No. 623,889. Patented Apr. 25, 1899.

T. G. DALY.

ADVERTISING APPARATUS.

(Application filed Nov. 29, 1897.)

(No Model.) 3 Sheets—Sheet 1.

FIG. 2.

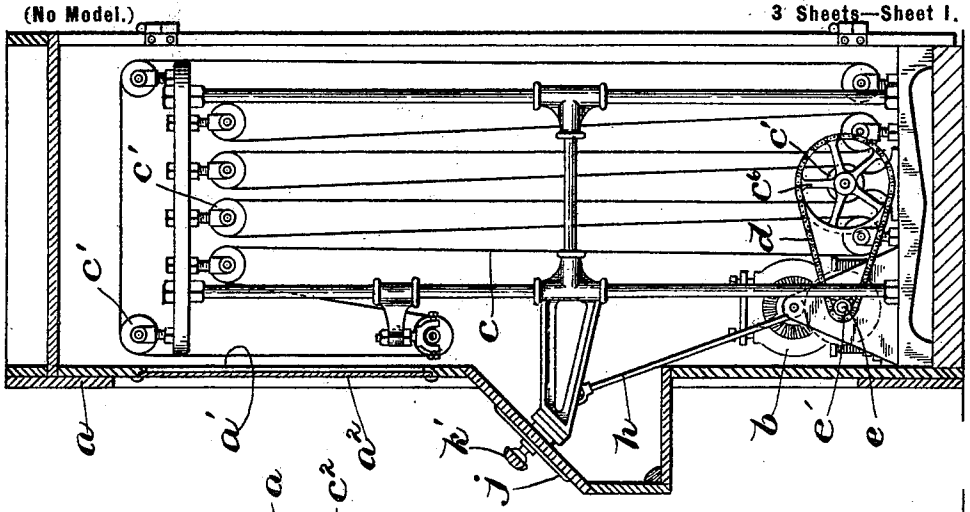
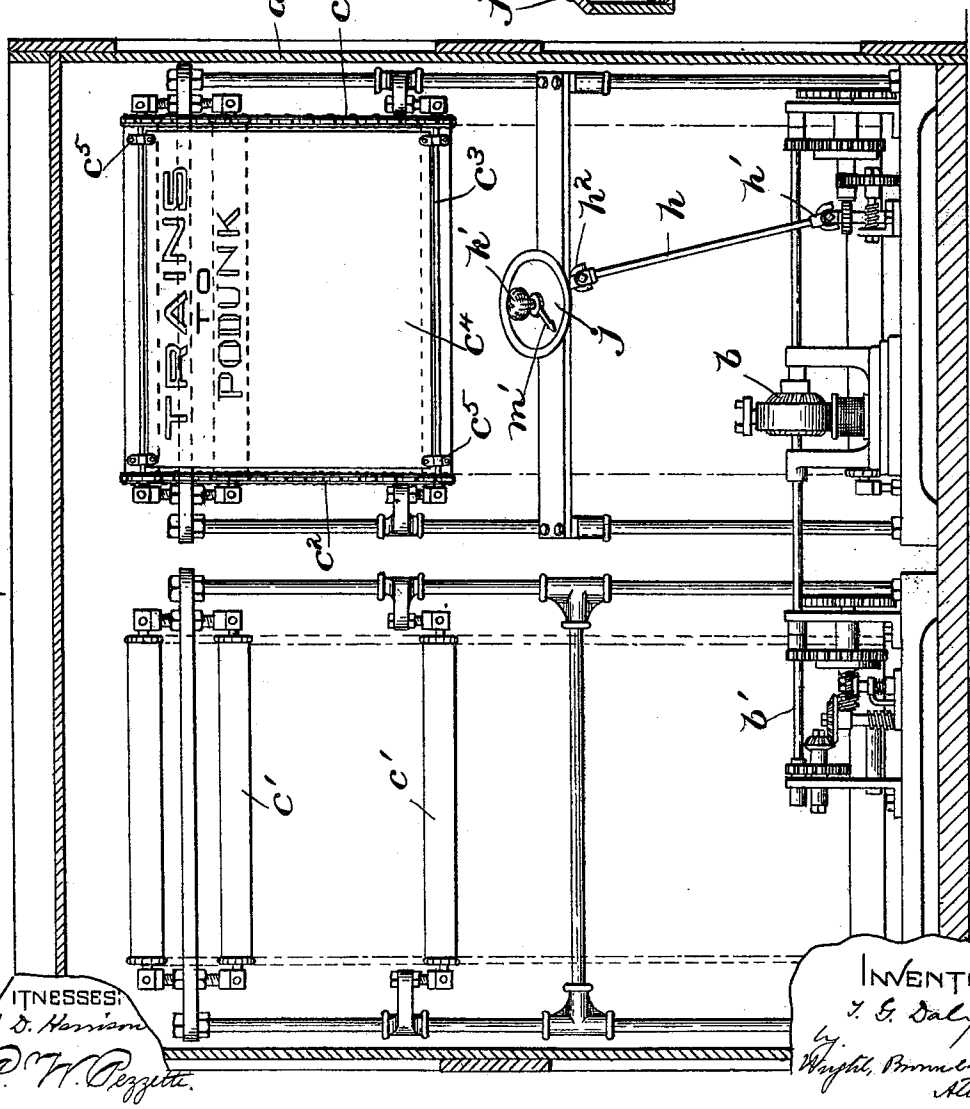


