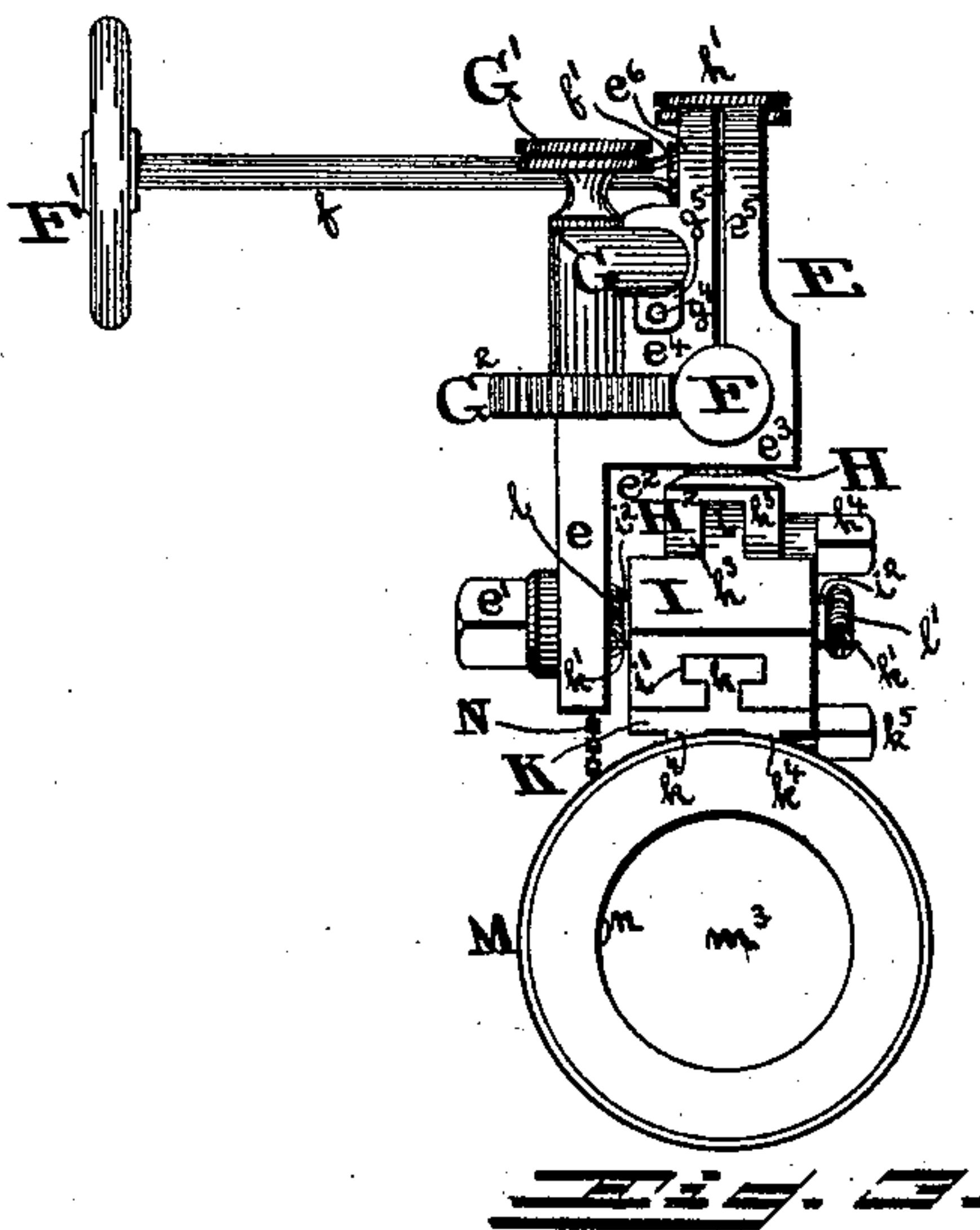
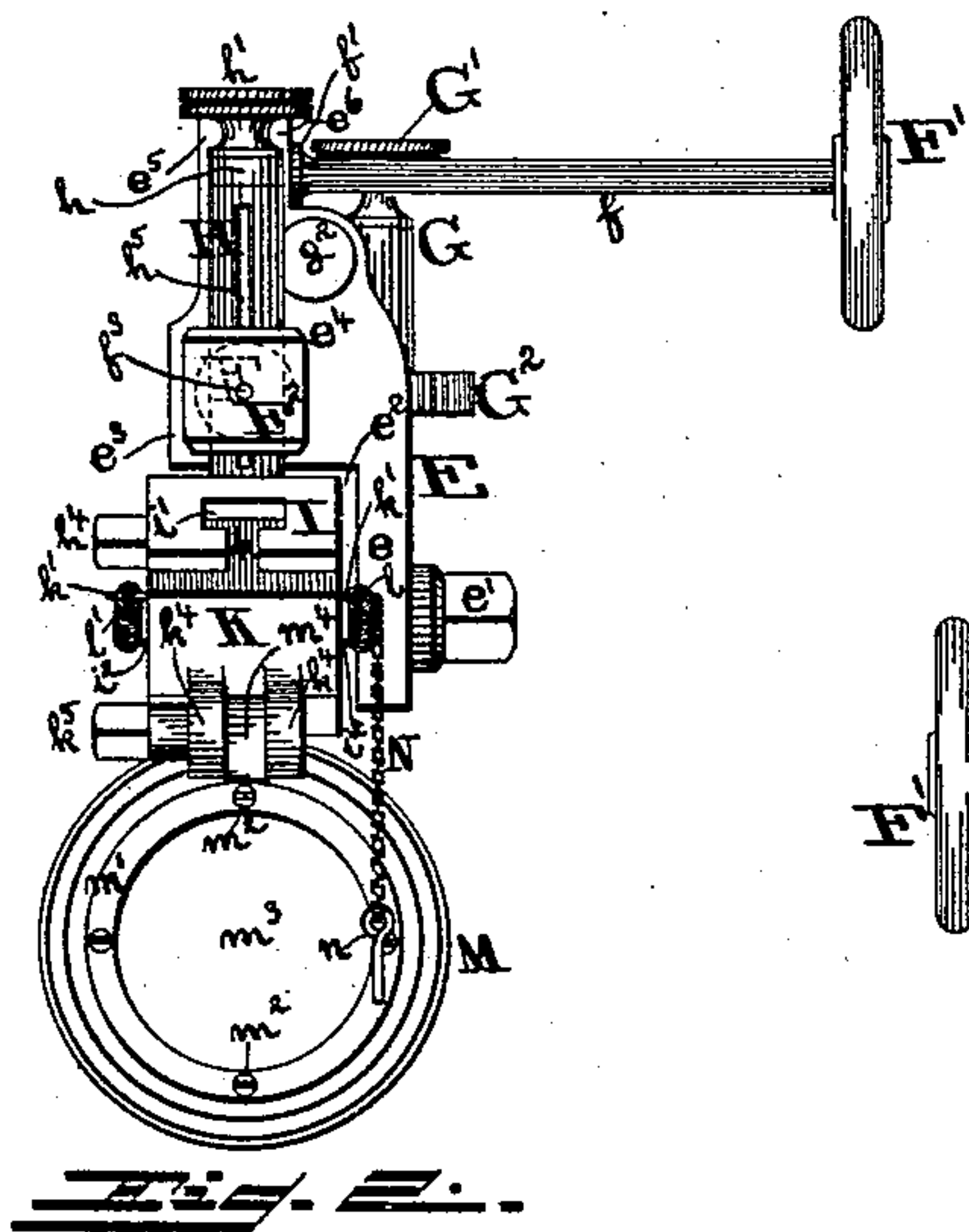
