

(No Model.)

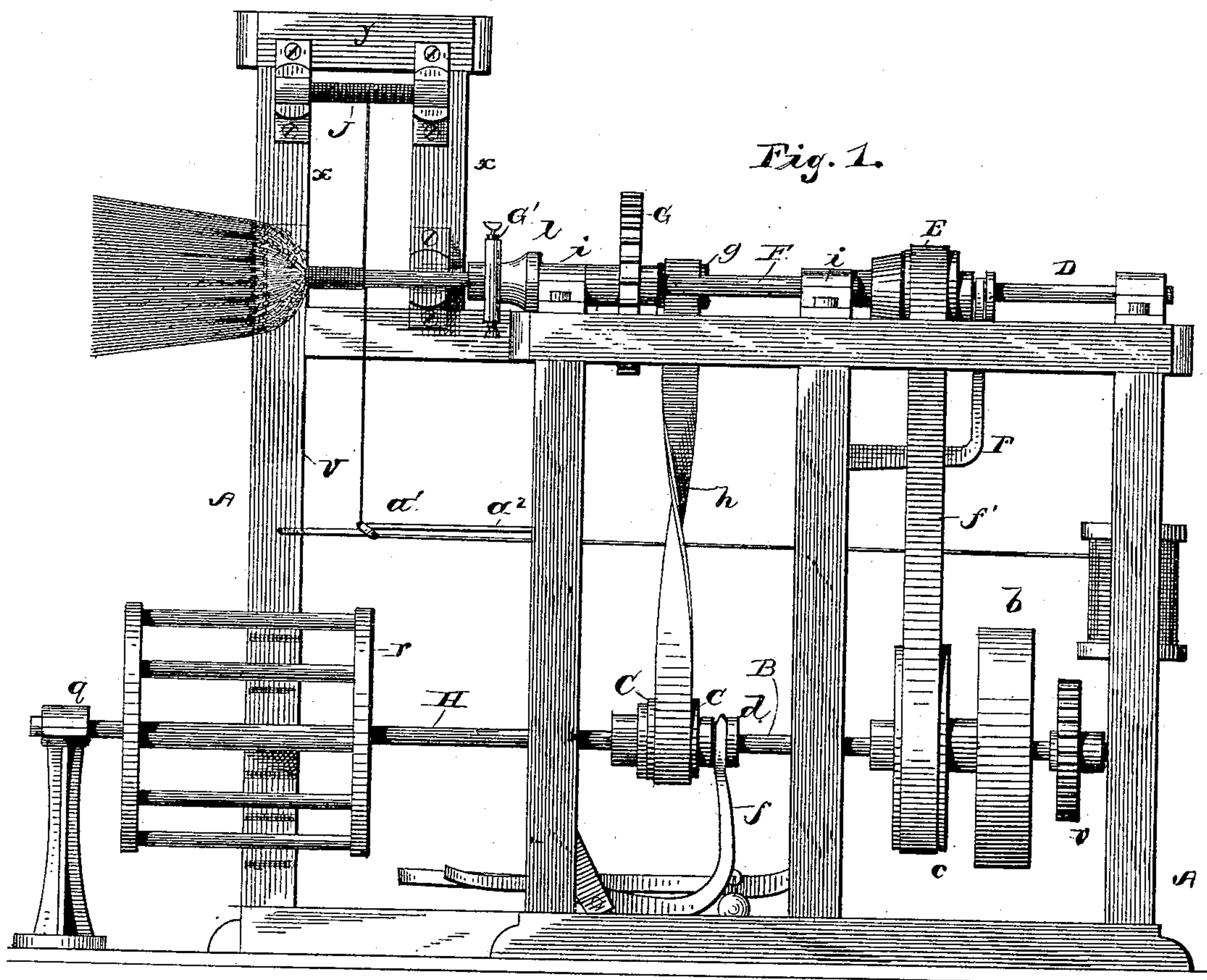
3 Sheets—Sheet 1.

L. PERRON.

BROOM WINDING MACHINE.

No. 329,482.

Patented Nov. 3, 1885.