FIG. 1.



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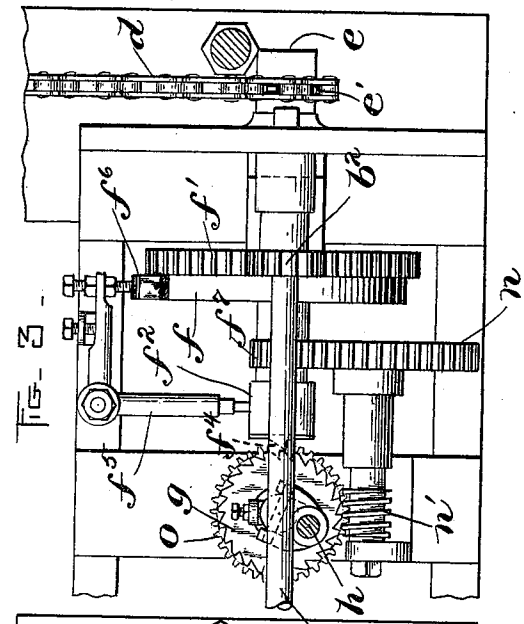


FIG. 3.

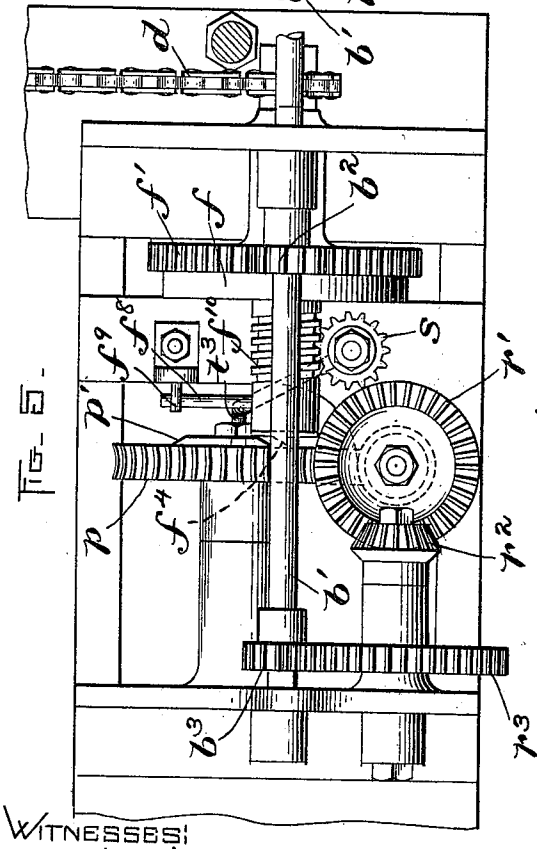


FIG. 5.

