March 5, 1946. B. A. WALKER 2,395,947

EXHIBITING MACHINE

Filed June 10, 1942 3 Sheets-Sheet 1

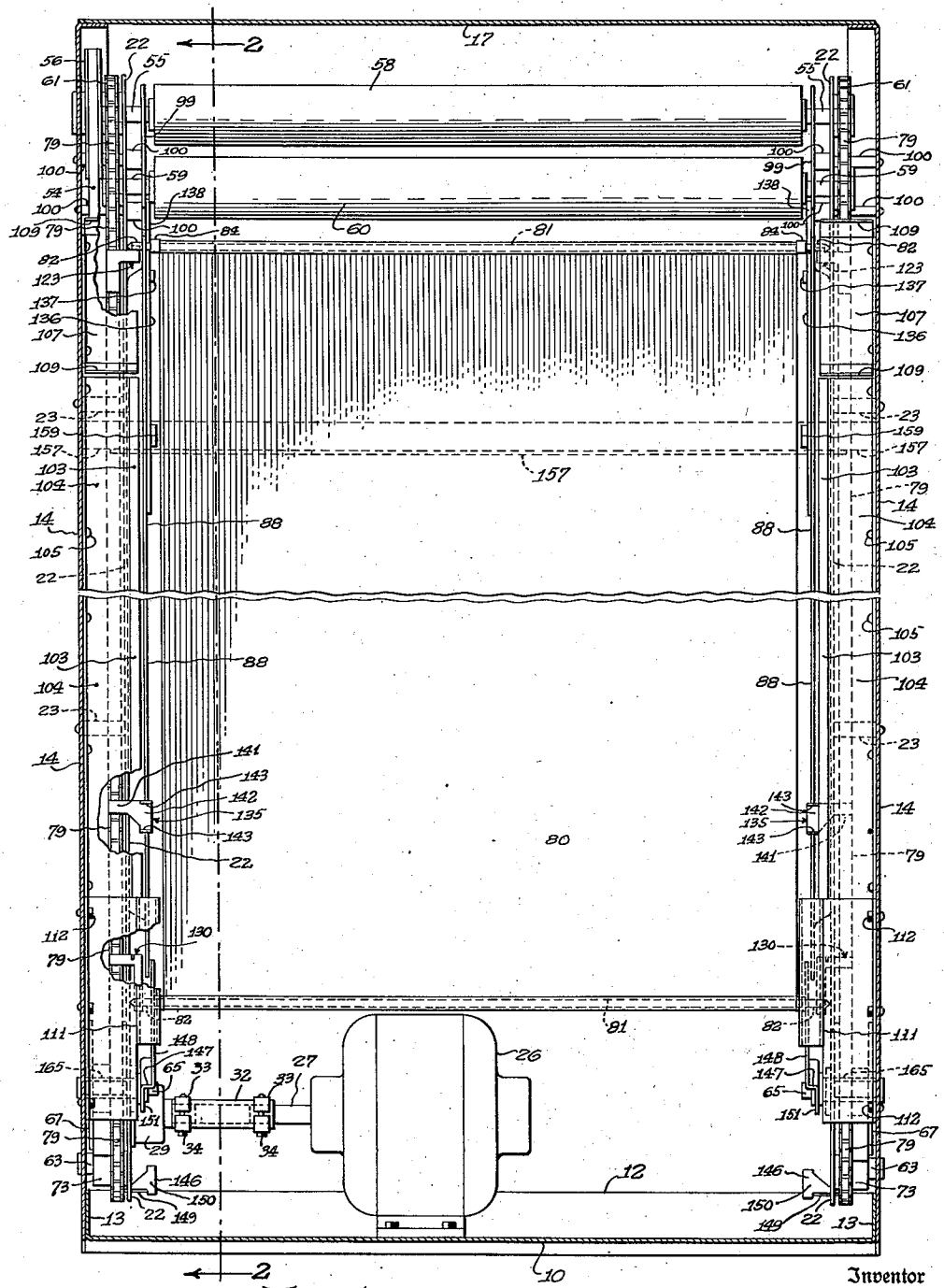


Fig. 1.

