

[54] **DYNAMIC ADVERTISING DISPLAY SYSTEM**

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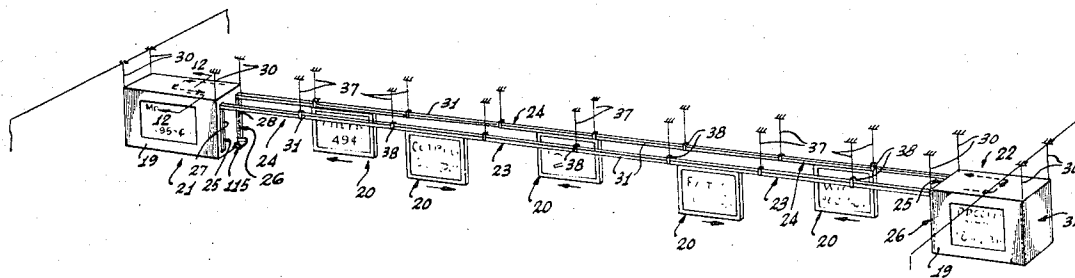
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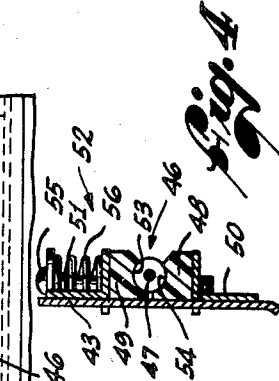
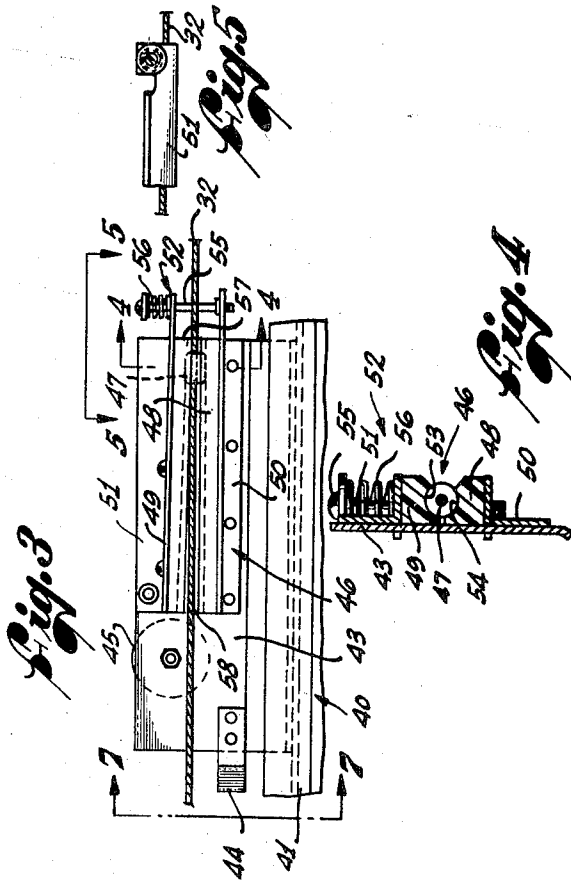
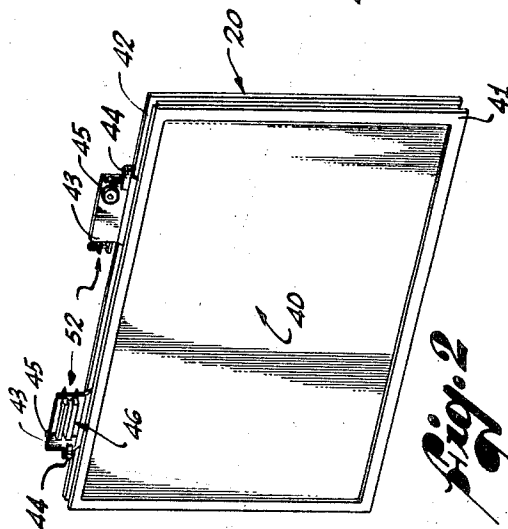
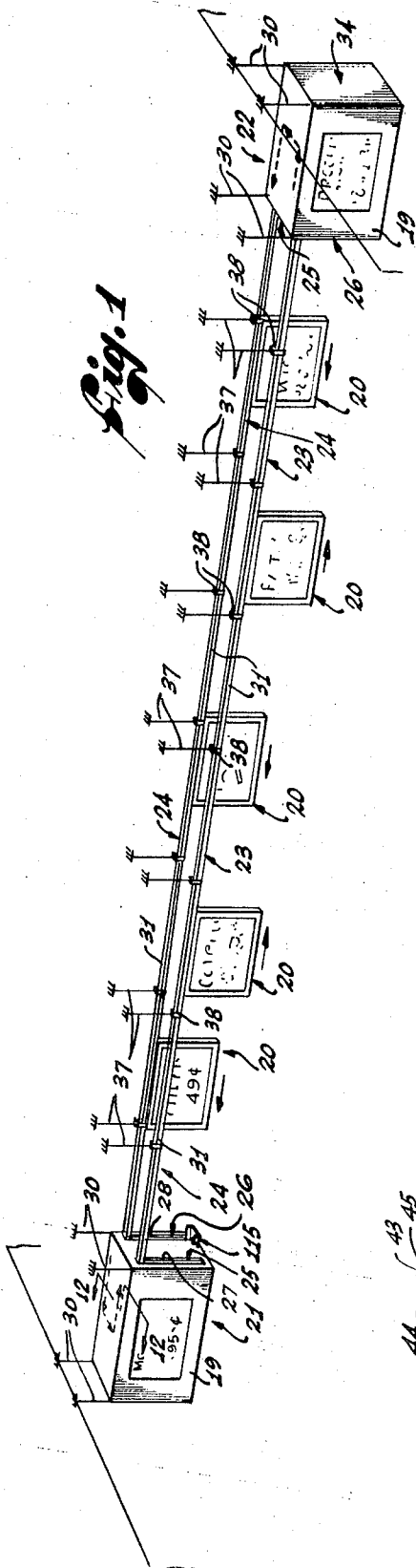
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[57] **ABSTRACT**