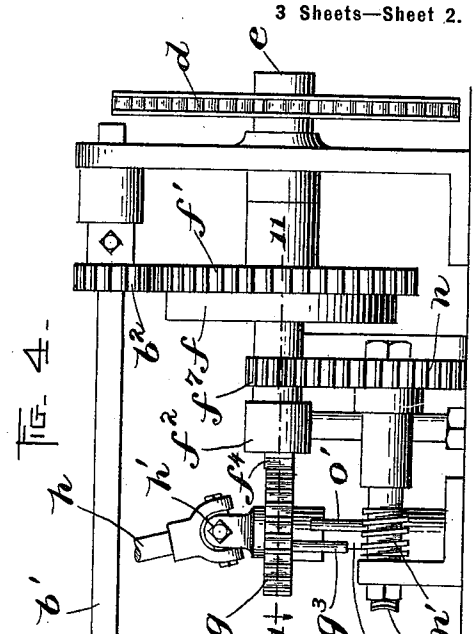


FIG. 4.

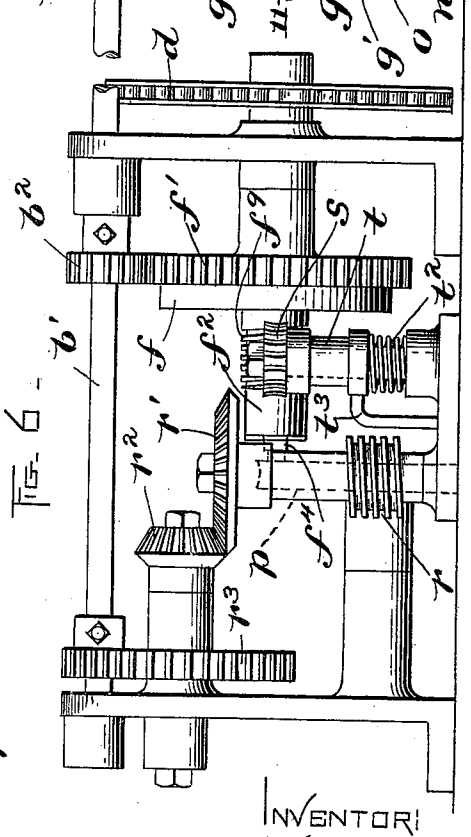


FIG. 6.

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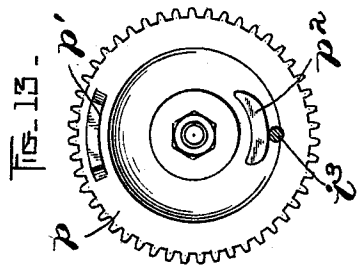
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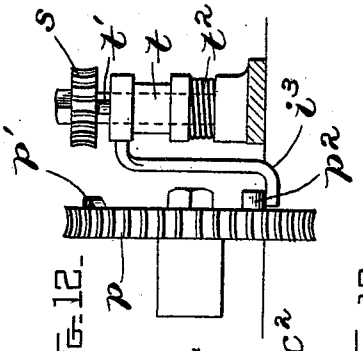
T. G. DALY.

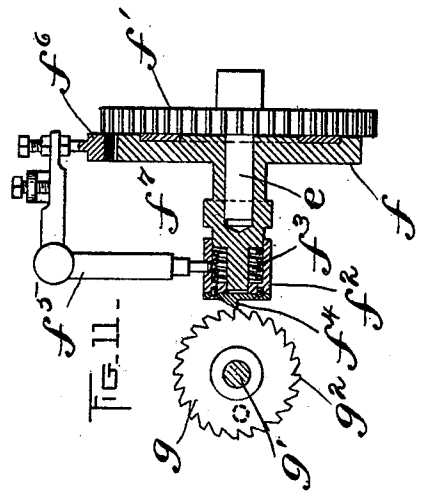
ADVERTISING APPARATUS.

