Nov. 5, 1940. O. R. CURNUTT 2,220,478

DISPLAY SIGN

Filed April 3, 1939 3 Sheets-Sheet 1

FIG. 1.

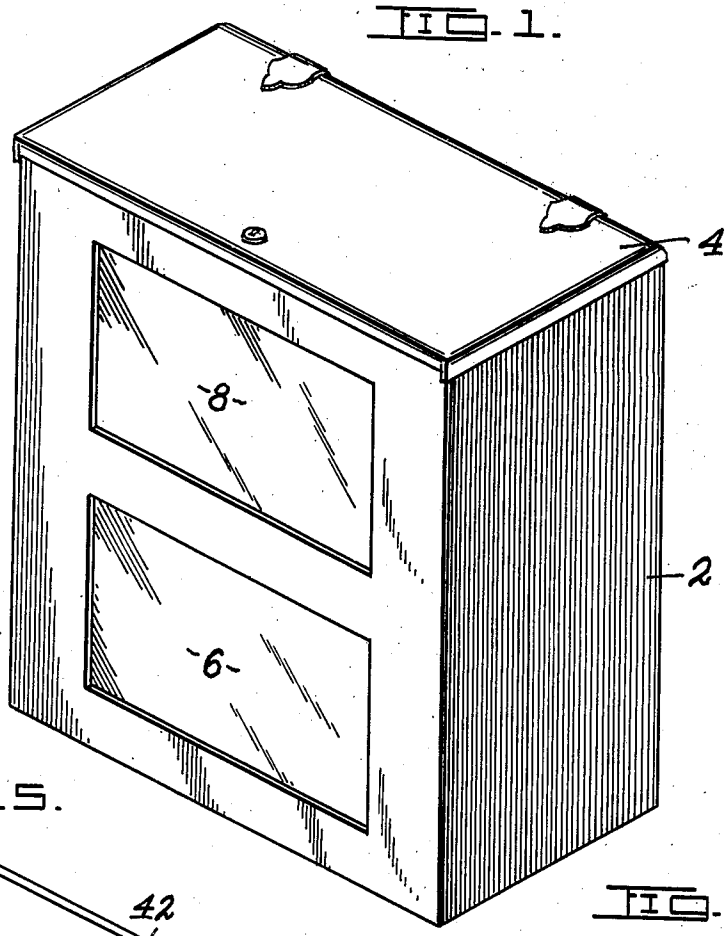


FIG. 5.

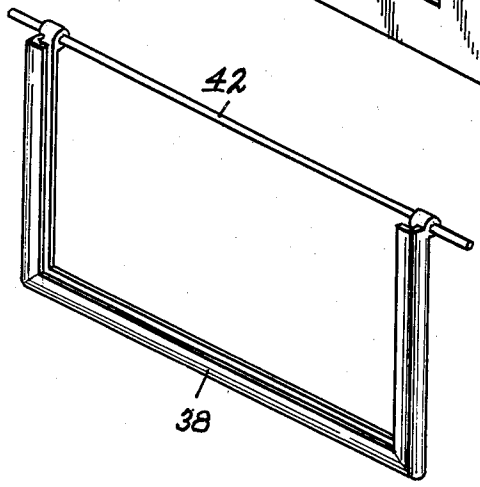
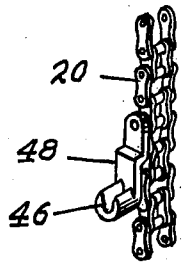


FIG. 6.



