

(No Model.)

3 Sheets—Sheet 1.

A. C. SCHUTZ.

CIGAR BUNCHING MACHINE.

No. 379,732.

Patented Mar. 20, 1888.

Fig. 1.

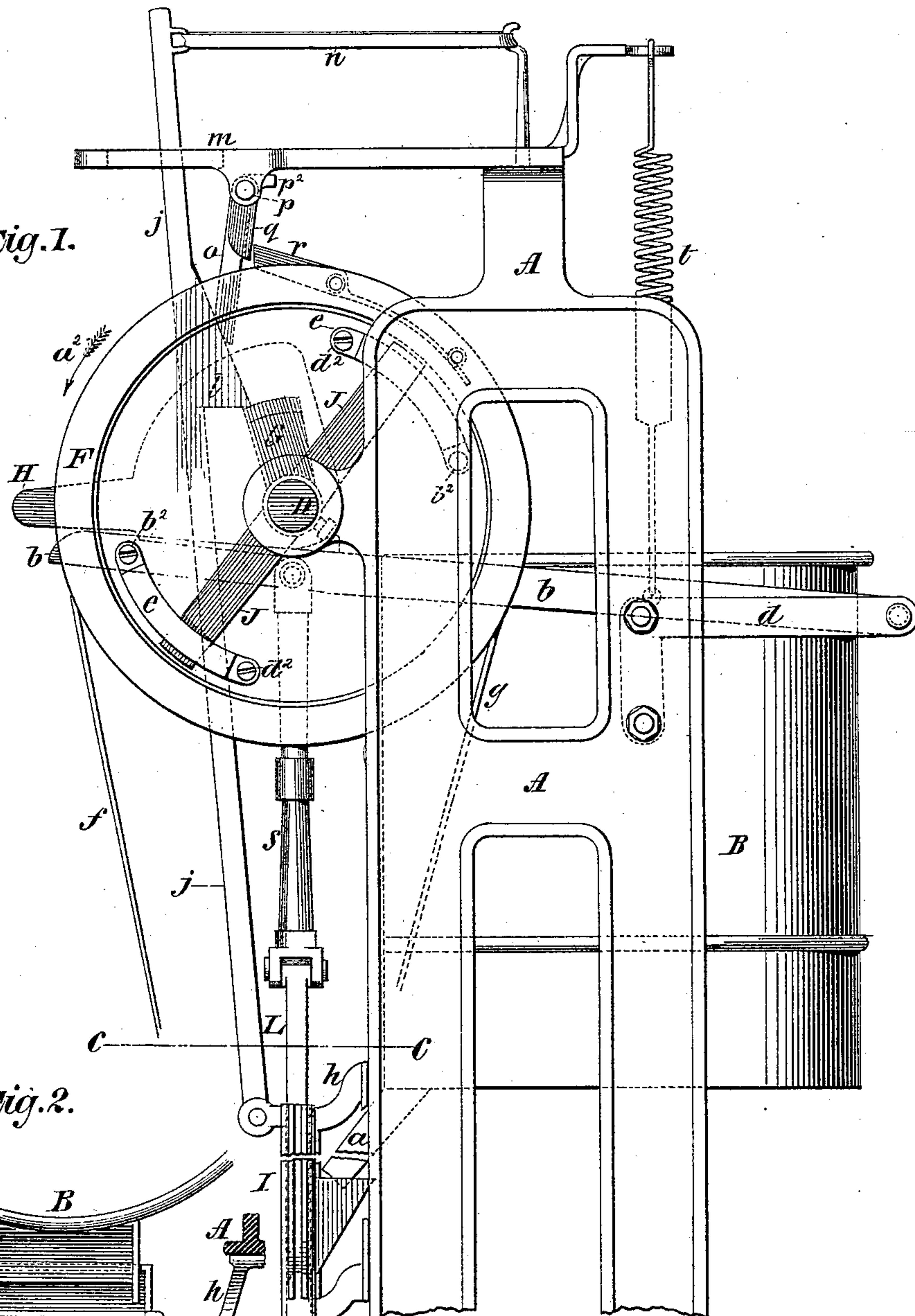
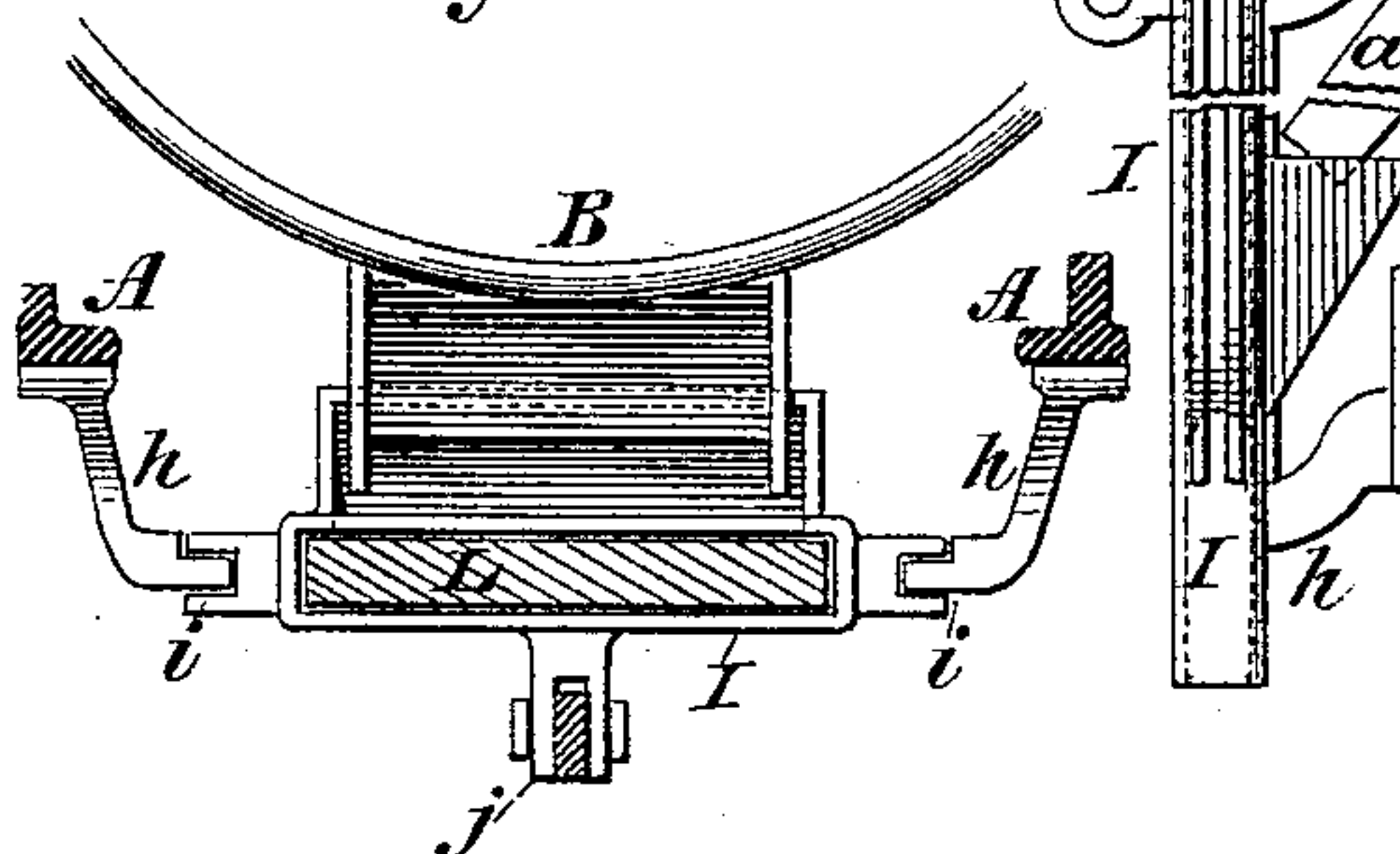


