

(No Model.)

2 Sheets—Sheet 1.

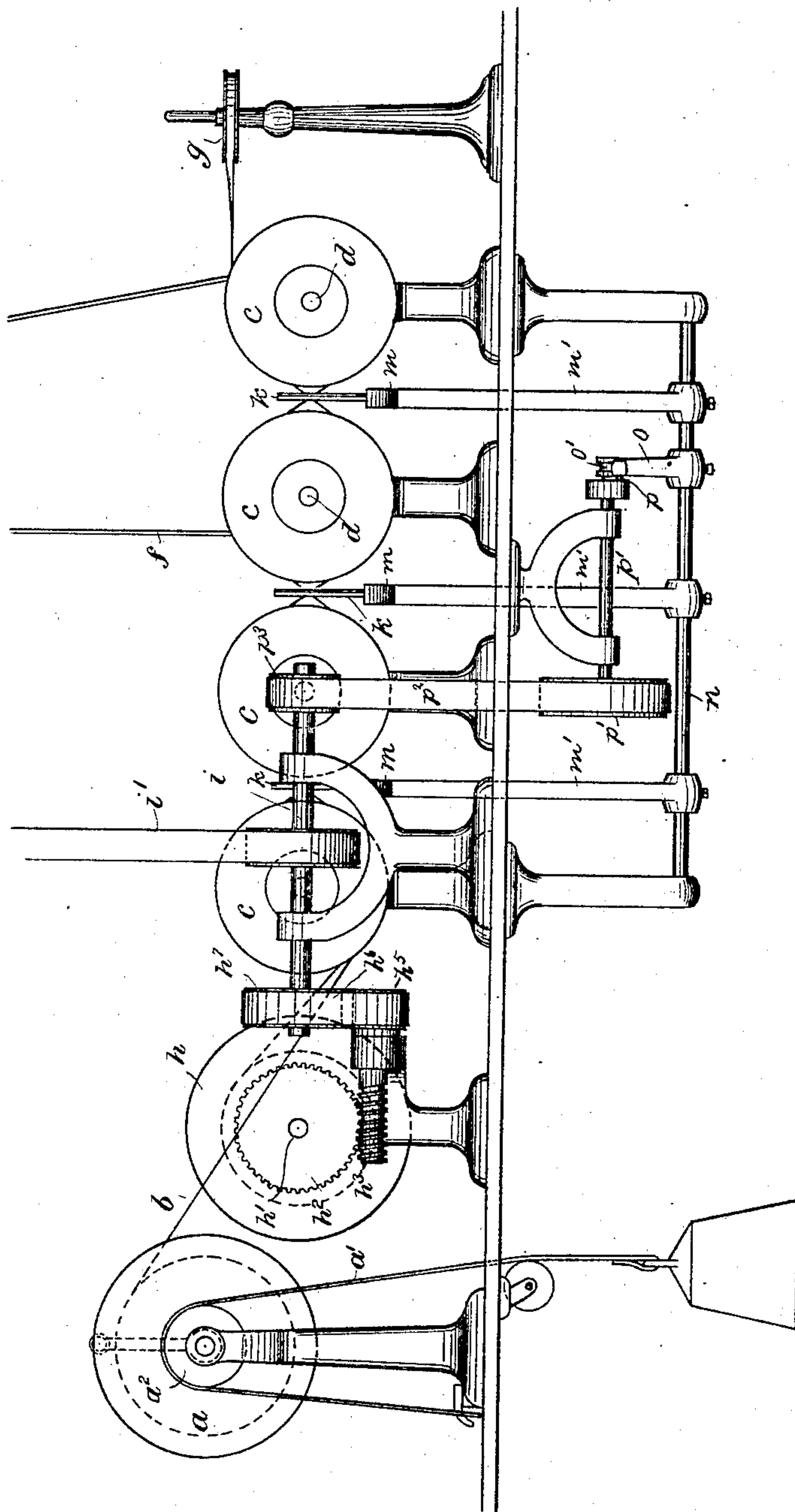
J. LOGAN.

APPARATUS FOR POLISHING METAL RIBBON.

No. 328,125.

Patented Oct. 13, 1885.

Fig 1



Witnesses

W. H. Sigston.

B. J. Noyes.

Inventor

John Logan

by Crosby & Gregory attys.