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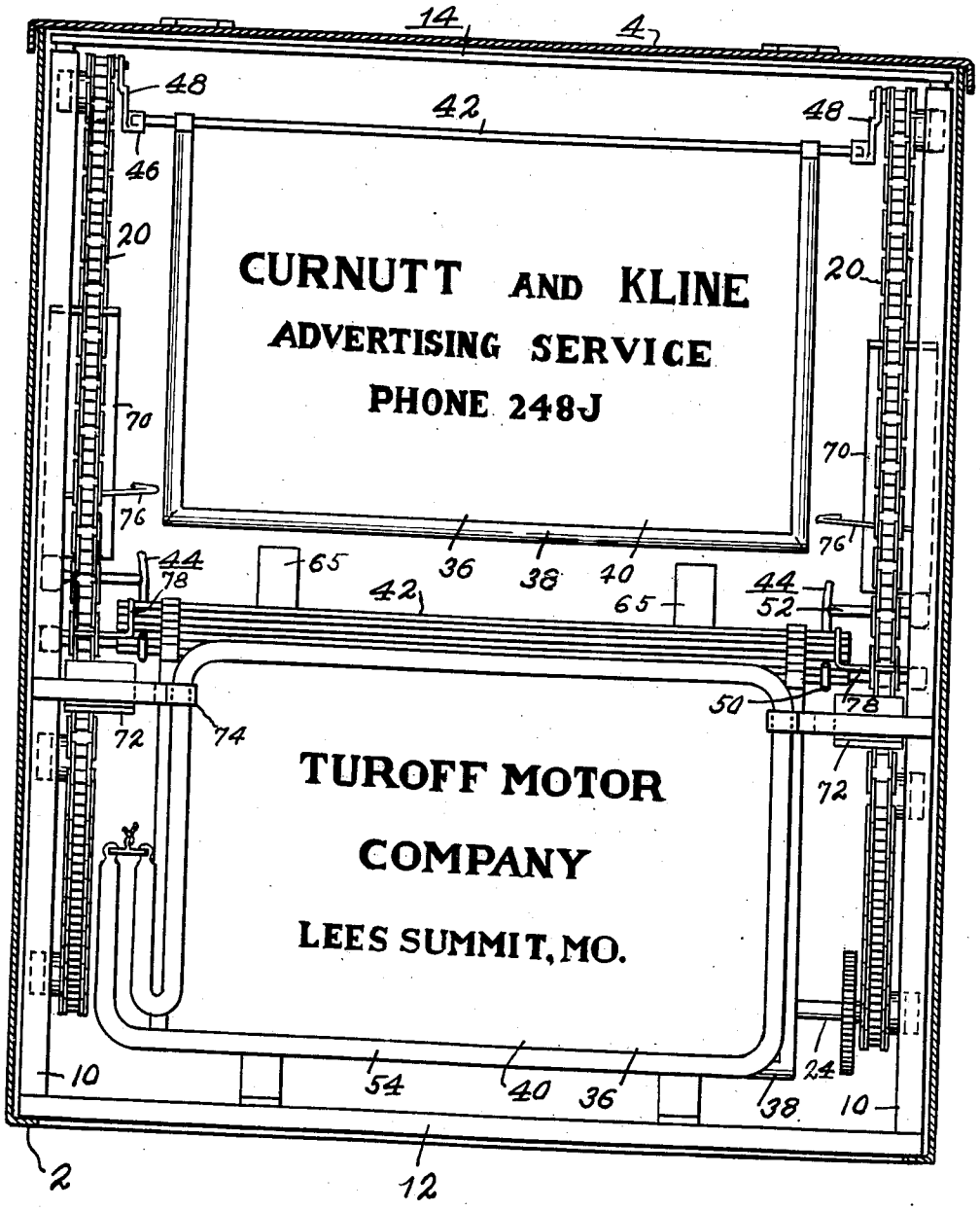
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Nov. 5, 1940. O. R. CURNUTT 2,220,478

DISPLAY SIGN

Filed April 3, 1939 3 Sheets-Sheet 2

FIG. 2.



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DISPLAY SIGN

Filed April 3, 1939 3 Sheets-Sheet 3

FIG. 3.