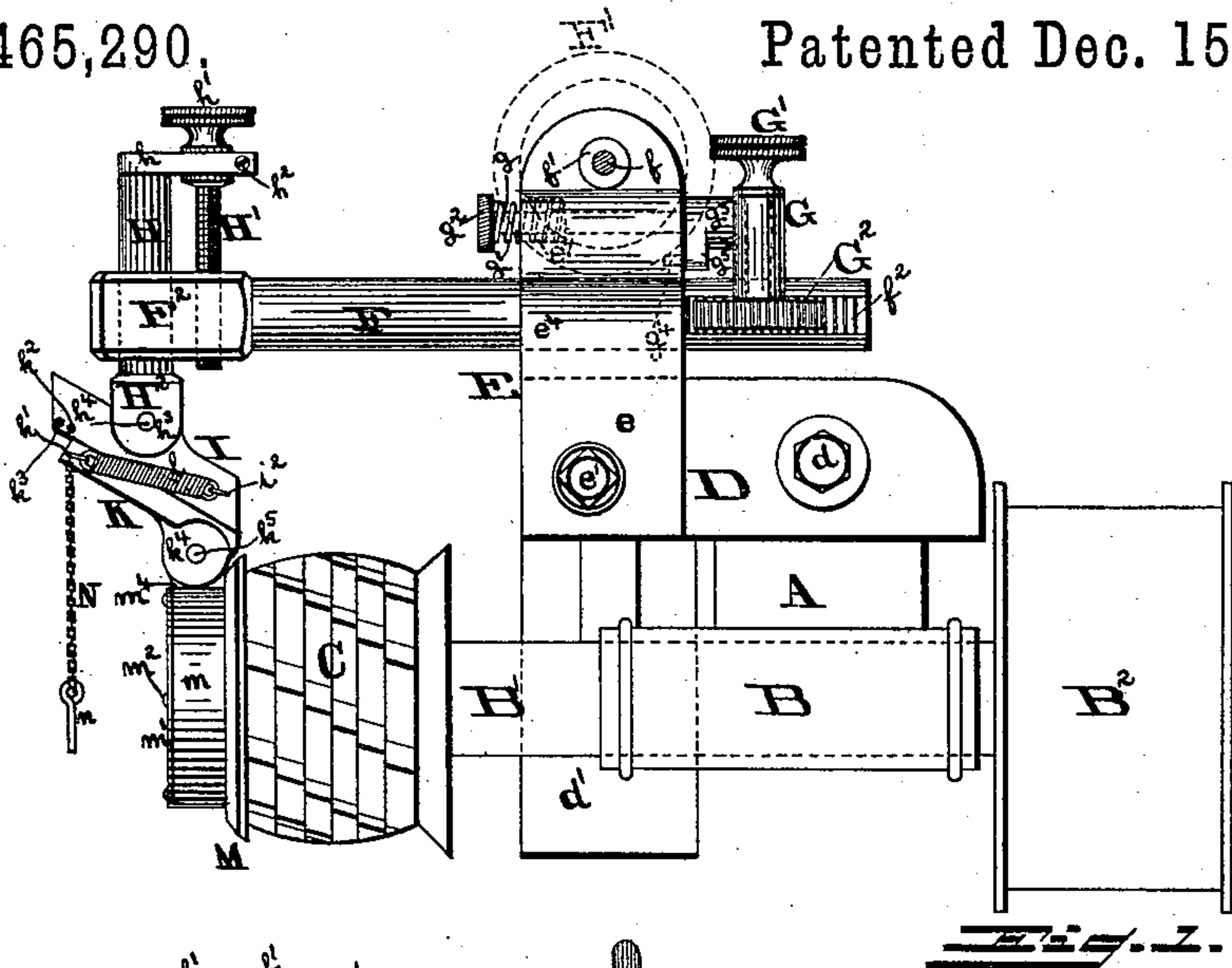