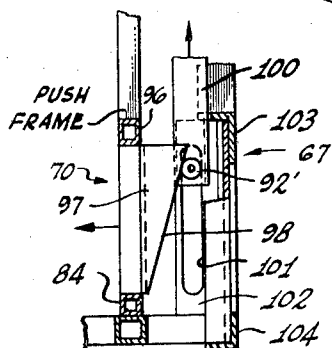
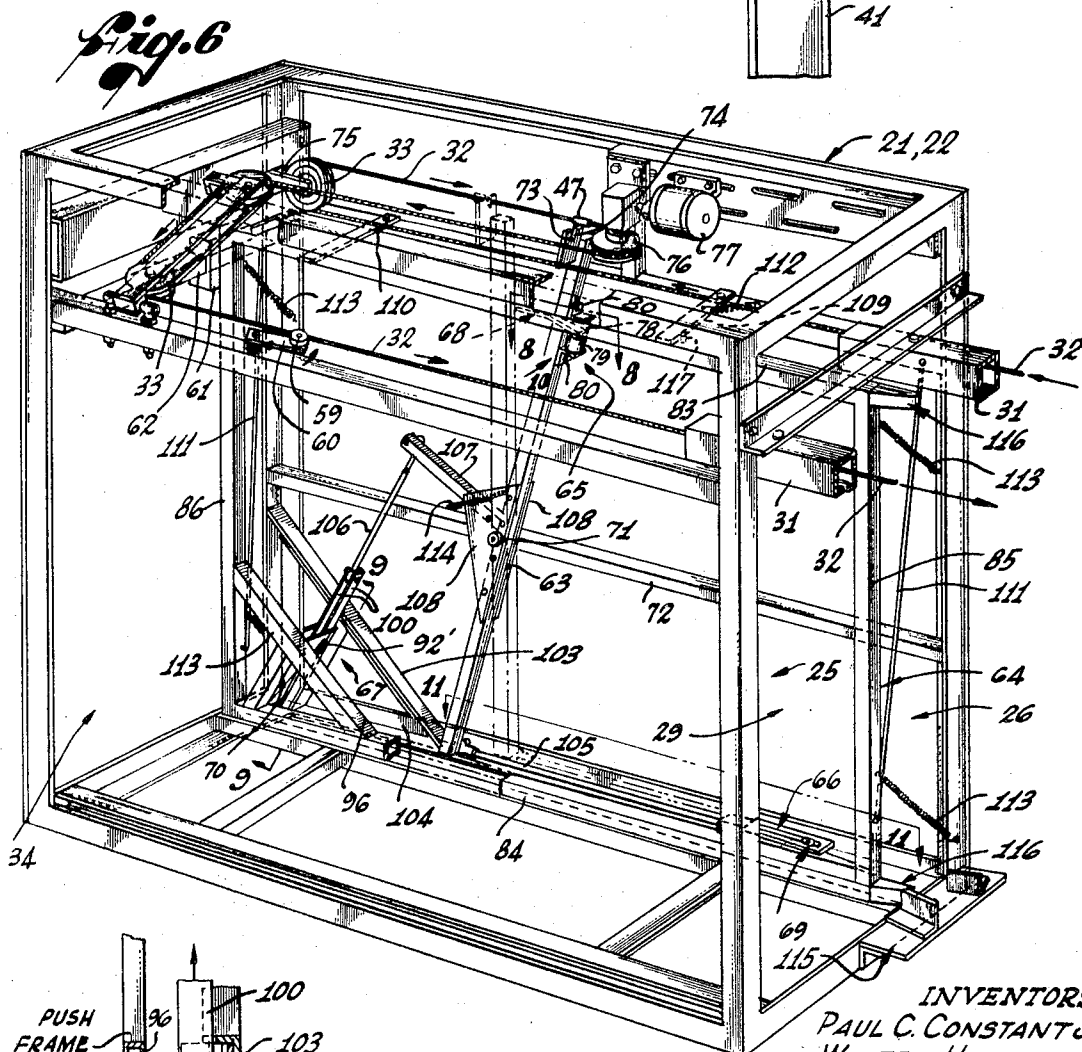
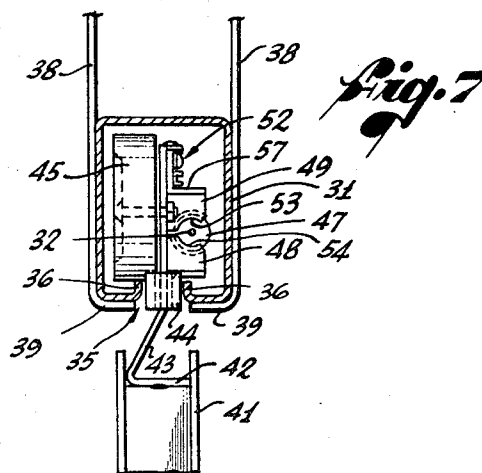
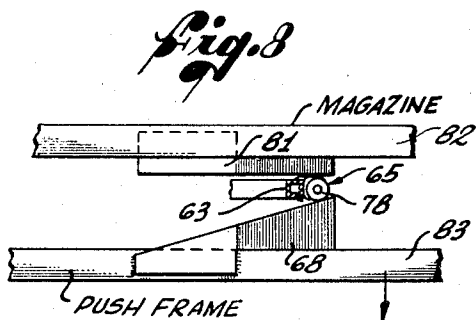
A display system for dynamically exhibiting a plurality of advertising signs, comprising a pair of supply magazines interconnected by a pair of tracks along which the signs are moved for display in a sequential manner. Each of the magazines supports a supply of stacked signs and has a sign discharge station wherein the signs are coupled with a drive cable one at a time and moved along one of the tracks, and also has a sign receiving station which receives the signs from the other track after display and uncouples the signs from the drive cable. A push frame assembly of the magazine automatically shifts each sign from the receiving station into the supply stack after the sign enters the magazine from one of the tracks and simultaneously positions a new sign from the supply stack in the discharge station for movement along the other track.

