

No. 840,134.

PATENTED JAN. 1, 1907.

K. J. H. KLEMPAU.
ADVERTISING APPARATUS.

APPLICATION FILED JULY 27, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

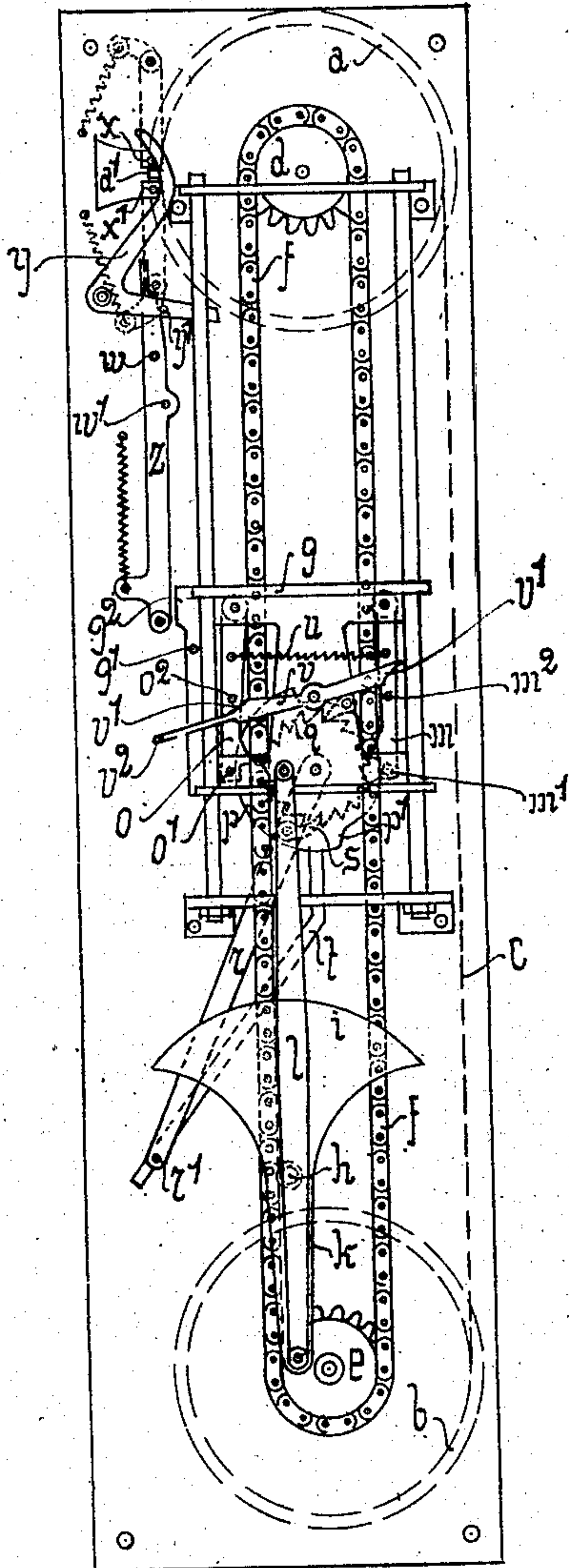
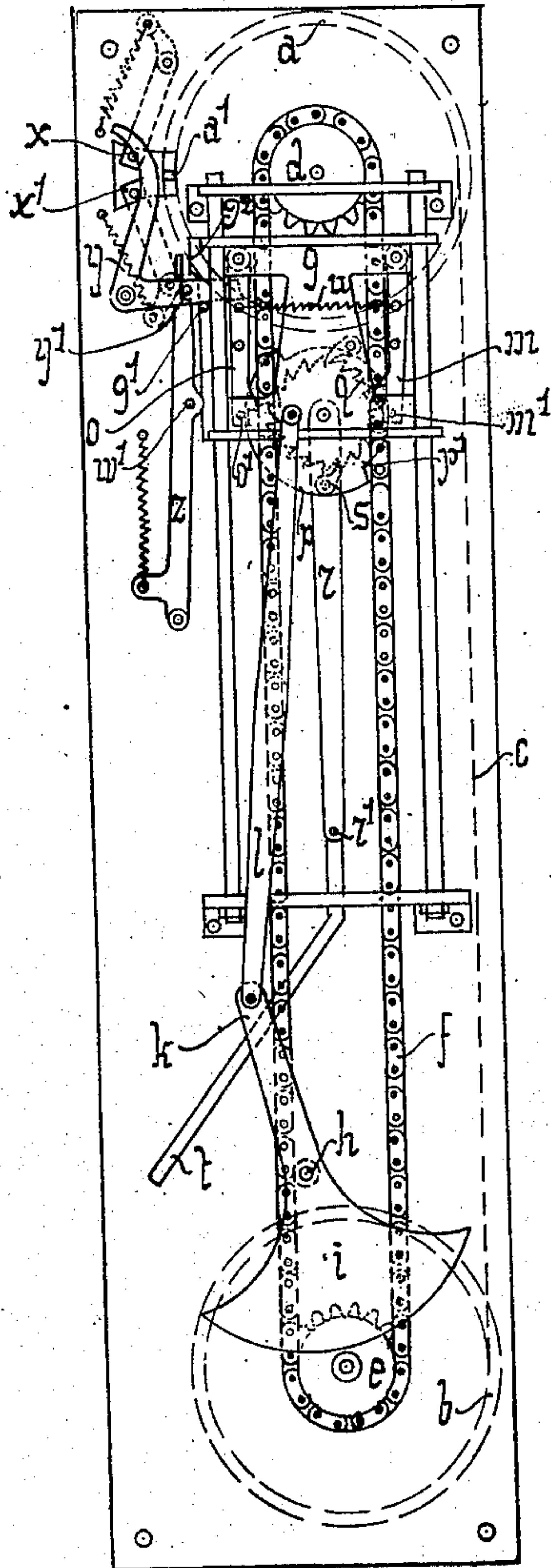