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EXHIBITING MACHINE

Filed June 10, 1942 3 Sheets-Sheet 2

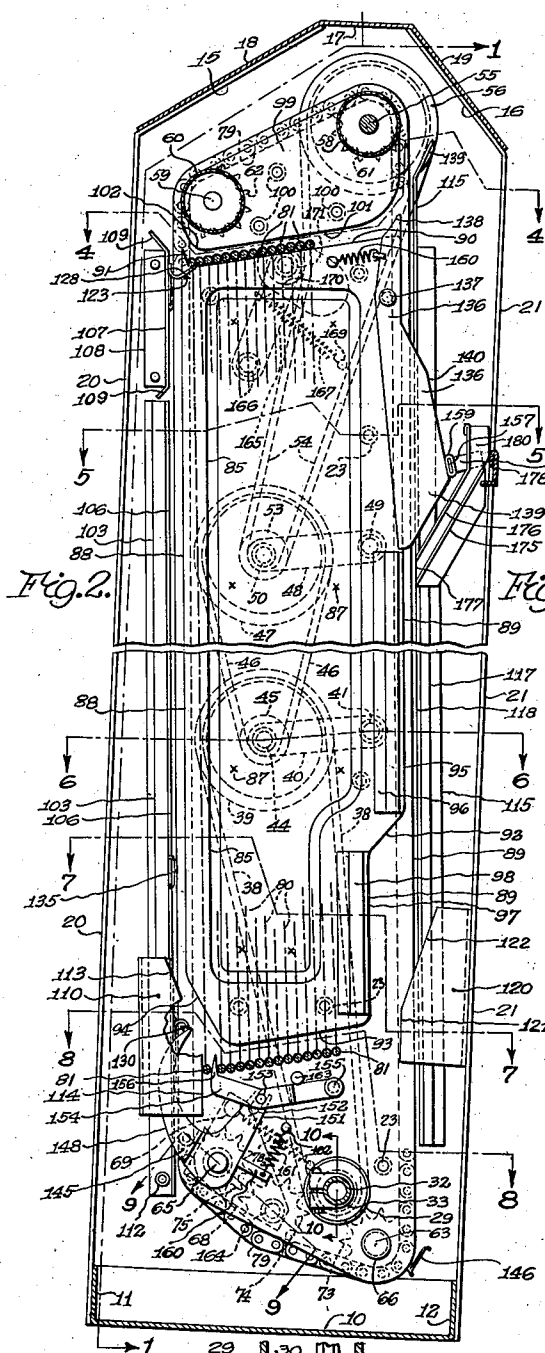


Fig. 2.

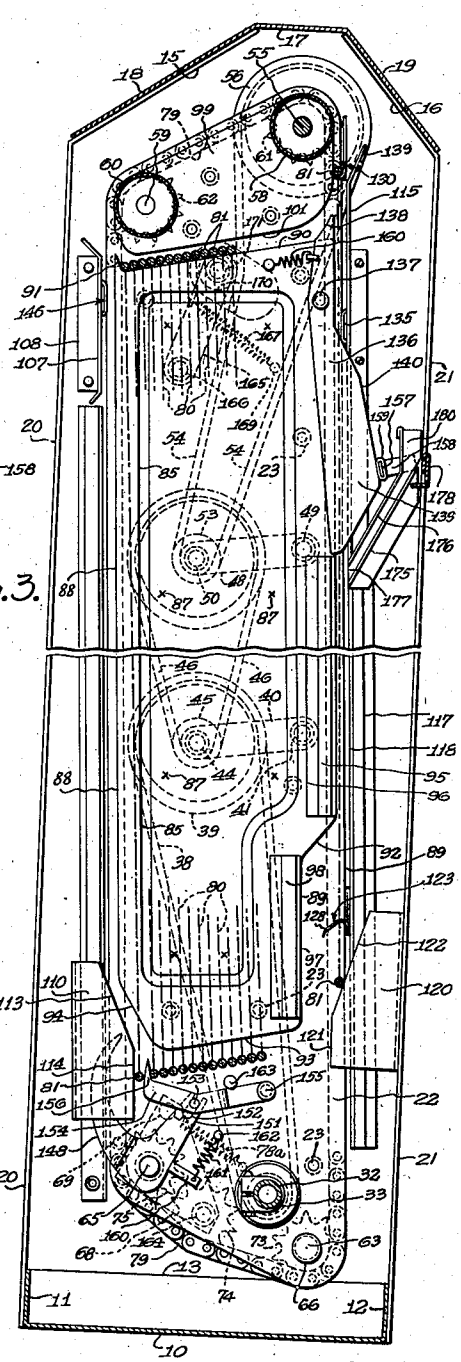


Fig. 3.

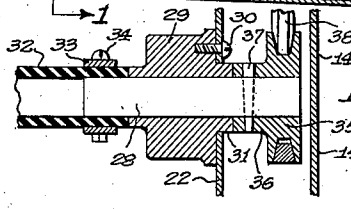


Fig. 10.