19 Claims, 13 Drawing Figures



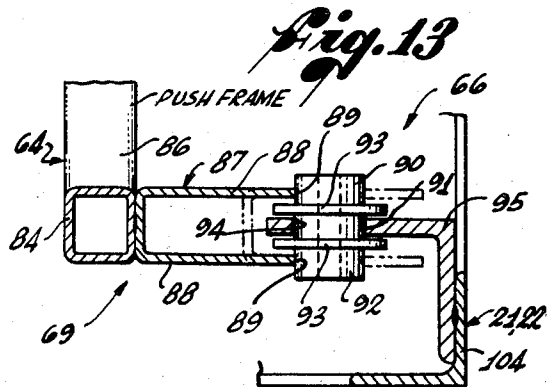
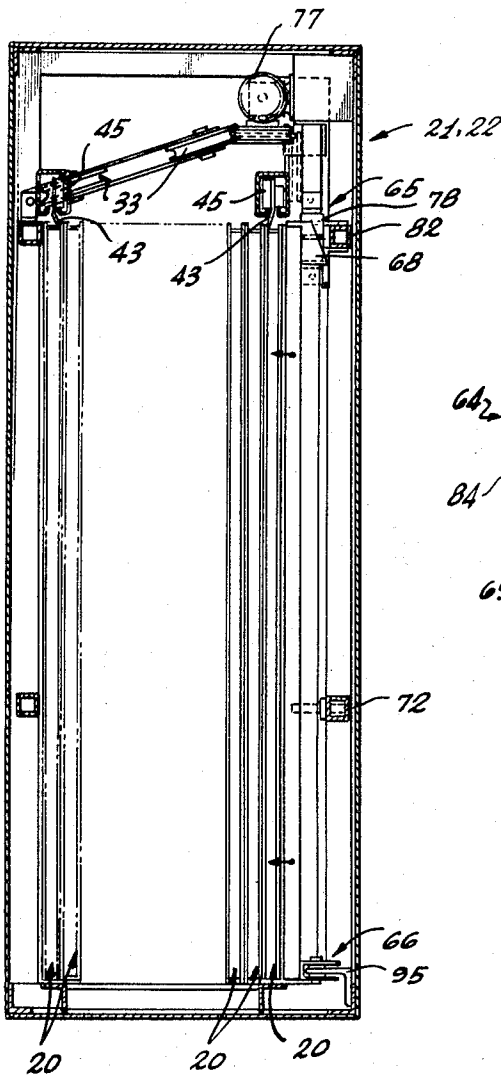
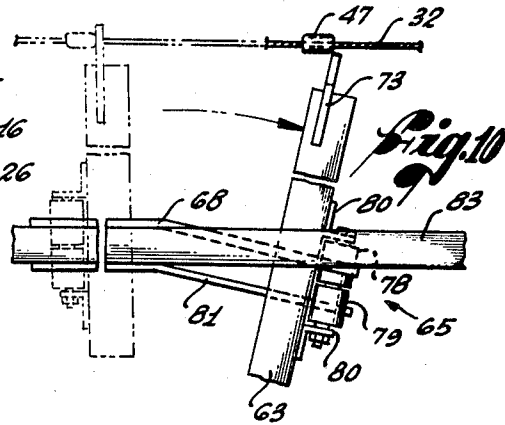
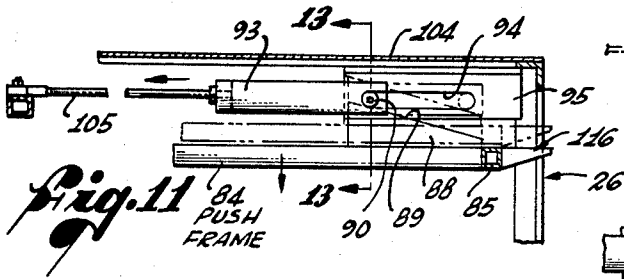


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DYNAMIC ADVERTISING DISPLAY SYSTEM

BACKGROUND OF THE INVENTION

This invention relates to advertising displays, and has particular reference to a new and improved dynamic, or moving, display system for exhibiting advertising signs.

In the field of advertising, the use of eye-catching signs has long been recognized as an effective way to convey information, and such signs often are used in supermarkets, drugstores, department stores and the like, to attract the attention of shoppers to selected goods and services. Typically, the advertising signs are artistically created and placed in strategic locations to be seen by as many persons as possible, and their effectiveness can often be increased by making moving displays which will more readily attract attention.

Most dynamic advertising displays, however, tend to be expensive to manufacture and may require large amounts of space which could be put to more profitable use. Further, many presently available displays of this type are capable of exhibiting only a very limited number of signs and require that the signs be of relatively small size and hence effective for only a limited distance.

SUMMARY OF THE INVENTION

The present invention provides a dynamic advertising display system wherein a large number of advertising signs can be sequentially exhibited in a pleasing and eye-catching manner, and which allows large and attractive signs to be suspended from a ceiling thereby to utilize previously wasted space.

The signs are supplied by at least one magazine and are continuously moved along a predetermined path from a magazine discharge station to a magazine receiving station in a sequential manner. The magazine supports a supply of signs in side-by-side, stacked relation, and automatically shifts a sign from the receiving station into the supply stack while simultaneously positioning a new sign from the stack in the discharge station. Accordingly, a continuous circulation of the signs along the predetermined path is possible.

More specifically, a track defining the path of circulation extends out of the magazine from the discharge station to the receiving station, and drive means associated with the magazine and track move a sign from the discharge station along the track to the receiving station. The magazine has means for automatically shifting a sign in the receiving station laterally of the magazine and into the supply stack and for simultaneously shifting a new sign into the discharge station for coupling with the drive means and movement along the track.