WITNESSES

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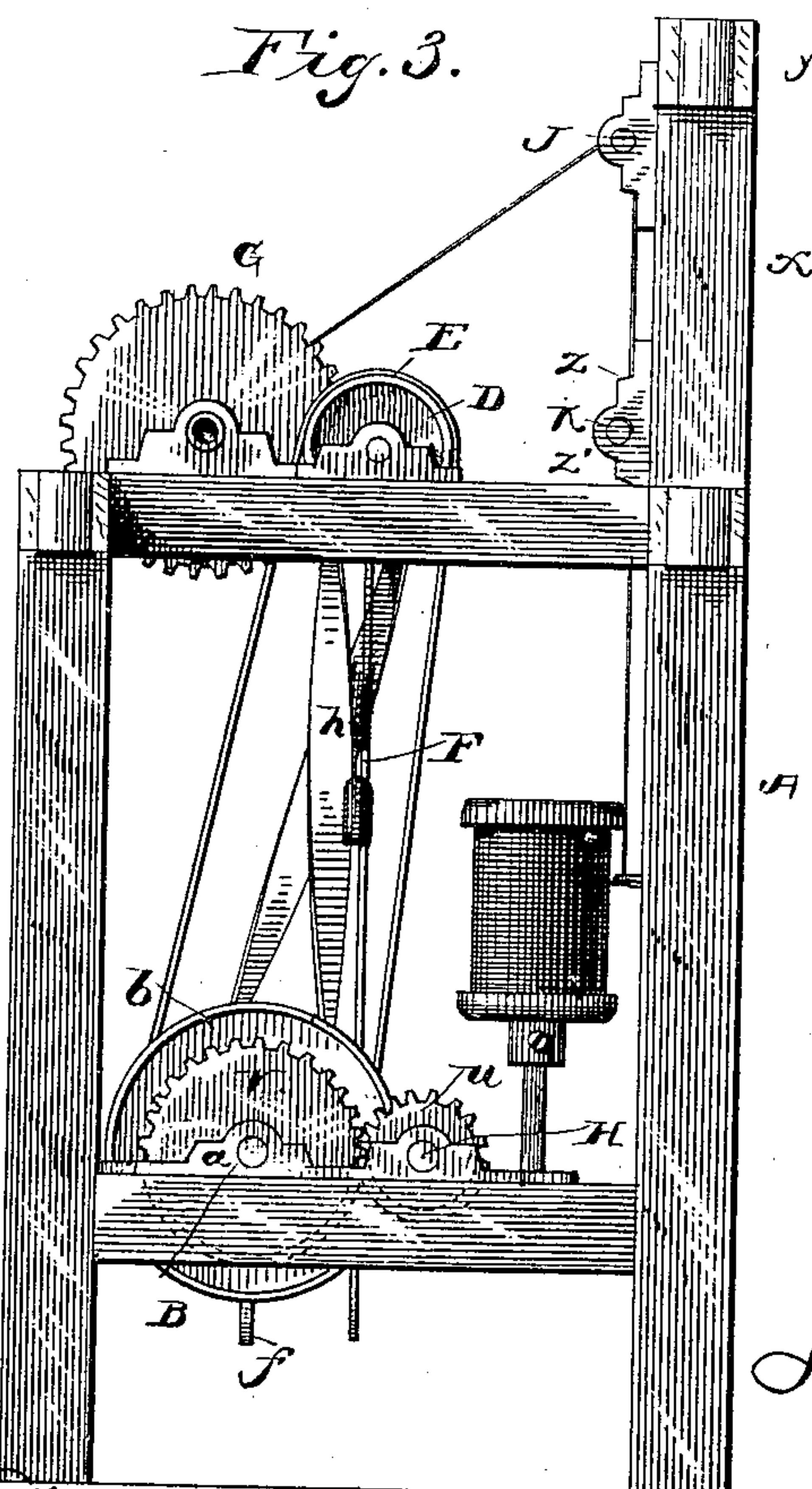