(No Model.)

S. POPE.
HEEL TRIMMING MACHINE.

No. 465,290.

Patented Dec. 15, 1891.



WITNESSES

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HEEL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 465,290, dated December 15, 1891.

Application filed October 3, 1890. Serial No. 366,977. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL POPE, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Heel-Trimming Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to heel-trimming machinery as employed in the manufacture of foot-wear, and particularly to the invention disclosed by Letters Patent of the United States No. 433,213, granted to me on July 29, 1890, and has for its object to improve the construction and increase the efficiency thereof, having reference principally to the provision of a slot T-shaped in cross-section for the reception of and the sliding therein of a correspondingly-shaped projection on the swivel-support for the heel-guard in lieu of the dovetail slot shown and described in the aforesaid Letters Patent for the purpose of obviating the wedging and binding tendency of the last-mentioned slot resulting from the forcing or crowding of the wider portion of the slide into the narrower portion of the slot due to lateral strain on said guard when in use; further, to the provision of a hinge-joint for each—the guard-support and the head—in which is located the slot for the purpose of changing the angle of inclination of such slot with reference to the axis of the cutter and placing the guard at right angles with such axis, thus increasing its adaptability to work of various kinds; still further, to the provision of a gear-wheel meshing with teeth on the main or supporting shaft F of said patent for the purpose of more accurately adjusting the latter and to the minutest degree; finally, to the provision of means in the shape of a pin passing through the wall of and into the slot outside the end of the sliding head and removable from such position for maintaining said head, and consequently the guard, immovably, when desired, instead of yielding under pressure.

The details of my invention are more particularly described hereinafter, and will be understood upon reference being had to the accompanying drawings, wherein—

Figure 1 is a plan view of the upper part of a heel-trimming machine with my improvements applied thereto in position for operation. Fig. 2 is a front view, and Fig. 3 is a rear view, of said improvements.