Fig. 2.



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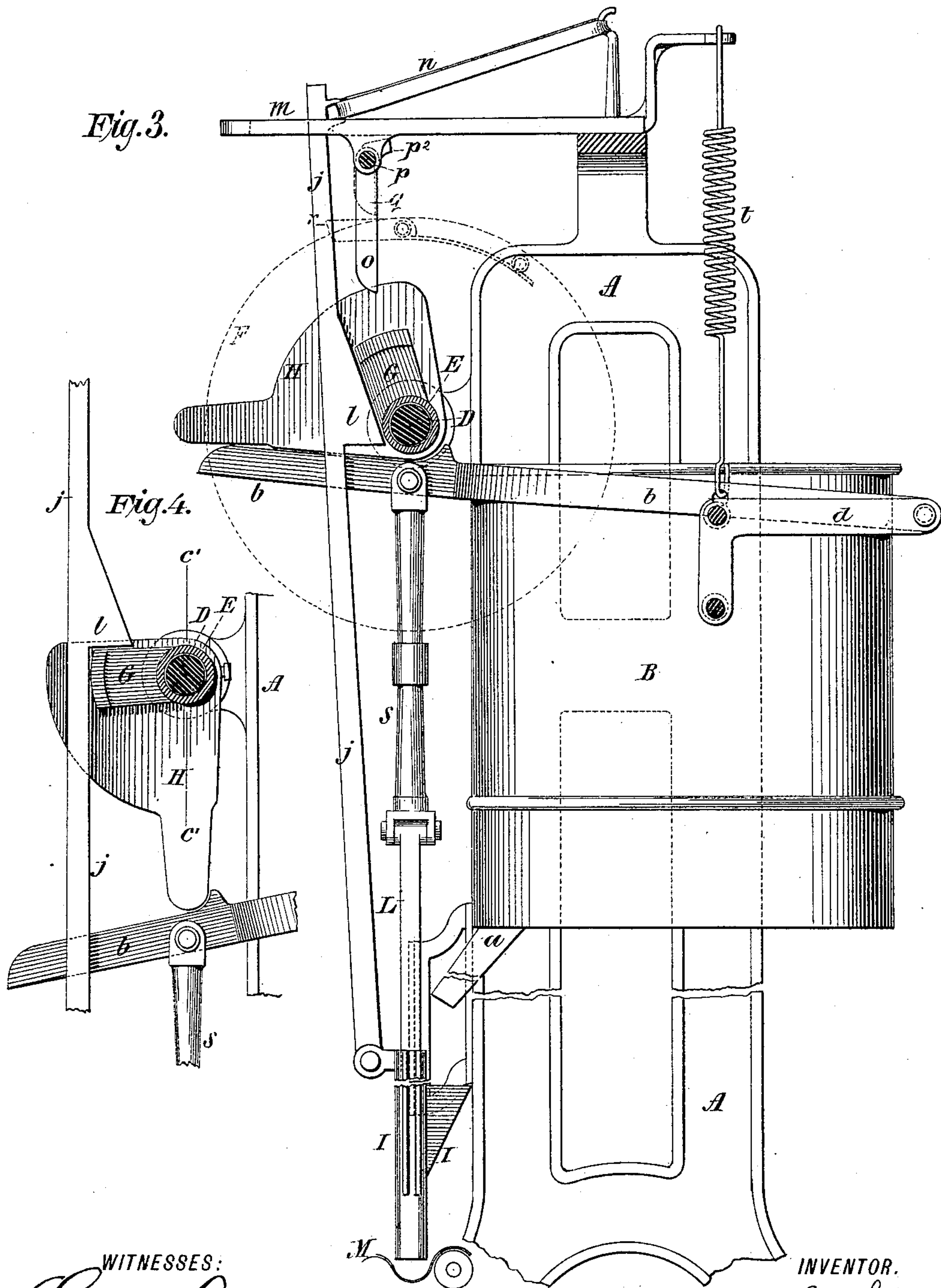
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Fig. 5.