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EXHIBITING MACHINE

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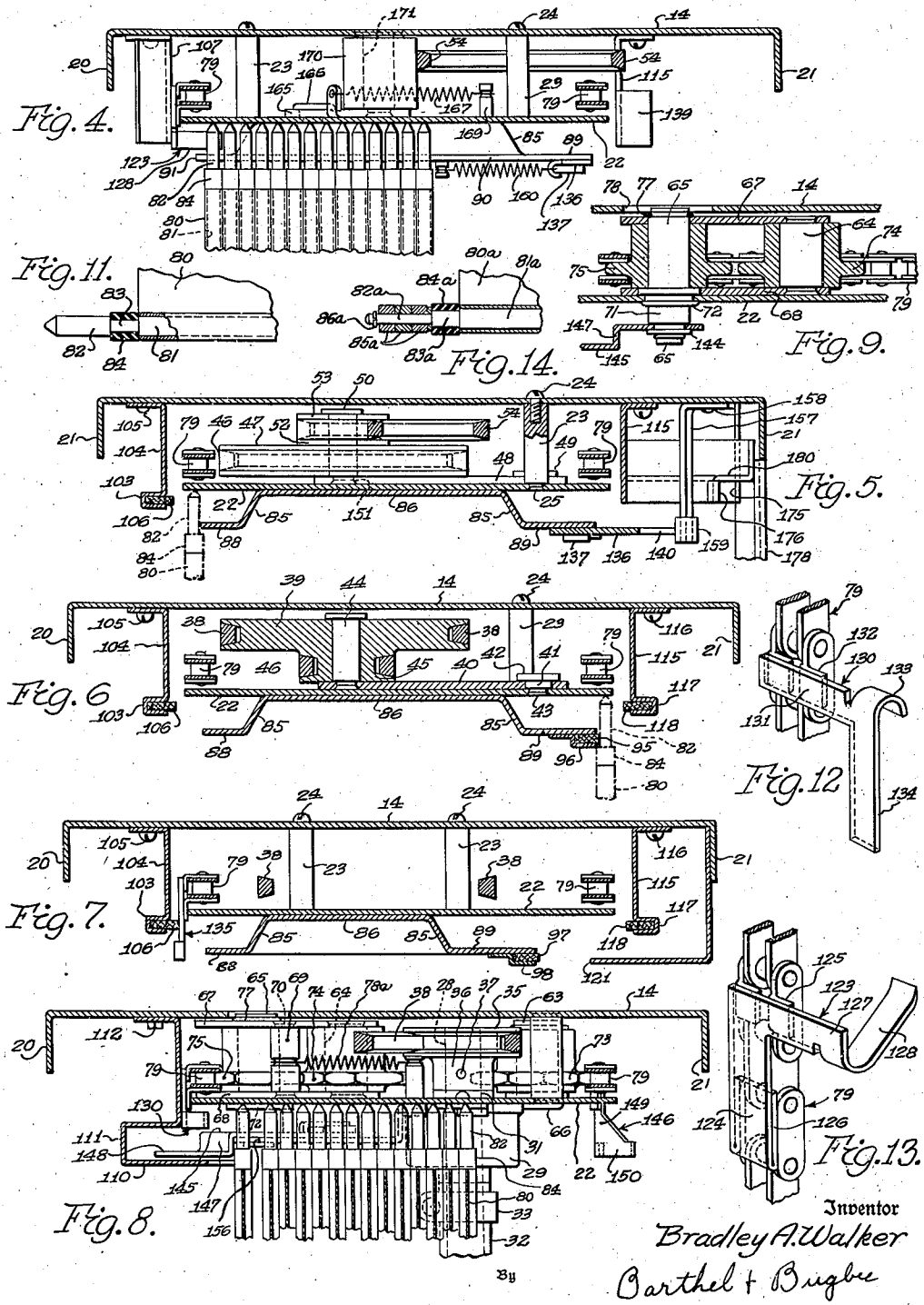


Fig. 4.

Fig. 11.

Fig. 14.

Fig. 9.

Fig. 5.

Fig. 6

Fig. 12

Fig. 7.

Fig. 13.

Fig. 8.

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Patented Mar. 5, 1946 2,395,947

UNITED STATES PATENT OFFICE

2,395,947

EXHIBITING MACHINE

Bradley A. Walker, Birmingham, Mich., assignor to Poster Machines Corporation, Detroit, Mich., a corporation of Michigan

Application June 10, 1942, Serial No. 446,486

17 Claims. (Cl. 40—36)

This invention relates to exhibiting machines and more particularly to changeable exhibitors for displaying a series of posters or the like in succession.

