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R. THOSS & P. RÖHRICH.

MANGLE.

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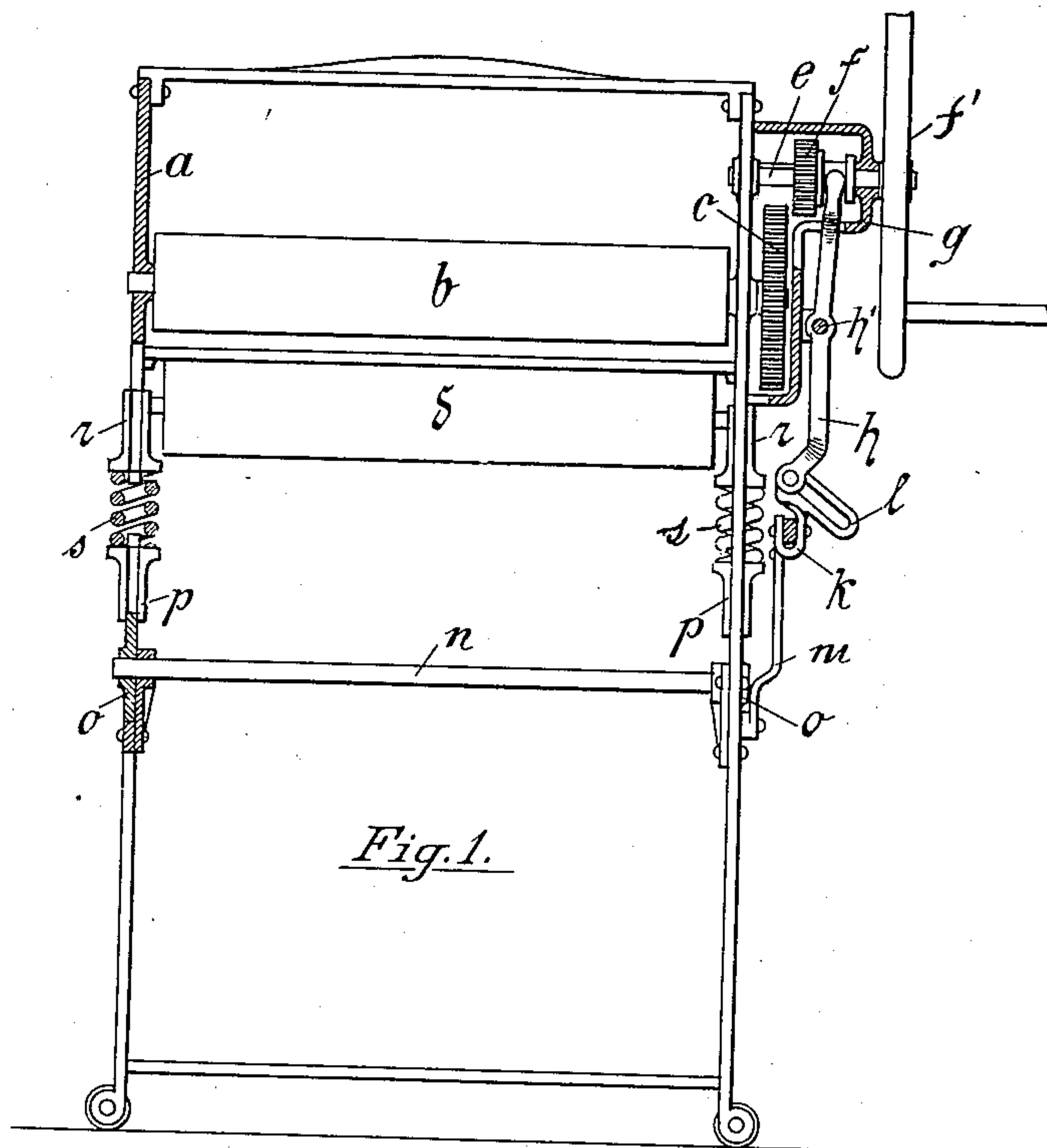


Fig. 1.

