

(No Model.)

G. A. HUNT & W. C. TRUSSELL.  
STATION INDICATOR.

No. 586,087.

Patented July 6, 1897.

FIG. 1.

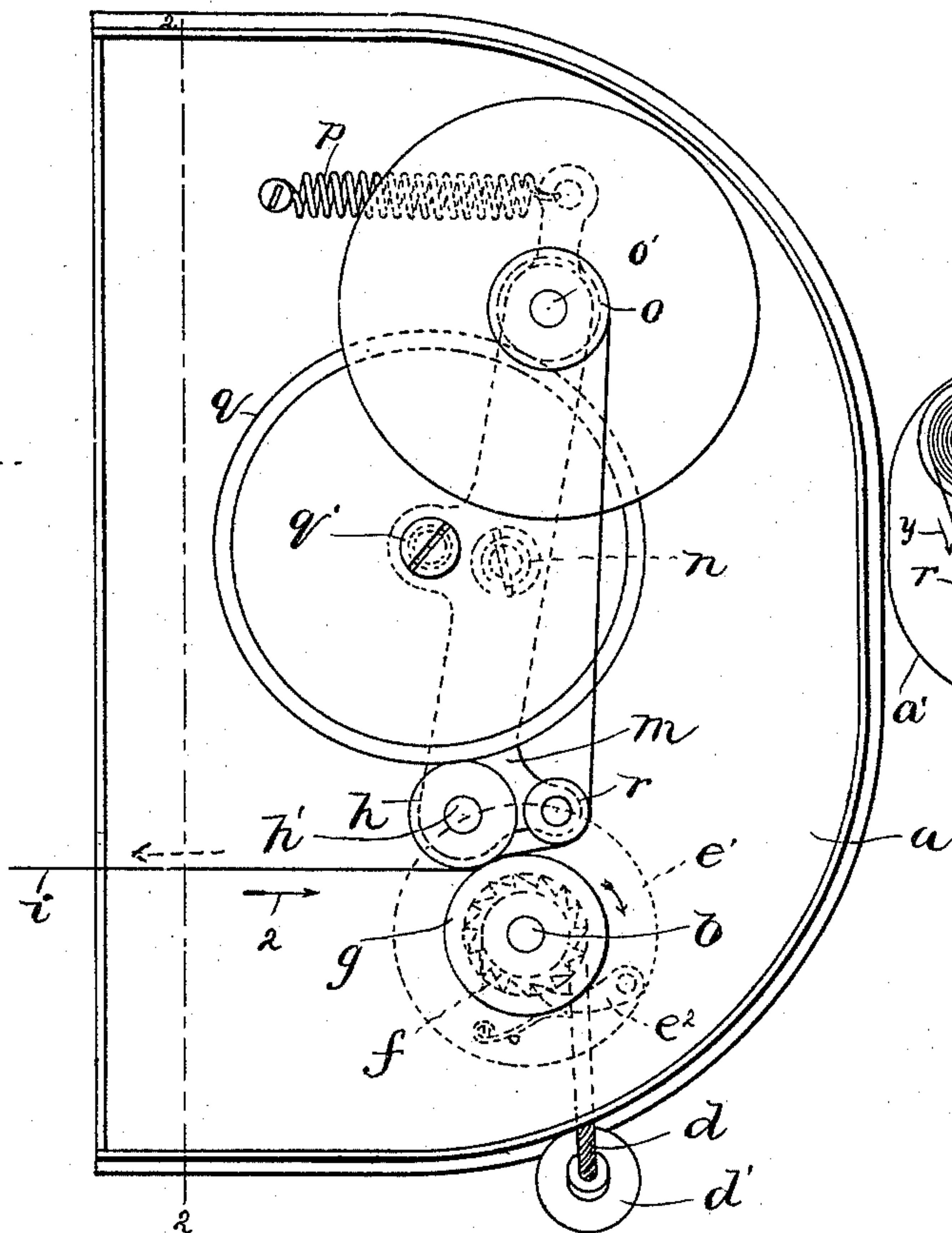


FIG. 3.