In the presently preferred embodiment, two spaced magazines are connected by two independent display path sections, each of the sections being formed by elongated tubular tracks interconnecting the discharge station of one magazine with the receiving station of the other. The signs are moved along the tracks by an endless drive cable, the drive cable being releasably coupled with a sign in the discharge station of one of the magazines and moved along the associated track to the receiving station of the other magazine where the sign is uncoupled from the cable and shifted within the magazine toward the discharge station for eventual circulation back to the first magazine.

The drive cable carries abutments which are gripped by clamping devices attached to the signs to couple the signs to the cable for movement along the tracks. On uncoupling, the abutments actuate push frames in the magazines to shift the signs from the receiving stations to the discharge stations.

Other features and advantages of the display system of this invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate by way of example, the principles of the invention.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a dynamic advertising display system embodying the invention and showing advertising signs moving along tracks between two supply magazines;

FIG. 2 is an enlarged perspective view of one of the signs of FIG. 1;

FIG. 3 is an enlarged fragmentary side elevational view of a mounting bracket shown in FIG. 2 adjacent the left upper corner of the sign, together with elements of the drive cable;

FIG. 4 is an enlarged fragmentary sectional view taken substantially along line 4—4 of FIG. 3;

FIG. 5 is a fragmentary top plan view taken substantially in the direction of line 5—5 of FIG. 3;

FIG. 6 is an enlarged perspective view, partly in cut-away section, of the left-hand magazine of FIG. 1 with an outer covering and the signs normally contained therein removed and the tracks cut-off for compact illustration;

FIG. 7 is a fragmentary sectional view taken substantially in the direction of line 7—7 of FIG. 3, together with elements of one of the tracks and associated supporting means;

FIG. 8 is a fragmentary sectional view taken substantially along line 8—8 of FIG. 6;

FIG. 9 is a fragmentary sectional view taken substantially along line 9—9 of FIG. 6;

FIG. 10 is a fragmentary elevational view in the direction of the arrow 10 of FIG. 6 with portions removed for compact illustration and with alternate positions shown in phantom lines;

FIG. 11 is a fragmentary sectional view taken substantially in the direction of line 11—11 of FIG. 6, with portions removed for compact illustration and with alternate positions shown in phantom lines;

FIG. 12 is an enlarged sectional view taken substantially along the line 12—12 of FIG. 1; and

FIG. 13 is an enlarged sectional view taken substantially along line 13—13 of FIG. 11 with alternate positions shown in phantom lines.

DETAILED DESCRIPTION

As illustrated in the drawings, the present invention is embodied in a new and improved display system for dynamically exhibiting a series of advertising signs in an eye-catching manner by moving the signs one by one from a storage magazine, along a display path in which the signs are sequentially exposed to view, and then back into storage for eventual recirculation along the display path. Such a system may be suspended from the ceiling in a supermarket, department store, or the like to present a repeating series of advertising messages in a conspicuous manner to customers in the store.

While the system may be operated with a single storage magazine and means defining an endless display path which extends away from the magazine and then returns thereto, the preferred embodiment shown herein has two spaced magazines 21 and 22 which are connected by two individual display path sections 23 and 24, one of the sections leading from one magazine to the other and the other section leading back to the first magazine. Each magazine 21 and 22 has a discharge station 25 from which signs 20 leave the magazine, a receiving station 26 into which signs are moved after passing along one of the display path sections 23, 24, and means for shifting the signs automatically from the receiving station to the discharge station, inside the magazine, preparatory to movement out of the magazine along the other section of the display path.

The system also includes drive means for advancing the signs 20 between the magazines 21, 22 along both display path sections 23, 24, and means for automatically coupling a sign in the discharge station 25 of a magazine to the drive means for movement out of the discharge station toward the other magazine, and for automatically uncoupling each sign from the drive means after it has entered the receiving station 26 of the other magazine. After being uncoupled from the drive means in one of the receiving stations 26, each sign 20 is automatically shifted by the magazine 21, 22 laterally therethrough to the discharge station 25 for eventual recoupling to the drive means and recirculation along the display path.

As shown most clearly in FIG. 1, the magazines 21 and 22 are box-like containers of horizontally elongated rectangular cross-section, each having two laterally spaced, elongated slots 27 and 28 in one end 29, hereinafter referred to as the "front end", these slots constituting the entry and exit ends, respectively, of the receiving and discharge stations 26 and 25 of the magazines. The magazines 21 and 22, shown in FIG. 1 with an outer housing or cover 19 of suitable design, are suspended from the ceiling on suitable supports 30 with the front ends 29 facing each other and with the receiving slot 28 of each magazine laterally aligned with the discharge slot 27 of the other.

The two display path sections 23 and 24 are formed by two parallel tracks 31 herein comprising elongated, open-ended tubes of rectangular cross-section (see FIG. 7) having opposite end portions which project into the two magazines 21 and 22 through the upper end portions of the aligned receiving and discharge slots 28 and 27, each end being spaced a short distance inside the associated magazine as shown in FIG. 6. The drive means herein is an endless flexible cable 32 which is trained around several pulleys 33 inside each magazine 21, 22 and has parallel runs extending through the two track tubes 31, the pulleys directing the cable inwardly from one track tube through the aligned receiving station 26, across the end 34 of the magazine remote from the front end 29 hereinafter referred to as the "back end", and then outwardly through the discharge station 25 and into the other aligned track tube.

To permit the signs 20 to be suspended below the track tubes 31 and coupled to the cable 32 inside the track tubes, a longitudinal slot 35 (FIG. 7) is formed in the underside of each track tube, along the full length thereof, between two upturned longitudinal flanges 36 forming the opposite sides of the slot. Supports 37 (FIG. 1) suspended from the ceiling assist in holding

the track tubes 31 in place relative to the magazines 21 and 22, and are connected to the track tubes by brackets 38 having horizontal tabs 39 engaging the underside of the track tubes on opposite sides of the slots 35, as shown in FIG. 7.