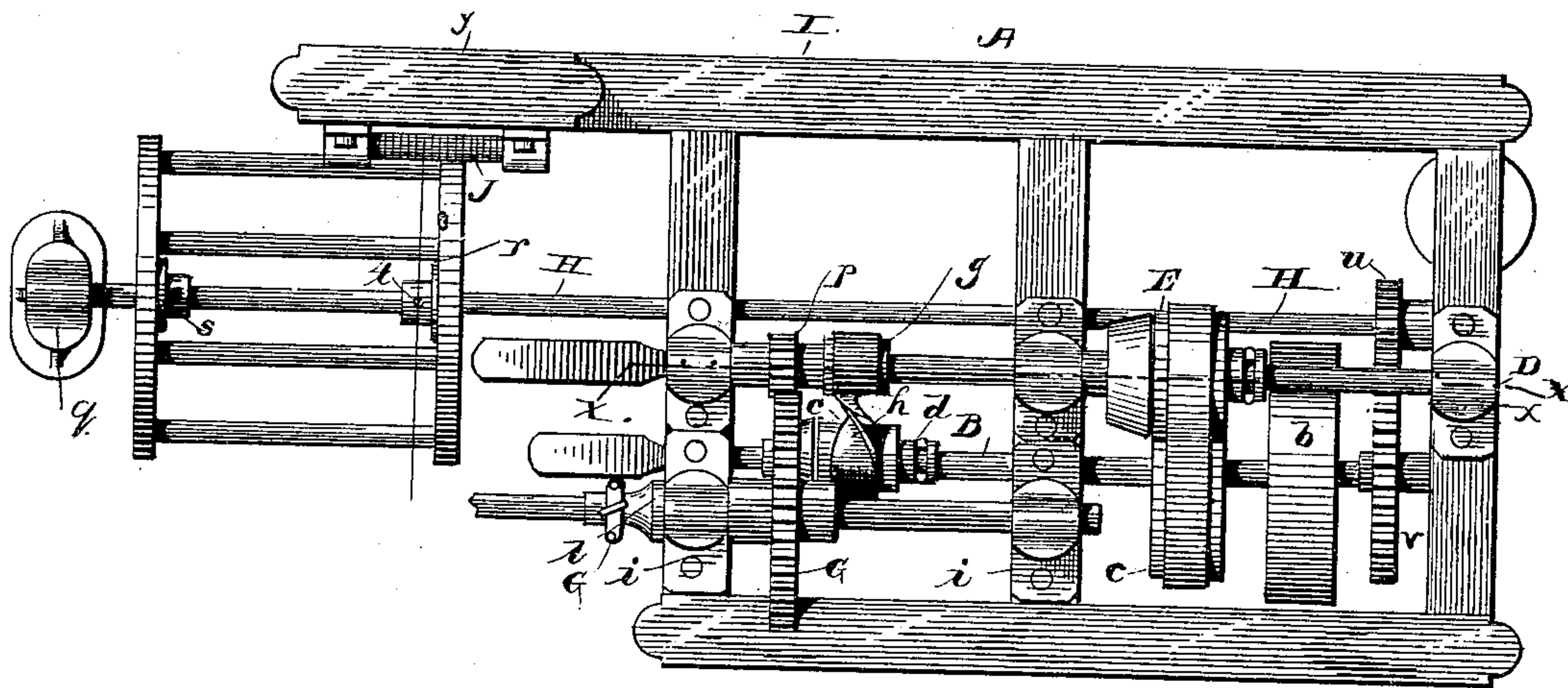
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Fig. 2. Patented Nov. 3, 1885.



