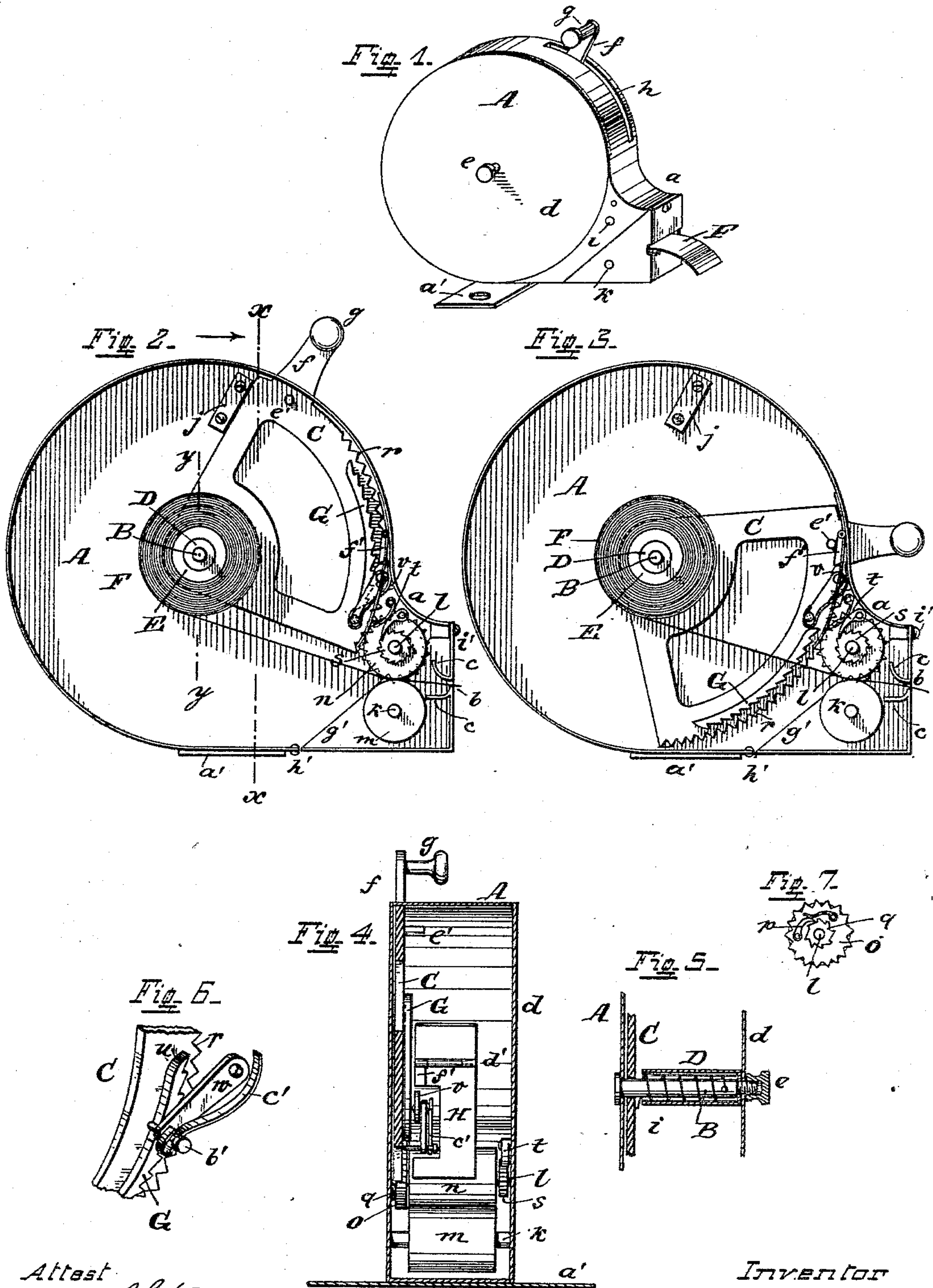


(No Model.)

C. D. GRIMES
TICKET REEL.

No. 414,403.

Patented Nov. 5, 1889.



Attest
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UNITED STATES PATENT OFFICE.

