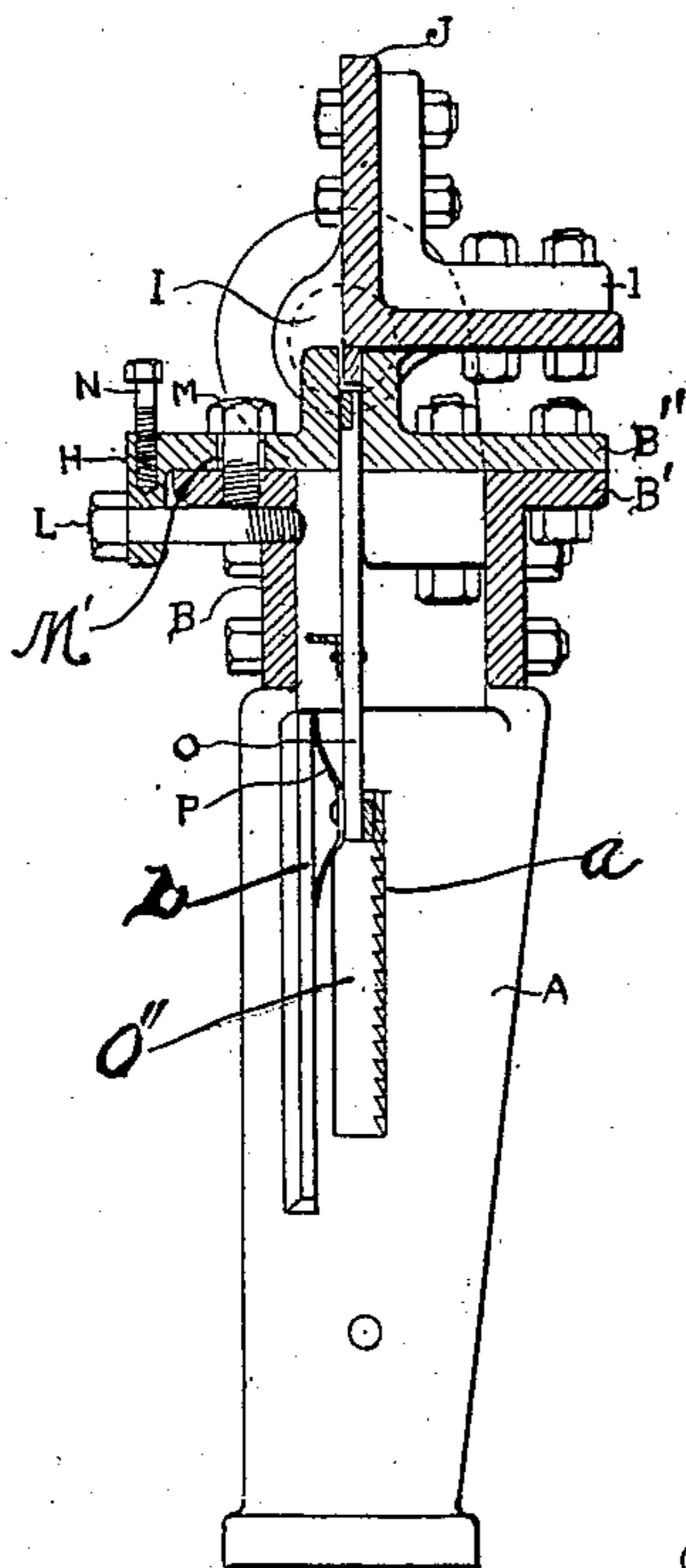


Fig 3

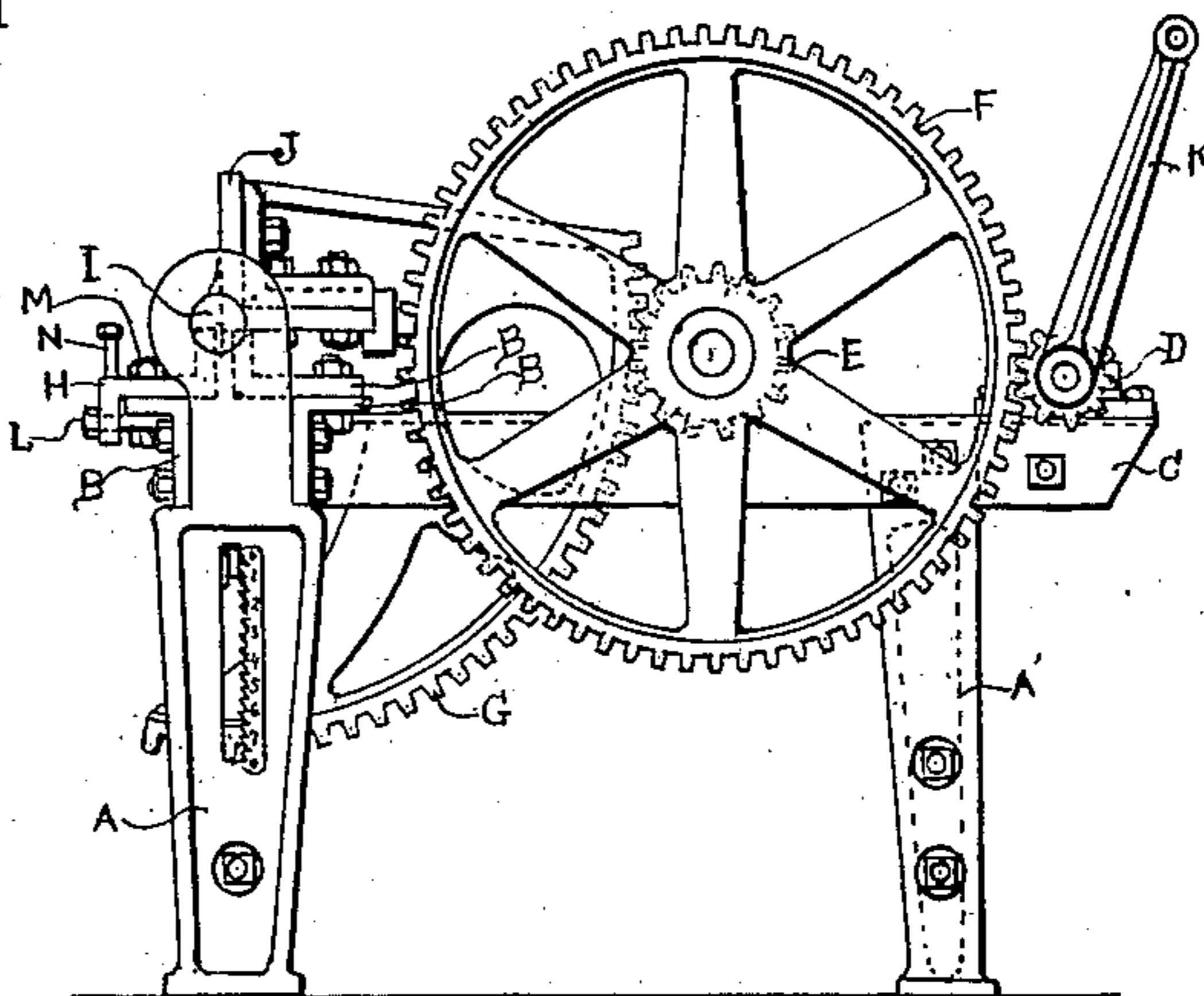


Fig 2

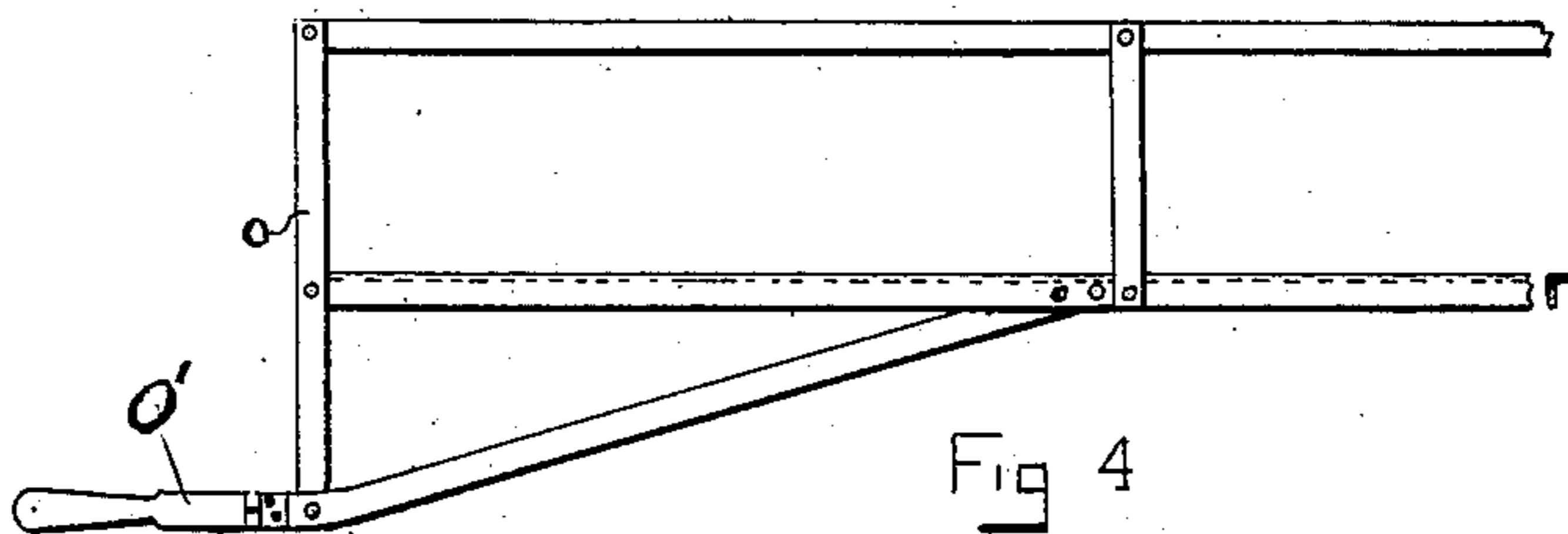


Fig 4

Witnesses

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METAL BRAKE.

No. 890,816.

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To all whom it may concern:

Be it known that we, WILLIAM ANDREW TARRANT and THOMAS HENRY TARRANT, citizens of the United States of America, residing at Duenweg and Prosperity, in the county of Jasper and State of Missouri, respectively, have invented certain new and useful Improvements in Metal-Bending Machines, of which the following is a specification.

This invention relates to new and useful improvements in metal bending machines and is intended primarily to be employed in the bending of sheet metal.

It is an object of the invention to provide a novel device of this character whereby stationary and movable members are both employed for bending the metal, one acting in conjunction with the other.

It is also an object of the invention to provide a novel device of this character whereby the stationary member may be adjusted to compensate for the various thicknesses of the metal to be operated upon.

It is also an object of the invention to provide in combination with a device of this character novel means whereby the angle of the bend may be controlled.

It is also an object of the invention to provide a novel device of this character whereby the support for the metal to be bent may be adjusted in order that the area of the metal to be bent may be positively determined.

Further, it is an object of the invention to provide a novel device of the character noted, which will possess advantages in points of simplicity efficiency and durability, proving at the same time comparatively inexpensive to produce and maintain.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1, is a view in rear elevation of the machine; Fig. 2, is a view in side elevation of the machine; Fig. 3, is a view partly in elevation and partly in section, illustrating certain details of the invention; and Fig. 4, is a fragmentary view in elevation of a detail of the invention.

In the drawings A, denotes the front or forward supporting legs and A', the rear supporting legs formed preferably of cast metal. Secured to the opposite edges of the legs A, at the top thereof, are the angle bars B and B', the bar B, being to the front of the machine while the bar B', is secured to the inner edges of the supporting legs A.