One object of the invention, is to provide an exhibiting machine operated by endless chains with hooks which pick up the posters one by one and convey them to the rear of the machine, dropping them against a movable guide or cam which in turn is operated in timed relationship by a clip carried by the chain for directing the poster supporting rods upon inclined guide-ways which deliver them again to the front of the machine.

Another object is to provide an exhibiting machine as set forth in the preceding object wherein a separator is provided at the bottom of the machine for separating the foremost poster rod from the following poster rod, the separator being operated in timed relation by means of another clip on the conveyor chain.

Another object is to provide an exhibiting machine as set forth in the preceding objects wherein guide means are provided for loading the posters into the machine at the commencement of operations.

Another object is to provide an exhibiting machine including posters mounted upon rods, the posters being held upon the rods by resilient washers engaging annular grooves near the end of the rods, the resilient washers being preferably formed of a rubber like material.

Another object is to provide a poster rod construction for exhibiting machines as set forth in the object immediately above, wherein the poster rod at its end is provided with rollers for facilitating its motion.

Another object is to provide an exhibiting machine operated by endless chains driven from an electric motor through reduction belts to a pulley upon the drum shaft over which the posters pass on their way from the front to the rear of the machine.

Another object is to provide an exhibiting machine operated by endless chains having hooks thereon for picking up and conveying the posters by means of their rods, and also having spaced clips of different lengths adapted to operate a poster interceptor at the top of the machine and a poster separator at the bottom of the machine respectively, without the clips interfering with one another or with the operation of their respective devices.

In the drawings:

Figure 1 is a front elevation, partly in section, of a changeable exhibiting machine according to a preferred embodiment of the invention.

Figure 2 is a vertical section taken along the line 2—2 of Figure 1 looking in the direction of the arrows showing the foremost poster about to be picked up and conveyed over the top of the machine by the hooks on the chains.

Figure 3 is a view similar to Figure 2 but showing the position of the parts after the poster has been conveyed over the top of the machine and the following poster rod is ready to be directed upon the inclined guide-way leading back to the front of the machine.

Figure 4 is a horizontal irregular cross section taken on line 4—4 of Figure 2 looking in the direction of the arrows showing the manner in which the poster rods are engaged and picked up.

Figure 5 is a horizontal irregular cross section taken on line 5—5 of Figure 2 looking in the direction of the arrows showing the manner in which the trailing poster rod is detached from the chain hooks.

Figure 6 is a horizontal cross sectional view taken on line 6—6 of Figure 2 showing one of the speed reduction pulleys and its supporting means.

Figure 7 is a horizontal irregular cross section taken on the irregular line 7—7 of Figure 2 illustrating details of construction.

Figure 8 is a horizontal irregular cross section taken on the irregular line 8—8 of Figure 2 illustrating in detail various features of the separating mechanism.

Figure 9 is a diagonal cross section taken on the diagonal line 9—9 of Figure 2 looking in the direction of the arrows illustrating the idle sprocket support and the separator shaft.

Figure 10 is a vertical cross sectional view taken on line 10—10 of Figure 2 looking in the direction of the arrows showing the main drive pulley and a noiseless bearing therefor.

Figure 11 is an enlarged fragmentary side elevation of the poster supporting rod.

Figure 12 is a perspective view showing a fragmentary portion of one of the conveyor chains and a clip for initially engaging the lowermost poster rod.

Figure 13 is a fragmentary perspective view of the poster rod hook for engaging the upper poster rod and causing the same to be moved rearwardly of the machine and;

Figure 14 is a fragmentary perspective view of a modified poster rod having anti-friction rollers carried on the ends thereof.

General arrangement

In general, the invention comprises a skeleton framework capable of being housed within a suitable display casing having a window for exhibiting a series of posters which are caused to move in sequence from said window and the line of vision to the rear of the machine where said poster is received on an inclined guide-way in back of a stack of posters arranged for sequential display. Such poster movement being accomplished by endless chains having hooks for picking up the posters and clips for operating suitable mechanism to cause the posters to be released from the front of the machine individually so that they will travel to the back of the machine and be released for guidance upon an inclined track-way or guide.

Further, the invention consists of an arrangement of posters, carrying chains and poster guide-ways with means for causing the automatic operation of the machine by the circuitous travel of the conveying chains.

Frame and driving structure

Referring to the drawings in detail, Figures 1 to 13 inclusive, the reference character 10 designates a base of the exhibitor frame structure having an upturned marginal flange 11 in the front thereof and a similarly formed flange 12 at the rear connected by end flanges 13.

