

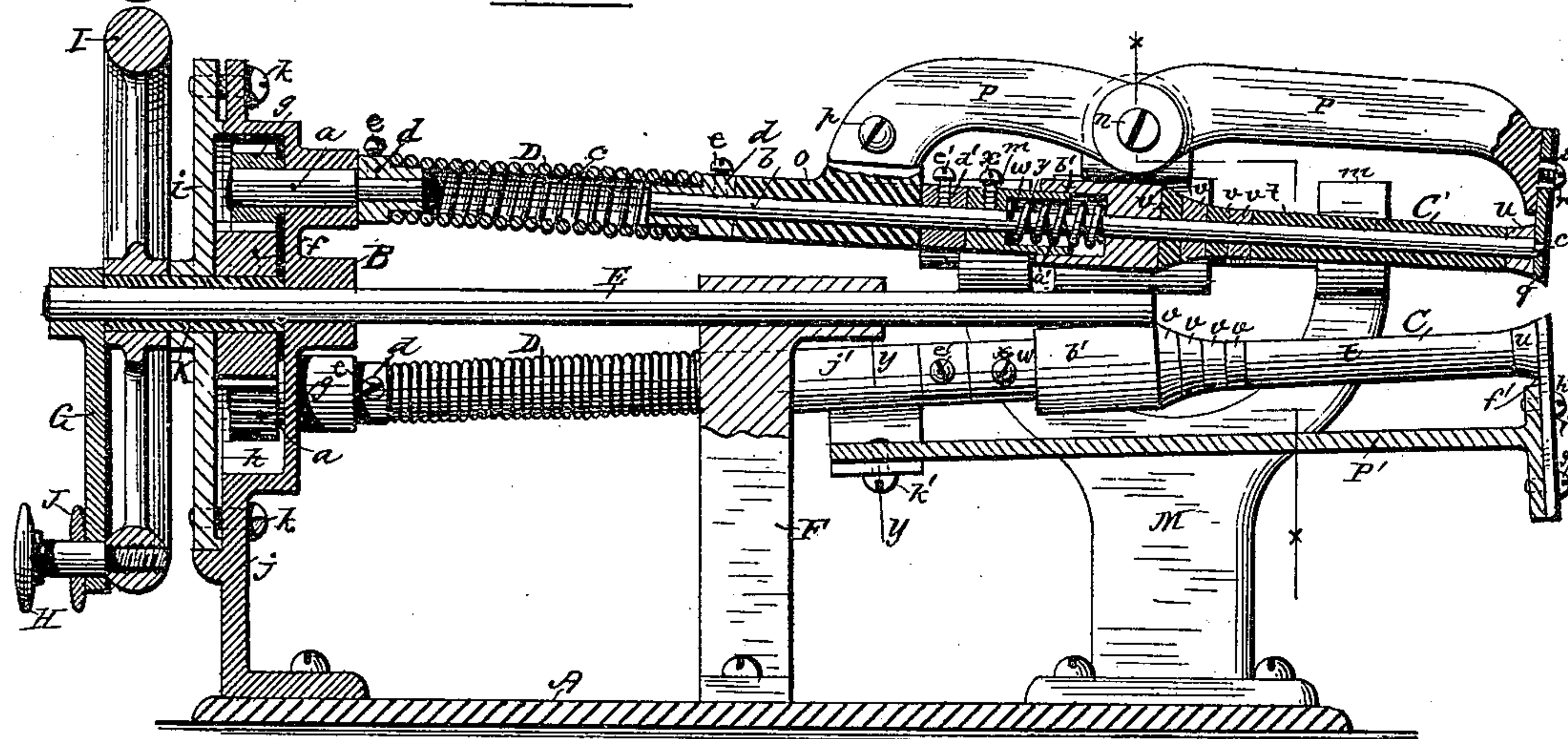