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Fig. 2

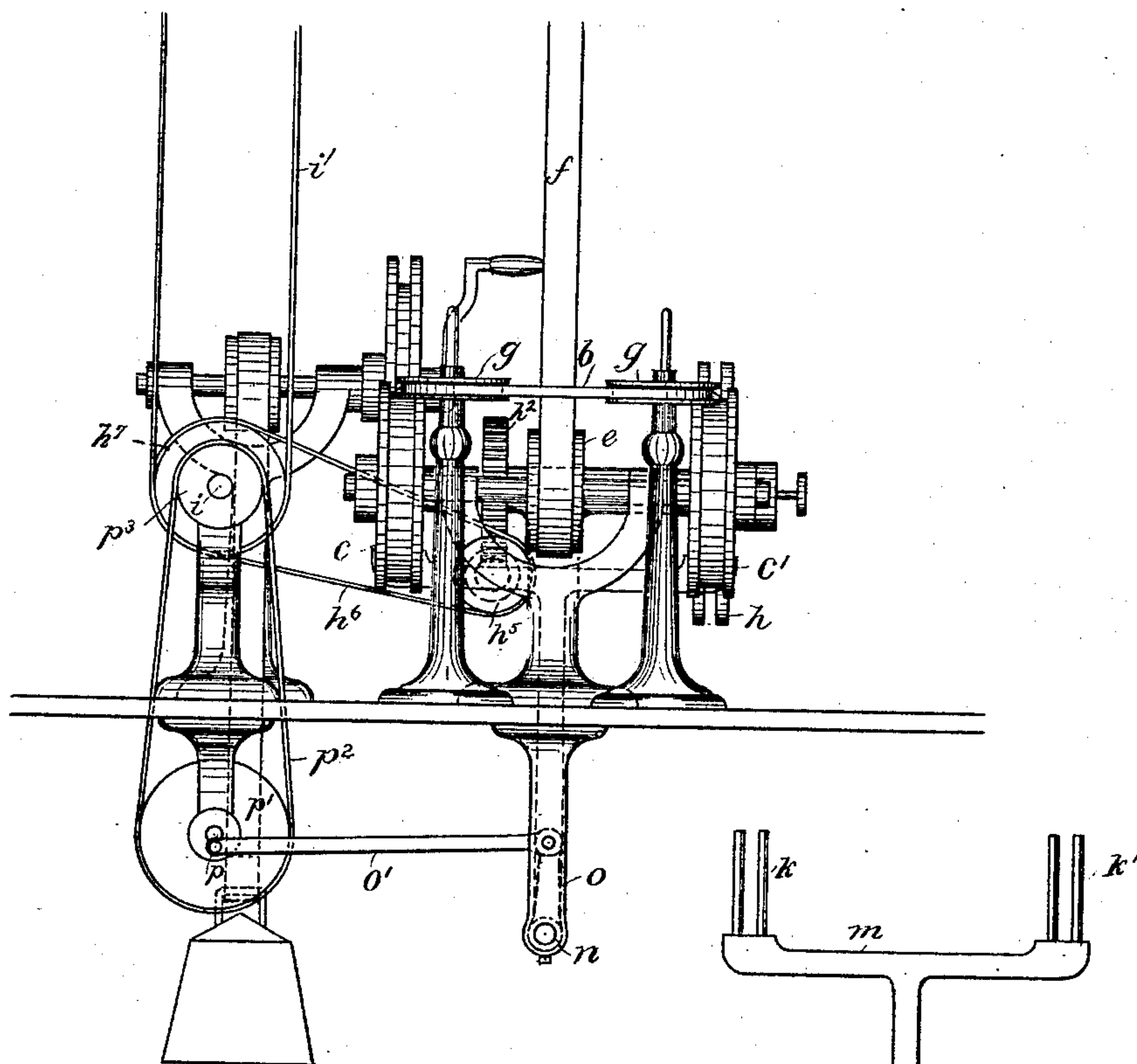
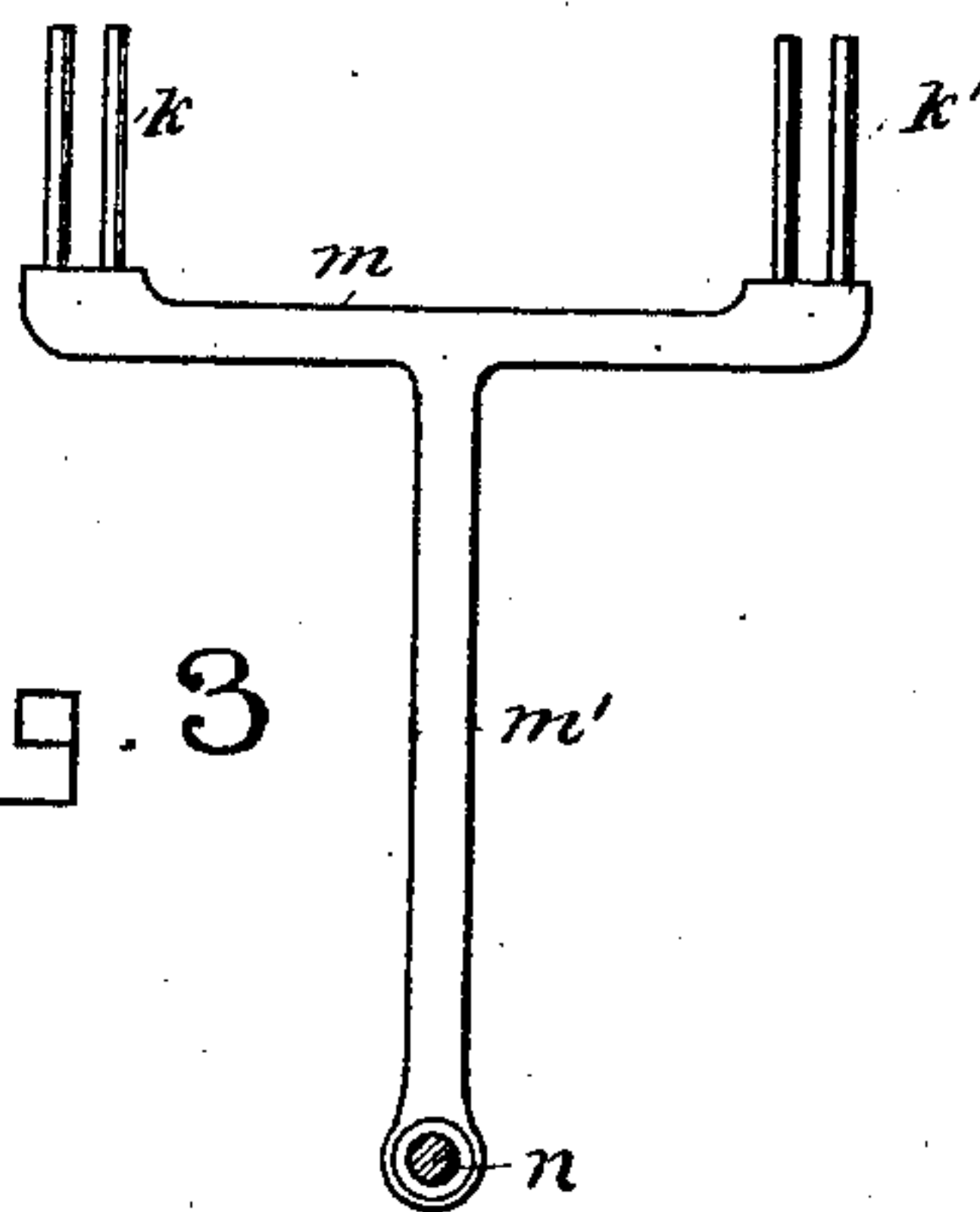