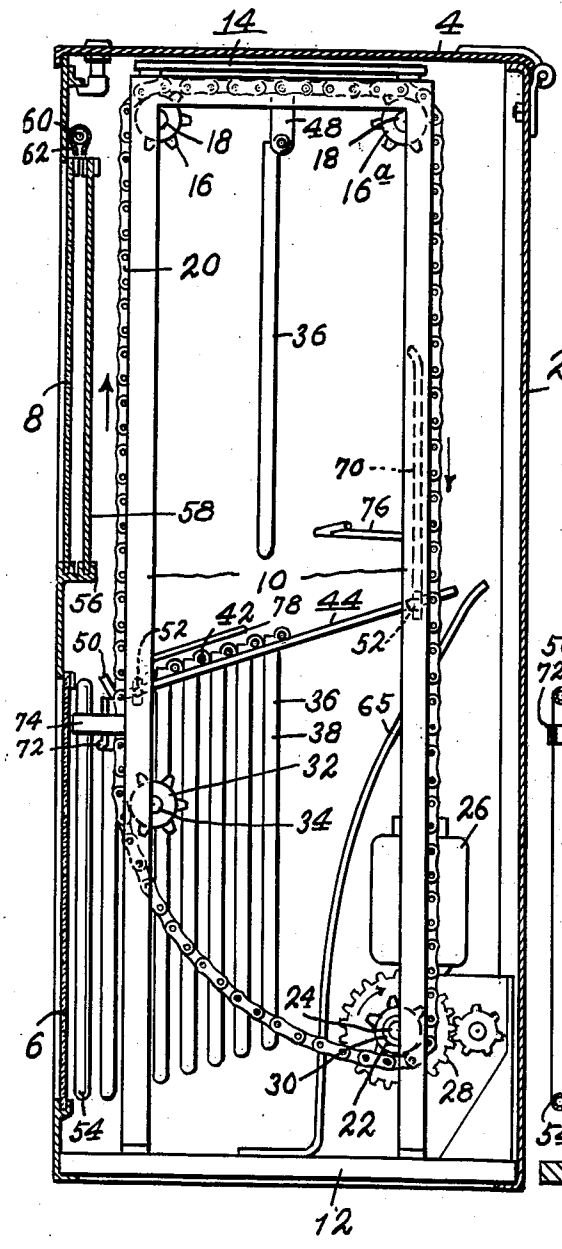
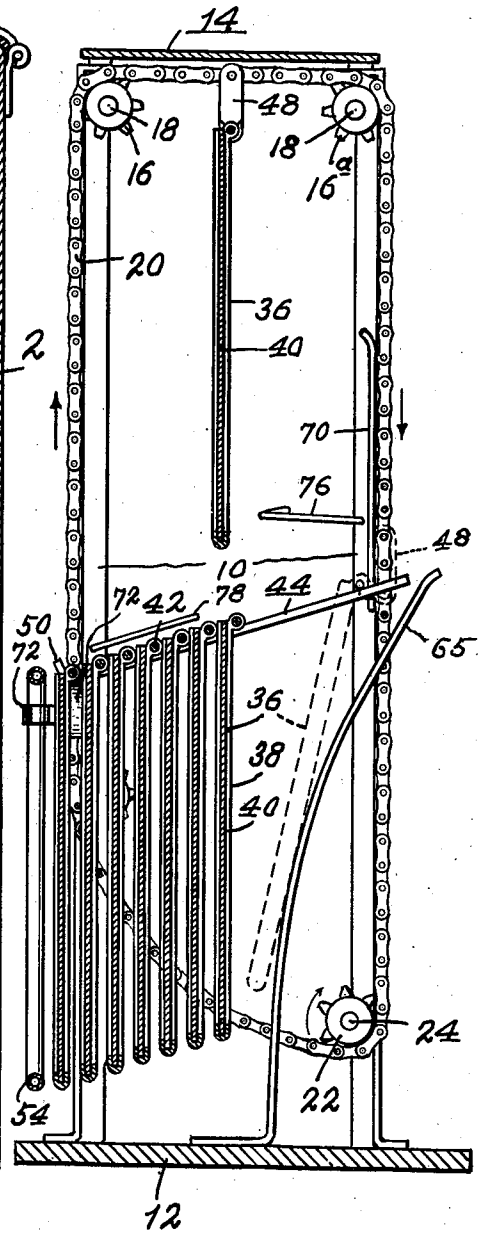


FIG. 4.



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Patented Nov. 5, 1940

2,220,478

UNITED STATES PATENT OFFICE

2,220,478

DISPLAY SIGN

Ora R. Curnutt, Lees Summit, Mo.

Application April 3, 1939, Serial No. 265,701

2 Claims. (Cl. 40—36)

My invention relates to apparatus for successively displaying a series of signs bearing advertising media, pictures, or the like, and one object is to provide a new and useful apparatus of this character which is relatively simple in construction, inexpensive to manufacture, and not likely to get out of order.

A further object is to provide apparatus of this character which is compact in form, but capable of successively displaying a large number of different signs.