As best seen in FIGS. 2 through 5, each illustrative sign 20 comprises a rectangular display panel 40 which is enclosed in a frame 41 having means on its upper edge 42 for coupling the sign to the cable 32 and riding along the track tubes 31. Herein, the coupling means include two flat-sided mounting brackets 43 which are spaced apart longitudinally of the sign frame 41 to project upwardly through the slots 35 into the track tubes 31 (see FIG. 7), with two rollers 45 projecting laterally in opposite directions from the sides of the two mounting brackets to ride along the upturned edges of the flanges 36. Two clamping devices 46 are mounted on the sides of the mounting brackets opposite the rollers, for coupling engagement with a series of abutments 47 spaced along the cable 32. Each of the clamping devices is active as the sign 20 is moved along one of the track tubes 31 forming one of the display path sections 23, 24, and is idle as the sign is moved along the other display path section.

Each clamping device 46 has two longitudinally extending friction blocks 48 and 49 (FIG. 3) of generally rectangular cross-section which are disposed in vertically spaced relation, the lower block 48 being rigidly attached to the mounting bracket 43 through a lower plate 50 of L-shaped cross-section, and the upper block 49 being pivotally attached to the mounting bracket through an upper plate 51 similar to the lower plate. The upper plate 51 is pivotally pinned at one end, the left end in FIG. 3, to the mounting bracket 43 and is yieldably coupled at its other end to the lower plate 50 by a spring device 52 which projects slidably through the free end portion of the upper plate and is attached to the lower plate.

To frictionally capture one of the abutments 47 on the cable 32, as shown in FIG. 4, a downwardly opening channel 53 of arcuate cross-section extends throughout the length of the underside of the upper block 49 and an opposed upwardly opening channel 54 of arcuate cross-section extends throughout the length of the upper side of the lower block 48, the spring device 52 herein comprising an adjustable screw 55 and a spring 56 compressed by the screw against the upper side of the upper plate 51 to bias the upper plate and upper block 49 downwardly about the pivoted end. In the idle condition, the spring device 52 presses the right end portion 57 of the upper block 49 in FIG. 3 against the lower block 48 and forms a passageway 58, defined by the two channels 53, 54 of the upper and lower blocks, which is open at its left end and tapers from left to right in FIG. 3.

When a sign 20 is shifted into one of the discharge stations 25, the cable 32 is forced into the tapered passageway 58 of one of the clamping devices 46 by a wheel 59 mounted on a spring-biased arm 60 (see FIG. 6). This arm is attached to the magazine 21, 22 at the discharge station 25 to urge the cable against the clamping device. As a result of the separation of the upper and lower blocks 49 and 48 at the base of the tapered passageway and the motion of the cable toward the small end of the passageway, the upper block 49 is parted from the lower block 48 to allow the cable to slip into the passageway. When an abutment 47 on the

cable 32 is drawn into the passageway 58, it engages the surfaces of the two channels 53 and 54, and becomes wedged therebetween, the spring device 52 being adjusted to apply a sufficient bias on the upper block 49 to prevent the abutment from being pulled completely through the passageway before the sign 20 reaches the other magazine.

On coupling of the sign 20 to the cable 32, the cable pulls the sign toward the associated track tube 31 projecting into the discharge station 25 and the two mounting brackets 43 pass into the slot 35 with the rollers 45 riding along opposite upturned edges of the flanges 36 and the sign suspended therebelow. Each of the mounting brackets 43 also has a guide 44 which projects outwardly from one end, the left end in FIG. 3, and is positioned to move between the upturned flanges 36 forming the slot 35. These guides engage the upturned flanges (see FIG. 7) to keep the mounting brackets properly centered in the slot and prevent the rollers 45 from slipping off the edges of the flanges.

Thus, as each abutment 47 on the cable 32 moves through the discharge station 25 of a magazine 21, 22, it is wedged into one of the clamping devices 46 of a sign 20 in the discharge station to couple the sign to the cable, and then pulls the sign out of the magazine and into the track tube 31 aligned with the discharge station. The sign 20 is then moved along the track tube 31 with the rollers 45 riding on the upturned flanges 36, and is carried toward and into the receiving station 26 of the other magazine 21, 22.

To uncouple the signs 20 from the cable 32 in the receiving stations 26, a stop 61 is positioned in each receiving station to block further movement of the sign when it is in a preselected position, thus causing the cable to exert an opening force on the clamping device 46 greater than the closing force of the spring device 52 so as to spread the channels 53 and 54 of the friction blocks 49, 48 and automatically uncouple the sign. As shown in FIG. 6, the stop 61 is an impact absorbing block attached to a cross bar 62 at the back end 34 of the magazine 21, 22, and engages the sign frame 41 after the sign 20 has moved fully into the receiving station 26, thereby stopping the sign. The cable 32 continues its travel and pulls the abutment 47 through the channels 53, 54 of the clamping device 46 by forcing the upper block 49 to pivot away from the lower block 48 against the bias of the spring device 52.

After a sign 20 is released from the cable 32 in the receiving station 26, it is shifted laterally, or broad-wise, step-by-step across the magazine 21, 22 from the receiving station toward the discharge station 25 until it has been moved into the latter and is ready for recirculation back toward the other magazine. This is accomplished by an actuating lever 63 which is rocked into an actuating position as each abutment 47 on the cable 32 passes from the receiving station 26 to the discharge station 25, and by a reciprocating push frame 64 operated by the actuating lever to push the sign 20 in the receiving station laterally toward the discharge station, thereby pushing the entire stack of signs in the magazine toward the discharge station so as to push the sign closest to the discharge station into position to be coupled to the cable.

As best seen in FIG. 6 and 12, the actuating lever 63 is disposed between the push frame 64 and the side of the magazine 21, 22 adjacent the receiving station 26, and operates a plurality of cam roller assemblies,

herein three in number, 65, 66 and 67, each of which deflects three corresponding cams 68, 69 and 70 secured to the push frame to effect a uniform and constant shifting of the push frame laterally across the receiving station. The actuating lever 63 comprises an elongated bar which is pivotally attached intermediate its ends by a pin 71 to a longitudinally extending side rail 72 of the magazine 21, 22, and has a flat-sided plate 73 secured to one end, the upper end in FIGS. 6 and 12, and lying in the path of the cable 32. The cable passes through a slot 74 extending downwardly from the upper end of the plate.

