

T. M. GENOLIN.
CHANGEABLE SIGN.

APPLICATION FILED JAN. 28, 1909.

984,476.

Patented Feb. 14, 1911.

2 SHEETS—SHEET 2.

Fig. 2.

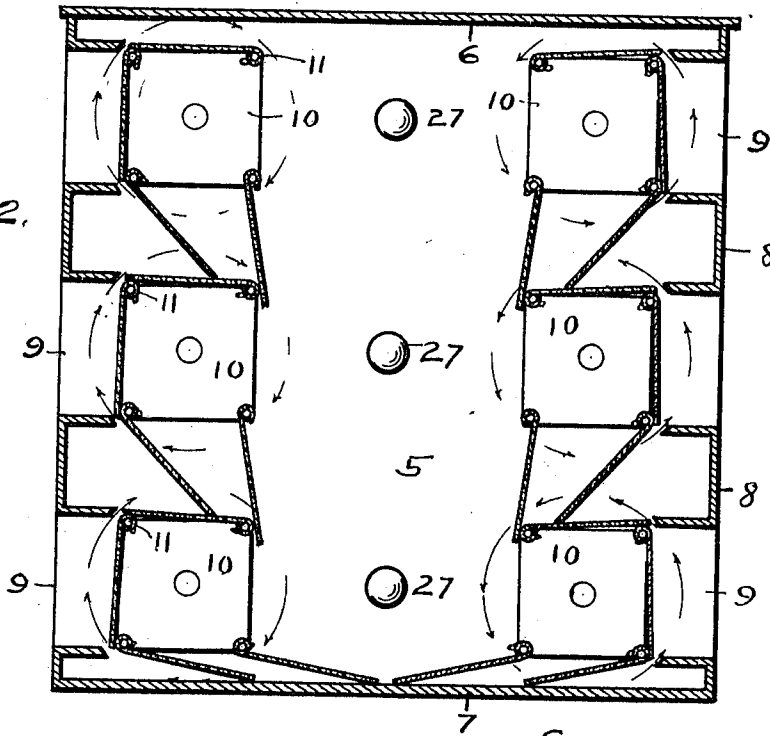
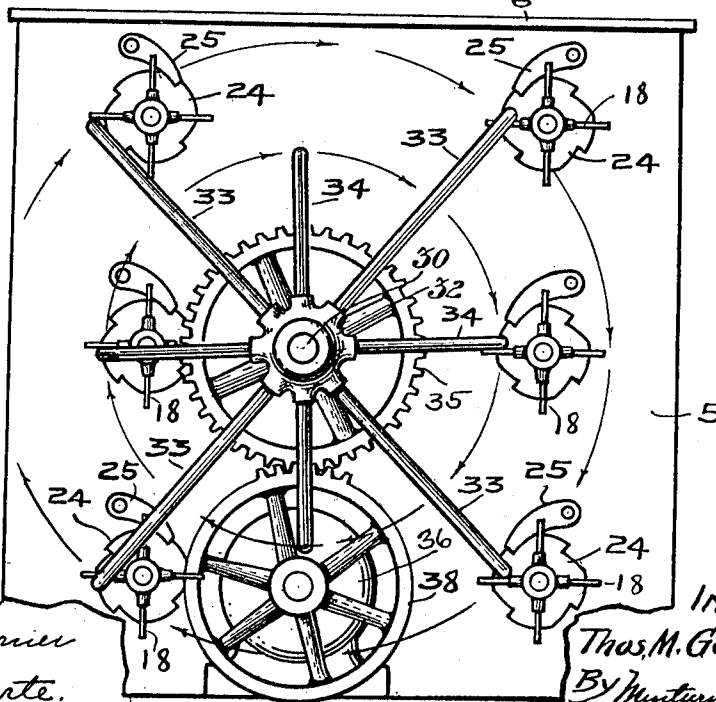


Fig. 3.



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984,476.

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Fig. 2.