Briefly, when carrying my invention into effect I employ a plurality of individual signs which are interchangeable so that other signs may be readily substituted when desired. When at rest the signs are supported one behind the other in a group upon the lower forward portion of an inclined track with the foremost sign adjacent to a window through which the advertising media, picture, or the like may be viewed. The window forms part of the front wall of a housing in which the apparatus is inclosed and associated with said wondow is an electric lamp for illuminating the foremost sign to attract attention thereto and enable spectators to read the sign.

A suitably driven endless carrier is arranged within the housing and adapted to pick up the foremost sign, carry the same upward past the window, then backward and downward to the upper rear portion of the inclined track upon which it is deposited to slide down against the rearmost sign of the group. The foregoing operation is repeated and results in the signs being successively displayed at the window so long as the carrier remains in operation.

In order that the invention may be fully understood reference will now be had to the accompanying drawings, in which:

Fig. 1 is a perspective view of a housing in which the main portion of the apparatus is enclosed.

Fig. 2 is a vertical sectional view of the housing showing the enclosed apparatus in front elevation.

Fig. 3 is a vertical sectional view of the housing with the enclosed apparatus in side elevation.

Fig. 4 is a vertical sectional view of the apparatus removed from the housing.

Fig. 5 is a detail perspective view of one of the sign holders.

Fig. 6 is a fragmentary perspective of a portion of the endless carrier.

Referring in detail to the different parts, 2 designates the housing which is provided at its upper portion with a hinged lid 4 so that access may be had to the enclosed apparatus. The front lower portion of the housing 2 is equipped with a window 6 through which the movable signs are successively displayed, and provided at its upper portion with a window 8 through which a stationary sign may be viewed.

Arranged within the housing 2 is a frame comprising a pair of inverted U-members 10 spaced apart almost the entire width of the interior of the housing upon the bottom 12 of which they are fixed. A transverse plate 14 fixed to the top of the frame members 10 cooperates with the bottom 12 in rigidly holding said U-members in upright and spaced relation.

A pair of sprocket wheels 16, 16a are journaled upon stub shafts 18 at the upper corners of the respective frame members 10 to serve as a support and guide for a pair of sprocket chains 20 comprising an endless carrier whereby the signs are successively picked up from the lower forward portion of the inclined track, transported past the window 6 and deposited upon the upper rear portion of the track, as will more fully hereinafter appear. Each chain 20 is driven in the direction of the arrows, Figs. 3 and 4, by a sprocket wheel 22 fixed upon a shaft 24 driven by an electric motor 26 through a train 28 of speed reduction gears. The shaft 24 is journaled in bearings 30 fixed to the lower rear portion of the frame members 10. Sprocket wheels 32 mounted on stub shafts 34 cooperate with the sprocket wheels 16 in guiding the sprocket chains 20 past window 6 and close to the foremost one of the group of signs 36 each of which is approximately the same size as the window 6 through which the foremost sign may be viewed.

Each sign comprises a grooved U-shaped holder 38 and a card 40 which latter is removably mounted in the former so that other cards may be substituted when desired. One or both faces of the card may have advertising media, pictures, or the like, so that after the matter on one side of the card has been displayed as long as desired the card may be reversed to display the matter on its opposite side.

A horizontally disposed rod 42 is fixed to the upper ends of each card holder 38 and projects laterally from said ends a limited distance for the purpose of suspending the holder between the rails of the track 44 and in the path of laterally projecting grooved portions 46 at the lower ends of a pair of arms 48 pivoted at their upper ends to the respective sprocket chains 20.

The track 44 comprises a pair of rails inclined

downwardly and forwardly towards their lower upturned ends 50 which terminate a short distance from the upper rear portion of the window 6 and are supported from the frame members 10 by members 52. The rails of the track 44 are spaced apart to permit the signs to pass between them and are inclined to such degree that the signs will slide downward thereon until checked by the upturned ends 50.

In order that the foremost sign may be easily read when in position at the rear of the window 6, I provide an electric lamp 54, preferably of the neon type, for illuminating the sign. Said lamp 54 comprises a tube bent approximately in the form of a hollow square of such size as to avoid hiding any of the advertising media, pictures, or the like on the exposed side of the sign.