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

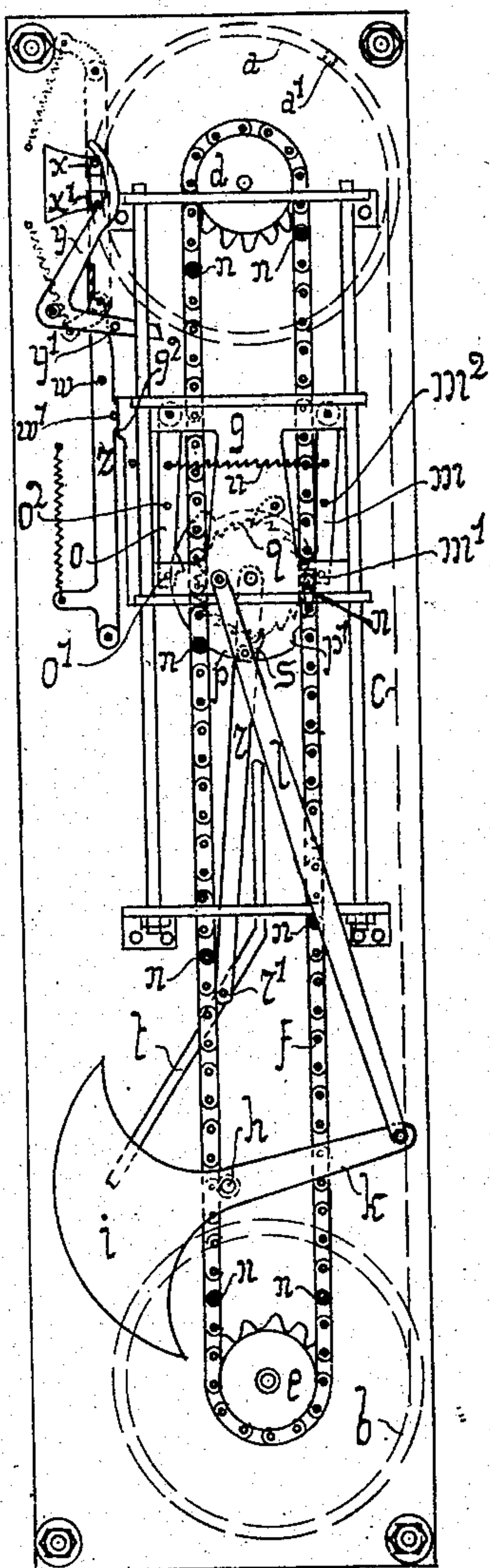
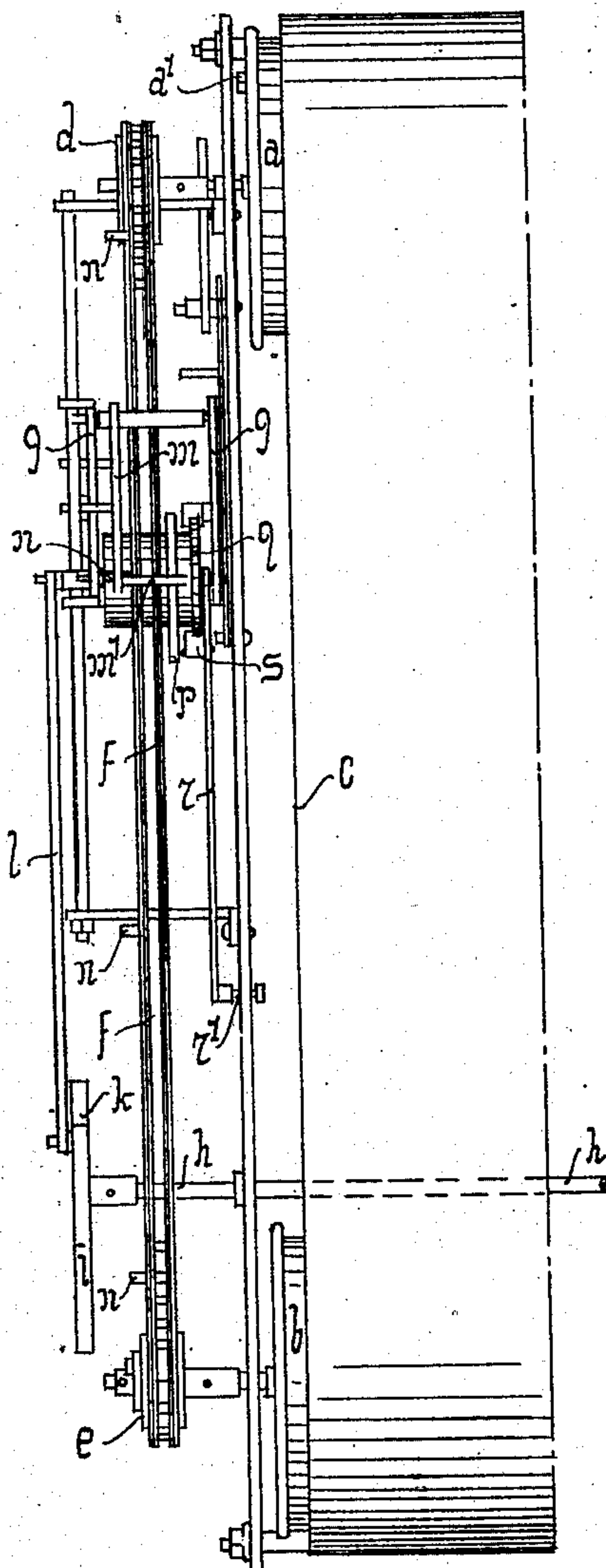