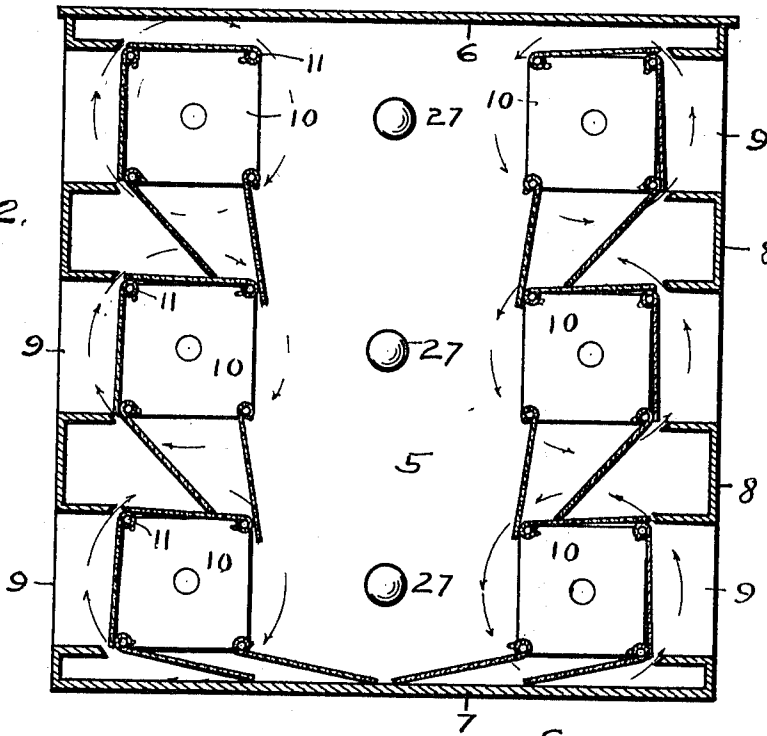
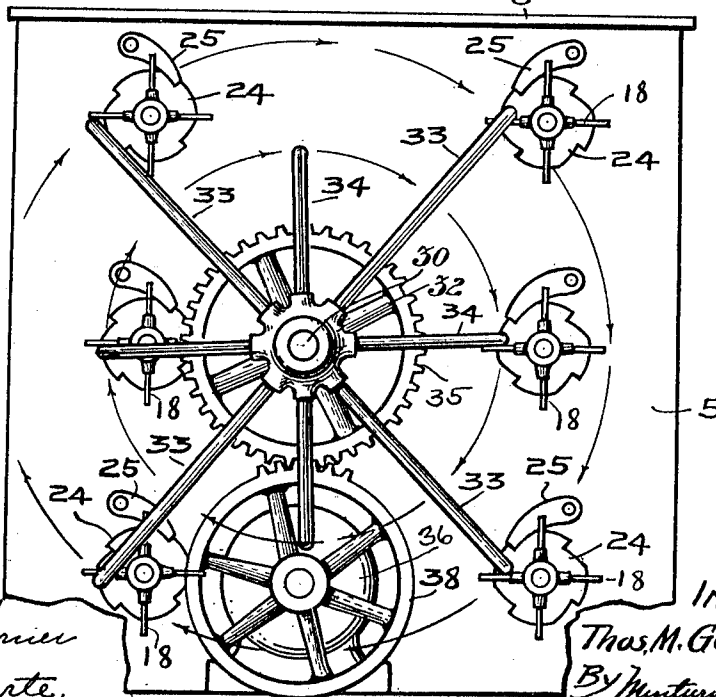


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS M. GENOLIN, OF INDIANAPOLIS, INDIANA.

CHANGEABLE SIGN.

984,476.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS M. GENOLIN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Changeable Signs, of which the following is a specification.

This invention relates to improvements in advertising signs wherein reading matter is displayed on transparent surfaces which are illuminated from behind, and the object of this invention is to provide automatic means for changing the signs at predetermined intervals.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation and partial vertical section of my invention; Fig. 2 a vertical section on the line 2—2 of Fig. 1; Fig. 3 a side elevation looking in the direction of the arrow designated by the numeral 3 in Fig. 1, and Fig. 4 is a detail in cross section of one of the sign-carrying reels showing the position which same would normally assume under the influence of its swinging signs unless positively held in the position for proper use illustrated by the dotted lines in said figure.

Like characters of reference indicate like parts throughout the several views.