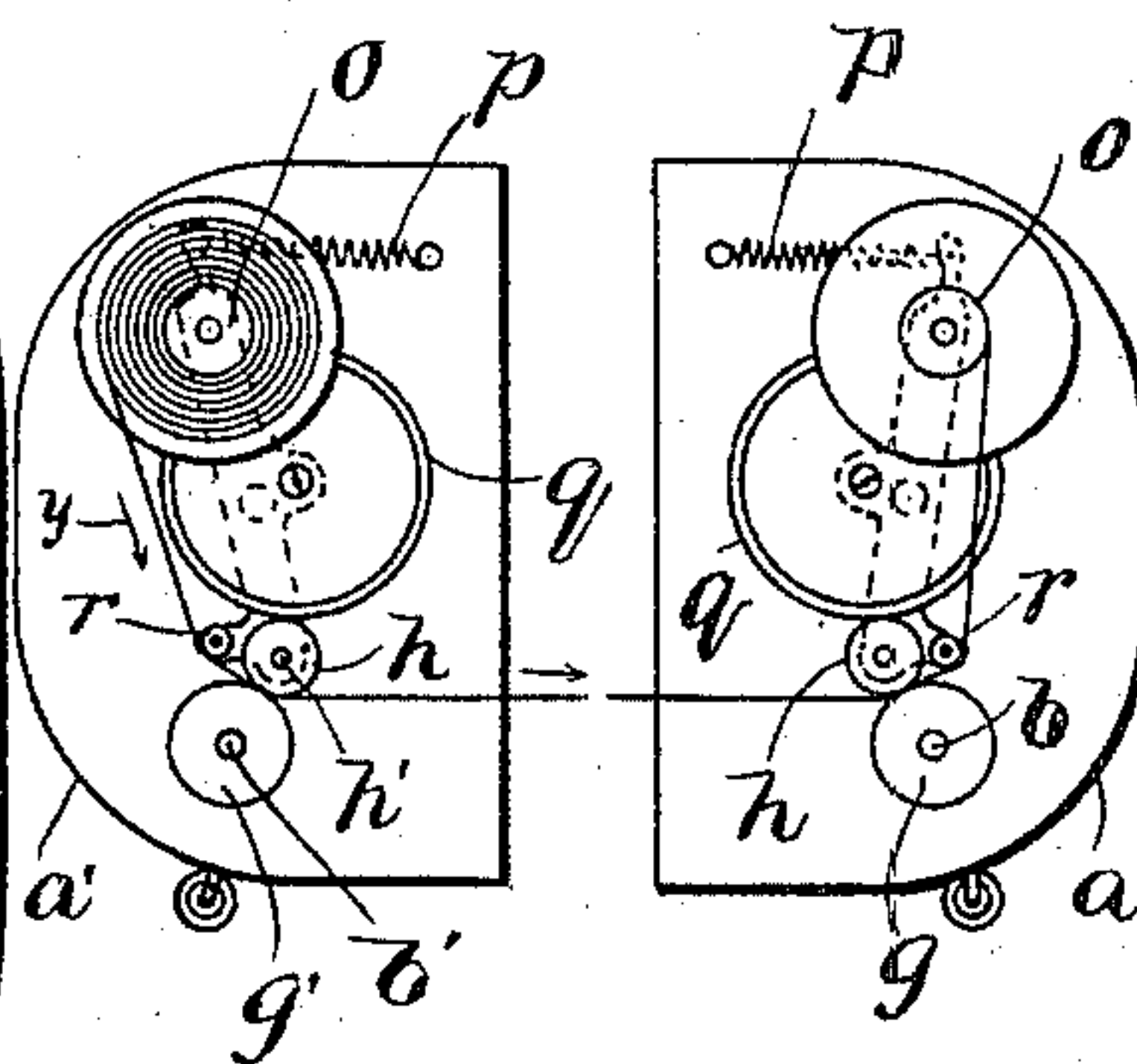