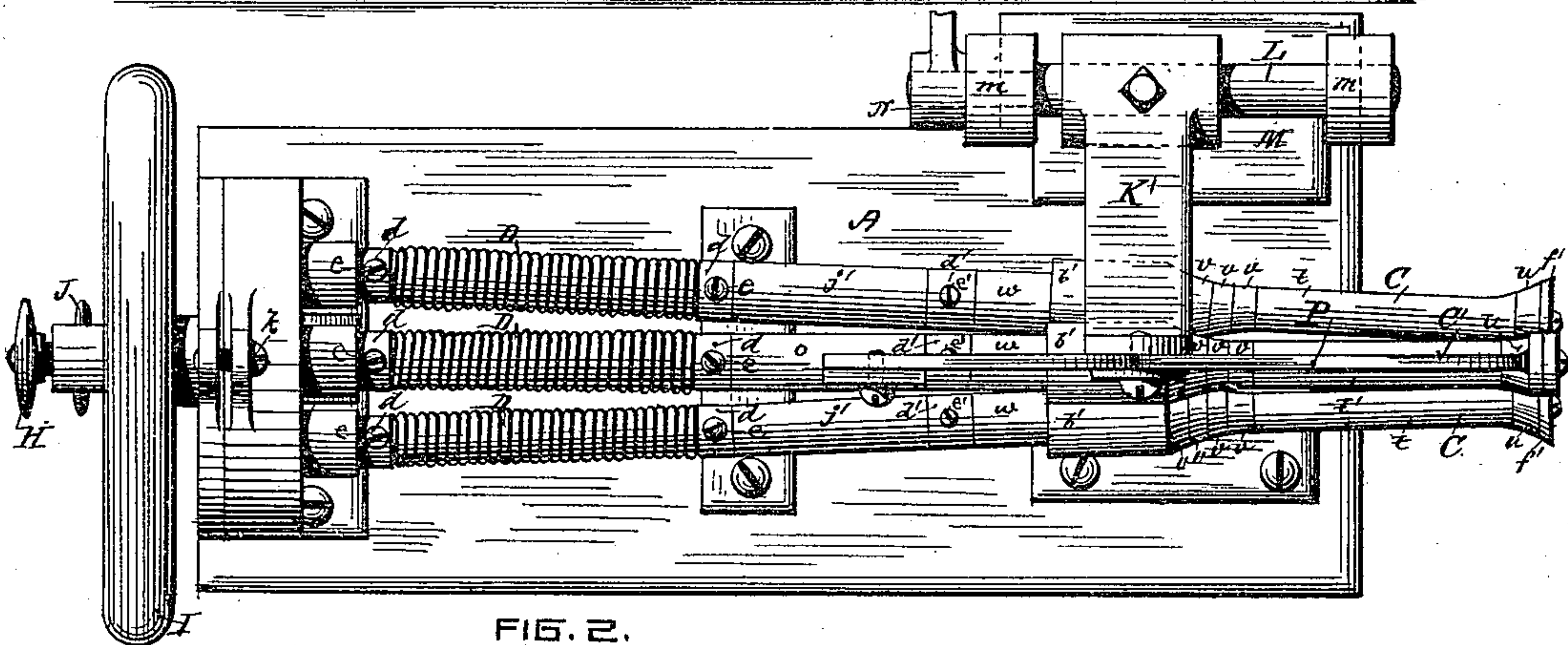
