

898,528.

Patented Sept 15, 1908.

30

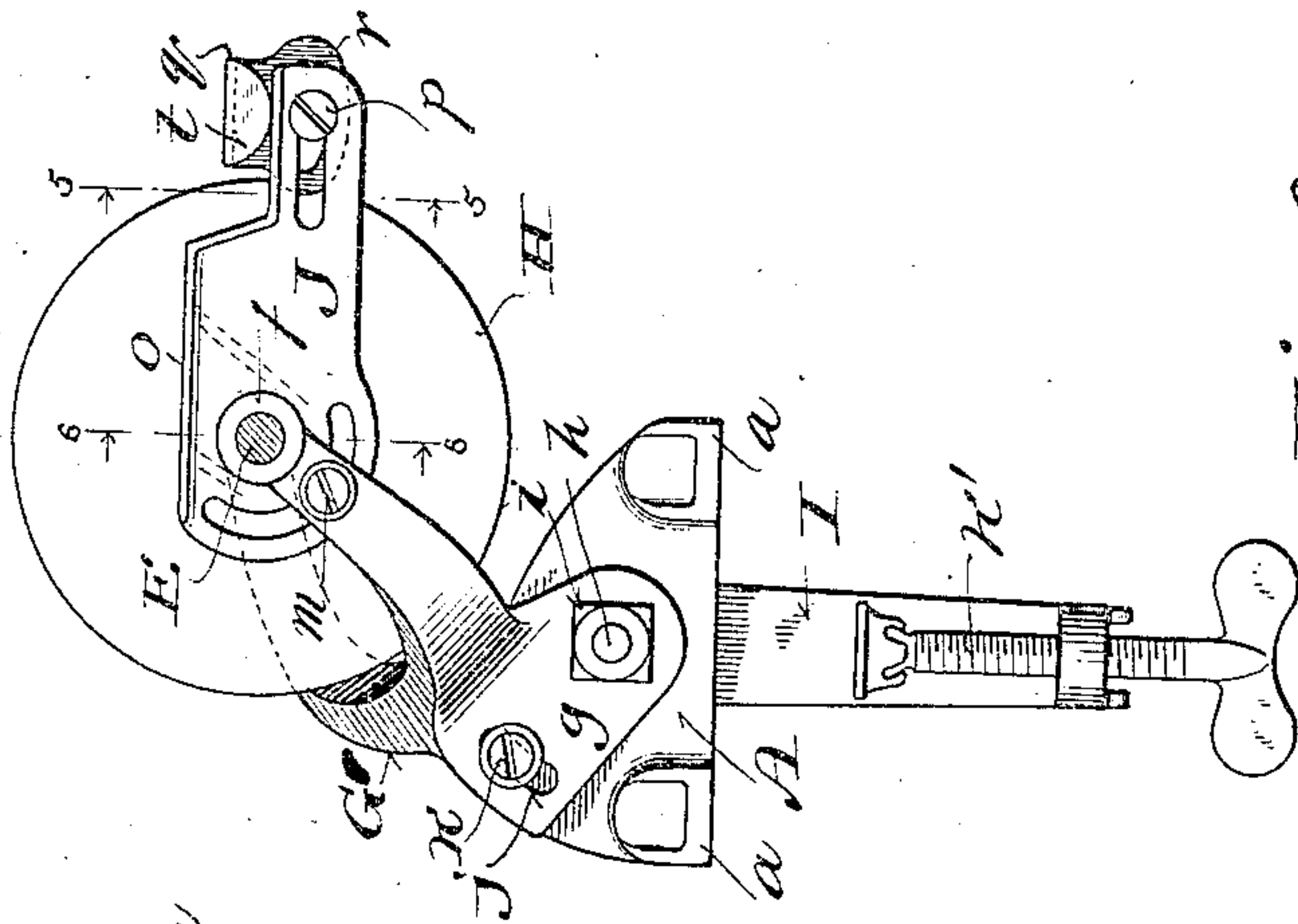
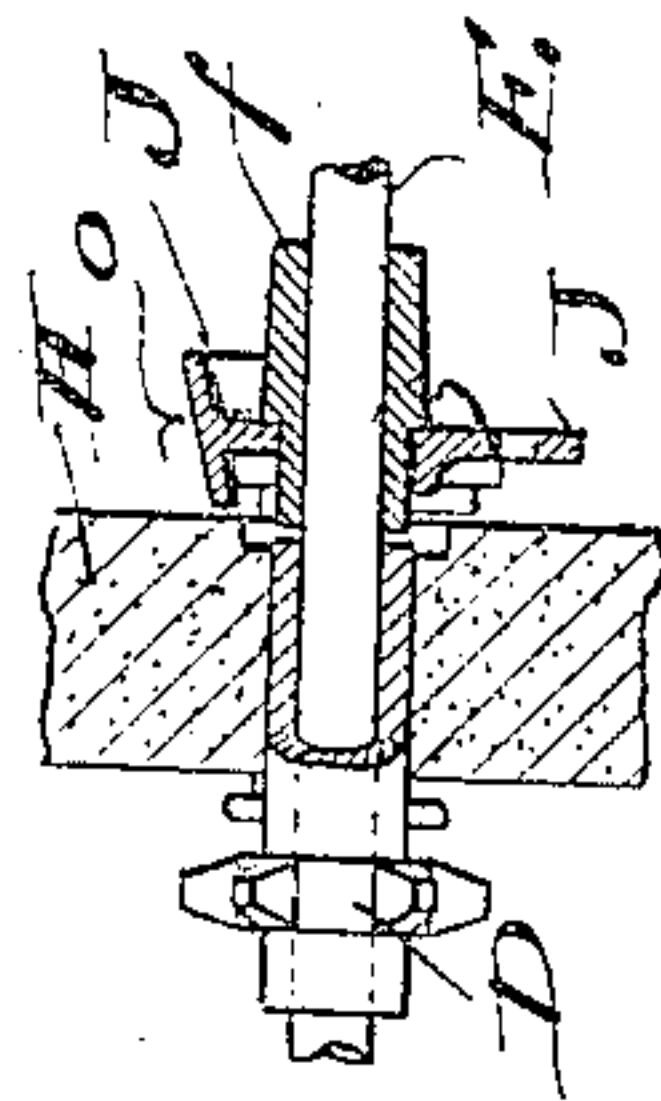