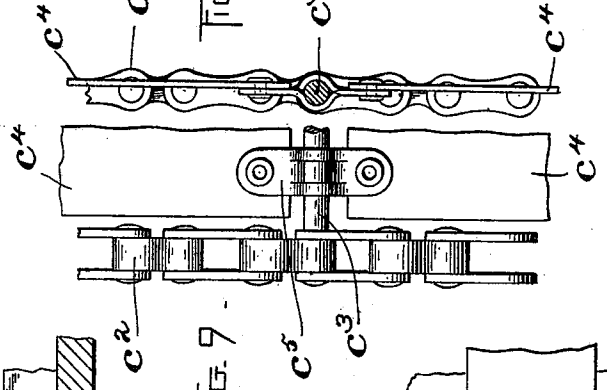
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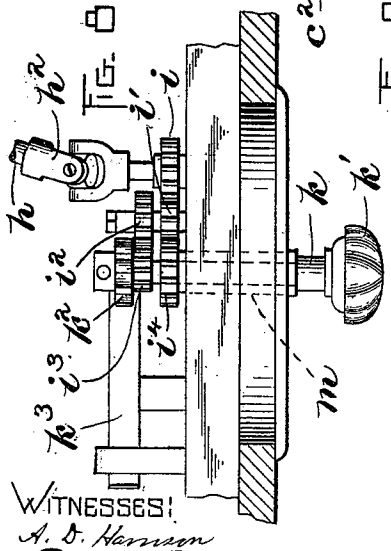
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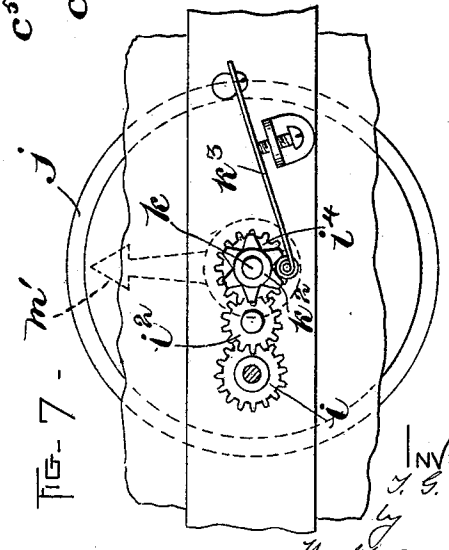












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UNITED STATES PATENT OFFICE.

TIMOTHY G. DALY, OF BOSTON, MASSACHUSETTS.

ADVERTISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 623,889, dated April 25, 1899.

Application filed November 29, 1897. Serial No. 660,021. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY G. DALY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Advertising Apparatus, of which the following is a specification.

This invention relates to an improvement in advertising devices; and it consists in the novel features of construction and relative arrangement of parts hereinafter fully described in the specification, clearly illustrated in the drawings, and particularly pointed out in the claims.

Reference is to be had to the accompanying three sheets of drawings, forming a part of this application, in which like reference characters are used to indicate like parts wherever they occur.

Figure 1 represents a vertical section through the casing of an advertising apparatus constructed in accordance with my invention, the parts within the casing being shown in elevation. Fig. 2 represents a view within the casing, looking from the right in Fig. 1. Fig. 3 represents a plan view of the mechanism shown in Fig. 1 on the floor of the casing at the right. Fig. 4 shows the same in elevation. Fig. 5 represents a plan view of the mechanism shown in Fig. 1 on the floor of the casing at the left. Fig. 6 shows the same in elevation. Fig. 7 represents a back view of the indicator device. Fig. 8 represents an edge view of the same. Figs. 9 and 10 represent views in elevation and section, showing parts of the advertisement-carrying device. Fig. 11 represents a section on the line 11 11 of Fig. 4. Figs. 12 and 13 represent detail views of parts of the mechanism shown in Figs. 5 and 6.

My present invention is designed as an improvement on the advertising apparatus shown and described in Letters Patent of the United States No. 556,136, granted to me March 10, 1896. In the apparatus there shown certain devices were employed, including an intermittently-operated electric motor for moving an advertisement-carrying device, the said motor being operated by an indicator through the medium of electrical controlling devices. The present invention differs from that referred to in the employment of a continuously-operating motor mechanism and in dispensing with the electrical controlling devices, as well as in other respects.