Fig. 4



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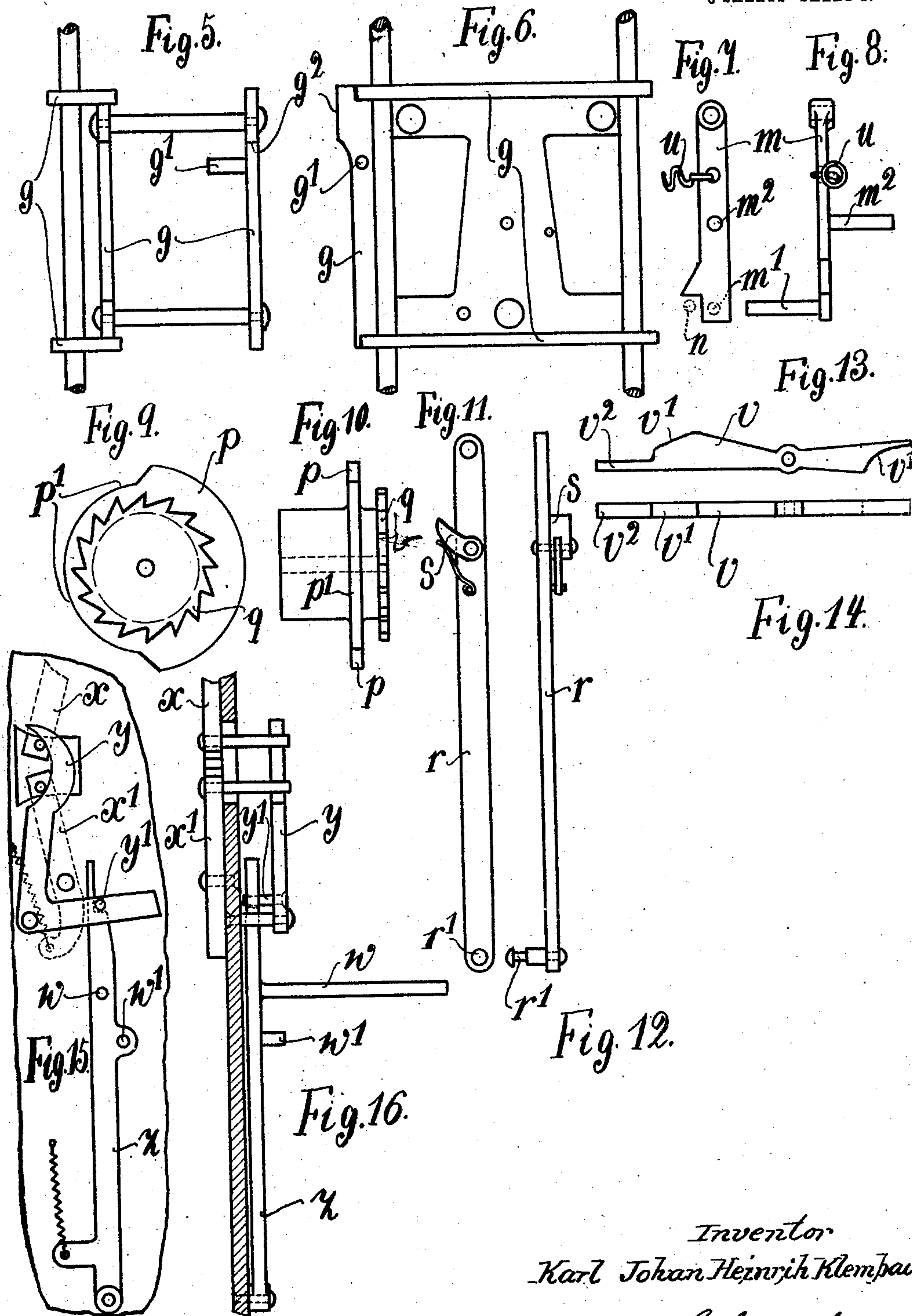
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3 SHEETS—SHEET 3.



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ADVERTISING APPARATUS.

No. 840,134.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed July 27, 1905. Serial No. 271,538.

To all whom it may concern:

Be it known that I, KARL JOHAN HEINRIH KLEMPAU, a citizen of the Empire of Germany, residing at Hamburg-Hohenfelde, Germany, Marienthalerstrasse No. 21^a, have invented new and useful Improvements in Advertising Apparatus, of which the following is a specification.

The invention has for its object an advertising device of the kind in which an advertisement-band is drawn intermittently off one drum and wound upon another, whereupon as soon as the band has been wound from one drum to the other in this manner it is rewound upon the first drum in the opposite direction.