5 represents the ends of a cabinet within which the changeable signs are mounted, 6 the cabinet top and 7 its bottom. 8 are the cabinet sides, both front and rear, which are provided with transverse openings 9, here shown as three to a side. It is opposite each of these openings 9, that the signs are displayed within the cabinet. The signs are mounted upon and are carried by rotating reels, each of which comprises end plates or heads 10, one for each end of the reel which are connected in pairs by the bars 11, which extend through the heads and are retained by the nuts 13 on each side of each head. The heads 10 have gudgeons or trunnions 14 and 15 which extend through the ends 5 of the cabinet and are supported by said ends. The trunnions 15 are elongated as shown in Fig. 1, and terminate with hubs 17 carrying four equi-distant radial pins 18 which afford contact with the mecha-

nism hereinafter to be described, for rotating the reels.

Swingingly mounted upon each one of the bars 11 is a frame 20, preferably of sheet metal having its upper longitudinal edge bent around the bar from which it is swung to form the hinged connection therewith, said bent portion being sufficiently open to permit the removal of the frame from its supporting bar by a movement of the frame transversely of said bar. This is important for securing the ready changeability of the signs by permitting a sign with fresh reading matter to be substituted for one that has been run until a change is desirable. The open space between the sides and end of each frame 20 is filled with celluloid, glass or other transparent sheet 21 bearing the words or other characters or designs to be displayed. Preferably the body or background of the sheets will be opaque leaving the display matter transparent whereby it will be visible at night by the placing of a lamp at the rear thereof. As shown in Figs. 2 and 4, the reels as above described are four-sided whereby each reel carries four transparencies or signs. The reels are rotated intermittently and are moved a quarter turn at each period of travel. It is essential that the transparency or sign nearest the adjacent opening 9 of the cabinet be parallel with the cabinet side 8 in which the opening is located at the end of each period of rotation of the reel in order that the sign may be read to best advantage through said opening 9, and as the weight of the four swinging signs of the reel would give the reel a normal position, by gravity, such as is shown in Fig. 4 of the drawings, I provide a pawl and ratchet mechanism to resist the action of gravity and retain the reel in the position shown by dotted lines in Fig. 4 and by full lines in Figs. 1 and 2. To this end, 24 is a ratchet wheel mounted on the trunnion-shaft 15 of each reel and 25 is a pawl working in connection with said ratchet wheel. As shown in Fig. 2 when the reel is thus held in its correct operative position for the display of its sign, the inside or rear frame and transparency is hanging down below its supporting bar 11 thereby leaving the side of the reel above it open for the unobstructed passage of light through the reel to the front

transparency. This light will be furnished by electric lamps 27, but will not be required in the daytime. The sign will be legible by day as well as by night. In order to properly present the transparencies the reels should be rotated in the directions indicated by the arrows in Fig. 2 which, as will be noted, make the direction of rotation of the reels at one side of the cabinet just the reverse of those at the other side of the cabinet.

I will now describe the mechanism by which all six of the sign-carrying reels of my device are simultaneously rotated a quarter-turn.

30 is a shaft suitably mounted in the cabinet and terminating with a hub 32 having eight equi-distant radial arms, four of which 33, are longer than the others 34, said eight arms being alternately long and short as clearly shown in Fig. 3. The long arms 33 are sufficiently long to reach the pins 18 on the heads 17 of shafts 15 located near the top and bottom of the cabinet, while the shorter arms 34 are to engage the like pins 18 on the heads of the two shafts at the middle of the cabinet. The ends of arms 33 and 34 are bent inwardly to contact with said pins 18 as said arms reach the respective stations of said pins. Also mounted upon the shaft 30 is a spur gear-wheel 35 and mounted below it is a motor 36 having a revolving shaft upon which a mutilated gear-wheel 38 is mounted. The wheel 38 has one-eighth of the number of cogs as has the wheel 35 whereby the wheel 38 will have made eight revolutions by the time that the wheel 35 has completed one revolution. By this means an intermittent movement is imparted to the mechanism carrying the arms 33 and 34 and when the movement of said arms takes place it is done quickly and is followed by a period of rest which is seven times as long as the period of movement. This is desirable because it leaves the sign quiet for a comparatively long period which is sufficient to allow it to be read without confusion. The quick movement preceding these longer rest periods attracts the attention of the eye with more certainty than a slow movement would do, and the eye being once attracted is afforded an opportunity to study the sign by its comparatively long period of rest after said quick change. It will be noted that the arms 33 and 34 contact on their upward travel with the outside pins 18 but on their downward travel they contact with the inside pins of the reels. This is necessary in order to reverse the direction of rotation of the reels on the opposite sides of the device.