In the right-hand portion of the casing a, as shown in Fig. 1, is mounted an apparatus appropriate for the display of classified commercial advertisements or of railroad time-tables arranged in the alphabetical order of the stations, the said apparatus being controlled by an indicator, and in the left-hand portion of the casing is mounted an intermittently and automatically operating device appropriate for the display of general or unclassified advertisements. Power is furnished to both sections by a continuously-running electric motor b, which operates a shaft b'. An endless advertisement-carrying device or belt c is arranged to be driven by said motor, and suitable rolls c' c' are provided for the support and progression of said device. The device as here shown consists of two endless parallel sprocket-chains c^2 c^2, connected at intervals by rods c^3, between which are supported advertising-cards c^4. The cards are attached to the rods by means of connections c^5, and since the cards are flexible they easily conform to the rolls c' when passing around the same. The cards may be attached by rivets to the connector c^5 or in any other suitable manner which will allow them to be readily changed. The casing a is provided in front with openings, such as a', preferably covered with a glass a^2, behind which the cards are displayed.

Referring for the present to the mechanism shown at the right in Fig. 1 and illustrated in detail in subsequent figures, c^6 designates a large sprocket-wheel attached to the shaft of one of the lower rolls c', which constitutes the driving-roll for the advertisement-belt. This sprocket-wheel is geared by a chain d to a smaller sprocket-wheel e', affixed to a shaft e, on the other end of which is splined an endwise-movable friction-disk f. This disk forms one half of a clutch whose other half is formed by a gear f', loosely mounted on the shaft e and continuously rotated by a pinion b^2 on the motor-shaft b'.

g is a ratchet-wheel mounted on a stud g' and having teeth g^2, whose outer ends are flattened, as shown in Fig. 11. On the arbor of the friction-disk f is mounted a sleeve f^2,

which is pressed toward the ratchet g by a spring f^3 and is provided with a detent f^4, engaging the teeth of the ratchet.

f^5 is a bell-crank lever pivoted to a fixed stud and having one arm engaged with the sleeve f^2, while the other arm carries a brake f^6, adapted to bear on the edge of the disk f. When the detent f^4 on the sleeve f^2 rests on the flattened outer end of any one of the teeth g^2 on the ratchet g, the friction-disk f will be pressed up against the gear f' and will be rotated thereby; but when the ratchet is in such a position that the detent f^4 rests between two of the ratchet-teeth the pressure of the disk f against the gear f' will be insufficient to rotate the former. The arbor of the gear g is connected by a universal joint h' with a shaft h, at whose opposite end is another universal joint h^2, connecting the shaft with a small gear i, arranged at the back of an indicator-dial j. The gear i is connected by intermediates i' and i^2 to a gear i^3 on a shaft k, at whose outer end is a knob k'. The intermediate i' also meshes with a gear i^4, attached to a bushing or sleeve m, which surrounds the shaft k and has at its outer end a pointer m'.

k^2 is a ratchet-wheel affixed to the shaft k, and k^3 is a spring roller-pawl engaging said ratchet-wheel. When the knob k' is turned in a right-hand direction, the pointer m' moves around the dial j and the ratchet-wheel g also turns about its stud. The number of teeth in said ratchet g is preferably made equal to the number of divisions on the face of the dial j, and the gearing at the back of the dial, as here shown, is so arranged that it takes about four turns of the knob k' to move the pointer m' a distance of one division on the dial and to rotate the gear g a distance of one tooth. When the pointer m' stops at a point of division on the dial, the detent f^4, Fig. 11, is always on the crest or flat portion of a tooth g^2 of the ratchet-wheel g.

The dial j is provided with spaces or divisions in which may be arranged indexes of the different classes of business advertising on the belt c, or when this side of the apparatus is used to advertise the time-table of a railroad the letters of the alphabet would be placed on the dial, the letter "A," for instance, corresponding to all of the stations on the road which begin with that letter, and the cards on the belt c would be arranged in corresponding order, a certain card, for instance, bearing the schedules of trains for all stations beginning with the letter "A."