Extending upwardly from the side flanges 13 and secured thereto are identically formed side plates 14 having the upper ends thereof provided with inwardly directed flanges 15 and 16 for receiving a top cover plate 17, the front portion of which is bent downwardly as at 18 and is welded or otherwise secured to the flange 15, while the rear portion 19 slopes in the opposite direction and is likewise attached to the flange 16. The vertical edges of the side plates 14 are provided with inwardly directed side flange portions 20 and 21 in the front and back thereof respectively.

Spaced inwardly and supported by each side frame plate 14 is a mechanism supporting plate 22 held in place by variously spaced rods 23 anchored in position by means of suitable machine screws 24 extending through apertures in the plate and provided with reduced threaded ends 25 threaded in the apertures in the supporting frame plate 22. Said supporting frame plate is held throughout its length at convenient points entirely removed from the exhibitor mechanism which will be hereinafter more fully described.

Positioned on the base 10 is an electric motor 26 having its armature shaft 27 coupled with a drive shaft 28 (Figure 10) and said drive shaft is suitably journaled in a bushing 29 formed of a phenolic condensation product to eliminate vibration and shock. The bearing 29 is held against rotation in an opening in the frame plate 22 and is retained by means of a machine screw 30. The bearing bushing is provided with a reduced portion 31 which projects through the opening to limit axial movement thereof. A flexible tubular coupling member 32 is provided and receives the free ends of the stub shaft 28 and armature shaft 27 to establish a drive to said shaft 28 and the rubber coupling member 32 is adapted to be fastened in place at each end by means of clamping rings 33 locked against displacement by bolts or the like 34. The opposite end of the stub shaft 28 is provided with a pulley 35 the hub of which, as at 36 is keyed thereto by means of a suitable key 37. The pulley 35 is provided with a suitable V-shaped groove for receiving a similarly shaped belt 38 which is likewise trained over a pulley 39 supported in a suitable bearing carried by a pivoted lever bar 40 which is attached to the frame plate 22 by means of a pivot pin 41 one end of which is enlarged as at 42 while the opposite end is riveted and fastened to the frame plate as at 43. Pivoted to the free swinging end of the lever 40 is a pulley spindle 44 for supporting the pulley 39. The hub portion of the pulley 39 is provided with a suitably grooved reduction pulley 45 over which is trained a drive belt 46. The speed of the armature shaft is further reduced by providing a pulley 47 which is likewise supported on a freely swinging arm 48 pivotally attached to the frame plate 22 by means of a rivet set pivot pin 49 very similar to the pivot pin 41. The free swinging end of the pivoted arm 48 carries a pulley spindle 50 riveted or otherwise secured thereto as at 51. Formed integral with the hub 52 of the pulley 47 is a reduced V-grooved pulley 53 over which passes a belt 54 for driving a roller shaft 55 the ends of which are journaled in suitable bearings provided in the upper end of the frame plates 22. One end of said shaft is provided with a pulley 56 rigidly attached thereto, and having a V-groove for receiving a final drive belt 54 whereby rotation of the armature shaft 27 will effect the rotation of the shaft 55 at a greatly reduced rate of speed. The drive means has been shown in the drawings as being arranged on one side of the exhibiting machine but of course, the drive means could be positioned on either side without seriously affecting the mode of operation.

Guide rollers and poster conveying mechanism

Mounted on the shaft 55 and secured thereto is a poster guiding roller 58 comprising a suitable drum adapted to assist in guiding the poster from the front to the back of the machine. The drum roller 58 is suitably keyed to said shaft. Also mounted in the side frame members 22 is a shaft 59 which extends parallel with the shaft 58 and is journaled in the side plates 22 by suitable bearings. A roller 60 is likewise secured to the shaft 59. Secured to the ends of the shaft 55 and outside of the frame plates 22 are sprocket wheels 61 and one of said sprocket wheels is located between the side frame plate 22 and the pulley 56 while the other sprocket 61 is mounted adjacent the free end of said shaft. Similar sprocket wheels 62 are mounted on the free ends of the shaft 59 and are aligned with the sprocket wheels 61 and are mounted forwardly of the exhibitor.