The invention relates to a particular construction of such an advertising device, and more particularly to the apparatus for imparting the intermittent movement to the advertising-band, the device being differentiated from known apparatuses of the kind owing to its simplicity and reliability.

A constructional form of the novel advertising device is illustrated in the accompanying drawings.

Figure 1 is an end elevation of the advertising device or of the mechanism for operating the drums. Figs. 2 and 3 are similar views to Fig. 1, but showing the various parts in different operative positions and certain parts removed for the purpose of clearly showing the construction and operation. Fig. 4 is a front elevation corresponding to Fig. 3. Figs. 5 to 16, inclusive, show details of the apparatus on an enlarged scale.

The two drums *a* and *b*, upon which the advertisement-band *c*, Fig. 4, is wound alternately with intermittent movement, are mounted in an appropriate frame and are connected by a suitable chain-gear *d e f*, so that when the chain *f* is displaced in either direction the drums *a* and *b* receive a corresponding rotary displacement.

Upon the side wall of the apparatus a sliding frame *g*, Figs. 5 and 6, of the nature of a cross-head is mounted in suitable guides and is adapted to be raised or lowered by a shaft *h*, driven in any convenient manner by the intermediary of a crank *k*, balanced by a counterweight *i* and a connecting-rod *l*. When the crank *k* is rotated toward the right hand, the connecting-rod raises the sliding frame approximately from the position shown in

Fig. 1 to that represented in Fig. 2. Thereupon a spring-controlled pawl *m*, Figs. 7 and 8, arranged upon the sliding frame, snaps over one of the pins *n*, with which the chain *f* is provided at suitable intervals, Fig. 4. If the rotation of the crank *k* is continued, in the first place the frame *g* ascends somewhat farther and upon reaching its uppermost position it descends, Fig. 3, whereupon the pawl *m*, acting upon the pin *n*, draws the chain *f* down with it, so that the drums *a* and *b* receive a right-hand rotation, by means of which the advertising-band is wound from the upper onto the lower drum. This winding movement continues as long as the chain is drawn downward—that is to say, until the sliding frame has reached its lowermost position, Fig. 1, and again begins to ascend. The pawl *m* then leaves the pin *n*, which remains stationary, and shortly before the sliding frame again reaches its uppermost position it snaps over the next pin *n*, and during the succeeding downward travel of the sliding frame the chain is again drawn downward. During the ascent of the sliding frame the chain therefore remains at rest, while, on the other hand, each downward movement of the sliding frame displaces the chain—that is to say, draws it downward by the amount of the interval separating two adjacent pins *n*. In this latter case the advertisement-band is also displaced, while in the former case the band is left in the position into which its intermittent movement has carried it and there remains in view for a certain period.

When the winding of the advertisement-band from the drum *a* onto the drum *b* is completed, or nearly so, the band is again wound with an intermittent movement onto the drum *a*, and this without interrupting the operation of the advertising device or altering the direction of rotation of the crank *k*. This result is attained owing to the fact that at the proper moment the pawl *m* is released—that is to say, it is withdrawn from the path of the pins *n*—while at the same time a similar pawl *o* upon the other side of the sliding frame *g* is interposed in the path of the pins *n* on the left-hand length of the chain, so that this pawl *o* now sets upon the other side of the chain, thereby displacing it in the direction contrary to the movement imparted by the pawl *m*.

The engagement and disengagement of the pawls *m* and *o* are effected by means of a cam-disk *p*, Figs. 9 and 10, provided with a cut-away section *p'*, which is rotated by a predetermined amount by means of a ratchet-wheel *q*, Figs. 9 and 10, connected with it, and of an operating-lever *r*, Figs. 11 and 12, with pawl *s* upon each ascent of the sliding frame. The rocking movement required to actuate the lever *r* is effected by means of the guide-slot *t*, running in an appropriately-inclined direction in the wall of the apparatus, the operating-lever engaging in this slot *t* by means of a pin *r'*, Figs. 11 and 12. Now according as the full edge or the recessed edge of the cam-disk acts against the pin *m'* or the pin *o'* of the pawls *m* or *o*, respectively, the pawl *m* or the pawl *o* is held in such a manner that it lies either in the path of the pins *n* or outside the same. In the example here illustrated, in which the pawls *m* and *o* are connected by a common spring *u*, Figs. 7 and 8, the position of the cam-disk *p* *p'* is such that the pawl *m* is engaged while the pawl *o* is disengaged as the pawl-pins *m'* and *o'* slide over the recessed and the full portions of the cam-disk, respectively. Now as soon as, owing to the further rotation of the cam-disk, the pin *m'* comes upon the full edge of the disk and the pin *o'* upon the recessed portion, which is the case when the advertisement-band is unwound from the drum *a*, the position of the pawls is reversed—that is to say, the pawl *m* is disengaged and the pawl *o* is engaged.

