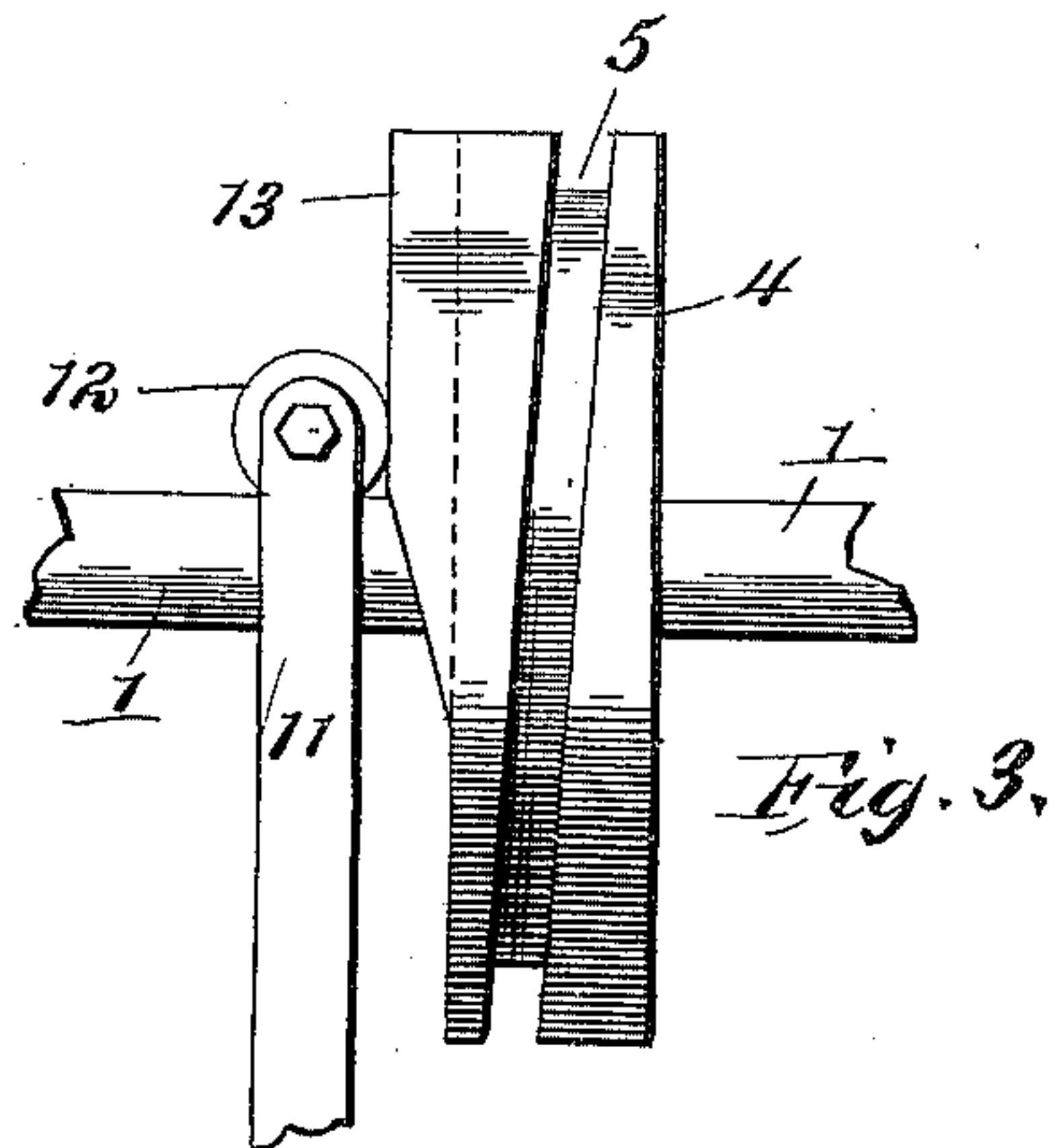
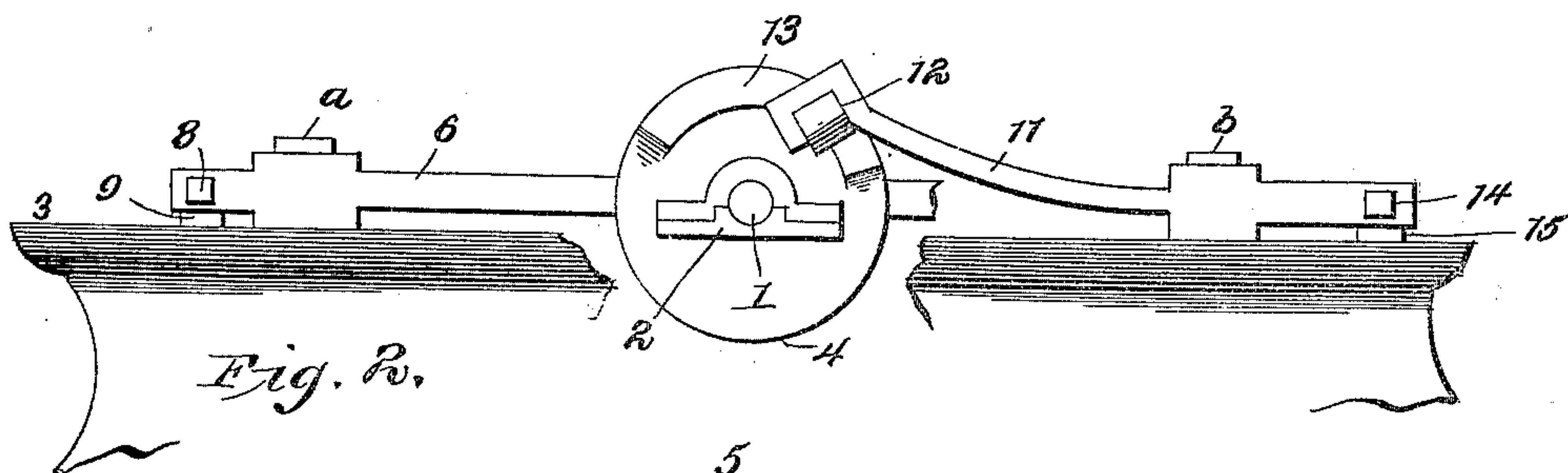