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TICKET-REEL.

SPECIFICATION forming part of Letters Patent No. 414,403, dated November 5, 1889.

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To all whom it may concern:

Be it known that I, CHARLES D. GRIMES, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Ticket-Reels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of ticket-reels comprising a case for containing the reel and mechanism for turning the feeding-rolls to draw out the paper in strips of the proper length; and it has for its object the improved construction and mode of operation of such reels.

The novelty of my invention will be herein set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved ticket-reel. Fig. 2 is an enlarged side elevation of the same with the rear side of the case removed and the parts in their normal position of rest. Fig. 3 is a view corresponding to Fig. 2, but showing the position of the parts at the completion of the stroke of the lever. Fig. 4 is a sectional end elevation through the dotted line *xx* of Fig. 2, looking in the direction of the arrow. Fig. 5 is a sectional detail through the dotted line *yy* of Fig. 2, looking in the same direction as Fig. 4. Fig. 6 is a perspective detail of a part of the lever, to be referred to more particularly hereinafter. Fig. 7 is an end elevation of the feeding-ratchet, looking at it from the opposite side of Figs. 2 and 3.

The same letters of reference are used to indicate identical parts in all the figures.

A is a cylindrical case having a front extension *a* and a base-piece *a'*, by which it may be screwed or fastened to a counter or table. The front face of the extension *a* has a horizontal slot *b*, with inturned guide-flanges *c*, and with one or both edges of the slot serrated, (see Fig. 1, where the lower edge is shown serrated,) to enable the ticket which has been fed to be readily severed.

Extending horizontally through the center

of the case A is a shaft B, (see Fig. 5,) one end of which is made fast to the side of the case and the other is threaded and extends through an opening in the circular removable side *d* of the case (see Fig. 1) and receives upon its end a cap-nut *e*, by which said removable side *d* is held in place. Pivoted upon the shaft B, by the side of the case opposite the side *d*, is a segment-lever C, having a portion projecting through a slot *h*, Fig. 1, in the top of the case and provided with a grasping-handle *g*. This lever has secured to it one end of a spiral spring *i*, Fig. 5, which is coiled around the shaft B and has its opposite end secured to said shaft. The spring *i* is always partly under tension, so as to hold the lever C normally up in the position shown in Fig. 2, where it is arrested either by the end wall of the slot *h* or by a stop *j*, secured to the inner side of the case, and when the lever is grasped and depressed to the completion of its stroke, as seen in Fig. 3, said spring is put under further tension, so that upon releasing the lever the spring at once returns it to the position of Fig. 2.

Surrounding the shaft B is a tube D, Fig. 5, having a perforated end wall, which is slipped or screwed over the threaded portion of the shaft B and bears against its shoulder and is clamped by the plate *d*. Over this tube D is slipped the spool E containing the ribbon of tickets F.

Journaled in the side of the extension *a* of the case are two horizontal shafts *k* and *l*, the latter directly over the former and each having fast upon it a rubber or rubber-coated feed-roller, the two (*m* and *n*) being in frictional contact. The ribbon F extends from the reel between these rollers and out between the guide-flanges through the slot *b*. On the shaft *l*, on the same side as the lever C and in line therewith, is a pinion *o*, loose upon said shaft but carrying a spring-pawl *p*, Fig. 7, which engages with a ratchet *q*, tight upon said shaft. The pinion *o* meshes constantly with a rack *r* upon the curved edge of the lever C, so that when the latter is depressed, as before stated, the pinion *o*, through the ratchet *q* and pawl *p*, becomes locked to the shaft *l* and rotates the same and thereby

feeds out the proper length of ticket to be severed. On the opposite end of the shaft *l* is another ratchet *s*, Figs. 2, 3, and 4, which is engaged by a spring *t*, pivoted to the side of the case, and which, while permitting the shaft to turn so as to feed out the ticket, locks it upon the return-stroke of the lever *C*. Upon the return-stroke of the lever *C* the pinion *o* turns idly upon the shaft *l* and the pawl *p* merely clicks back upon its stationary ratchet *q*, as will be readily understood.