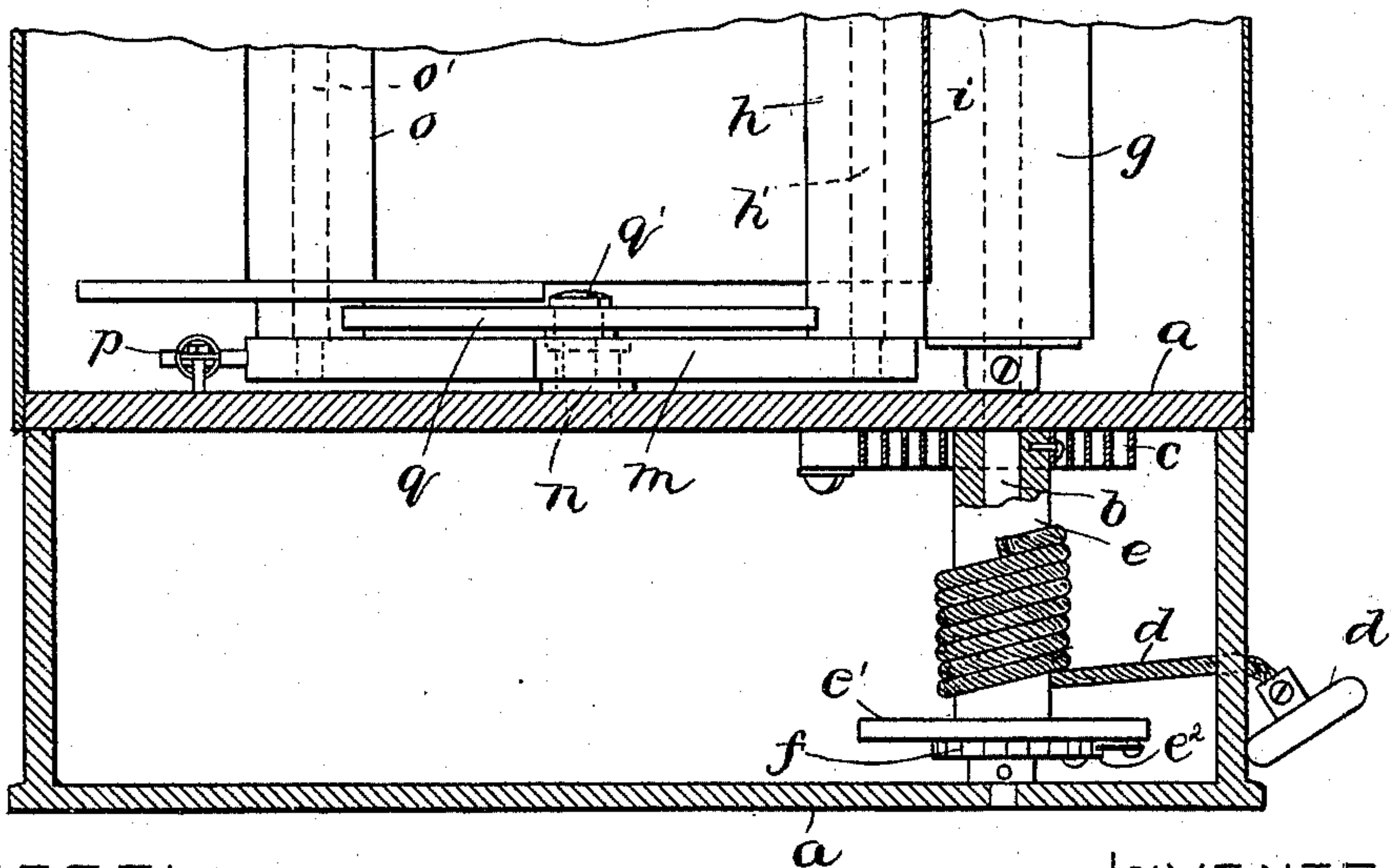