Fig. 6.



is not

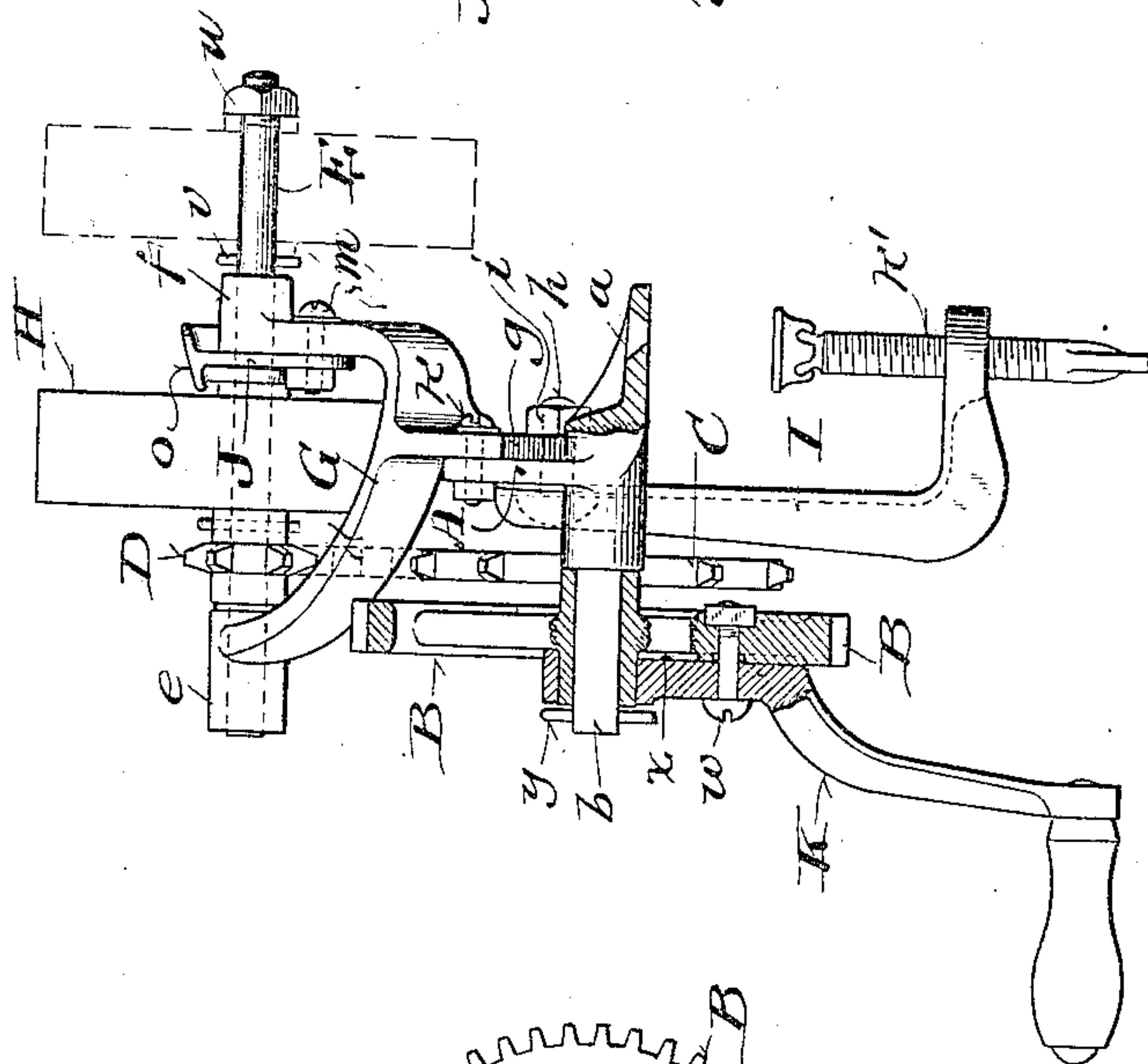
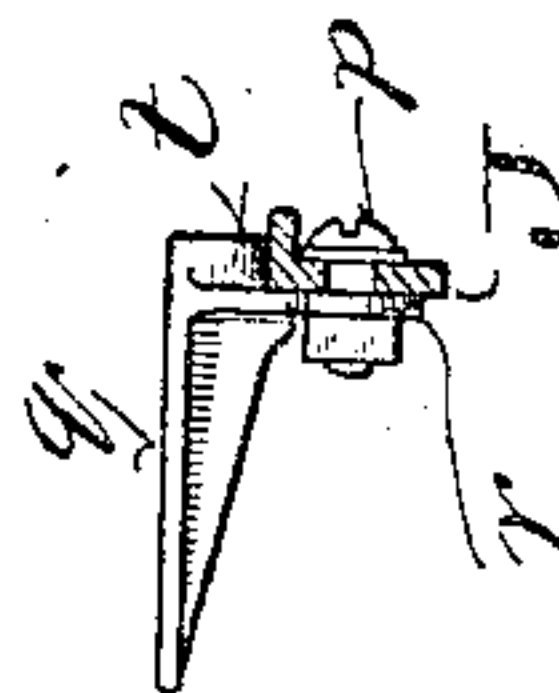