Fig. 3



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UNITED STATES PATENT OFFICE.

JOHN LOGAN, OF WALTHAM, MASSACHUSETTS.

APPARATUS FOR POLISHING METAL RIBBON.

SPECIFICATION forming part of Letters Patent No. 328,125, dated October 13, 1885.

Application filed October 13, 1884. Serial No. 145,384. (No model.)

To all whom it may concern:

Be it known that I, JOHN LOGAN, of Waltham, county of Middlesex, State of Massachusetts, have invented an Improvement in
5 Apparatus for Polishing Metal Ribbon, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 My invention relates to an apparatus for polishing upon both sides metal band or ribbon, such as employed for springs for watches or clocks, or for other similar purposes.

The invention is embodied in an apparatus
15 in which the metal ribbon is drawn or fed from a spool or reel, and passes alternately under and over a series of polishing-wheels provided with suitable polishing material, the alternate wheels operating upon the opposite sides of
20 the ribbon, which is finally wound upon another spool or reel. The ribbon or surface to be polished is caused to travel back and forth laterally with relation to the polishing-surface of the wheels, which are wider than the ribbon,
25 so as to insure a proper polishing action, and also to prevent the ribbon from wearing grooves in the wheels.

Figure 1 is a side elevation of an apparatus for polishing metal ribbon embodying this in-
30 vention; Fig. 2, an end elevation thereof, and Fig. 3 a detail of the guide by which the ribbon is caused to move laterally.

The spool or reel *a*, upon which the ribbon to be polished is wound, is provided with a
35 friction device, shown as a weighted strap, *a'*, passing over a hub or pulley, *a''*, connected with the said spool *a*, and the ribbon shown at *b* is led, as it unwinds from the said spool *a*, alternately under and over a series of polishing-
40 wheels, *c c'*, the surfaces of which are provided with suitable polishing material—such as emery or corundum of various grades of fineness—the wheels more remote from the spool *a* having the finest material, to produce the ultimate
45 finish on the surface of the ribbon. The polishing-wheels *c c'* are arranged in two parallel rows, being mounted on opposite ends of shafts *d*, provided with pulleys *e*, actuated by suitable belts, *f*, and the ribbon *b* is led from the
50 polishing-wheels *c* at one end of the shafts *d* to the polishing-wheel *c'* at the other end of the said shafts, over guide pulleys or rollers *g*, and

after the ribbon has passed the entire series of wheels *c c'* it is wound upon a reel or spool, *h*, on a shaft, *h'*, provided with a worm-gear, *h''*,
55 actuated by a worm, *h'''*, rotated by a pulley, *h''''*, and belt *h'''''*, driven by the pulley *h''''* on a shaft, *i*, actuated by a belt, *i'*, the said devices constituting feeding mechanism for moving the ribbon longitudinally over the polishing-wheel. 60
The said polishing-wheels are provided with flanges at their sides to prevent the ribbon from running off, and the polishing-surface between the said flanges is wider than the ribbon *b*, which is caused to move laterally to and fro 65
between the said flanges, in order to be acted upon by the entire surface of the wheel, and in order to slightly vary the direction of the movement of the polishing-surface with relation to the surface of the ribbon to be polished as the 70
said ribbon moves longitudinally over the said polishing-surface, so as to produce a better finish. The ribbon is thus caused to move laterally with relation to the polishing-wheels by guides *k k'* at opposite ends of a bar, *m*, mounted 75
on an arm, *m'*, on a rock-shaft, *n*, provided with a crank, *o*, connected by a link, *o'*, with a crank or wrist-pin, *p*, on a shaft, *p'*, rotated by a belt, *p''*, from a pulley, *p'''*, on the shaft *i*, that forms part of the ribbon-feeding mechanism. 80

In operation, the friction device *a'* produces a tension on the ribbon, by which it is caused to bear with sufficient pressure against the polishing-wheels, over which it is drawn by 85
the rotation of the spool *h* by the feeding mechanism, the alternate polishing-wheels acting on the opposite side of the ribbon, which is at the same time caused to move to and fro laterally on the polishing-wheels, the ribbon thus 90
being polished with great rapidity.

It is obvious that the polishing-wheels might be made to move laterally with relation to the ribbon being polished, which might have only the longitudinal feeding movement, the essen- 95
tial feature of this part of the invention being that there is a slight to-and-fro lateral movement of the surface being polished with relation to the polishing-surface, so that the paths of the polishing particles on the surface being 100
polished intersect instead of being always parallel.

I claim—

1. In an apparatus for polishing metal band

or ribbon; a series of polishing devices whose surfaces are provided with polishing material, combined with feeding and guiding mechanism for producing a longitudinal and a to-and-fro lateral movement of the surface to be polished with relation to the polishing-surfaces, substantially as and for the purpose described.

2. In an apparatus for polishing metal band or ribbon, a wheel and friction device, a' , combined with a series of polishing-wheels, mechanism, substantially as described, for moving

the said band or ribbon longitudinally over the said wheels, and the guides to move the said band or ribbon laterally with relation to the said wheels, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN LOGAN.

Witnesses:

JOS. P. LIVERMORE,
W. H. SIGSTON.