A represents the head of a machine supporting the box or bearing B for the shaft B' of the cutter C, said shaft having thereon the driving-pulley B², and having secured thereon, by the bolt *d* the arm D, which in its lower lateral extension *d'* sustains the heel-rest, all of which are of ordinary construction, and therefore do not constitute part of my invention.

E represents the supporting-arm for the counter-guard and its appurtenances, provided with the extension *e*, through which latter and into the arm D passes the bolt *e'*, which secures the arm E in position, such security being further enhanced by the engagement of the walls of the recess *e*², formed in the arm E by the extension *e* and the depending portion *e*³ thereof, with the top and side of the arm D, which are of an angle corresponding with that of said walls. Projecting laterally from the said depending portion *e*² in a direction the opposite to that of the extension *e* is an arm or extension *e*⁴, provided with a transverse circular opening for the reception of the shaft F, beyond which opening and from the same to the outer end of the arm *e*⁴ the latter is split horizontally at its center, rendering the portion of said arm which encircles said shaft like unto a split collar or clamp, the same being tightened or loosened for the purpose of maintaining the shaft in the opening rigidly or otherwise through the turning of the vertical shaft *f*, which is surmounted by the hand-wheel F', and has a screw on its lower end which engages with a threaded opening in the lower lip *e*⁵ of the split portion of the collar and passes freely through a smooth opening in the upper lip *e*⁶, having a shoulder *f'*, which impinges on the latter.

g is a rod passing through a transverse opening in the arm *e*⁴, parallel with the opening for shaft F and between the same and the outer edge of said arm, but in a higher plane, such rod being encircled near its outer end by a spring *g'*, which at one end rests in a re-

cess e^7 in the end of the first-mentioned opening, and at its other end bears against the under side of the thumb-nut g^2 , said spring serving to keep the rod normally in the position shown in the drawings, and the collar g^3 , on the other end of the rod g , in close relation with the edge of arm e^4 , and the pin g^4 in the lug g^5 , formed on said collar, in the socket therefor in such edge.

G is an elbow formed integral with the collar g^3 and extending upwardly and laterally therefrom, the upper portion of such elbow having therein a longitudinal opening for the passage of a rod, which at one end has secured thereon a gear-wheel G^2 , of which it forms the bearing, and at its other end has secured a thumb-nut G' , the motion of the latter being communicated to the gear-wheel through such rod, and said wheel meshing with teeth f^2 , formed on the upper side of the shaft F , the latter also having on its underside, and which does not appear in the drawings, a key which engages with a slot in the opening for said shaft for the purpose of keeping the latter from turning therein. If it be desirable to move the shaft in either direction without the assistance of the gear-wheel G^2 , the latter can be disengaged from the teeth on the shaft F through the pushing of the rod g inwardly against the resistance of the spring g' until the pin g^4 clears its socket, when such rod can be turned through the medium of the thumb-nut g^2 and the gear thrown upwardly out of engagement. The outer end of shaft F is formed with a head F^2 thereon, having therein a smooth opening and a smaller threaded opening, parallel with each other, extending transversely and horizontally through said head, the former being for the passage thereof through of the shaft H , the same having a longitudinal groove h^5 for reception of the key or pin f^3 and the latter for reception of the screw H' , said screw being swiveled in the arm h , secured on the outer end of said shaft and provided with the thumb-nut h' , said arm being split beyond the point at which the screw is swiveled, and is provided with the screw h^2 for tightening the split portion, thus exerting friction on the screw to retard its action, if necessary, should it turn too freely or its opening become worn larger. The purpose of the screw H' is, as in my former patent, for moving the shaft H in the desired direction. The other end of shaft H is formed with a head H^2 , provided with ears h^3 , with transverse openings therein for the reception of a bolt h^4 , one end of which is threaded into one of said openings and the other end, nearest its head, passing through a smooth opening. On this bolt, intermediate the ears, rests normally another ear or lug i , formed on the tilting block I , the latter being maintained rigidly in any adjusted position by the friction between the sides of its ear and those of the ears h^3 when the bolt h^4 is screwed in tightly, and is movable in either direction when the bolt is in the reverse po-

sition. It will be observed that the block I stands at an oblique angle relative to the cutter-shaft and has formed in its upper side or face the T-shaped slot i' , which extends from edge to edge thereof and has all its walls at right angles with each other or each with its adjacent wall, such slot being also at an oblique angle.