After passing through the receiving station 26 and around one of the pulleys 33 attached by a bracket 75 to the magazine 21, 22 at the back end 34 of the receiving station, the cable 32 is directed back toward the front end 29 of the magazine and around a drive sheave 76, shown coupled to a drive motor 77 secured to the magazine. When an abutment 47 on the cable 32 encounters the slotted plate 73 after passing around the pulley 33 from the receiving station 26, the abutment swings the actuating lever 63 forwardly about the pivot pin 71, the slot 74 in the plate being sufficiently large to allow the cable to pass therethrough but too small to allow the abutment to pass. Thus, each passing abutment rocks the actuating lever forward until the plate 73 is swung low enough to permit the abutment to pass over the plate, and the lever then is released to return to its original position.

As seen in FIGS. 6, 8 and 10, the first roller assembly 65 is mounted adjacent the upper end of the actuating lever 63 and includes two coaxial rollers 78 and 79 supported on the actuating lever between a pair of L-shaped brackets 80 to rotate about an axis parallel to the actuating lever. One side of one of the two rollers 78, 79, herein the lower roller 79, abuts a straight-edged guide plate 81 (see FIG. 10) secured to the underside of a member 82 extending longitudinally along the side of the magazine 21, 22, adjacent the receiving station 26, and the other roller, herein the upper roller 78, abuts the cam surface of the first corresponding cam 68, the first cam lying on the side of the upper roller opposite the guide plate and being secured to the top longitudinal rail 83 of the push frame 64. The frame has a rectangular configuration comprising top and bottom longitudinal rails 83 and 84, and front and back vertical rails 85 and 86, respectively.

Since the actuating lever 63 follows an arcuate path during movement about the pivot pin 71, both the guide plate 81 and the first cam 68 are curved downwardly as seen in FIG. 10 to allow the rollers 78 and 79 to remain in contact therewith during rocking. The lower roller 79 rides along the stationary guide plate and the upper roller 78 deflects the first cam, and consequently the push frame 64, as it moves along the cam surface which is inwardly inclined toward the back end 34 of the magazine 21, 22. In this manner, the first roller assembly 65 deflects the top rail 83 of the push frame 64 across the receiving station 26 toward the discharge station 25 of the magazines 21, 22.

Simultaneously with the shifting of the top rail 83 of the push frame 64 by the first roller assembly 65, the second and third roller assemblies 66 and 67, respectively, shift the bottom longitudinal rail 84 and the back vertical rail 86 across the receiving station 26 of the magazine 21, 22, thereby to uniformly and evenly shift the entire push frame and move a sign 20 in the receiv-

ing station laterally toward the discharge station 25. The second roller assembly 66, shown in FIGS. 6, 11 and 13, and the third roller assembly 67, shown in FIGS. 6 and 9, each engage inclined surfaces of U-shaped plates forming the second and third corresponding cams 69 and 70, the structure of the second roller assembly and corresponding cam being similar to that of the third roller assembly and its corresponding cam.

Referring primarily to FIGS. 11 and 13, the U-shaped plate 87 of the second cam 69 is secured to the bottom longitudinal rail 84 of the push frame 64 with the legs 88 of the "U" projecting laterally therefrom and away from the discharge station 25 of the magazine 21, 22, the surfaces 89 (FIG. 11) of the legs being inclined inwardly toward the front end 29 of the magazine. The second roller assembly 66 herein comprises three coaxial rollers 90, 91 and 92 supported for rotation about a vertical axis by a pair of parallel flat plates 93, the middle roller 91 (FIG. 13) of the three being disposed between the two plates and guided by a longitudinal slot 94 formed in one side of an elongated L-shaped bracket 95 attached along its other side to the magazine 21, 22 with the upper and lower rollers 90 and 92 projecting from opposite sides of the two plates and engaging the two inclined end surfaces 89 of the second cam 69.

The third cam 70 is disposed along a diagonal of the rectangular push frame 64 and is secured between a strut 96 which extends between the bottom rail 84 and the back vertical rail 86 of the push frame, and the bottom rail adjacent the intersection with the back rail. This cam comprises a U-shaped plate 97 having outwardly projecting end surfaces 98 which are inclined inwardly toward the bottom rail. The third roller assembly 67, like the second roller assembly 66, includes three coaxial rollers 90', 91' and 92' (only one of which, 92', can be seen in FIGS. 6 and 9) supported by a pair of spaced flat plates 100 and guided in a slot 101 formed in one side of an elongated L-shaped bracket 102 secured to the magazine 21, 22. This L-shaped bracket in this instance is secured between a strut 103 parallel to the strut 96 supporting the third cam 70, and a bottom side bar 104 of the magazine whereby the third roller assembly is disposed along a diagonal of the push frame parallel with that of the third cam.

The second and third roller assemblies 66 and 67 are operated by the actuating lever 63 to deflect the second and third cams 69 and 70 as the rollers move along the inclined ends 89 and 98 thereof. The second roller assembly 66 is connected to the bottom end of the actuating lever 63 by a longitudinally extending rod 105 that is pivotally attached at one end to the actuating lever, and at the other end to the supporting plates 93 of the rollers 90, 91 and 92. The supporting plates 100 of the third roller assembly 67 are attached to one end of a rod 106 which is pivotally connected at its other end to an arm 107 projecting from the actuating lever 63 above its pivot pin 71 toward the back end 34 of the magazine 21, 22, the arm herein being reinforced between a pair of triangular plates 108 secured to the actuating lever.