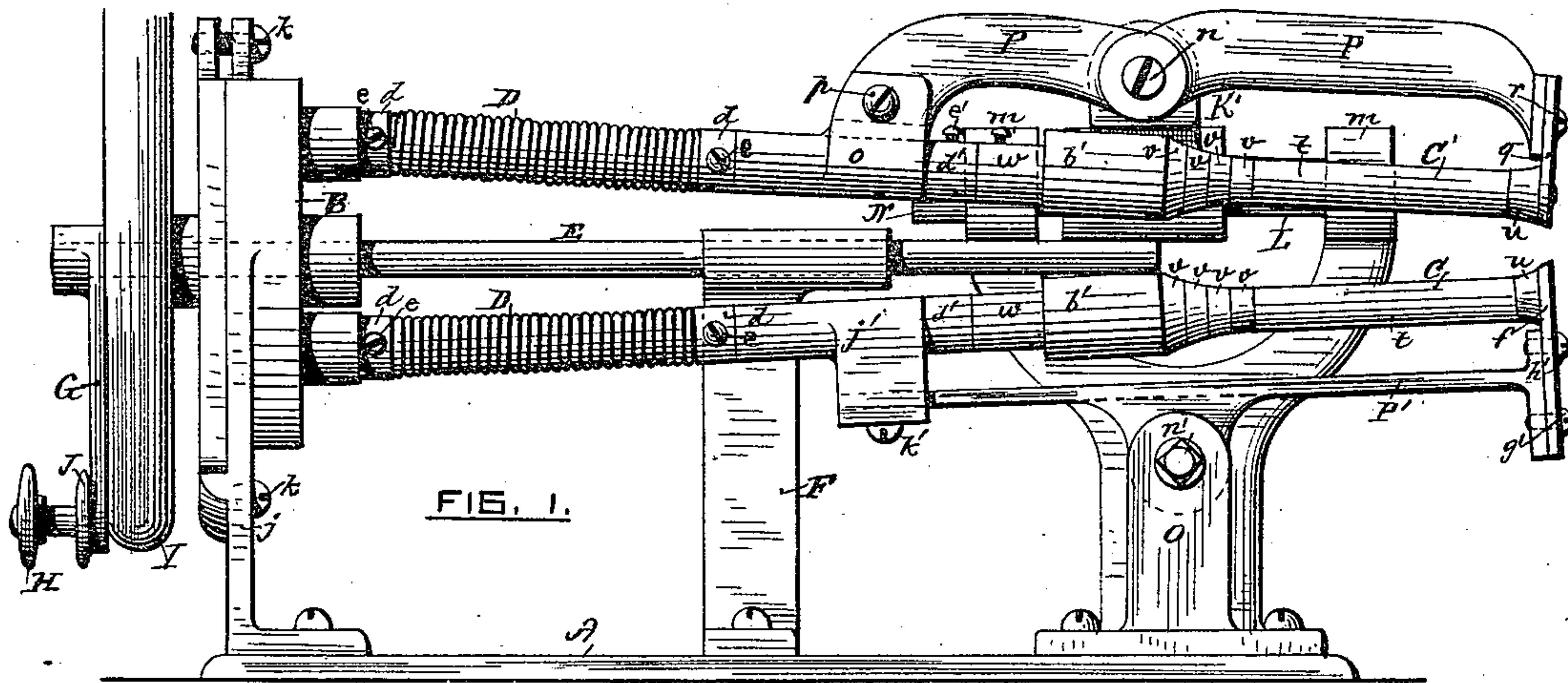
(No Model.)