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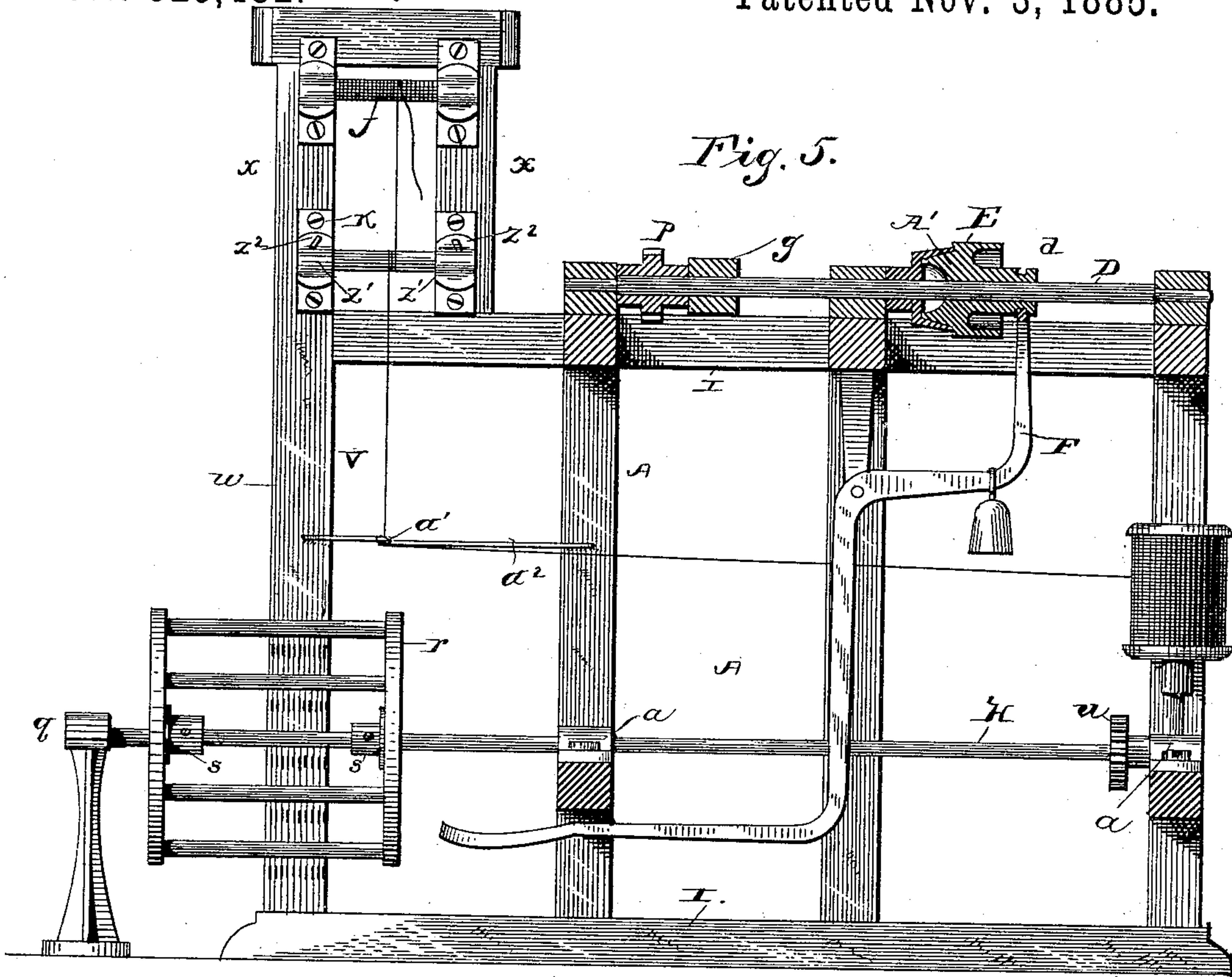
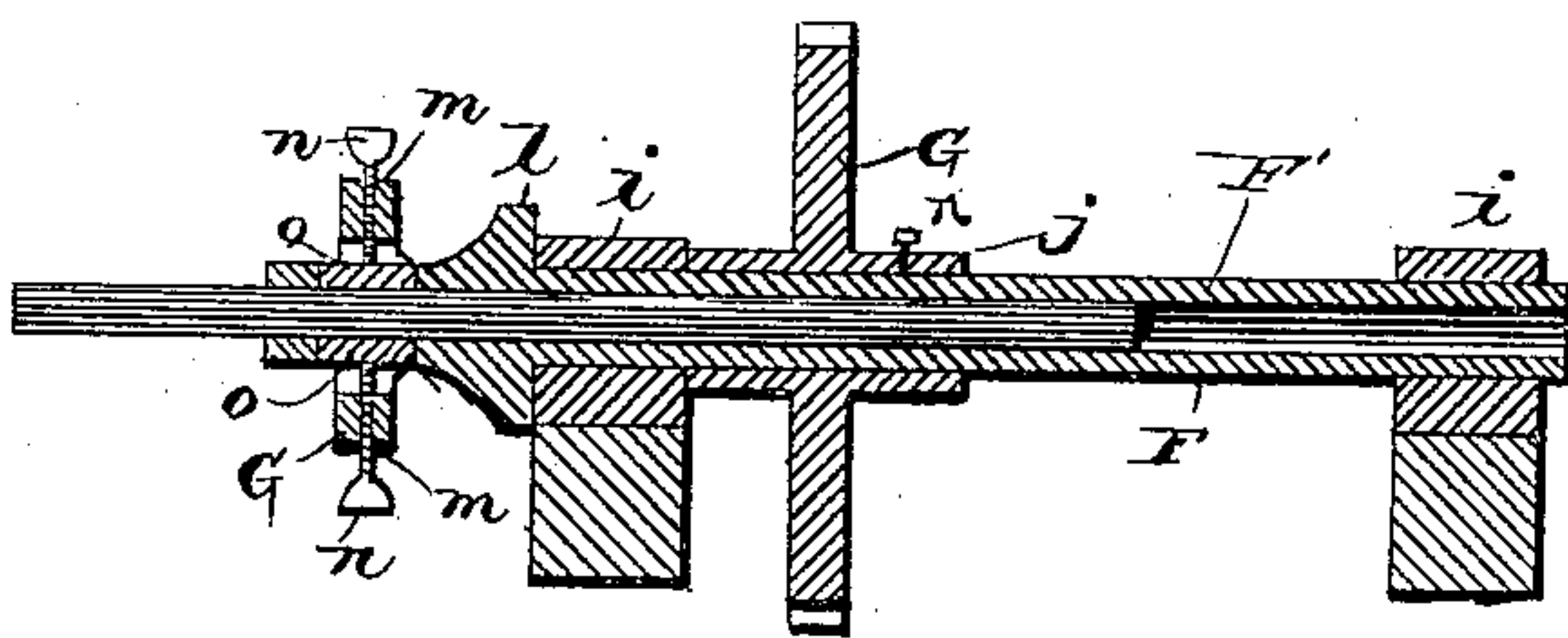