On the arbor of the friction-disk f is a pinion f^7, which meshes with a gear n, on whose shaft is a worm n'. The latter meshes with a gear o, loosely mounted on the stud g' below the ratchet-wheel g. A downwardly-projecting pin g^3, Fig. 4, is affixed to the ratchet g, and a similar pin o', projecting upwardly past the lower end of the pin g^3 and adapted to travel in the same concentric path therewith, is affixed to the gear o. The arrangement is such that when the detent f^4 rests on the crest of a tooth g^2 of the ratchet-wheel g, thereby setting the disk f, shaft e, gear n, worm n', and gear o in motion, the parts will continue to revolve until the pin o' strikes against the pin g^3. This will cause the ratchet g to turn sufficiently to move the detent f^4 over the edge of the tooth g^2, against which it has been bearing, into the space between that tooth and the next succeeding one. The clutch ff' is thereby released and the brake f^6 applied, with the effect of stopping the shaft e and the movement of the belt c. Since the position of the pin g^3 is determined by the position of the pointer m' on the indicator-dial, it therefore follows that the distance moved over by said pointer in passing from one point of division on the dial to another determines the number of rotations which the shaft e will make after being started from a position of rest.

The belt-driving roll c' and preferably also the other belt-rolls c' are provided with sprocket-wheels, around which the belt-chains c^2 pass, so that a given number of rotations of the shaft e, resulting in a given number of rotations of the large sprocket c^6, will produce a given amount of travel of the belt c. The belt is arranged to come to rest always with one of the cards c^4 opposite the opening a' in the casing a, and the particular card which finally occupies that position after a movement of the belt depends upon the position of the pointer m'. It is therefore apparent that when a person wishes to consult the schedule of trains for a certain station on the road it is only necessary to turn the knob k' until the pointer m' comes opposite the initial letter of that station and then wait until the card bearing that schedule appears behind the opening a'.

The pointer and knob on the dial are prevented from being turned backward by the engagement of the detent f^4 with the ratchet g.

The left-hand section of the casing a is devoted to an apparatus for displaying miscellaneous or unclassified advertisements. The belt and belt-driving appliances in this part of the device are similar to those hereinbefore described, but in place of the indicator a continuously-rotating part is substituted, which operates a clutch at regular intervals and effects intermittent engagement between the motor-shaft b' and the belt-driving mechanism.

Referring to Figs. 5, 6, 12, and 13, b^2 is a pinion on the shaft b', which meshes with a loose gear f', forming one half of a clutch. The other half of said clutch is formed by an endwise-movable friction-drum f, splined to a shaft whose opposite end carries a small sprocket-wheel engaging a drive-chain d.

f^2 is a sleeve on the arbor of the disk f, held from rotation by an arm f^8, which slides between stationary guide-pins f^9, and f^4 is a detent on the end of said sleeve.

p is a gear, which is constantly rotated by means of a worm r, bevel-gears r' r^2, a gear r^3, and a pinion b^3 on the motor-shaft b'. On the face of the gear p, near its edge, is a cam-boss p', which has a vertical face parallel to the face of the gear. Once in every rotation of the gear p the boss p' comes in contact with the detent f^4 and throws the friction-disk f into engagement with the gear f'. This engagement is continued as long as the detent rests upon the boss, and while it continues the advertisement-carrying belt is moved through a predetermined distance, sufficient to bring a fresh advertisement-card into view through an opening in the front of the casing similar to the opening a'. The clutch is then automatically released as the boss passes out of engagement with the detent, and after a period of rest, the length of which depends upon the speed of the gear p, the belt is again moved to bring a fresh card into view by the reëngagement of the detent f^4 and the boss p'.