Fig. 5.



Exp. 7.

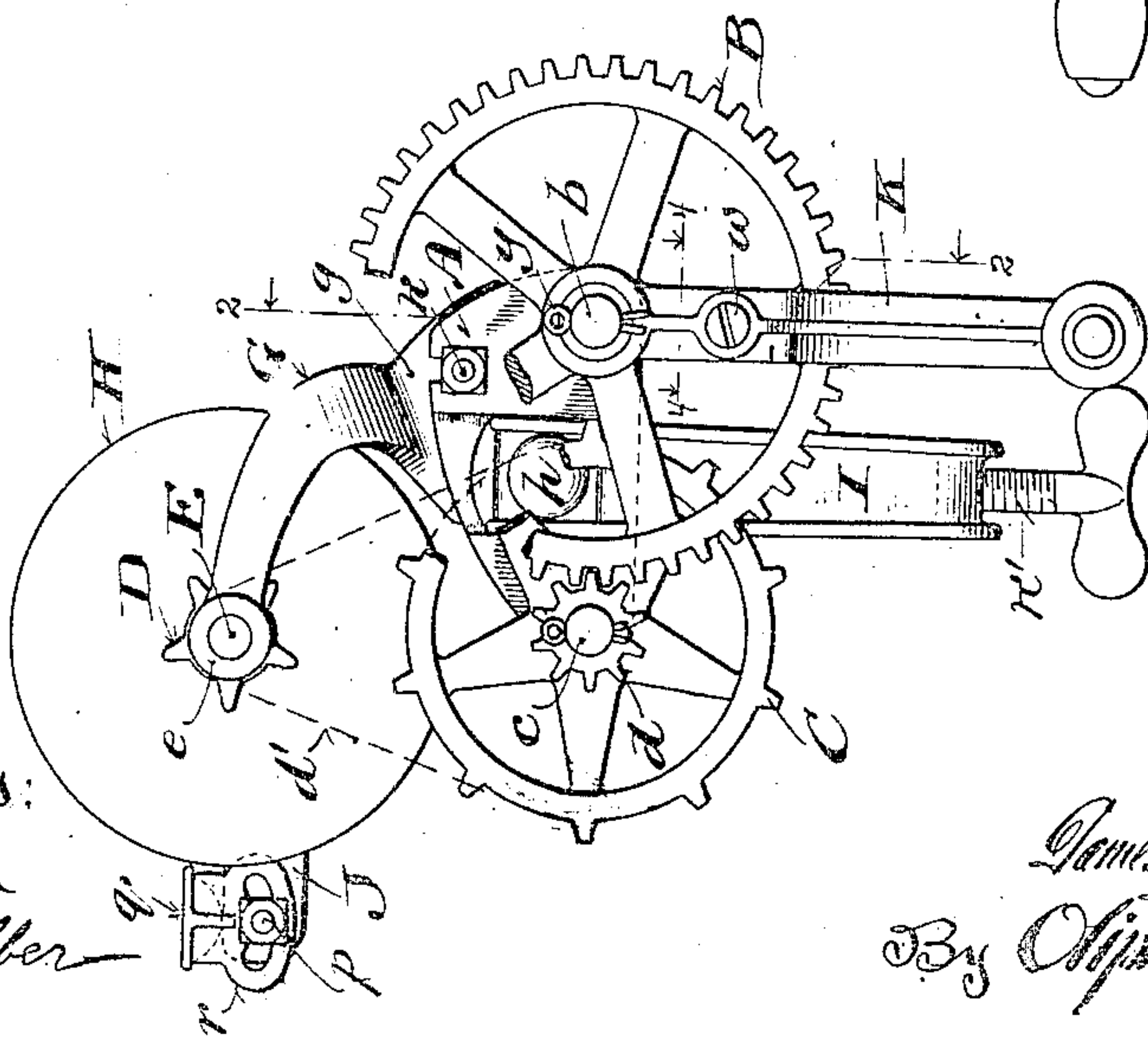
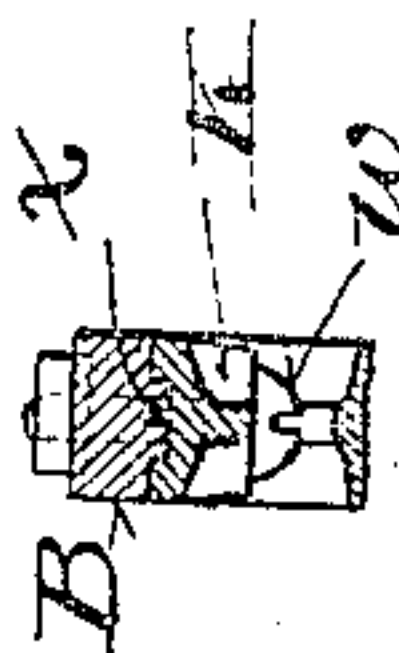


Fig. 4.



George Felber

Inventor  
James M. Thompson.  
By Assistant Young.  
Attorneys



# UNITED STATES PATENT OFFICE.

JAMES M. THOMPSON, OF NORTH MILWAUKEE, WISCONSIN, ASSIGNOR TO LUTHER BROTHERS COMPANY, OF NORTH MILWAUKEE, WISCONSIN.

## GRINDING AND POLISHING MACHINE.

No. 398,528.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed March 15, 1907. Serial No. 362,446.

*To all whom it may concern:*

Be it known that I, JAMES M. THOMPSON, a citizen of the United States, and resident of North Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Grinding and Polishing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention is to provide a simple, economical and effective grinding and polishing machine for edged tools or the like, the construction and arrangement of its parts being such that it may readily be assembled, and adjusted for different classes of work. Said invention therefore consists in certain peculiarities of construction and combination of parts as hereinafter fully set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a front elevation of a grinding-machine embodying the features of my invention, with parts broken away to better illustrate the details of construction; Fig. 2, a side elevation of the same, parts being broken away and in section, as indicated by line 2—2 of Fig. 1; Fig. 3, a rear elevation of the grinder frame with the abrading-wheel in position, the driving-gears being removed; Fig. 4, a detail cross-section of the hand-crank attaching means, as indicated by line 4—4 of Fig. 1; Fig. 5, a detail section on line 5—5 of Fig. 3, showing the adjustable tool-rest, and Fig. 6, a detail section on line 6—6 of Fig. 3, illustrating the method of attaching the tool-rest supporting-plate to the grinder-wheel bracket.