2 Sheets—Sheet 1.

R. A. BRIGHT.
CIGAR WRAPPING MACHINE.

No. 428,550.

Patented May 20, 1890.



WITNESSES:

Chas. F. Schuch
Gillie A. Eager

FIG. 3.

INVENTOR:

Richard A. Bright
per S. Scholfield
Attorney

(No Model.)

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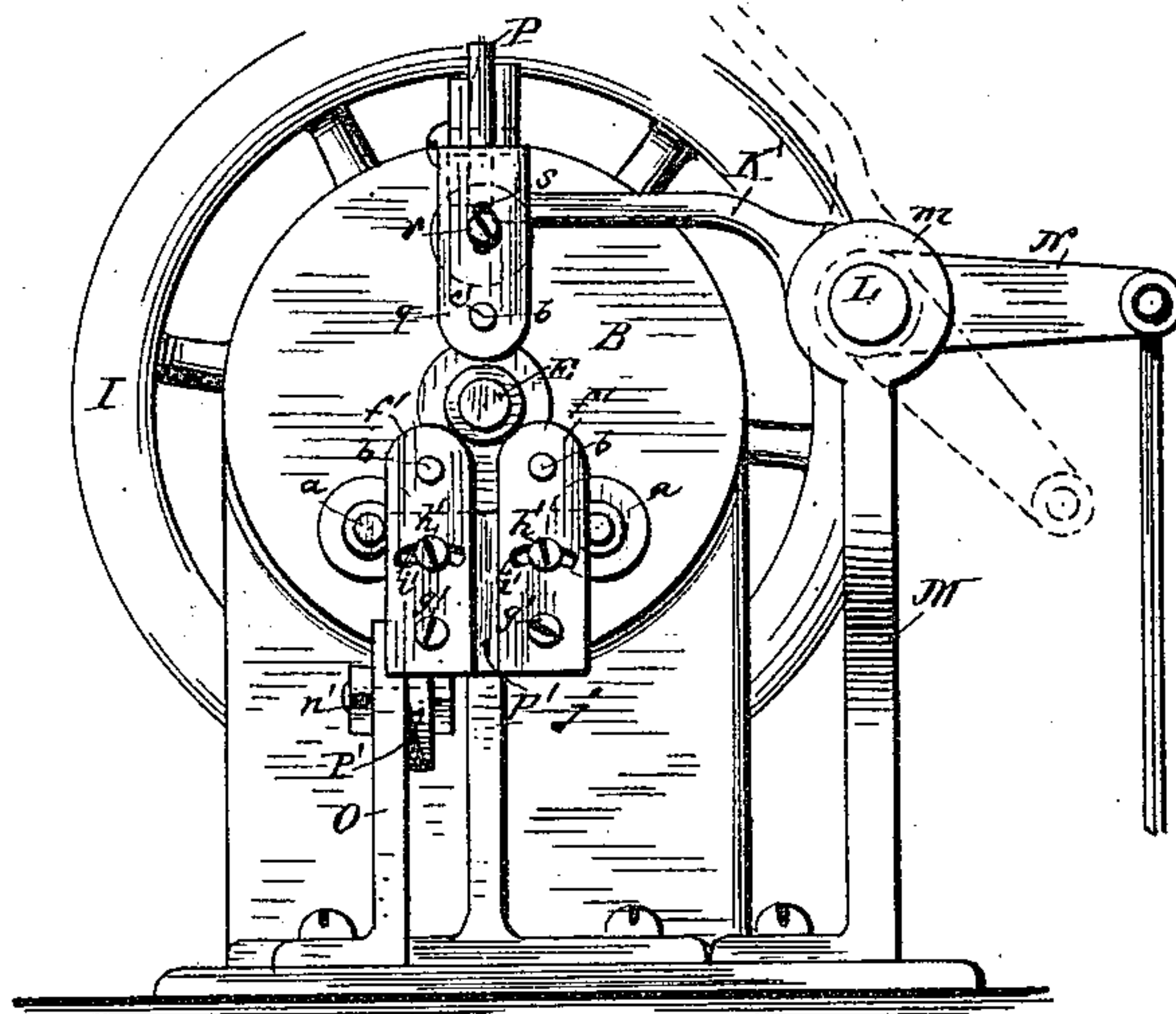


FIG. 4.