FIG. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE ALBERT HUNT AND WILBERT C. TRUSSELL, OF BOSTON, MASSACHUSETTS; SAID HUNT ASSIGNOR TO SAID TRUSSELL AND SAID TRUSSELL ASSIGNOR OF ONE-FOURTH TO CHARLES E. TINGLEY AND HARRY H. NEWCOMB, OF SAME PLACE.

## STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 586,087, dated July 6, 1897.

Application filed June 29, 1896. Serial No. 597,331. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE ALBERT HUNT and WILBERT C. TRUSSELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Strip or Band Displaying Apparatus, of which the following is a specification.

This invention relates to station-indicators, advertising apparatus, and other like contrivances in which a band or strip containing reading matter, &c., is displayed in part and moved along from time to time to bring fresh parts into view.

The invention has for its object to provide a simple and effective apparatus for transferring a strip or band step by step from a supply-roll to a receiving-roll; and it consists in the improvements which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of an apparatus embodying our invention. Fig. 2 represents a section on line 2 2 of Fig. 1, looking toward the right. Fig. 3 represents a diagrammatic view showing the course of the band or strip from the delivery-roll to the receiving-roll.

The same letters of reference indicate the same parts in all the figures.

In the drawings,  $g$   $g'$  represent two feed-rolls which are affixed to shafts  $b$   $b'$ , journaled in suitable supporting-frames  $a$   $a'$ , which are adapted to be secured to a suitable part of a street-car, or in any place where the strip or band  $i$  is to be displayed.

$o$   $o'$  represent rolls, to which the ends of the strip  $i$  are affixed, the strip being wound upon one of said rolls and unwound from the other, as hereinafter described.

The feed-roll  $g$  is provided with mechanism whereby it may be rotated in the direction indicated by the arrow  $x$ , Fig. 3, while the feed-roll  $g'$  is provided with mechanism whereby it may be rotated in the opposite direction, as indicated by the arrow  $y$ . The feed-roll  $g$  therefore impels the strip in one direction, while the feed-roll  $g'$  impels the strip in the opposite direction. Each feed-roll-operating mechanism is like the other, so that a descrip-

tion of that which operates the feed-roll  $g$  will suffice for both.

$e$  represents a sleeve loosely mounted to the shaft  $b$ . The sleeve is provided with a flange  $e'$ , to which is pivoted a pawl  $e^2$ , held by a spring in engagement with a ratchet  $f$ , affixed to the shaft  $b$ . A cord  $d$  is affixed to the sleeve  $e$  and provided at its free end with a handle  $d'$ , by which it may be grasped and pulled to rotate the sleeve  $e$  in the direction required to cause the pawl to rotate the ratchet  $f$ , shaft  $b$ , and feed-roll  $g$ . A spring  $c$  is engaged at one end with the sleeve  $e$  and at the other end with the frame  $a$  and is arranged to rotate the sleeve  $e$  in the direction required to wind the cord on the sleeve, the pawl slipping backwardly on the ratchet  $f$ , so that when the cord is released it is taken up by the spring ready for the next operation. It will be seen, therefore, that there are two cords, one for each feed-roll, and that when one cord is pulled the strip is moved in one direction and when the other cord is pulled the strip is moved in the opposite direction.

We provide a mechanism for imparting motion from each feed-roll  $g$  or  $g'$  to the accompanying roll  $o$  or  $o'$ , and as the two mechanisms are alike we here describe that which connects the rolls  $g$  and  $o$ .