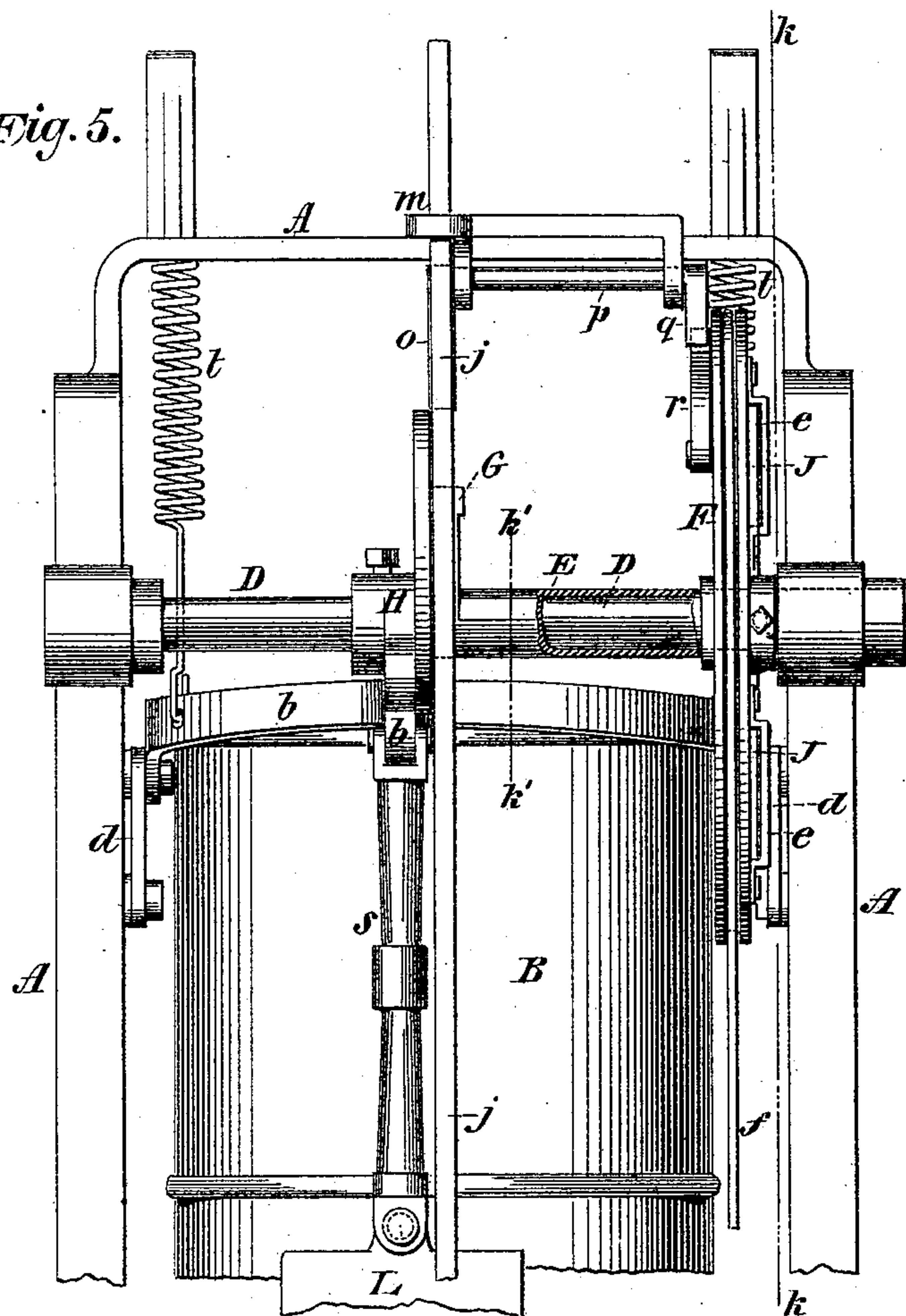
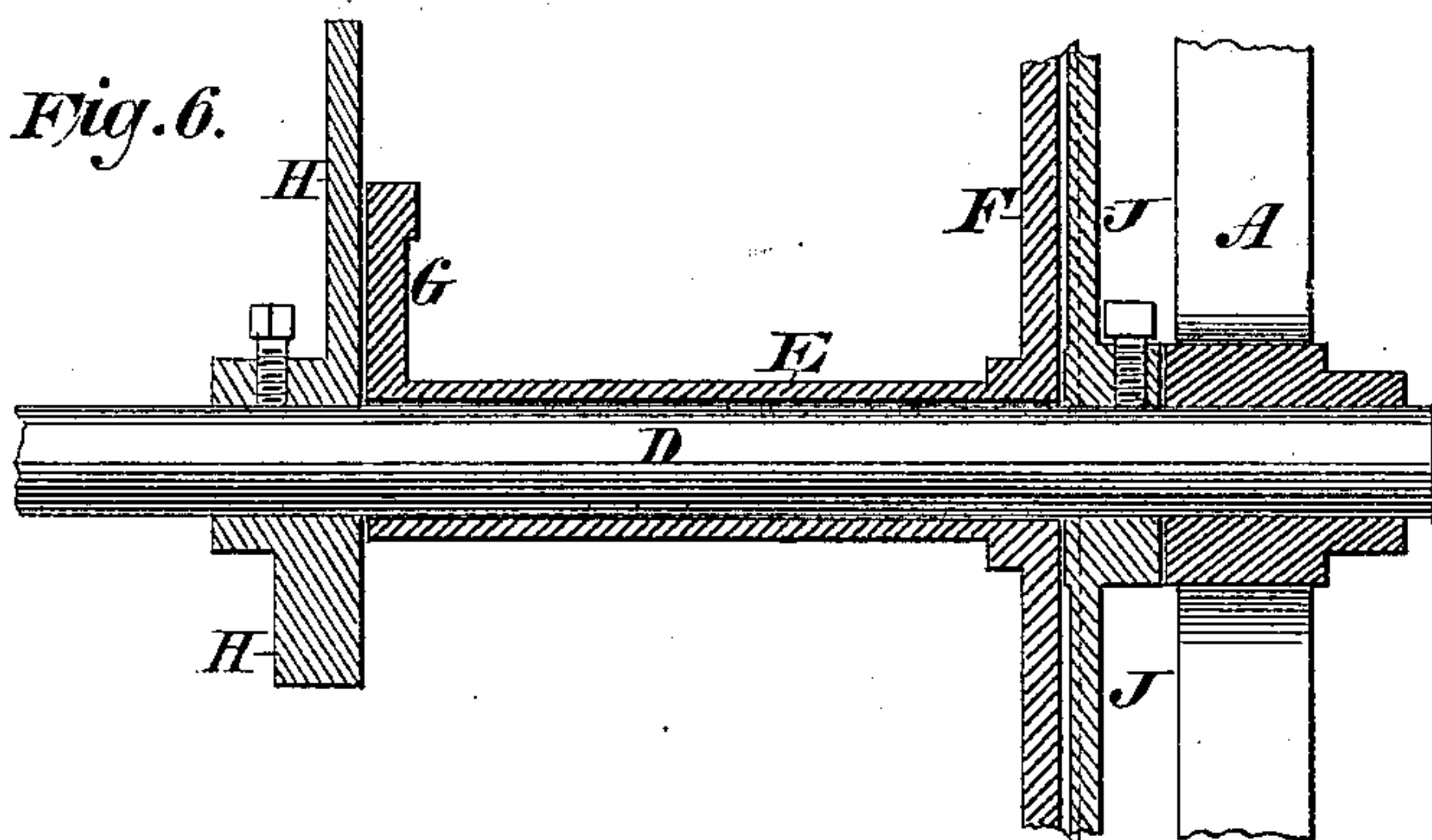