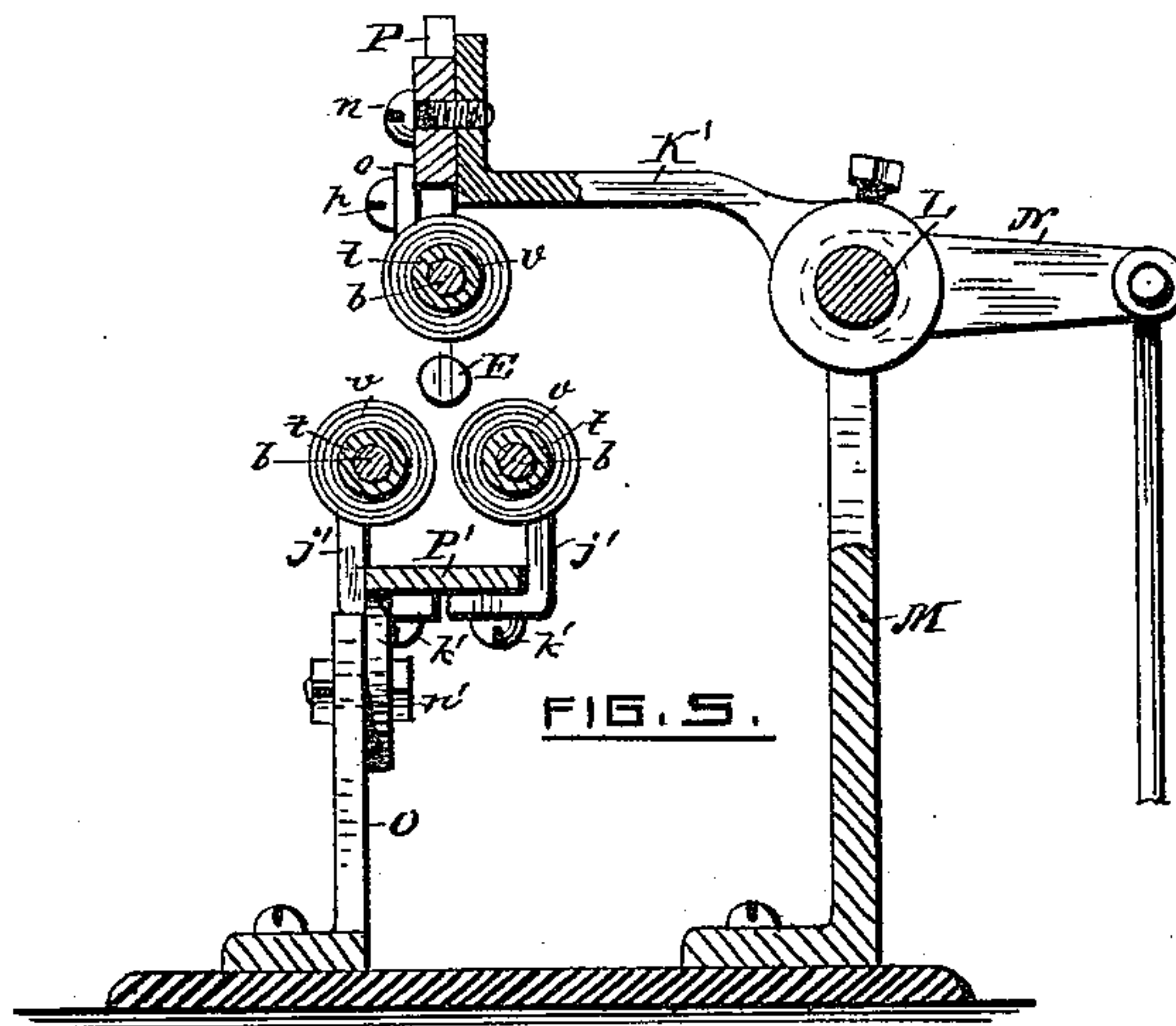


FIG. 5.

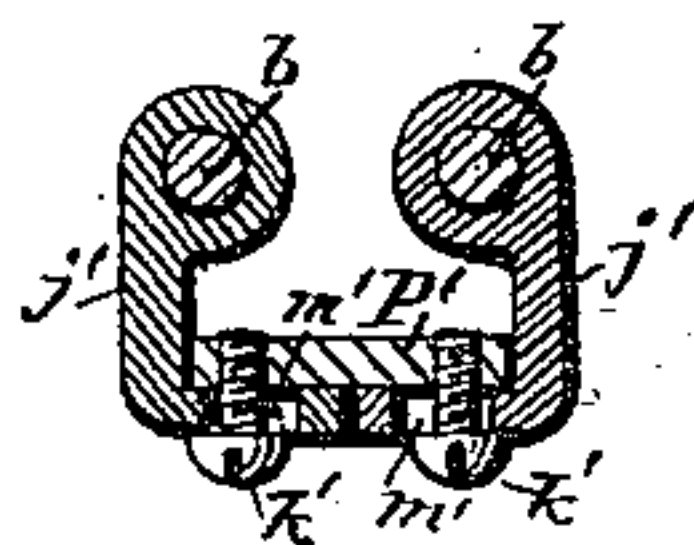


FIG. 6.

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INVENTOR:

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UNITED STATES PATENT OFFICE.

RICHARD A. BRIGHT, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
WALTER A. PECK, OF SAME PLACE.

CIGAR-WRAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 428,550, dated May 20, 1890.

Application filed October 26, 1885. Serial No. 181,005. (No model.)

To all whom it may concern:

Be it known that I, RICHARD A. BRIGHT, of Providence, in the State of Rhode Island, have invented a new and useful Improvement in Cigar-Wrapping Machines, of which the following is a specification.