Referring by letter to the drawings, A indicates a cast-metal base having rearwardly extending supporting feet *a*, and forward hubs from which project studs *b*, *c*. Loosely mounted upon the stud *b* is a gear-wheel B, which wheel meshes with a pinion-hub *d* of a sprocket-wheel C, said sprocket being connected by a link-belt *d'* to a smaller sprocket-wheel D fast on a shaft E, that is supported in bearings *e*, *f*, of a bracket G as shown. A hub-extension of sprocket-wheel D has secured thereby an abrading-wheel H, which wheel receives its motion from the described gears. The bracket G is formed with front and rear arms carrying the bearings *e*, *f*, said arms rising from a web *g*, that is swiv-

eled upon a bolt *h*, which bolt passes through the base A, and has a clamping-nut *i* that serves to hold the web against the face of said base. The bracket-web *g* is provided with a circumferential slot *j* for the reception of a lock-bolt K, which is carried by the base, and by means of which said bracket may be adjusted to regulate the tension of the link-belt connection between the sprockets. The front face of the base A is slightly depressed for the reception of the leg of a depending clamping-foot I, through which leg the bolt *h* also passes and secures the same to said base, the foot portion of said leg being provided with a clamping screw K in threaded-connection therewith, whereby the device may be secured to a board or table upon the top of which the supporting-feet *a* of the aforesaid base will rest.

A circumferentially supporting-plate J is loosely mounted upon the inner end of the shaft-bearing *f*, and is held in its adjusted position by means of a bolt *m*. This bolt passes through the adjacent arm of the bracket G and also a circumferential slot in the plate, there being a nut in threaded-engagement with the bolt upon the face of the plate, whereby the same is clamped. The upper edge of the plate is formed with an inclined flat rib *o* upon which a tool may rest when it is desired to use the side surface of the abrading-wheel, and the outer end of said plate is slotted to receive a clamp-bolt *p*, which bolt has secured thereto a tool-rest *q* that is provided for a work-support, when a knife or tool is to be ground upon the face of the wheel. The tool-rest or work-support has a flat face projecting across the width of the abrading-wheel and a right-angle ear *r* portion having a circular segmental slot through which the bolt *p* passes and is clamped by a nut *s*. Projecting over and resting upon a flat upper face of the plate J is a semicircular lug *t*, the axis of which is the same as that of the segmental slot of ear *r*, of which the lug forms a part, and as best shown in Fig. 3, of the drawings. This lug will support the tool-rest at any angle that it may be set, thus permitting a rolling motion of said tool-rest, which is compensated for by the circular slot moving about the bolt therein.

By the construction as described, it will be understood that the plate J may be adjusted to different elevations circumferentially with



relation to the face of the abrading-wheel, and the tool-rest may also be adjusted in or out with relation to the face of said wheel by reason of its slotted connection with said tool-rest and its bolt, thus compensating for various diameters of grinding-wheels caused through wear or otherwise. The shaft E is provided with a rear extension for the reception of a buffing-wheel as indicated by dotted lines in Fig. 2, the end of said extension being threaded for the reception of a lock-nut *u*, and is also provided with a split-pin *v* adjacent to its bearing *f*, against which the hub of the buffing-wheel is adapted to contact.

A hand-crank K is detachably secured to the driving gear-wheel B by a bolt *w*, which bolt clamps the hand-crank to a spoke of said gear-wheel, the spoke being provided with a radial rib *x* that is nested into a longitudinal recess of the said hand-crank, whereby all strain is taken from the bolt. The lower end of the crank is provided with a hand-grip and its upper end terminates in an opening that is sleeved over the hub of the gear-wheel, which hub together with the end of the crank is held in position upon the stud *b* by a split-key *y*, as best shown in Fig. 1.

By the foregoing description it will be seen that all of the parts may be manufactured and assembled with the least possible machine work, while at the same time provision is made for adjustments, and replacing the several parts as they become worn, thus producing a machine having all the desired speed and accuracy obtainable in the class of

grinder and polisher to which the invention pertains, at a minimum cost of manufacture.

I claim:

1. In a grinding-machine, having a base comprising a vertical web, rearwardly projecting lateral feet, and a depending clamping-leg extension; the combination of a vertically disposed bracket in pivotal connection with the vertical web of the base, the bracket being provided with a slot circumferentially disposed with relation to its pivot, a clamping-screw fitted into the slot and connected to the base-web, front and rear arms extending from the bracket provided with bearings at their ends, a shaft mounted in the arms, an abrading-wheel secured to the shaft, a stud projecting from said base, and a driving gear-wheel mounted upon the stud in gear-connection with the abrading-wheel arbor.

2. A grinding-machine comprising a bracket having front and rear arms terminating in bearings, an abrading-wheel shaft mounted in the bearings, a circumferentially adjustable plate fitted over one of said bearings, and a radially adjustable tool-rest carried by the plate.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

JAMES M. THOMPSON.

Witnesses:

SAM NEWMAN,  
GEO. W. YOUNG.