On swinging of the actuating lever 63 from the phantom line position of FIG. 6, toward the solid line position, the second roller assembly 66 is pulled by the backward movement of the rod 105 toward the back rail 86 of the push frame 64, and the third roller assem-

bly 67 is pulled along the diagonal toward the top rail 83 of the push frame, the actuating lever causing the arm 107 secured thereto to move in a clockwise direction as seen in FIG. 6. Movement of the second and third roller assemblies 66 and 67 causes the outer roller pairs 90, 92, and 90', 92' to ride along their corresponding inclined ends 89 and 98 of the second and third cams 69 and 70, thereby to deflect the push frame 64 toward the discharge station 26 of the magazine 21, 22. When the actuating lever 63 reaches the solid line position of FIG. 6, the push frame 64 is fully shifted across the receiving station 26, the actuating lever at this point having moved about its pivot pin 71 sufficiently to move the roller assemblies 65, 66 and 67 completely over their corresponding cams 68, 69 and 70. This allows the abutment 47 to slip past the slot 74 and over the top of the plate 73.

Thus, by virtue of the positions of the first, second and third cams 65, 66 and 67, the push frame 64 is shifted laterally of the magazine 21, 22 in a uniform way, and in turn, shifts a sign 20 in the receiving station 26 out of the receiving station and toward the discharge station 25. This causes a lateral translation of all the signs in the magazine and a positioning of another sign in the discharge station for subsequent coupling with the cable 32. The push frame 64 is restrained against movement in any direction other than laterally of the magazine 21, 22 by two flat guide bars 109 and 110 projecting inwardly from the receiving station side of the magazine 21, 22 and abutting the top rail 83 of the push frame 64 and guide wires 111 which are attached to the push frame and the magazine at the front and back ends 29 and 34. The wires 111 support the weight of the push frame and hold it at the proper vertical elevation. The guide bars 109 and 110 act to steady the last sign received and prevent it from tipping back (sidewise) and therefore blocking the space needed by the next incoming sign. Both of the guide bars 109 and 110 are pinned to the magazine for rotation about a vertical axis to allow the mounting brackets 43 to pass with a sign 20 into the receiving station 26, and have springs 112 which return the guide bars to the normal position against a post 117 on the top bar 83 after the mounting brackets have passed.

After the push frame 64 has shifted the signs 20 laterally, four springs 113 stretched between the push frame and the magazine 21, 22 return the push frame to its normal position shown in FIG. 12. An additional spring 114 coupled between the actuating lever 63 and the magazine aids in returning the push frame 64 and pivoting the actuating lever back to its vertical position illustrated by the phantom lines of FIG. 6. The abutment 42, after slipping over the slotted plate 73, continues its travel with the cable 32 around the drive sheave 76 and remaining pulleys 33 at the back end 34 of the magazine 21, 22 to the discharge station 25, now containing a new sign 20, and is coupled to the new sign to drive it along the associated track tube 31 and free the magazine 21, 22 for receiving and shifting the next incoming sign.

To insure that a sign 20 entering the magazine 21, 22 will be properly oriented to slide into the receiving station 26, converging entrance guides 115 can be provided on the front end 29 of the magazine outwardly from the entry slot 28. For a similar purpose, inclined projections 116 can be provided on the front end of the push frame 64 to correct any misalignment of the sign

20 and prevent it from jamming against the front end of the push frame. Also, a friction reducing material may be used on surfaces over which the signs 20 slide, such as the bottom of the magazine 21, 22, and the receiving and discharge stations 26 and 25, thereby to reduce wear and increase smoothness of operation.

From the foregoing, it will be appreciated that the display system of the invention allows a large number of signs 20 to be continuously exposed to view in a sequential manner, and that the signs displayed may be of large size and may carry desired information on both faces thereby to provide maximum utilization of each sign. Further, the system is fully automatic and the signs 20 can be readily changed simply by removing old signs from the magazines 21, 22 and placing new signs therein. Since the system is primarily intended to be suspended from a ceiling, previously wasted space can thus be made useable.

While a particular form of the invention has been illustrated and described, it will be apparent that various modifications can be made without departing from the spirit and scope of the invention.

I claim:

1. A dynamic advertising display system comprising:
 - a first magazine for holding a plurality of advertising signs in side-by-side relation in a stack, and including a receiving station at one side of said stack and a laterally spaced discharge station at the other side of said stack, said first magazine being constructed for edgewise movement of signs into and out of said stations for addition to and removal from said stack;
 - a second magazine for holding a plurality of advertising signs in side-by-side relation in a stack, and including a receiving station at one side of said stack and a laterally spaced discharge station at the other side of said stack, said second magazine being constructed for edgewise movement of signs into and out of said stations for addition to and removal from said stack;
 - a track comprising two elongated tubular sections, each of said sections extending between said discharge station of one of said first and second magazines and said receiving station of the other, and each of said sections having a slot along one side throughout the length thereof;
 - drive means comprising a motor driven endless cable continuously circulating from the discharge stations of said first and second magazines, through said track tubes and to said receiving stations;
 - means in each of said first and second magazines for shifting a sign from said receiving station laterally into said stack and shifting said stack laterally toward said discharge station to move a sign from the stack into said discharge station and comprising a cam operated push frame disposed in said receiving station, said push frame being actuated at preselected intervals by said drive means to shift said signs laterally of said magazine;
 - means on said drive means operable as an incident to movement through said discharge stations to couple said drive means to a sign in each of said discharge stations, and operable as an incident to movement through said receiving stations to release a sign therein;
 - means responsive to release of a sign in said receiving stations to actuate said shifting means thereby to

shift the sign from said receiving station into the stack while pushing the stack laterally and shifting another sign into said discharge station;

and at least one mounting bracket secured to said signs, said bracket upstanding from one edge thereof and having a device attached thereto for releasably coupling said signs to said drive means and moving said signs along said track tubes with said bracket projecting through said slot and said signs suspended below said track.

2. A dynamic advertising display system as defined in claim 1 in which said drive means comprises an endless flexible cable continuously circulating through said discharge station, along said display path, and through said receiving station; and in which said push frame is actuated by a lever pivotally attached to said magazine and having a portion disposed in the path of said cable; and wherein said cable has means for engaging said lever portion whereby said lever is pivoted by said cable at preselected intervals to actuate said push frame.