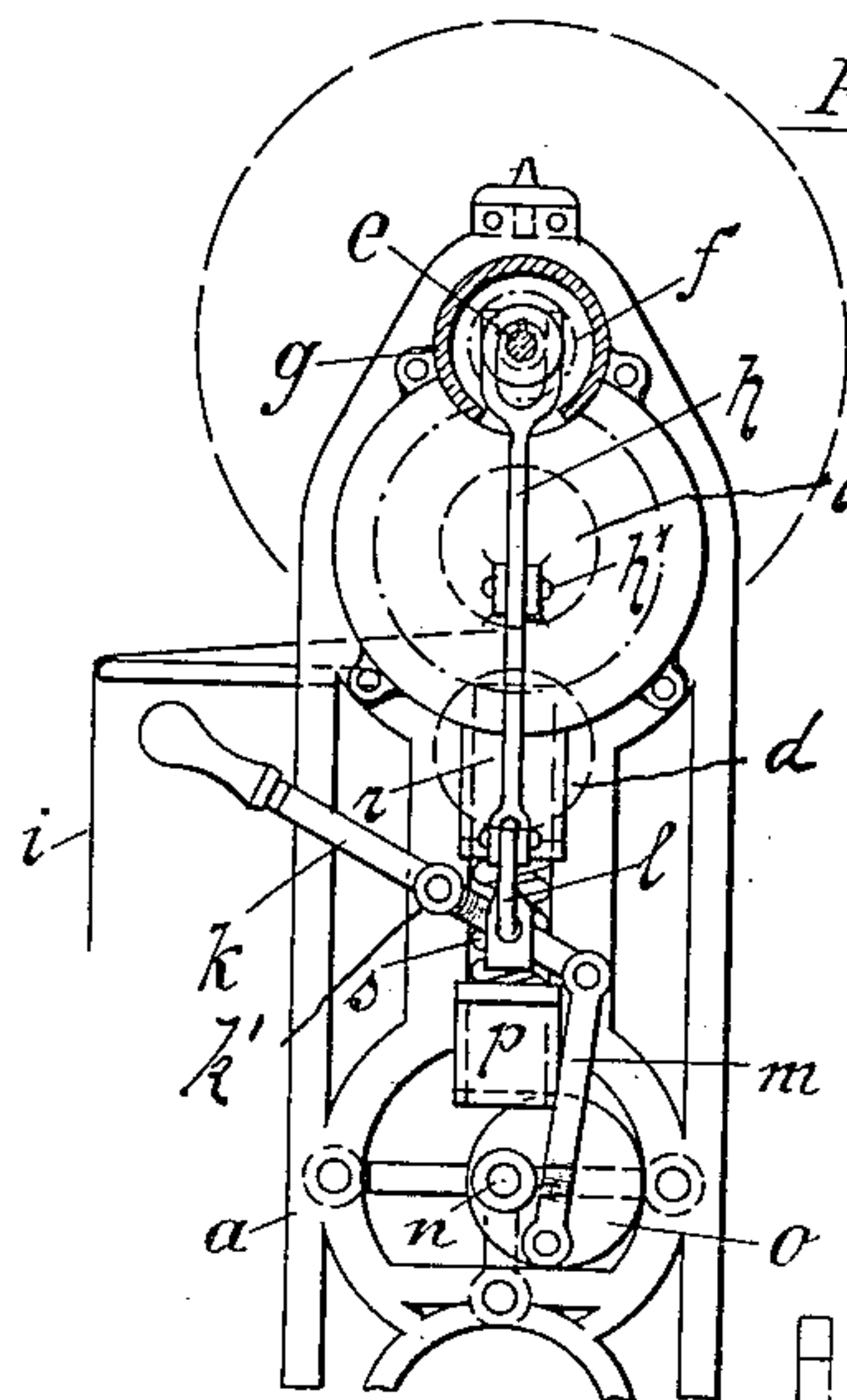


Fig. 2.