During the periods of rest of the friction-drum f it and the shaft to which it is splined are locked by a mechanism constructed as follows: A worm f^{10} is formed on the hub of the friction-disk, which meshes with a gear s, loosely mounted on a vertical stud. Below said gear s is a sleeve t, which is vertically movable on said stud, but is held from rotation thereon. The gear s is provided with an aperture which is adapted to receive a pin t' on the sleeve t. A spring t^2 exerts an upward pressure on the sleeve. t^3 is an arm affixed to the sleeve t and provided at its lower end with a hook which is adapted to be engaged by a second cam-boss p^2 on the gear p. The arrangement is such that just before the detent f^4 becomes engaged by the boss p' the hooked arm t^3 becomes engaged by the boss p^2 and the sleeve t is drawn downwardly, thereby drawing the pin t' out of the aperture in the gear s and permitting the friction-disk f to be rotated. Just after the boss p' passes off from the detent f^4 the boss p^2 releases the hooked arm t^3, and since by this time the gear s has completed a rotation the pin t' again enters the aperture in said gear and locks the friction-disk and its shaft.

I do not wish to limit myself to the precise construction and arrangement of the parts shown, since many modifications may be made without departing from the spirit of my invention.

Having thus explained the nature of my invention and described a way of constructing and using the same, although without having attempted to set forth all the forms in which it may be embodied or all the modes of its use, I declare that what I claim is—

1. In an advertising apparatus, an advertisement-carrying device, a normally-inactive mechanism for driving the same, a continuously-running motor, an indicator, and means whereby different positions of the indicator establish operative connection for different lengths of time between the motor and the driving mechanism.

2. In an advertising apparatus, a continuously-operating-motor mechanism, an advertisement-carrying device arranged to be driven by said motor mechanism, a clutch adapted to effect engagement between the advertisement-carrying device and the motor mechanism, an indicator adapted to operate the clutch, and devices arranged between the indicator and clutch, whereby the duration of engagement between the advertisement-carrying devices and the motor mechanism is made to depend upon the position of the indicator.

3. In an advertising apparatus, an advertisement-carrying device comprising a pair of endless parallel-moving sprocket-chains, rods connecting these chains at intervals, and flexible advertising-cards attached at both ends to said rods.

4. In an advertising apparatus, a display-belt comprising two parallel sprocket-chains, a series of rods connecting said chains at intervals, a series of flexible advertising-cards, and fastening devices securing the cards at both ends to the rods and constructed to permit the removal of said cards without disconnecting the chains and rods.

5. In an advertising apparatus, an advertisement-carrying device, a clutch having a normally-inactive part connected with said device, and a continuously-driven part adapted to become engaged with the normally-inactive part so as to move the advertisement-carrying device, an indicator having an index, a wheel having clutch-operating projections corresponding to the divisions of the indicator and adapted to effect engagement between the parts of the clutch when said indicator is moved, and a trip mechanism adapted to automatically release the clutch after a predetermined movement of the advertisement-carrying device.

6. In an advertising apparatus, a clutch comprising a continuously-driven part, a normally-inactive and longitudinally-movable friction-disk, a detent, a spring arranged between the latter and the friction-disk, a wheel having teeth which engage the detent, the disk and the continuously-driven part being engaged and the former rotated when the detent rests on the crest of one of said teeth, and disengaged when said detent rests between two of said teeth, and a trip mechanism operated by the disk and adapted to automatically move the toothed wheel from the first said relation with respect to the detent, to the second said relation, after a predetermined movement of the disk.

7. An advertising apparatus comprising a casing, two endless advertising-belts mounted therein, a single continuously-operating motor mechanism, automatic means for intermittently coupling said motor mechanism to one of the belts, whereby an automatic

step-by-step progression of said belt is obtained, a manually-operated indicator, and mechanism controlled by said indicator for coupling the motor mechanism to the other belt and so constructed that said belt is driven a distance depending upon the position to which the indicator is moved.

8. In an advertising apparatus, an endless advertising-belt, a motor mechanism for driving the same, an indicator comprising an indexed dial, a pointer, a rotatable knob or handle, and a reducing-gearing connecting said knob and pointer, whereby the rotary travel of the former is reduced in transmission to the latter, and mechanism interposed between the indicator, the belt, and the motor, whereby different positions of the indicator produce different amounts of travel in the belt.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 23d day of November, A. D. 1897.

TIMOTHY G. DALY.

Witnesses:
C. F. BROWN,
A. D. HARRISON.