3. A dynamic advertising display system as defined in claim 1 wherein:

said means for engaging said lever portion comprise a plurality of spaced abutments on said cable, said abutments engaging said lever thereby to pivot said lever;

and said lever is coupled to a plurality of assemblies which engage corresponding cam surfaces attached to said push frame, said assemblies being moved in response to said pivotal movement of said lever thereby to deflect said cam surfaces and shift said push frame.

4. A dynamic advertising display system as defined in claim 1

wherein a plurality of abutments are spaced along said cable;

and in which said clamping device comprises a pair of laterally spaced elongated friction blocks having opposed channels along adjacent sides thereof, and a spring device urging one end portion of said blocks together thereby to form a tapered passageway through which said cable extends whereby one of said abutments wedged in said passageway couples said sign to said cable.

5. A dynamic advertising display system as defined in claim 4 in which said drive means comprises an endless flexible cable continuously circulating through said discharge station, along said display path, and through said receiving station; and said push frame is actuated by a lever pivotally attached to said magazine and having a portion disposed in the path of said cable whereby said lever is pivoted by said abutments at preselected intervals to actuate said push frame.

6. A dynamic advertising display system as defined in claim 5 wherein said lever is coupled to a plurality of roller assemblies which engage corresponding cam surfaces attached to said push frame, said roller assemblies being moved in response to said pivotal movement of said lever thereby to deflect said cam surfaces and shift said push frame.

7. A dynamic advertising display system adapted to be suspended from the ceiling of a room, said display system including:

a storage magazine for holding a plurality of advertising signs in side-by-side relation in a stack hidden from view, said magazine including an enclosed

rectangular and box-shaped frame having an internal receiving station at one side of said stack and a laterally spaced, internal discharge station at the other side of said stack;

means for suspending said magazine from the ceiling 5 of a room;

means defining a display path extending away from said discharge station and returning to said receiving station and including an elongated tubular track having a slot along one side thereof and means for suspending said track from the ceiling of a room;

an entry opening through said enclosed frame aligned with said track and said receiving station;

an exit opening through said enclosed frame aligned with said track and said discharge station;

drive means for removing signs one-by-one from said receiving station, moving the signs through said exit opening and in a series along said track for display, then through said entry opening and releasing successive signs in said receiving station, said drive means comprising an endless motor driven cable continuously circulating through said track, said magazine, and said exit and entry openings;

and means for shifting signs released in said receiving station laterally of said magazine and shifting successive signs from said stack into said discharge station for removal and display by said drive cable.

8. A dynamic advertising display system as defined in claim 7 wherein:

said signs include mounting brackets for supporting said signs during movement along said track, said mounting brackets projecting through said slot and into said track;

and a clamping device carried by said mounting bracket for releasably coupling said signs to said cable for movement along said track.

9. A dynamic advertising display system as defined in claim 8 in which said clamping device comprises a pair of friction blocks having opposed channels therein, said cable passing through said channels between said blocks;

and further including a plurality of abutments spaced along said cable for frictional engagement with said channels thereby to couple said signs to said cable.

10. A dynamic advertising display system as defined in claim 7 in which said shifting means comprises a cam operated push frame disposed in said receiving station, said push frame being actuated at preselected intervals by said drive means to shift said signs laterally of said magazine.

11. A dynamic advertising display system as defined in claim 10 in which said drive means comprises an endless flexible cable continuously circulating through said discharge station, along said display path, and through said receiving station; and in which said push frame is actuated by a lever pivotally attached to said magazine and having a portion disposed in the path of said cable; and wherein said cable has means for engaging said lever portion whereby said lever is pivoted by said cable at preselected intervals to actuate said push frame.

12. A dynamic advertising display system as defined in claim 11 wherein:

said means for engaging said lever portion comprise a plurality of spaced abutments on said cable, said

abutments engaging said lever thereby to rock said lever about its pivot;

and said lever is coupled to a plurality of assemblies which engage corresponding cam surfaces attached to said push frame, said assemblies being moved in response to said rocking movement of said lever thereby to deflect said cam surfaces and shift said push frame.

13. A dynamic advertising display system as defined in claim 7 further including at least one mounting bracket secured to each of said signs, said mounting bracket having a clamping device attached thereto for coupling said signs to said cable, and a roller for supporting said signs in said track during movement therealong.

14. A dynamic advertising display system as defined in claim 13 in which said clamping device comprises a pair of laterally spaced elongated friction blocks having opposed channels along adjacent sides thereof, and a spring device urging one end portion of said blocks together thereby to form a tapered passageway;

and a plurality of abutments spaced along said cable, said cable being positioned to extend through said channels between said blocks when a sign is shifted into said discharge station whereby an abutment is drawn by said cable into said passage-way and wedged therein to couple said sign to said cable and move said sign along said track.

15. A dynamic advertising display system as defined in claim 7 further including:

a second magazine spaced from said first magazine for holding a plurality of advertising signs in side-by-side relation in a stack, and including a receiving station at one side of said stack and a laterally spaced discharge station at the other side of said stack;

and said display path includes two independent sections, one of said sections connecting said discharge station of said first magazine and said receiving station of said second magazine, and the other section connecting said receiving station of said first magazine with the discharge station of said second magazine.

16. A dynamic advertising display system as defined in claim 7 in which each of said signs includes an up-standing bracket projecting through said slot, and having wheels riding in said tubular track; and said cable includes means releasably engageable with said bracket for moving said sign along said track.

17. A dynamic advertising display system as defined in claim 7 in which said means for shifting signs released in said discharge station include cam means actuated by movement of said cable through said magazine and operating to shift all said signs in said stack laterally in said magazine.

18. A dynamic advertising display system as defined in claim 7 including a pair of spaced rails across said magazine and extending laterally between said receiving station and said discharge station, said rails supporting said stack in said magazine.

19. A dynamic advertising display system as defined in claim 7 in which said entry and exit openings are vertically elongated slots through said enclosed frame, and said magazine includes a horizontally disposed V-shaped guide projecting therefrom adjacent the lower end of said entry slot for guiding signs into said entry slot.

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