To display additional advertising, pictures or the like, I provide a stationary sign holder 56 at the rear of the upper window 8 for reception of a sign 58 which may be removed so that other signs may be displayed when desired. A suitable electric lamp 60 is placed at the upper rear portion of the window 8 and provided with a reflector 62 for directing the rays of light downward over the face of the sign so that it may be read by a spectator standing in front of the housing 2.

In practice a plurality of signs are suspended in a group from the lower portion of the track 44 with the projecting ends of rod 42 of the foremost sign disposed in the path of the grooved portions of the arms 48, so that when the same travel upward they will pick up and carry the foremost sign past window 6, then backward over the remainder of the group as shown in full lines, Figs. 3 and 4, then downward and deposit it upon the upper rear portion of the track 44 as shown in dotted lines, Fig. 4. After the sign has been deposited upon the track it slides downward thereon against the rearmost sign of the group which latter moves down upon the rails until checked by the upturned ends 50 to position another sign in the path of the carrier arms 48. A pair of deflectors 65 extend upwardly from the bottom 12 of housing 2 to within a short distance of the rear of track 44 to prevent the sign being deposited upon the track from impinging against the motor 26 and the gears 28.

The foregoing operation is repeated so that the signs will be successively displayed at the lower window 6 until current to the motor 26 is cut off.

Vertical guides 70 are fixed to the rear portion of the frame members 10 to avoid inward flexion of chains 20 and arms 48 as they approach the track 44 to deposit the sign thereon. Additional guides 72 are provided for directing the grooved lower portions of arms 48 into engagement with the projecting ends of rod 42 of the foremost sign. The guides 72 are fixed to brackets 74 which also carry the lamp 54.

In the event a sign becomes shifted laterally from normal position so that it would likely contact the top of one of the rails of track 44 when the sign is being lowered, I provide guide means in the form of a pair of arms 76 for shifting the sign back to normal position. The guide arms 76 are spaced above the track 44 and project forwardly and toward each other from the rear portions of the respective frame members 10 and have their forward ends bent backward and spaced just far enough apart to permit the sign to pass after being shifted back to normal position by one or the other of said arms.

Only the foremost sign of the group is permitted to be conveyed upward by the carrier arms 48 from the track 44 by a pair of arms 78 secured to the respective frame members 10. The arms 78 project toward each other and over the second sign of the group, then extend rearward, and upward in parallelism with the track rails above which they are spaced just far enough to permit the group of signs to slide downward on the rails.

While I have shown and described a preferred embodiment of my invention I reserve all rights to such changes and modifications as properly fall within the spirit and scope of the invention as claimed.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. An apparatus of the character described comprising a frame, a pair of parallel rails spaced apart and inclined toward their forward ends which are secured to the frame, a plurality of signs arranged in a group between the rails and each provided at its upper portion with laterally projecting means whereby it is suspended from said rails, an endless carrier which at each revolution engages the laterally projecting means of the foremost sign, carries the sign backward over the remainder of the group, then downward between the rails and deposits the laterally projecting means upon the rails, and a pair of guide arms spaced above the rails and projecting forwardly from the rear portion of the frame, said guide arms converging towards their forward portions which are bent backward and spaced apart just far enough to permit the sign to pass.

2. An apparatus of the character described comprising a frame, a pair of parallel inclined rails spaced apart and supported on said frame, a group of signs suspended between the lower portions of said rails, an endless carrier which, at each revolution, picks up the foremost sign, carries the same over the group, and deposits it on the upper portions of the rails down which it slides against the back of the group, wheels mounted upon the frame to guide said carrier, means for operating said carrier, and a pair of arms which project towards each other from opposite sides of the frame and over the second sign of the group, then rearward and upward in parallelism with the rails above which they are spaced just far enough to permit the group to slide downward upon the rails.

ORA R. CURNUTT.

CERTIFICATE OF CORRECTION.

Patent No. 2,220,478. November 5, 1940.

ORA R. CURNUTT.

It is hereby certified that error appears in the above numbered patent requiring correction as follows: In the grant, line 13, for the word "her" read --his--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 10th day of December, A. D. 1940.

(Seal)

Henry Van Arsdale,
Acting Commissioner of Patents.