Located on each side of the exhibitor frame at the bottom thereof and carried by the frame plates 22 are stub shafts 63, 64 and 65 each of which is spaced from the other and arranged to guide the conveyor chains during exhibiting operations. The stub shafts 63 are anchored to their respective side plates 22 as at 66 and the stub shaft 64 on each side of the machine is mounted between a pair of triangular shaped plates 67 and 68 held in spaced relation by means of spacer sleeves 69 through which is passed a rivet or the like 70 (Figure 8). The other stub shaft 65 extends through the triangular shaped plates 67 and 68 and also extends through the frame plate 22. The stub shaft 65 on one side of the machine or exhibitor is elongated as at

71 to project inwardly, and while both stub shafts 65 provide pivotal bearings for the triangular plates 67 and 68, one of said shafts is elongated for a purpose which will be hereinafter more fully described. Each of said stub shafts 65 are spun as at 72 to securely lock the same in position whereby the stub shafts 64 may swing on an arc about the stub shafts 65. A coil spring 78a has one end fastened to a pin or the like carried by the frame plate 22 while the opposite end is fastened to an offset portion of the triangular plates 67 and 68 to normally urge the idle stub shaft 64 downwardly to increase the tension on the conveyor chains.

Mounted on the stub shafts 63, 64 and 65 are sprocket wheels 73, 74 and 75 respectively the hubs of which as at 76, 77 and 78 are keyed to the sprocket wheels or formed integral therewith so that said sprockets may freely rotate on their respective stub shafts. The stub shaft 65 has its outer end grooved for receiving a resilient locking ring 77 to retain the sprocket in position and prevent lateral displacement of the stub shaft 65.

Poster carrier and control

Adjacent each side of the exhibitor and trained over the upper and lower sets of sprockets are conveyor chains 79 of usual formation and said chains traverse the sprockets 61 and 62 on the ends of the shafts 55 and 59 and also the sprockets 73, 74 and 75 on their respective stub shafts at the lower portion of the exhibitor. The sprocket chains are identical and are adapted to pick up the posters 80 and convey them from the front of the machine to the rear thereof for sequential exhibition. As shown in the drawings, a number of such posters are employed and each poster 80 is formed of a flexible material and of a translucent nature preferably rectangular in shape and having secured to the ends thereof transverse supporting rods 81 (Figures 1, 2, 3, 4 and 8). Said rods project beyond the vertical edges of the posters as at 82 and are provided with reduced end portions 83 for receiving a rubber or fiber retaining ring 84 (Figure 11). The free ends of the poster rods terminate a short distance from the conveyor chains but are of a sufficient length to be guided by and supported on a guide frame plate 85 located at each side of the exhibitor.

There are two such frame plates 85, one for each side of the machine and said plates are centrally dished as at 86 for attachment to the inner walls of the side frame plates 22 as by welding at spaced intervals indicated at 87 (Figures 2 and 3). Since both frame plates 85 are identical, a description of one will be sufficient. The vertical edge 88 forms a front guide edge for the poster rods and said edge projects forwardly of the exhibitor. Likewise, a rear guide edge 89 is provided and said front and rear guide edges are connected at the top by an inclined rack edge 90. A projection 91 is formed at the intersection of the vertical guide edge and the inclined rack-like edge 90 to retain the posters on said rack-like edge and prevent them from sliding forwardly when the posters and the rods are supported thereby.

The rear edge 89 of the guide frame plate 86 is slightly tapered rearwardly and is cut away as at 92 and extends downwardly for the rest of its length where it terminates in a forwardly inclined guide edge 93 and connects with the front guide edge 88 by a beveled corner portion 94. It will be noted, that when the posters 80 are supported on the top edge 90 of the guide plate, the lower ends and rods will fall below the inclined lower edge 93 when said posters are in their operative position.

In order to reduce noises and rattles, the guide edges 89 are provided with buffer strips 95 held in place by a clamping strip 96 and said buffer strip extends from the top inclined edge 90 downwardly to the cut away portion 92 where it is interrupted and a buffer strip 97 is provided for the rest of the length of the rear guide edge. The buffer strip 97 is held in position by a clamping strip 98 which extends downwardly to the inclined bottom edge of the guide frame plate 93.