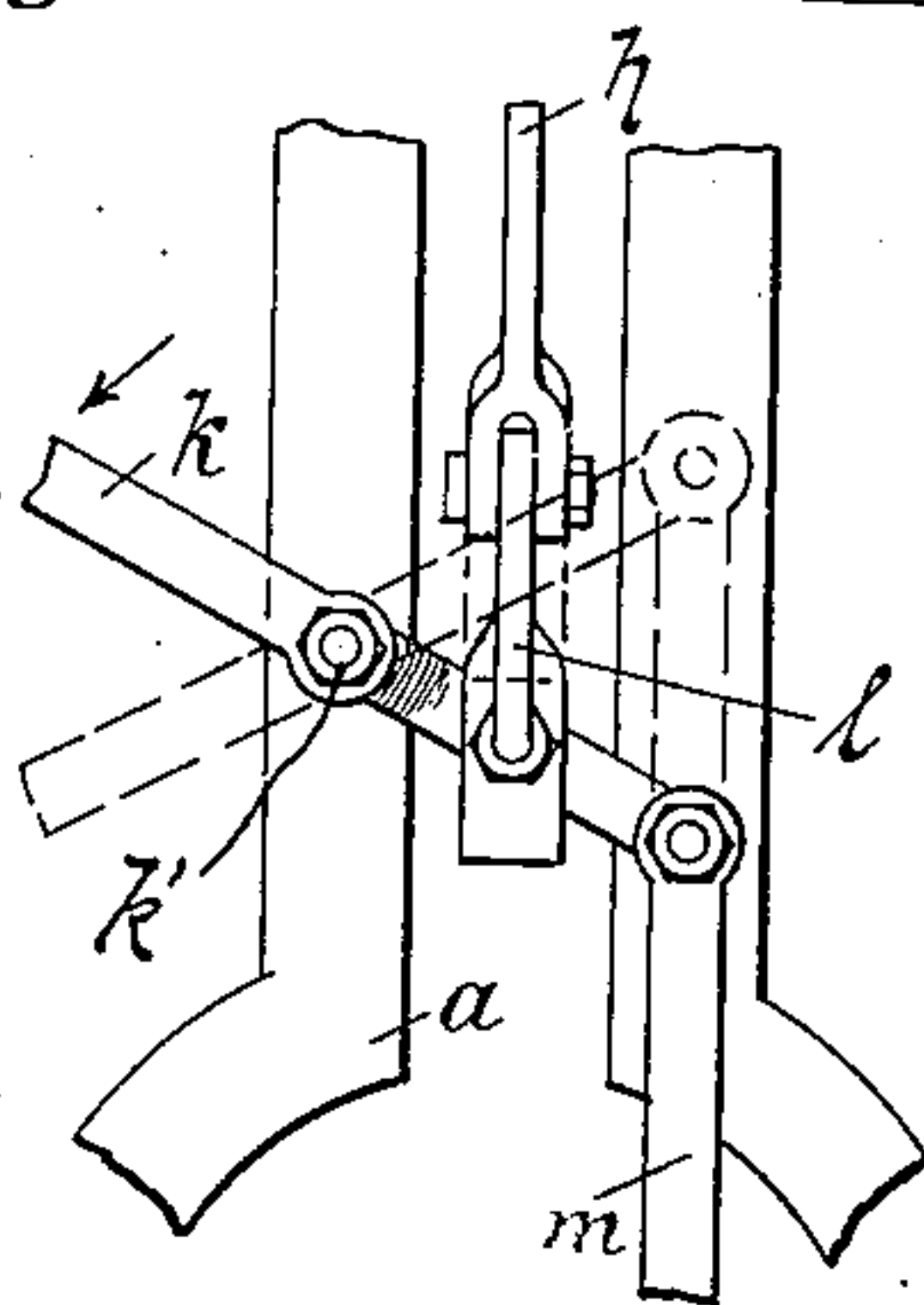


Fig. 3.