To insure the complete stroke of the lever *C*, I have placed a supplemental curved rack *G* upon the side of the lever *V* and having its ends rounded or beveled off, as shown at *u*, Fig. 6. Pivoted in lugs *v* on the inner side of the front portion of the case is an arm *w*, having a pin *b'* inserted through its lower end and projecting on each side thereof. A spring *c'* engages one end of this pin, but not under tension, except when it is put so as presently explained. The other end of the pin, when the parts are in their normal position of rest, as in Fig. 2, is directly under the lower beveled end of the rack *G*, so that when the lever *C* is depressed the rack *G* passes down and its outer toothed part engages with this end of the pin, thereby forming a lock to prevent the return of the lever before it has finished its stroke. During the passage of the toothed part of the rack over the pin the spring *c'* is put under tension by the pressure of the arm *w* outward; but at the completion of the stroke of the lever *C* the upper end of the rack has passed the pin, and the spring being relieved throws the arm *w* inward, so that as the lever starts back the pin rides over the bevel *u*, and the back of the rack *G* engages the pin (see Fig. 6) and swinging the arm *w* inward puts the spring under tension in the opposite direction, so that when the lever is completely reset the spring, being freed by the upward passage past it of the lower end of the rack *G*, throws the arm *w* again outward in position to engage with the toothed side of the rack, as seen in Fig. 2. To insure the stoppage of the feed-roller *n* at the completion of the forward stroke of the lever *C*, I provide a brake-plate *H*, Figs. 2, 3, and 4, which is hinged, as at *d'*, to the inner side of the front of the case, and is cut away to clear the lugs *v* and arm *w*. A pin or lug *e'* upon the inner side of the lever *C* engages with this plate, or with a projection *j'* upon said plate, at the completion of its downward stroke, and forces the plate tightly against the roller *n*, thereby stopping it at once and preventing its revolving too far under any sudden impetus in the operation of the lever *C*. The lower front portion of

the extension *a* of the case is shown divided on the line *g'*, and hinged at its bottom, as at *h'*, so that it may be let down for the ready inspection of the parts contained in said extension. A screw *i'* serves to hold it up and locked.

Having thus fully described my invention, I claim—

1. The combination, with the casing *A*, of the pivoted segment-lever *C*, having the rack *r* and supplemental rack *G*, the pinion *o*, meshing with the rack *r*, the friction-roller *n*, the ratchet-and-pawl connection between said pinion and roller, and the spring-arm *w*, having a projection engaging the supplemental rack *G*, substantially as and for the purpose described.

2. The combination, with the casing *A*, of the pivoted segment-lever *C*, having the rack *r* and supplemental rack *G*, the pinion *o*, meshing with the rack *r*, the friction-rollers *m n*, the ratchet-and-pawl connection between the pinion *o* and roller *n*, the spring for returning the lever *C* to its normal position, and the spring-arm *w*, having a projection engaging the supplemental rack *G*, substantially as and for the purpose described.

3. The combination, with the casing *A*, of the shaft *B*, secured to one side and extending through the center thereof, the side plate *d*, fitting over said shaft and clamped thereon by the nut *e*, the segment-lever *C*, pivoted on the shaft *B* and having the rack *r* and supplemental rack *G*, the spring *i*, coiled around the shaft *B* and secured at one end to said shaft and at the other to the lever *C*, the tube *D*, surrounding the shaft *B* and spring *i*, the pinion *o*, meshing with the rack *r*, the friction-rollers *m n*, the ratchet-and-pawl connection between the pinion *o* and roller *n*, the pawl and ratchet for preventing said roller turning backward, and the spring-arm *w*, having a projection engaging the supplemental rack *G*, substantially as and for the purpose described.

4. The combination, with the casing *A*, of the pivoted segment-lever *C*, having the rack *r*, the pinion *o*, meshing with said rack, the friction-roller *n*, the ratchet-and-pawl connection between said pinion and roller, and the brake-plate *H*, arranged to be engaged by a projection on the lever *C*, and pressed against the roller *n* at the completion of the stroke of said lever, substantially as and for the purpose described.

CHARLES D. GRIMES.

Witnesses:

THOMAS CORWIN,

TOM C. COFFMAN.