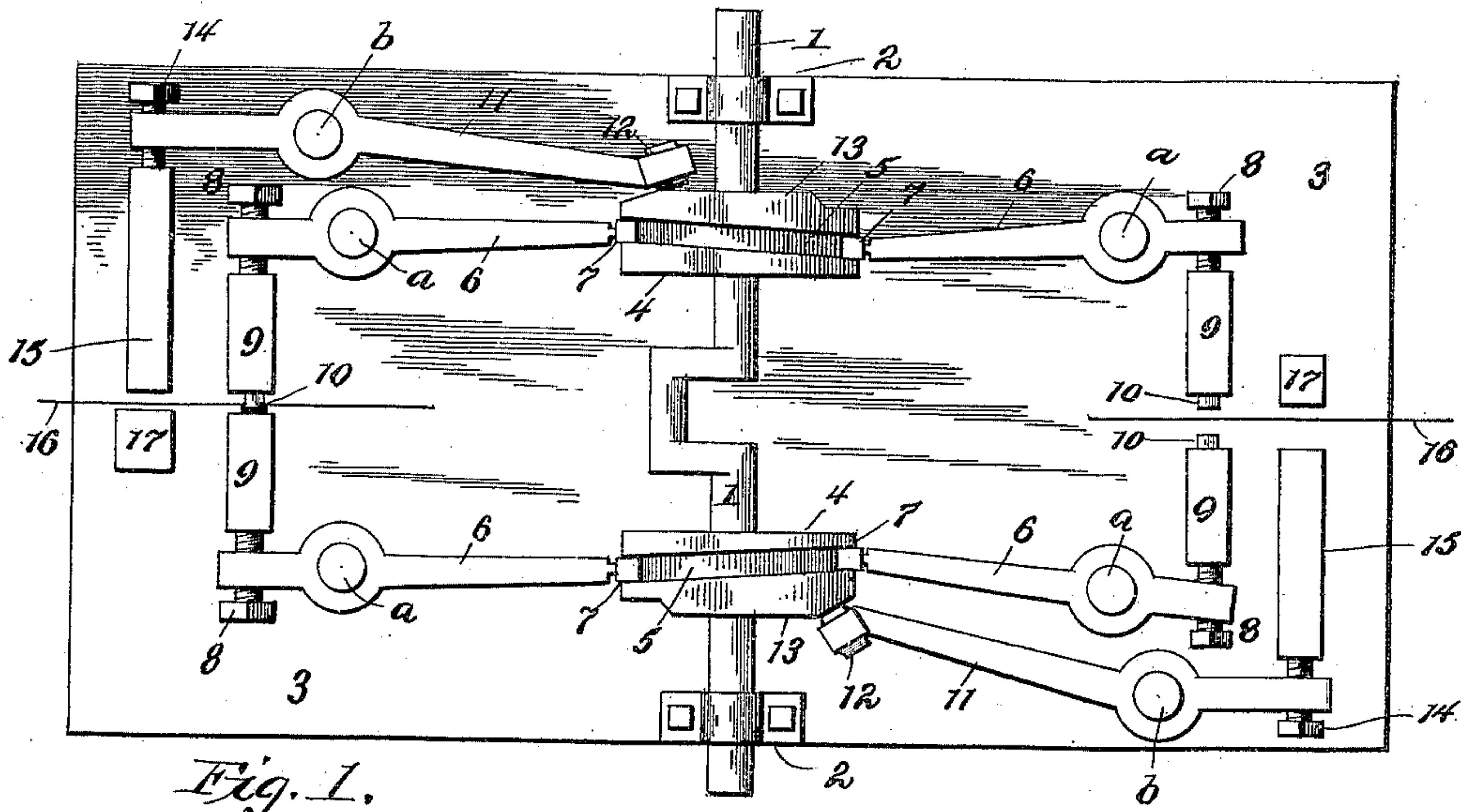