Now and again it may be desirable to disengage both the pawls *m* and *o*. This is effected by means of a lever *v*, Figs. 1, 12, and 13, which when rocked into the horizontal position acts by its chamfered ends *v'*, Figs. 12 and 13, against appropriate pins *m²* and *o²* of the pawls, Figs. 7 and 8, and holds both these latter in the disengaged position. If it should be omitted to move back the lever *v* when the apparatus is restarted, the reversal of this lever will be effected automatically, as upon the ascent of the sliding frame an arm *v²* on the lever will strike against a pin *w*, thereby rocking the lever *v* back into the position shown in Fig. 1, thus reengaging either the pawl *m* or the pawl *o*. The apparatus is thereby prevented from running idly—that is to say, without displacing the advertisement-band.

In order to prevent overrunning of the drum *a* and to hold it while the advertisement-band is stationary, the following provision is made: Upon the wall of the drum *a* is arranged a pin *a'*, which is normally held between two spring-locking pawls *x* and *x'*, Figs. 15 and 16. In the upward movement a pin *g'*, Figs. 1, 2, 3, 5, and 6, of the sliding frame strikes against a bent lever *y*, Figs. 1, 2, 3, 15, and 16, by the displacement of which into the position represented in Fig. 2 the

locking-pawls *x* and *x'* are swung aside, thus releasing the pin *a'*. The bent lever *y* is secured in this disengaged position by means of a spring-actuated lever *z*, Figs. 1, 2, 3, 15, and 16, snapping beneath a pin *y'*, Figs. 15 and 16. As soon as the rotation of the drum has begun—that is to say, when the pin *a'* is out of reach of the locking-pawls *x* *x'*—a projection *g²*, Figs. 1, 2, 3, 5, and 6, upon the descending sliding frame by acting upon a pin *w'*, Figs. 1, 2, 3, 15, and 16, on the supporting-lever presses this latter aside, whereby the bent lever *y* is again released, so that both it and the locking-pawls *x* and *x'* return to their initial position, Fig. 3. Upon the completion of the downward movement of the sliding frame and of the rotation of the drum *a* the pin *a'* again comes between the locking-pawls, pressing the pawl *x'* to one side in order to do so, and is again held between these pawls, Fig. 1.

Having now fully described my invention, what I claim as new is—

1. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same, means for reciprocating the sliding frame whereby the endless chain and advertisement-band is intermittently displaced.
2. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same, and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same, means for automatically disengaging or engaging either one of the pawls from the endless chain for the reversal of motion of the advertisement-band, and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.
3. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same, and moving the

advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same; a stopping-lever interposed between the pawls on said sliding frame and adapted to engage the pawls and make them simultaneously inoperative with respect to engaging the endless chain, means in the path of the sliding frame at a predetermined point for engaging the stopping-lever and restoring the operativeness of either one of the pawls, and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.

4. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and

capable of rotating the same, and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain; a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same; a pin on one of said drums, a spring-actuated catch engaging the said pin in the drum, a lever attached to the frame and controlling the position of the spring-actuated catch, means on said sliding frame for actuating the lever for engaging and disengaging the catch from the pin on the drum and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.

In testimony whereof I affix my signature in the presence of two witnesses.

KARL JOHAN HEINRIH KLEMPAU.

Witnesses:

OTTO W. HELLMRICH,

IDA CHRIST. HAUFERMANN.