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEON PERRON, OF TOLEDO, OHIO, ASSIGNOR OF ONE-FOURTH TO CHARLES HOHLY, OF SAME PLACE.

BROOM-WINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 329,482, dated November 3, 1885.

Application filed October 17, 1884. Serial No. 145,767. (No model.)

To all whom it may concern:

Be it known that I, LEON PERRON, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Broom-Winding Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to broom-winding machines; and it consists in the improved construction and combinations of parts hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation showing the machine in position for operation. Fig. 2 is a plan view. Fig. 3 is an end elevation. Fig. 4 is a longitudinal vertical section taken through the hollow shaft and bracket or clamp for holding the broom in position while being operated upon, and Fig. 5 is a longitudinal vertical section on the line *x* of Fig. 2.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, A represents a supporting-frame.

B represents a shaft, which is mounted in brackets or boxes *a*, secured to tie or cross beams of said frame at the lower end thereof. Upon the shaft B, near one end thereof, is mounted a band-wheel, *b*, while adjacent to said band-wheel *b* is a somewhat smaller pulley or band-wheel, *c*. At or near the opposite end of the shaft B is mounted a friction-clutch, C, consisting of a conical or tapering core, *A'*, rigid upon the shaft, and a sliding sleeve to engage the same, said sliding sleeve having at its inner end a collar, *d*, having an annular groove or channel. Upon the under side of the lower cross or tie beam is pivoted to a downwardly-extending arm, *e*, a foot-lever, *f*, having a bifurcated end to fit around or engage the annular groove or channel on the collar *d* of the sliding sleeve of the friction-clutch C. It will be seen that when the rear end of said lever is depressed it will throw the other end forward, which will move the sliding sleeve into engagement with the core, which, as before stated, is rigid upon the shaft B. A weight is attached to the rear

end of the pivoted bifurcated lever *f*, so that when the forward end of the lever is not depressed the sliding sleeve will be held from engagement with the core.

D represents a shaft, which is journaled in boxes or bearings at the upper end of the frame, and in a vertical line, or nearly so, with the shaft B. Upon the shaft D, near one end thereof, is mounted a friction-clutch, E, similar in construction to the clutch C, already described, with the exception that in this case the core slides and the sleeve is rigid or stationary. A pivoted bifurcated lever, F, is also employed to shift the clutch E, said lever being constructed and operating similarly to the lever *f*. Connecting the friction-clutch E with the pulley or band-wheel *c* is a belt, *f'*. Upon the other end of the shaft D is a pulley, *g*, which is connected with the friction-clutch C by means of a crossed belt, *h*. Just in front of the pulley *g* is a hollow shaft, F', which is mounted in boxes *i* upon the upper end of the frame. Upon this shaft F' is a gear-wheel, G, which has a sleeve or collar, *j*, having a screw-threaded opening to receive a set-screw, *k*, for holding said gear-wheel rigid upon the shaft F'. This shaft F' is hollow, and is extended beyond the end of the frame, as shown. Just outside of the supporting-frame the shaft F' is formed with an annular ring or collar, *l*, which bears against the box of the shaft, and prevents the movement of said shaft in a lateral direction. Near the end of the hollow shaft F' is formed a bracket, G', having at its upper and lower ends screw-threaded openings *m*. Fitting in these screw-threaded openings are thumb-screws *n*, carrying at their ends clamping-strips *o*. These clamping-strips *o* are adapted to fit openings in the hollow shaft F'. It will thus be seen that should any object be placed in the hollow shaft F' it may be clamped therein by tightening the thumb-screws carrying the clamping-strips, which would grip or bite the same and hold it against movement. The gear-wheel G meshes with a pinion, *p*, mounted on the shaft D, so that when said shaft D is revolved motion is imparted to the hollow shaft F'. In the lower part of the supporting-frame, near the rear side thereof, is mounted a shaft, H, which runs the entire