Fig. 6.



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UNITED STATES PATENT OFFICE.

ADOLPH C. SCHUTZ, OF BROOKLYN, ASSIGNOR TO THE NATIONAL PROGRESS BUNCHING MACHINE COMPANY, OF NEW YORK, N. Y.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,732, dated March 20, 1888.

Application filed December 10, 1887. Serial No. 257,527. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH C. SCHUTZ, a resident of the city of Brooklyn, county of Kings, New York, have invented certain new and useful Improvements in Cigar-Bunching Machines, of which the following is a specification.

This invention relates to improvements in the cigar-bunching machine described in Letters Patent No. 331,676, dated December 1, 1885, granted to N. H. Borgfeldt and A. C. Schutz.

The object of my invention is to provide means for operating the machine described in said Letters Patent by foot or hand power.

The invention consists in the novel arrangement and combinations of parts, that will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the upper portion of a cigar-bunching machine embodying my improvements. Fig. 2 is a horizontal cross-section on the line *c c*, Fig. 1. Fig. 3 is a vertical section of the upper part of the machine, taken on the line *k k*, Fig. 5, the driving-wheel being removed, but shown in dotted lines. Fig. 4 is a vertical section on the line *k' k'*, Fig. 5, showing the mechanism for actuating the hopper and plunger. Fig. 5 is a front elevation, partly in section, of the upper portion of my improved cigar-bunching machine; and Fig. 6 is a vertical longitudinal section on the line *c' c'*, Fig. 4.