The nature of my invention consists in the improved construction and combination of the forming-rolls of the cluster, and in the improved arrangement of the forcer, which serves to force the cigar-bunch toward the head of the forming-chamber between the cluster-rolls.

Figure 1 is a front elevation of the machine without the usual wrapper-ironing plate and header. Fig. 2 is a plan view of the same. Fig. 3 is a vertical longitudinal section. Fig. 4 is a front elevation with the rolls removed. Fig. 5 is a detail section taken in the line *x x* of Fig. 3; and Fig. 6 is a detail section taken in the line *y y* of Fig. 3.

In the accompanying drawings, A is the bed-plate of the machine; B, the head, which supports the geared shafts *a*, from which the rolls C C C' are operated being connected to the central shafts *b b b* of the cluster of rolls by means of the flexible couplings D, which are formed of the spiral-wire coils *c*, having attached thereto the end pieces *d*, which are bored out to fit the adjacent ends of the shafts *a* and *b*, to which they are secured by means of the set-screws *e*. The head B is centrally bored to receive the hollow shaft or sleeve K and the sliding forcer E, which serves to force the cigar-bunch toward the heading end of the cluster-rolls, and which is also supported by means of a standard F, which is secured to the bed-plate A.

Upon the rear end of the forcer E is secured the arm G, which at its outer end is perforated to loosely receive the elongated cylindrical shank of the crank-handle H, the said crank-handle being preferably secured to the rim of a balance-wheel I, which, with the handle H, forms the crank. The arm G is also provided with an attached perforated disk J, which also loosely fits the shank of the handle H, and by means of which the forcer E can be operated through its range of sliding movement, while the rolls are being operated by means of the crank-handle.

Upon the outer end of the hollow shaft K is secured the balance-wheel I, which is driven tightly upon the same, and upon the inner end of the said shaft is tightly driven the gear *f*, which engages with the surrounding gears *g g g*, the said gears being tightly secured to the roll-operating shafts *a a a*. The chamber *h* of the head B is closed by means of the plate *i*, which is secured to the head-standard *j* by means of the screws *k*. Upon turning the balance-wheel I or crank, by means of the handle H, the proper rotary motion will be imparted to the forcer E through the connected arm G, and to the shafts *a* by means of the driving-gear *f* and the engaging gears *g*, and the operator, while turning the crank of the machine, can, by means of thumb and finger, properly manipulate the disk J, and thence the connected sliding forcer E, to suit the special requirements of the inclosed cigar-bunch, which is to be forced toward the head end of the cluster-rolls.

The cluster-rolls C C C' are preferably made three in number, the upper roll C' being held by means of a bar P, which by means of the screw *n* is pivoted to the end of the arm K', the said arm being firmly secured to the rock-shaft L. The shaft L is held in the fixed bearings *m m* at the upper extremity of the forked standard M, which is fastened to the bed-plate A, and at one end of the rock-shaft L is secured the arm N, from which connection may be made to a treadle, by means of which the upper roll C' may be raised from its normal position with the lower rolls C C whenever it is desired to insert a fresh cigar-bunch or to remove the completely-wrapped cigar from the rolls, and the said upper roll C' is also made capable of a longitudinally-directed tilting movement upon the pivot-screw *n* of its holding-bar P. The roll C' is secured to the pivoted bar P by means of the bearing-piece *o*, which is fastened to the rear end of the said bar by means of the screw *p*, and the bearing-plate *q*, which is secured to the forward end of the bar by means of the screw *r*, and the forward end of the roll C' is made vertically adjustable by means of the slot *s* in the plate *q*. The cluster-rolls C C C' are made in sections, the elongated portion *t* being tightly secured to the shaft *b* by driving

the same onto the shaft; or, if preferred, this portion of the roll may be made integral with the shaft, in which case the projecting portion of the shaft will constitute a shank for the roll, and the frusto-conical end portion *u* is left loose on the shaft *b*, so as to readily conform to the peripheral movement of the cigar-bunch at the tapering head of the same.

Upon the shaft *b*, at the inner end of the tightly-driven elongated roll portion *t*, are loosely held the frusto-conical disks *v v v*, which come in contact with the tapering periphery of the tuck end of the cigar-bunch, and which, by reason of their being loose upon the shaft *b*, are prevented from injuriously twisting the cigar-bunch filler. Upon the shaft *b* is also placed the chambered collar *w*, which is adjustably held upon the said shaft by means of the screw *x*, and within the chamber *y* of the collar *w* is placed the spiral spring *a'*.