Mounted directly above the guide plate 85 is a cooperating guide plate 99 secured to the frame plate 22 by spacer bushings 100 conveniently arranged, and said cooperating guide plate is provided with openings corresponding to the location of the shafts 55 and 59 for the passage thereof. The lower edge 101 of the cooperating guide plate is spaced from the top edge 90 of the guide frame plate 85 so as to allow the free passage of the poster rod ends 82. The forward edge 102 of the cooperating guide plate is curved in the direction coinciding with the projection 91, whereby the poster rods will be guided outwardly when lifted upwardly by the conveyor chains. Front guide strips 103 are secured to the side plates 14 and include angled strips 104 fastened in place as at 105 by rivets or the like. The free edge of the angled strip is return bent to clamp a resilient strip of material such as felt 106 for engaging the poster rods during the traversal thereof in front of the display opening. It will be noted, that each angled strip 104 extends substantially the full length of the endless conveyor chain course and terminates at the top a short distance from the upper end of the guide plate 85. An additional angled strip 107 has its flanged edge 108 secured to the side plate 14 by means of rivets or the like to provide a guide for the rest of the length of the conveyor course. The free ends of the angled plate 107 are beveled as at 109 so that the free ends of the poster rods will traverse said guide strip 107 without undue friction. Also, an additional guide strip 110 is located adjacent the lower end of the guide frame plate 85 and is secured to the frame plate 14 by a bolt or the like 112. The plate-like portion 110 has the upper edge thereof beveled as at 113, which edge extends parallel with the beveled edge 94 of the guide plate 85. A vertical guide edge 114 is also formed on the plate-like portion 110 and is directed inwardly and is adapted to abut the lower poster rods 93 (Figures 2 and 3).

Positioned rearwardly of the exhibitor is an angled guide strip 115 attached to the frame plate 14 as at 116 and the outer edge of said guide is return bent as at 117 for receiving a resilient strip 118 of felt or the like. Said angled strip has its edge extending parallel with the rear edge of the guide plate 85 and cooperates therewith for guiding the poster rods 81 during their downward travel in the rear portion of the exhibitor.

In opposed relation from the guide plate 110 and mounted in the rear of the exhibitor is an angled plate 120 welded or otherwise attached to the rear frame flange 21, and the angled plate is provided with a guide edge 121 inclined for a portion of its length as at 122 so that the poster rods will be directed inwardly of the exhibitor and urged toward the front thereof.

Poster rod pick-up mechanism

Each endless chain 79 is provided with a clip 123 (Figure 13) which is in the form of a hook and is adapted to engage the upper ends of the poster rods and remove the poster from its position of rest on the inclined rack edge 90. The hook clip comprises a base portion 124 adapted to be welded to overturned lugs 125 formed on certain links of the conveyor chain 79. The base portion is return bent as at 126 providing a relatively flat surface for engaging the guide strips and retaining the hook clip in a vertical position during its travel along the front and rear guide strips. Formed on the clip 123 is an arm extension 127 directed inwardly and formed at right angles to the arm is a hook 128 of sufficient length to engage the poster rods at the ends thereof slightly rearward of the projection 91.

In spaced relation from each hook clip 123 on each endless conveyor chain 79 there is also provided a hook clip 130, the hook end of which extends in the opposite direction (Figure 12). Likewise, the hook clip 130 is attached to a pair of specially constructed chain links so that the arm extension 131 of the hook clip may be welded to lugs 132 carried thereby. The hook clip 130 has its hooked portion 133 formed co-extensive with a relatively long tail portion 134 to assist in holding the hook clip aligned during its movement between the side frame plate 14 and the guide plate 110 as shown in Figure 2, and also to hold the same in position during its circuitous travel. The hook clip 133 does not extend inwardly far enough to engage the poster rods when it passes the upper ends thereof, resting on the inclined rack 90 and moves past the area adjacent the upper poster rods freely so as not to interrupt or vibrate the poster being displayed. The hook clips 123 and 130 are spaced on the conveyor chains a distance slightly less than the length of the posters so that when the poster is carried rearwardly by the hook 128, the poster will drop and will fall into the hooked portion 133 of the clip 130 and prevent the poster from falling when inverted.

After the poster has traversed the rollers 58 and 60, a clip 135 carried by each chain slightly in advance of the hook clip 130 and similarly secured thereto engages a switch lever 136 pivoted to the side frame guide plates 65 as at 137 so that the upper pointed end 138 will engage the poster rod and remove it from the hook clip 130. As the tripping clip 135 engages the lower weighted cam-shaped portion 140 of the switch lever 136, the upper end projects into the path of the poster rod ends for switching said poster rod onto the inclined track-like edge 90 so that said poster rod will come to rest and be in position to be displayed again as the other posters are removed to the rear of the exhibitor. The tripping clip 135 is formed with a shank portion 141 and is secured to the conveyor chain 79 by attachment to the links thereof as by welding. Formed integral with the shank portion is a plate portion 142 having its edges curved as at 143 so as to slidably engage the pivoted lever 136 and ride thereover without causing undue vibration. The shank of the clip 141 is comparatively short in order to freely pass all obstacles in its path except the pivoted trip lever 136. It is to be noted, that the upper edge or end of the guide strip 115 is angularly bent as at 139 to allow the free passage of the poster rod and assist in guiding the same downwardly between the triangular guide plate 99 and the guide strip edge 115 in addition to positioning the hook clip 133 for receiving the poster rod during its downward drop as it reaches the rear of the exhibitor.