Extending rearwardly from the bar B', at right angles thereto and intermediate the length thereof are the angle bars C, which are also secured to the rear supporting legs A', for the purpose which will hereinafter be referred to. Immovably secured to the rear bar B', is the angle bar B'', and resting on the forward bar B, is a Z-bar H, having one of its faces opposed to a face of the bar B''. The bar H and the bar B'', form the stationary member of the machine, the metal to be bent being positioned between the opposing faces of the bars. In order to compensate for the various thicknesses of the metal to be bent, the Z-bar is movable with relation to the bar B''. This movement is afforded by having a bolt L, passing through the depending flange of the bar H, and being in threaded engagement with the bar B, hereinbefore referred to. When the bar H, has been properly adjusted, it is held against movement by the bolt M, which passes through an elongated opening M', in the body of the bar H, threaded through the bar B, and contacting with the bolt L. This operation is thought to be clearly apparent from the illustration in Fig. 3.

The lower edge of the metal to be bent rests on the gage frame O, which may be of any desired structure, it only being necessary that the upper portion thereof be straight. This gage frame may be held in its desired positions in any desired manner, but it has been found preferable to provide the same on its ends at the lower corners thereof with the extensions O', which pass through elongated openings O'', in the supporting legs A. These extensions are employed as hand grasps and it is through the medium of these hand grasps that the gage frame is raised or lowered as desired. It has also been found best that these extensions be hingedly secured to the frame so that when a proper adjustment has been obtained, they may be folded out of position so that they will not form an obstruction. For this feature attention is directed to detail Fig. 4.

The lower portion of the frame O, is intended to engage with toothed bars *a*, projecting beyond an edge of the openings O''. In order that a predetermined adjustment
 5 may be readily attained, each of these toothed bars has thereon a series of indications (see Fig. 2). The frame O, is held normally in contact with these toothed bars *a*, by the springs P. Each of these springs is
 10 secured intermediate its length to the frame and has its free edges bearing against a rib or bar *b*, carried by the leg A. When it is desired to raise or lower the gage-frame O, the operator presses the gage frame against the
 15 action of the springs P, which releases it from the toothed bars *a*, when the gage-frame may be set in the desired position.

The movable member of the machine comprises an angle bar J, which is positioned
 20 above the angle bar B'', in close proximity thereto and projects slightly therebeyond. To the ends of this bar J, are secured the stud-shafts I, carried by the upper ends of the front supporting legs A. In order to
 25 bend the metal positioned between the bars H and B'', it is only necessary that the bar J, be moved forwardly on its shafts as will, it is thought, be understood. To determine the controlling angle of the bend of the metal,
 30 it is only necessary to limit the forward movement of the bar J. While this limit of movement may be attained in any manner it is desired that the means illustrated be employed. Screws N, are in threaded engage-
 35 ment with the bar H, and are in the line of travel of the bar J. By raising or lowering this screw N, it is thought to be obvious how the forward movement of the bar J, will be controlled.

Although any mechanism may be used for moving the bar J, on its shafts, it has been found best to secure to the bar J, the toothed segments G, which mesh with the pinions E, fixed to the shaft E', mounted in bearings E'', on the angle bars C. This shaft E', projects beyond the members C, and on these
 45 projecting portions are fixed the large gear wheels F, which mesh with the pinions D, fixed on the shaft D'. On the ends of the shaft D', are secured the cranks K. It will
 50 thus be seen that by rotating the cranks K, the pinions D, will revolve the wheels F. The wheels F rotate the shafts E', which will cause the pinions E, to impart movement to the segments G, and thus move the bar J, in
 55 the desired direction.

We claim:

1. In a metal bending machine, a frame having legs provided with elongated openings, a stationary member on the frame, a
 60 movable member acting in conjunction with the stationary member, said stationary member comprising adjustable parts, a gage frame, teeth on the edges of the elongated openings, and a gage frame slidable in the
 65 openings and adjustable on the teeth.

2. In a metal bending machine, a stationary member, legs for supporting the stationary member, said legs having elongated openings provided with teeth, a movable member
 70 acting in conjunction with the stationary member and a gage frame movable in the teeth of the legs.

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Witnesses:

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