In the accompanying drawings, the letter A represents the frame of the machine, in which is supported a tobacco-cylinder, B.

a is a chute projecting from the bottom of the cylinder B. The cylinder B is to be constructed to operate and to deliver the tobacco to the chute *a*, substantially as described in the patent before mentioned. The construction and operation of the cylinder B forms no part of my present invention.

D is the main driving-shaft, hung in suitable bearings in the upper part of the frame A.

E is a sleeve or tube carried by the shaft D and loosely surrounding it. The sleeve E preferably extends about half the length of said shaft between its bearings. At one end the sleeve E carries a wheel, F. Near its opposite

end the sleeve E carries a crank, G. Near the crank G, on the sleeve E, the shaft D has secured to it an arm, H, which is adapted to bear upon a lever, *b*, pivoted at one end to a support, *d*, carried by the frame A.

Adjacent to the wheel F, on the sleeve E, the shaft D carries a crank, J, which preferably projects on both sides of said shaft, as shown in Fig. 1. The wheel F has on its face loops or stops *e*, which embrace the free ends of the crank J and permit a limited play to said crank independent of the wheel F, as hereinafter shown. The wheel F is connected with cords or straps *f g*, which depend from opposite sides thereof. The cords *f g* are to be secured to a treadle or other device (not shown) for imparting to the wheel F a partial rotation in opposite directions.

I is a hopper constructed substantially as shown in the aforesaid patent, and adapted to receive tobacco from the chute *a* of the cylinder B. The hopper I is guided during its up-and-down motion between upright rails *h*, that are supported by the frame A, and that enter grooves *i* on the sides of the hopper I, (see Fig. 2,) or by other suitable means. The hopper I is pivotally suspended from the lower end of a rod, *j*, the upper end of which passes through a slotted guide, *m*, carried by the frame A. The rod *j* carries near its upper end a tooth, *l*, which is adapted to rest upon the crank G. The upper end of the rod *j* is drawn inward by means of a spring, *n*, secured at one end to said rod and at its other end to the frame A or a projection thereon; but other suitable means may be employed for this purpose.

When the hopper I is raised to receive the tobacco from the chute *a* of the cylinder B, the tooth *l* rests upon the crank G, as in Fig. 1, thereby holding the hopper in the elevated position.

The following devices are employed for causing the hopper to descend:

o is a crank carried by a short shaft, *p*, which is journaled in bearings on the guide *m* or on the frame A. The crank *o* is in line with the rod *j*, and is adapted to strike the same. The opposite end of the shaft *p* carries a toe or projection, *q*, which is in line with a spring-click, *r*, carried by the wheel F. As the wheel F is turned in the direction of the arrow *a'*,

Fig. 1, the click *r* moves the toe *q* outward, which imparts motion to the crank *o*, thereby pushing the tooth *l* off the crank *G*, when the rod *j* and the hopper *I* will drop. A short enlargement, *p*², on the crank *o* prevents backward movement of said crank.

The inner end of the lever *b* is preferably bifurcated to straddle the cylinder *B*, as shown in Fig. 5, the ends of the forked part being pivoted to the supports *d*; but the lever *b* can be otherwise arranged, if preferred. By the means shown the straight outer portion of the lever *b* is brought toward the center of the machine and directly beneath the arm *H* on the main driving-shaft *D*. To the lever *b* is pivoted a downwardly-projecting rod, *s*, to the lower end of which is pivotally connected the plunger *L*. The plunger *L* passes within the hopper *I* and forces the tobacco therefrom substantially in the manner shown in the aforesaid patent.

M, Figs. 1 and 3, is a rolling apron or place of deposit arranged beneath the hopper *I* and plunger *L*, and is adapted to receive the tobacco from the hopper *I*. This apron *M* or bunch-rolling device may be of any approved form. *t t* are springs secured at one end to the lever *b* and at their opposite ends to the frame *A*. These springs act to raise the lever *b*, and thereby the plunger *L*, as hereinafter shown.