Intermediate between the collar *w* and the frusto-conical disks *v* is placed the loose sleeve *b'*, chambered at its rear end to receive the forward end of the collar *w*, and also the spiral spring *a'*, which, by forcing the sleeve *b'* forward, serves to hold the disks *v* in proper frictional side contact with each other, and the amount of pressure upon the flat surfaces of the disks *v* can be regulated by the proper adjustment of the collar *w* and spring *a'*.

In order to prevent the endwise movement of the shaft *b*, which would tend to allow the bearing end *c'* of the shaft *b* to become disengaged from the bearing-plate *q*, I place a collar *d'* upon the shaft *b*, adjoining the bearing-piece *o*, and secure the collar *d'* to the shaft by means of the screw *e'*. The lower rolls *C C* are held upon a bar *P'*, which is pivoted to a standard *O* by means of the bolt *n'*, as shown in Figs. 1 and 5, the rolls being secured to the said bar by means of the end bearing-pieces *f' f'*, which are each pivoted to a screw *g'* and made laterally adjustable by means of the screw *h'* and curved slot *i'*; and also the bearing-pieces *j'*, which are secured to the pivoted bar *P'* by means of the screw *k'* and made laterally adjustable by means of the slot *m'*. The lower rolls *C C* are each constructed as above described for the upper roll *C'*, and are also driven from the shafts *a* by means of the spirally-coiled flexible couplings *D*.

In operating with the machine, whenever it is necessary to change the form of the head of the cigar the loose frusto-conical section *u* can be removed and a corresponding section of the required shape to produce the desired result substituted therefor, and the same change can be made at the tuck end by removing the frusto-conical disks *v* and placing others having the proper degree of inclination or thickness in their place; and a very important feature of my improvement consists in the pivoted holding of the cluster-

rolls, whereby the shape and size of the cigar can be extensively varied without making changes in the roll-sections, the said rolls being driven by means of a shaft or coupling, which permits the required angular adjustment of the rolls with each other to form the desired rolling-pocket. The pressure of the spring *a'* is preferably so adjusted that the frusto-conical sections *u* will assist in turning the cigar-bunch, but at the same time will slip upon the holding shank or shaft, in order that the periphery of the said sections may conform to the rotation of the tapering tuck of the cigar without slipping at the point of peripheral contact therewith.

I claim as my invention—

1. A cigar-machine roll comprising a roll-section adapted to operate upon the body portion of the cigar-bunch, a shaft or shank for rotating the same, a driven gear flexibly connected to the said shaft or shank, removable frusto-conical sections adapted to operate upon the tuck, the loose sleeve adjoining the said frusto-conical sections, the fixed sleeve, the intervening spring, and the holding-collar, which serves to prevent endwise movement of the roll, substantially as described.

2. In a cigar-wrapping machine, the combination, with a cluster of cigar-forming rolls, of the hand-crank, the hollow shaft with the driving-gear, the surrounding gears of the rolls, the sliding forcer passing through the hollow of the shaft, and the arm which extends from the forcer to the shank of the crank-handle and is loosely connected thereto, substantially as described.

3. In a cigar-wrapping machine, the combination, with the driving-gear, and the connectedly-driven surrounding gears, of the lower rolls held upon an adjustable pivoted bar, the separate adjustable bearings for each of the said rolls, and a flexible connection with the operating-gears, the upper roll likewise held upon an adjustable pivoted bar and adapted for movement toward or from the said lower rolls, the flexible connection with the operating-gear, and an adjustable end bearing, substantially as described.

4. In a cigar-wrapping machine, the combination, with the driving-gear and the connectedly-driven surrounding gears, of the lower rolls held upon an adjustable pivoted bar and having flexible connection with the operating-gears, and the upper roll likewise held upon an adjustable pivoted bar and adapted for movement toward or from the said lower rolls, and having a flexible connection with its operating-gear, substantially as described.

RICHARD A. BRIGHT.

Witnesses:

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