K represents a slide of equal width with the block I , having formed thereon and of equal length therewith a T-shaped projection k , of such size as to permit of its sliding freely in said slot without any too much play or lost motion, however, and is limited in its inward direction by a pin in the base of the slot, (such pin being not shown in the drawings,) and it is arranged in the same manner as in the patent aforementioned, while the slide in its outer direction or direction away from the cutter is controlled by the springs $l l'$, one end of each of which being secured to a hook k' on each side of the block K and the other end to a hook i^2 on each side of the block I . Owing to the shape of the slot i' , the slide therein has a uniform bearing at all points and is kept from accidentally being removed therefrom. At the same time, under lateral strain on the counter-guard, there can be no wedging of the slide in the slot; but such slide will not bind to any greater extent under such circumstances than in the case of pressure being brought to bear squarely on the slide. If it be desired to maintain the slide immovably in the slot, the same can be accomplished through placing the pin n , suspended by the chain N , secured to one of the hooks k' in the hole k^2 in the side of slide K , which pin projects into the slot and bars the passage of the slide therein. On the other hand, if it be desired to afford the slide but a slight or limited movement in the slot the pin can be placed in the hole k^3 and thus bars the passage of the slide beyond such point. Obviously when the block K has been tilted or swung on its hinge, so as to change the degree of angularity thereof, consequently changing the angle of inclination of the slot correspondingly, relatively to the cutter-shaft, the guard M will be thrown into an angle vertically other than parallel with the plane of the end of the cutter, in which position it is inoperative to accomplish the result desired, so that it is necessary that said guard be brought back into such parallel relation. This is brought about by providing the collar m , in which the guard M is journaled, and secured by the ring m' , which latter is secured by the screws m^2 to the annular flange formed on the back of the guard and encircling the central opening m^3 thereof, with a lug or ear m^4 , which forms one of the members of the hinge-joint, between the guard and the slide I , said lug being secured intermediate the similar ears or lugs k^4 on the slide K , through the medium of the bolt k^5 , passing through said ears, being threaded into one of the last-mentioned ears and passing loosely through

the other in the same manner and operating the bolt h^4 , hereinbefore mentioned.

What I claim as my invention is as follows:

1. In a heel-trimming machine, the combination of the counter-guard, a shaft adjustable in a plane parallel with the axis of the cutter, having teeth thereon engaging with a suitably-supported gear-wheel, a hinged support adjustable in a plane at right angles with said axis and having therein a T-shaped obliquely-extending slot, and a T-shaped spring-controlled slide in said slot to which is hinged said guard, substantially as and for the purpose specified.

2. In a heel-trimming machine, the combination of the counter-guard, a shaft adjustable in a plane parallel with the axis of the cutter, having teeth thereon engaging with a suitably-supported gear-wheel, a hinged support adjustable in a plane at right angles with said axis and having therein a T-shaped obliquely-extending slot, a T-shaped spring-controlled slide in said slot to which is hinged said guard, and a detachable pin projecting into said slot outside the end of the slide, substantially as and for the purpose specified.

3. In a heel-trimming machine, the combination of a shaft F, supported on the head of the machine and having teeth f^2 thereon, the counter-guard supported by said shaft, the gear-wheel G^2 , the elbow G, a shaft in the latter supporting the wheel and the thumb-nut g^2 , the shaft g , supporting said elbow and having thereon the thumb-nut g^2 , the spring g' ,

and the socket for the latter, substantially as and for the purpose specified.

4. In a heel-trimming machine, the combination of a shaft F, provided with teeth f^2 , the counter-guard supported by said shaft, the arm E, secured on the head of the machine, having the lips $e^5 e^6$, the shaft f , the shoulder f' , and wheel F' on the latter, the shaft g in said arm, the socket e^7 , the spring g' , the thumb-nut g^2 , the elbow G, having integral therewith the collar g^3 , the lug g^5 , and the pin g^4 , a socket in the arm for the latter, a shaft in the elbow having thereon the gear-wheel G^2 , meshing with said teeth, and the thumb-nut G' , substantially as and for the purpose specified.

5. In a heel-trimming machine, the combination of the counter-guard, the slide K, a hinge-joint intermediate the latter and the former, the projection k , the block I, having therein the slot i' for reception of said projection, the springs $l l'$, secured to said block and slide, the shaft H, a hinge-joint intermediate the latter and said block, the shaft F, supported on the head of the machine and having thereon the head F^2 , the arm h , the screw H' , and the thumb-nut on the latter, substantially as and for the purpose specified.

In testimony whereof I hereto affix my signature in presence of two witnesses.

SAMUEL POPE.

Witnesses:

WM. H. POWELL,
R. DALE SPARHAWK.