$h$  represents an idle-roll which is mounted to rotate upon a pin or stud  $h'$ , which is affixed to one end of an arm  $m$ , said arm being pivoted at  $n$  to the frame  $a$ . To the upper end of the arm  $m$  is affixed a pin or stud  $o'$ , upon which the feed-roll  $o$  is mounted to rotate. A spring  $p$ , connected with the upper end of the arm  $m$ , exerts a stress upon the arm  $m$ , which tends to force the idle-roll  $h$  against the feed-roll  $g$ , thus causing the two rolls  $g$  and  $h$  to grasp the strip  $i$ , so that when the roll  $g$  is rotated, as above described, it will feed the strip forward.

$q$  represents a disk which is mounted to rotate upon a stud  $q'$ , affixed to the arm  $m$ , and is arranged so that its periphery is in contact with the peripheries of the rolls  $h$  and  $o$ . The strip  $i$ , after passing between the rolls  $g$  and  $h$ , passes around a small idle-roll  $r$  to the roll  $o$ , to which one end of the strip is secured, as above described.



It will be seen that the idle-roll *h* is arranged so that when the strip *i* is moved by the feed-roll *g'* (in the direction indicated by the dotted arrow in Fig. 1) the roll *h* will be separated from the feed-roll *g* by the strain on the band sufficiently to permit the band to pass freely between the rolls *h* and *g*. The corresponding roll coöperating with the feed-roll *g'* is arranged in like manner to yield and permit the strip to pass freely between it and the said feed-roll in the direction indicated by the arrow *z* in Figs. 1 and 3. The apparatus can therefore be operated to move the band in either direction with equal facility.

This apparatus is particularly desirable as a street or station indicator for street-cars and steam-railway cars. The frames *a a'* may be attached at opposite sides of the monitor-top or to the end of the car, the band passing between them, or the said frames may be connected to form a single structure. The apparatus may also be used for advertising purposes.

We do not limit ourselves to the details of mechanism hereinbefore described, as the same may be variously modified without departing from the spirit of our invention.

Having thus explained the nature of our invention and described a way of constructing and using the same, although without attempting to set forth all the forms in which it may be made or all the modes of its use, what we claim, and desire to secure by Letters Patent, is—

1. An apparatus of the character specified, comprising a feed-roll, means for rotating it in one direction step by step, a pivoted spring-pressed arm, an idle-roll mounted on said arm at one side of its pivot and yieldingly held against the feed-roll by said spring, a winding-roll mounted on said arm at the other side of its pivot, and a friction-roll also mounted on the said lever for imparting motion from the idle-roll to the winding-roll.

2. An apparatus of the character specified, comprising two feed-rolls, two independently-operating mechanisms therefor, one adapted to rotate one feed-roll in one direction, while

the other is adapted to rotate the other feed-roll in the opposite direction, two spring-pressed arms each having at one end an idle-roll pressed yieldingly toward one of the feed-rolls and at the other end a winding-roll, and connections between the loose rolls and the winding-rolls, whereby each winding-roll is rotated simultaneously with the accompanying feed-roll, said connections having provision for making the other winding-roll loose.

3. An apparatus of the character specified, comprising in its construction, two feed-rolls rotatable only in opposite directions, a strip or band adapted to be moved in either direction by said feed-rolls, a roll for each end of the strip or band for winding up the latter thereon, means interposed between each of said feed-rolls and one of the winding-rolls for revolving the latter, and independent means for operating the said feed-rolls in opposite directions only.

4. An apparatus of the character specified, comprising in its construction a band or strip, two oppositely-rotatable rolls each adapted to move the band in only one direction, devices operated by the feed-rolls for winding up the ends of the said band or strip, and two separate means independent of each other, each for operating one of the feed-rolls and each in yielding engagement with its feed-roll and mounted on a separate shaft therefrom, and each consisting of a sleeve on the feed-roll shaft and provided with a pawl, a ratchet-wheel fast on the said shaft, a cord for rotating the sleeve on the shaft, and a spring having one end connected with the sleeve and the other end connected with the stationary framing.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 27th day of November, A. D. 1895.

GEORGE ALBERT HUNT.  
WILBERT C. TRUSSELL.

Witnesses:

H. L. ROBBINS,  
HORACE BROWN.