Having thus fully described my invention, what I claim as new and wish to secure by Letters Patent, of the United States, is—

1. In an advertising device, a cabinet having openings through its side, reels angular

in cross section mounted within the cabinet opposite said openings, a plurality of hinged signs of sufficient dimensions to engage on the pivotal point of the following sign, one of which is hinged to one of each of the corners of the angular reel, a light located within the cabinet back of the reels, means for intermittently rotating said reels, and means for stopping said rotation when one of the signs carried by the reels is opposite its adjacent opening in the cabinet.

2. In an advertising device, a cabinet having horizontal openings through its sides, horizontal sign-carrying reels one for each opening revolubly mounted within the cabinet opposite said openings, a plurality of signs secured to each of said reels swinging from hinges at their upper edges when in vertical position opposite an opening, hinges for swinging the signs from the reels means for intermittently rotating said reels and lights located within the cabinet at the rear of said reels and shining substantially through the outer sign of the latter.

3. In an advertising device, a cabinet having a plurality of horizontal openings, a plurality of reels one for each opening revolubly mounted within the cabinet, said reels each having four horizontal bars extending from end to end thereof, signs with transparent characters swingingly mounted on said bars and adapted to be brought singly into a vertical position, successively opposite the opening to said reel whereby lights at the rear of the reel will unobstructedly illuminate the outer sign of the reel, means for rotating the reels and lights located in the cabinet back of the reels.

4. In an advertising device, a cabinet having a plurality of horizontal openings, a plurality of horizontal reels, one for each of said openings mounted opposite said openings within the cabinet, each of said reels having four horizontal bars forming a rectangular frame, signs comprising transparencies with opaque background removably hinged to said bars, said reels each having end trunnions one of which extends outside of the cabinet, and means acting through said extensions for intermittently and simultaneously rotating all of said reels.

5. In an advertising device, a cabinet having horizontal side openings, sign-carrying reels mounted horizontally within the cabinet opposite said openings, each of said reels having trunnions one of which extends outside of the cabinet and terminates in a head, radial pins supported by said head, arms having bent ends to contact with said pins and means for imparting a travel to said arms to bring them and their bent ends into contact with said pins to rotate said reels.

6. In an advertising device, a cabinet having a plurality of sight openings, sign carrying reels mounted opposite said openings,

trunnions on which said reels are mounted extending outside of the cabinet, radial pins carried by the outer ends of said trunnions and a plurality of arms having bent ends to
5 contact with said pins, and means for imparting a travel to said arms to bring them into contact with said pins.

7. In a display device, a cabinet having a plurality of sight-openings through two
10 diametrically opposite sides, sign carrying reels mounted within the cabinet, one opposite each of said sight-openings, a revolving shaft having radial arms and means on the reels to contact with said arms for the
15 rotation of the reels.

8. In an advertising device, a cabinet having a plurality of horizontal sight openings on two diametrically opposite sides, a sign-carrying reel mounted horizontally within
20 the cabinet opposite each sight opening, each reel having a trunnion or shaft extending outside of the cabinet, a number of radial pins equal to the number of signs carried by its reel mounted on the outer end of each
25 reel shaft, and a rotating shaft having radial

arms with ends bent and placed to contact with one of the pins of a reel by the rotation of said last shaft.

9. In a display device, a cabinet having a plurality of horizontal sight openings 30 through two diametrically opposite sides, a sign-carrying reel mounted within the cabinet opposite each of said sight openings, shaft-ends extending outside of the cabinet from said reels and terminating with radial 35 pins, a shaft having radial arms with bent ends to contact with the pins on said reel-shafts, a spur-gear mounted on the shaft carrying said arms, a mutilated gear-wheel intermittently actuating said spur gear 40 wheel and means for continuously rotating said mutilated wheel.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this 19th day of November, A. D. one thou- 45 sand nine hundred and eight.

THOMAS M. GENOLIN. [L. S.]

Witnesses:

CHARLES M. HALSTEAD,
F. W. WOERNER.