My improvements operate as follows: The hopper *I* is first raised, the tooth *l* resting on the crank *G*, as in Fig. 1. The plunger *L* is also raised, as in the same figure, being the position analogous to that shown in Fig. 7 of Patent No. 331,676. In this position the charge of tobacco from the cylinder *B* will be placed in the hopper *I* through the chute *a* in the manner substantially as shown in the aforesaid patent. When the hopper is thus charged, the treadle is depressed to draw upon the cord *f*, which turns the wheel *F* in the direction of the arrow *a*², Fig. 1. This movement of the wheel *F* presses the click *r* against the toe *q*, thereby pushing the crank *o* against the rod *j* and tripping the tooth *l* off the crank *G*, when the rod *j* and hopper *I* will immediately drop, the hopper then being just above the apron *M*, as in Fig. 3. During this first movement of the wheel *F* the shaft *D* has not been turned, the wheel *F* being loose thereon. The wheel *F* now continues to turn while the hopper is in the lowered position until the ends *b*² of the loops *e* strike the ends of the crank *J*. During the interval between the dropping of the hopper and the contact of the loops *e* with the crank *J* the tobacco has had time to pass from the upper part of the hopper into the tube-like extension at the lower end thereof. The crank *J* will be now be turned with the wheel *F*, thereby turning the shaft *D*, to which said crank *J* is secured. As the shaft *D* is thus turned the arm *H* will be depressed, thereby pressing upon and lowering the lever *b* from the position shown in Fig. 3 to that in Fig. 4. As the lever *b* is thus lowered the plunger *L* will be pushed through the hopper

I to compact the tobacco therein. As the lever *H* was being depressed, as described, the crank *G* was also moved by the wheel *F* and sleeve *E* from the position shown in Fig. 3, above the tooth *l*, to the position shown in Fig. 4, beneath the tooth *l*, the spring *n* drawing the rod *j* inward. The treadle is now moved to draw upon the cord *g* to turn the wheel *F* in the reversed direction to the arrow *a*². The first motion of the wheel *F* in this direction is to raise the crank *G* on the sleeve *E*, and thereby the tooth *l* and hopper *I*, without turning the shaft *D*. By this means the hopper *I* is drawn slightly upward independent of the plunger, thereby expelling the tobacco from the hopper, as in Fig. 10 of Patent No. 331,676. As the wheel *F* continues to revolve, the ends *d*² of the loops *e* will strike the ends of the crank *J*, thereby turning the shaft *D* and raising the arm *H*. As the arm *H* is thus raised the springs *t t* draw upward the lever *b*, thereby raising the plunger *L*. The parts will now be in the first position shown in Fig. 1, ready to act as before shown. Thus by imparting to the wheel *F* a forward and backward motion the hopper *I* and plunger *L* will be operated to form the bunch or filler and place it upon the rolling-apron or other receiver.

If preferred, the springs *t t* for raising the lever *b* could be dispensed with and said lever be connected with the arm *H*, whereby it would be raised by the ascent of said arm.

Having now described my invention, what I claim is—

1. In a cigar-bunching machine, the combination, with the hopper *I*, its rod *j*, and tooth *l*, of the sleeve *E*, crank *G*, carried by said sleeve and adapted to support and raise the tooth *l*, and means, substantially as described, for pushing the tooth *l* off the crank *G* and for turning said crank to raise the tooth *l*, and thereby the hopper *I*, substantially as specified.

2. The hopper *I*, rod *j*, and tooth *l*, in combination with the sleeve *E*, crank *G*, for engaging the tooth *l*, wheel *F*, oscillating crank *o* for tripping the rod *j*, and the projection *r*, carried by the wheel *F*, for actuating the crank *o*, substantially as described.

3. The combination of the shaft *D*, having arm *H* and crank *J*, lever *b*, plunger *L*, connected therewith, sleeve *E*, wheel *F*, carried thereby, and loops *e*, for permitting motion to the wheel *F*, to some extent independent from and to some extent together with the shaft *D*, substantially as described.

4. The shaft *D*, having arm *H* and crank *J*, lever *b*, and plunger *L*, connected therewith, in combination with the sleeve *E*, having wheel *F*, loops *e* thereon, crank *G* on the sleeve *E*, hopper *I*, rod *j*, and tooth *l*, all arranged for operation substantially as described.

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Witnesses:

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