(No Model.)

E. WALTON & F. MACKE.  
NAIL MAKING MACHINE.

No. 604,553.

Patented May 24, 1898.



Witnesses:  
Howard D. Orr.  
Wm H Edwards Jr.

Inventors:  
Ernest Walton,  
Fred Macke.  
By Walter W. Haskell,  
Attorney.



# UNITED STATES PATENT OFFICE.

ERNEST WALTON AND FRED MACKE, OF STERLING, ILLINOIS, ASSIGNORS  
OF ONE-THIRD TO WASHINGTON M. DILLON, OF SAME PLACE.

## NAIL-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,553, dated May 24, 1898.

Application filed October 5, 1896. Serial No. 607,891. (No model.)

*To all whom it may concern:*

Be it known that we, ERNEST WALTON and FRED MACKE, citizens of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Nail-Making Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to nail-making machines, and has reference more specially to the compound or double feed machines, wherein nails are manufactured from wire. In mechanism of this kind as heretofore used as the wire was fed into the machine it was caught and held by a pinching device while the operation of cutting the wire the proper length and forming a head on one end thereof was performed, the pinching and cutting devices being operated by different mechanism. In our machine we greatly simplify the operating mechanism by using a double-cam device, whereby the pinching and cutting operations are performed alternately at either end of the machine, such cams being so constructed as to operate both the pinching and cutting devices simultaneously, doing away with a large amount of gearing or equivalent mechanism which is now employed in machines of this class.

In the drawings, Figure 1 is a plan view of our invention. Fig. 2 is a side elevation thereof. Fig. 3 is a detailed end elevation of one of the cams.

Similar numbers and letters refer to similar parts throughout the drawings.

1 is the main shaft of the machine, journaled in bearings 2 on the frame or bed 3 thereof.

4 4 are cams rigidly seated upon the shaft 1 and provided on their peripheries with the annular grooves or tracks 5, which are not parallel with the faces of the cams 4, but diagonal therewith, so that the tracks 5 traverse the periphery of the cams diagonally and return in one revolution of the cams.

As the operation of one of the cams 4 and attendant mechanism is duplicated in the other we will for the present limit the specification to only one thereof.

6 is a lever fulcrumed, as at *a*, and having on the inner end of the long arm thereof the antifriction-roller 7, which engages and travels in the track 5. In the outer or short arm of the lever 6 is a set-screw 8, which impinges the usual oscillating rocker-bar 9, carrying ordinary cutting-knives 10.

11 represents a lever pivoted, as at *b*, and provided at its inner or long end with an antifriction-roller 12. On the outer face of the cam 4 is a projection 13, which engages the roller 12 during a portion of the cam's rotation. In the outer end of the lever 11 is a set-screw 14, which impinges the usual pinch-bar 15.

16 16 indicate the wire being fed in at each end of the machine.

In operation as the cam 4 revolves the inner end of the lever 6 is given an oscillating motion, which motion is imparted by means of such lever to the rocker-bar 9 and knife 10, secured therein, alternately bringing such knife in contact with the wire and releasing the same therefrom. The action of the rocker-bar and knife can be regulated or gaged by means of the set-screw 8. The tracks 5 on the cams 4 instead of being parallel with each other are the reverse, causing the long arms of the pair of levers 6 at one end of the machine to be thrown outward at the same instant and the knives 10 to come together coincidentally therewith. The inner movement of the long arms of such levers and separation of the knives likewise coincides. It is also apparent that when one pair of levers is operated in one direction the operation of the pair of levers at the other end of the machine is directly the reverse, the operation of holding and cutting the wire being carried on alternately at each end of the machine. In the revolution of the cam 4 the projection 13, engaging the roller 12, throws the inner arm of the lever 11 outward, giving to the outer arm thereof and pinch-bar 15 a lateral movement toward the wire 16 sufficient to bring the pinch-bar in contact with the wire and hold it securely against the stationary block

17 until released upon the projection 13 and roller 12 becoming disengaged. The relative position of the projection 13 and track 5 is such that the wire is being firmly held by the 5 pinch-bar 15 when the operation of cutting the wire is being performed. By means of the set-screw 14 the contact of the pinch-bar with the wire is regulated.

What we claim as our invention, and desire 10 to secure by Letters Patent of the United States, is—

In a compound nail-machine, the combination of the driving-shaft 1 carrying the cams 4 provided with tracks 5 and projections 13, 15 and levers 11 actuated by said cam projec-

tions 5 and carrying pinch-bars 15, and levers 6 actuated by said cam-tracks 5, and carrying rocker-bars 9 to which are secured the wire-cutting knives 10, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ERNEST WALTON.  
FRED MACKE.

Witnesses as to Walton:

W. P. PALMER,  
H. N. GEYER.

Witnesses as to Macke:

M. W. TOBEY,  
C. H. TUTTLE.