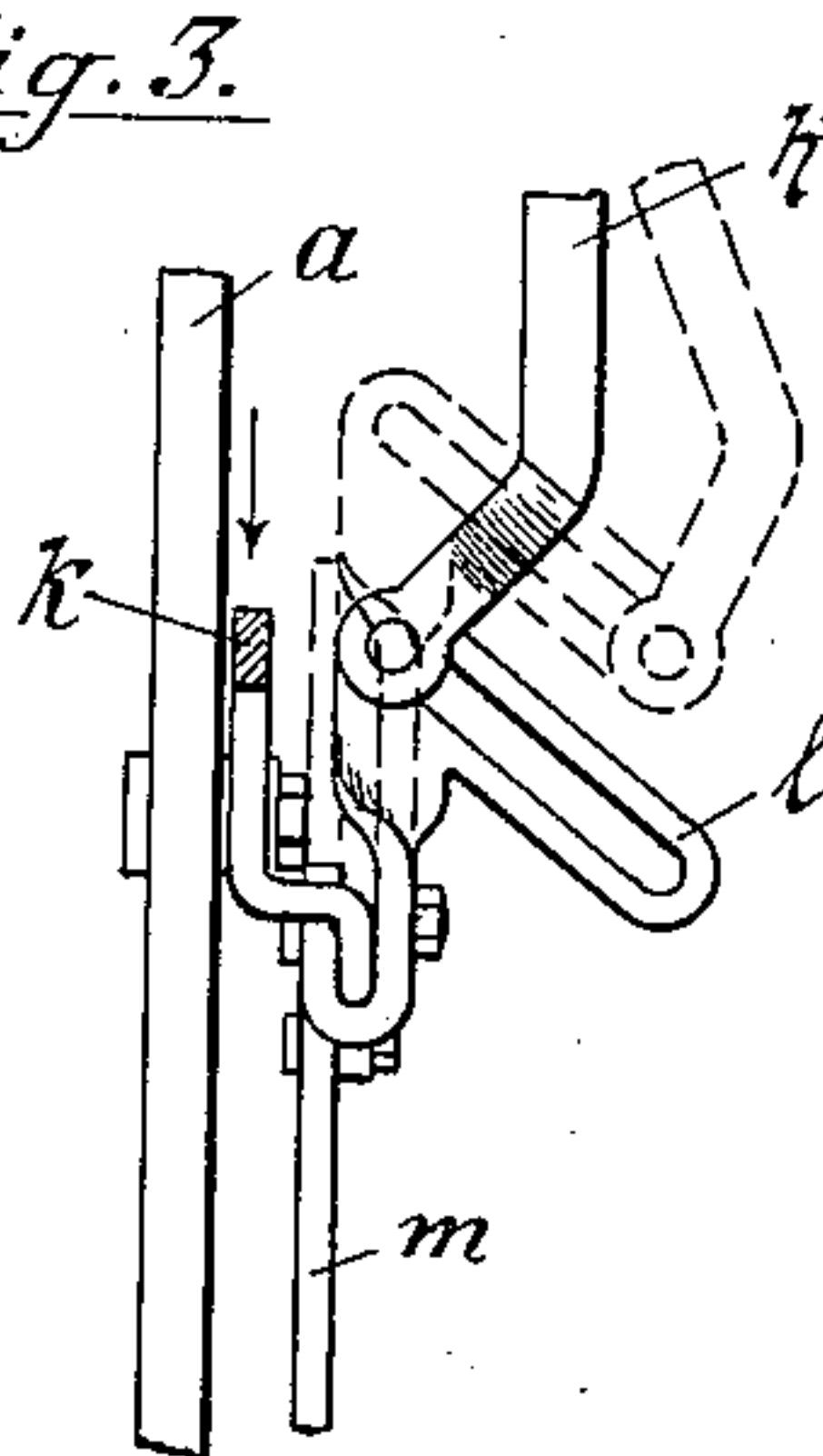


Fig. 4.

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# UNITED STATES PATENT OFFICE.

REINHARD THOSS AND PAUL RÖHRICH, OF ALTONA, GERMANY.

## MANGLE.

No. 896,174.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed July 26, 1906. Serial No. 327,874.

*To all whom it may concern:*

Be it known that we, REINHARD THOSS and PAUL RÖHRICH, both citizens of the German Empire, residing at Altona, Germany, have invented new and useful Improvements in Mangles, of which the following is a specification.

Our invention relates to improvements in mangles in which one of the rollers can be withdrawn from the other and the object of our invention is to provide a device in such mangles permitting the disengaging and engaging of the roller-gearing when the said roller is withdrawn from or approaches the other roller.

We attain our object by the construction illustrated on the drawing herewith in which Figure 1 is a front-view of a mangle, partly in section, provided with our improvements as herein described and set forth, Fig. 2 is an end view of the same, also partly in section, Fig. 3 shows the arrangement and movement of the radial adjusting lever herein below referred to, being a detail view of a portion of Fig. 2, and Fig. 4 shows how the several levers hereinafter mentioned are connected with each other, being a detail view of a portion of Fig. 1.