length of the frame A, and extends out some distance beyond the frame A, where it is supported by an upright or standard, *q*. Upon the shaft H, between the frame A and the upright *q*, is mounted a trundle-wheel, *r*, the disks of which are provided with inwardly-extending sleeves *s*, having screw-threaded openings, in which is seated set-screw *t*. It will thus be seen that said wheel may be adjusted on said shaft and held at any point thereon by tightening said set-screws, thus holding it rigid upon the shaft. At the other end of the shaft H is mounted a pinion, *u*, which meshes with a gear-wheel, *v*, which is rigidly mounted upon the shaft B. The rear longitudinal beams, I, of the supporting-frame A are extended and supported at their ends, as shown, by an upright, *w*. It will be seen that by the employment of the trundle-wheel the machine may be started and might be run by hand by said trundle-wheel. Upon the longitudinal beam I are two uprights, *x*, connected at their upper ends by a cross-piece, *y*. J represents a threaded guide-shaft, which is mounted in brackets secured near the upper end of the uprights *x*. The threads on this guide-shaft run from the outer to the inner end thereof. Thus it will be seen that if a cord or wire should be run over said shaft it would be gradually fed from the outer to the inner end. Below the guide-shaft J is mounted a shaft, K, supported in brackets *z*, the caps *z'* of which are removable, and are held in place by set-screws *z''*, so that said cap-pieces may be tightened to increase the friction upon the shaft, and thus increase the tension, as will be more fully explained. At the opposite end of the supporting-frame from the said tension-shaft, and upon one of the lower cross or tie beams, is mounted an upwardly-extending spindle, upon which is a collar, which may be slid upon said spindle, and clamped at any point thereon by means of a set-screw, which grips or bites the same. Upon this spindle is mounted a spool or reel for holding the wire or cord to be used for securing the head of the broom to the handle. The wire or cord is carried from said spool or reel toward the other end of the frame, and is passed through a loop, *a'*, of a rod, *a''*, secured to the vertical upright *v'* and the end of the frame A. The wire or cord is then carried upwardly and passed one or more times around the friction-roller, from whence it is carried to the feed-shaft at the outer end thereof.

The operation is as follows: The handle of the broom is inserted in the hollow shaft F',

and the end of the wire or cord secured to the head, and upon motion being imparted to the band-wheels said hollow shaft will be turned, and as the broom is clamped in said hollow shaft it turns therewith. Thus the wire is wound upon the same. The pitch of the screw-threaded guide-shaft is such that the wire or cord is guided to the broom, so that the wrapping will be continuous. As the wire is wound around the tension-shaft, it will be seen that the wire is always held taut, and that the wrap upon the broom will be close and tightly made.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a broom-winding machine, the combination, with a supporting-frame, of a spindle provided with a vertically-adjustable collar adapted to support a spool, a tension-shaft, a wire-guide located below the same, a screw-threaded guide-shaft located above the tension-shaft, a hollow shaft and clamping-brackets located therein, and a gear-wheel on said hollow shaft adapted to be connected with any suitable train of gearing, as set forth.

2. In a broom-winding machine, the combination, with a supporting-frame, of a spindle adapted to receive a spool, a tension-shaft, a screw-threaded guide-shaft located above the tension-shaft, brackets fitting the ends of the shafts and having set-screws working in openings thereof for increasing the tension of the shafts, a guide for the wire located beneath the tension-shaft, a hollow shaft having a gear-wheel, and set-screws carrying clamping-brackets at their ends, which work in openings of the hollow shaft, substantially as set forth.

3. In a broom-winding machine, the combination, with a hollow shaft carrying a gear-wheel, and carrying brackets for clamping the broom, of a shaft carrying a band-wheel, a shaft carrying a friction-clutch composed of a core and a sleeve, a belt connecting the band-wheel and clutch, a spur-wheel on said shaft to engage the gear-wheel on the hollow shaft, and a lever for separating the parts of the clutch, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LEON PERRON.

Witnesses:

ADAM KNISSER,
CHARLES HOHLY.