As shown in the said drawing there is mounted in the ordinary way in the frame *a* the upper, stationary calendering roller *b* provided at one end with a cog-wheel *c*. Beneath the said roller is another roller *d* which is movable in vertical direction being supported by a pair of vertically sliding pieces *r*, one on each end, sliding in the frame *a*. Above the cog-wheel *c* is the driving shaft *e* on which is mounted a pinion *f* movable in axial direction and controlled by a lever *h*, the upper furcated end of the same engaging the hub of the said pinion which is extended and flanged. The said pinion with the upper end of the said lever and the cog-wheel *c* may be covered by a protective casing *g* provided with suitable apertures through which the said lever and the driving shaft extend, the latter being as usual provided on its end with a fly-wheel *f'* or other driving means.

The said lever *h* is so fulcrumed, we prefer on a horizontal pivot *h'* on the casing *g*, that it moves in the direction of the axis of the shaft and rollers. Its lower end is bent aside and is connected with and slides in an outward inclined slot in arm *l*. The said slotted arm is pivotally secured to the shorter arm of a radial adjusting lever *k* which is fulcrumed

to the frame *a* at *k'*. The outer end of the said radial lever has a grip while the other end is jointed to a link *m* the bottom end of which is pivoted to an eccentric disk *o* attached to the end of a shaft *n* parallel to and at some distance beneath the roller *d*. On the other end of the said shaft *n* is another eccentric disk or a cam *o*, both disks being of the same form and both rigidly secured on the shaft *n*, each of the two eccentric disks supporting a sliding piece *p* guided in the frame of the machine, the two pieces being adapted to act upon the afore-mentioned pieces *r* supporting the roller *d*. Between the said sliding pieces *p* and *r* there may be provided intermediate elastic members, for instance cylindric springs *s*, one of which is shown in Fig. 1 in vertical section, or flat springs or the like. Lying upon the feeding board or table which is attached to the frame *a* as usual, is a piece of cloth *i* corresponding in width to the length of the rollers, secured at one end to the upper roller and adapted to receive and hold the linen intended for smoothening.

Our improved mangle works as follows: The cloth *i* secured as mentioned at one end to the upper roller *b* is spread upon the table of the mangle and the linen or other articles intended for smoothening placed and equally distributed on the said cloth; thereupon the lever *k* should be turned downward and a rotatory movement imparted to the fly-wheel. The downward movement of the lever *k*, that is of the outer arm of the same, causes an upward movement of the inner arm which draws the link *m* upwards and through the action of the aforesaid eccentrics *o* and the sliding members *p* and *r*, lifts the roller *d* holding it tight against the upper roller *b* until released. At the same time the slotted arm *l* is lifted, the lever *h* being forced thereby to move outward in the said slot and correspondingly the top-end of the said lever *h* moves inward, pushing along the pinion *f* which meshes in and engages the cog-wheel *c* causing thereby a rotatory movement of the rollers and operation of the mangle, the aforesaid cloth *i* with the linen thereon being wound around the upper roller. On releasing the lever *k* the several parts assume again their former positions, the pinion *f* disengaging from the cog-wheel *c*, the aforesaid sliding members and with them the roller *d* dropping by their weight and the movement of the eccentrics, the fall of the lower



roller being cushioned by the aforesaid elastic members. On pulling back the cloth the smoothened linen may be removed and replaced by a new supply.

5 We are aware that mangles were in use heretofore with one roller capable of being withdrawn from the other and so were mangles where the gear engaging and disengaging permitted a safe and convenient feeding, but  
10 the characteristic of our invention is the combination of the two features, both working simultaneously by the mere operation of a lever and securing a grade of safety in the operation of the machine and economy in  
15 time which the old machines were unable to afford.

We claim:

20 In a mangle in which a pair of rollers operate, one of which is adapted to be withdrawn from the other being journaled in vertically sliding supports guided in the frame of the said mangle, the combination

therewith of an axially movable driving pinion adapted to engage the cog-wheel of the upper roller, a radial handled lever (*k*) ful- 25 crumed to the frame of the machine, an arm (*l*) provided with an outwardly inclined slot pivotally secured thereto, an axially movable lever (*h*,) the upper end of the same engaging the hub of the said pinion and the lower end 30 moving in the said slot, eccentrics (*o*) supporting the sliding supports of the lower roller and a member (*m*) connecting the rear end of the said radial handled lever (*k*) with the corresponding eccentric, substantially as de- 35 scribed.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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PAUL RÖHRICH.

Witnesses:

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