Mounted on each shaft extension 71 of each stub shaft 65 is a bell crank lever 145 adapted to be retained in place by a lock washer 144. One end of the bell crank lever 145 is offset as at 147 and is arcuately curved as at 148 to project into the path of a relatively long tripping clip 146 secured to the conveyor chain 79 by attachment to one of the chain links in the same manner as the clip 135 such as by welding or the like. The clip 146 is provided with a relatively long shank portion 149 terminating in a bell crank engaging portion 150, the ends of which are slightly curved to reduce friction as the clip traverses the arcuately curved portion 148 of the bell crank. The contacting portion 150 of the clip extends inwardly a sufficient distance (Figure 8) to be in alignment and in the path of the bell crank lever 148. The clip 146 will also engage the pivoted lever 140, but this will occur after the poster has passed onto the inclined rack 90 and will not effect the operation of the machine.

The opposite end of each bell crank lever 147 projects upwardly as at 151 and has its free end bifurcated as at 152 for receiving a pin 153 carried on a releasing lever 154 pivoted to the side frame plate 22 as at 155. The opposite end of the lever is hooked as at 156 and is adapted to enter the lower poster rods and force one of the poster rods outwardly while retaining the remaining rods in place. In this manner, the lower poster rods are released singularly and in proper sequence. An extension arm 160 is provided on the bell crank arm 151 and has attached thereto a coil spring 161 the opposite end of which is anchored to a pin 162 to normally urge the arcuately curved portion 148 of the bell crank lever forwardly of the exhibitor and a stop pin 163 is carried by the frame plate 22 to limit the upward swinging movement of the releasing lever 154.

A limiting stop is provided for the switch lever 136 as at 157 and one end thereof as at 158 is welded or otherwise secured to the side frame plate 14. The opposite end projects inwardly into engagement with each switch lever and is provided with a rubber covering or sleeve 159 to eliminate noises.

A belt is provided and includes a lever 165 pivoted on a suitable pivot pin 166 carried by the side frame plate 14, and a coil spring 167 has one of its ends fastened to the pivoted lever while the opposite end is connected to a pin 169 also carried by the side frame plate 14. A roller 170 is carried on the free swinging end of the lever 165 and said roller is mounted on a pivot pin 171 so that the roller 170 will engage the final drive belt 54 and tighten the same upon its respective pulleys in addition to tightening the belts 38 and 46.

Means is provided for facilitating the insertion of additional posters and said means comprises spaced guide strips 175 and 176 adjacent each side of the exhibitor, and said inclined guide strips connect to an interrupted portion 177 of the guide strip 115. The inclined guide strips 175 and 176 have their lower ends welded to the interrupted portion 177 of the guide strip 115, while the upper ends of the guide strips are adapted to be supported by a transverse angle bar 178, the ends of which are welded or otherwise secured to the rear frame plate flanges 21. The upper end of the inclined guide 176 is angularly bent as at 180 for welding to the transverse strip 178 and

the lower guide strip may likewise be welded at its upper end to the transverse angle bar 178. During loading operations, the outer ends of the lowermost guide rod are inserted between the opposed pairs of guides 175 and 176 so that the rod will fall by gravity downwardly between the guide strips 95 and 118. When the lowermost guide rod has thus been inserted the upper guide rod is placed over the end of the latch lever 138 to position the upper rod on the rack 90. When the lowermost rod has reached the deflector plate 120, it is forced inwardly and finally comes to rest at the back of the pack of poster rods already in the display machine.

In Figure 14 there is shown a modified poster 80*a* having a poster rod 81*a* similar to the poster rod 81. The poster rod 81*a* is reduced as at 83*a* for receiving a fiber or rubber retaining sleeve 84*a*. The free ends of the poster rod 81*a* are reduced as at 82*a* for receiving anti-friction rollers 85*a* adapted to be held in place by a resilient locking ring 86*a*. The rollers 85*a* are adapted to reduce friction and assist in allowing the poster rods to ride down the inclined rack 90 and to be guided on the guide flanges of the side guide plates 85.

It is to be understood, that the clip 146 is sufficiently spaced from the hook clip 130 so that said clip will trail the hook clip and release another lower poster rod after the passage of the hook clip 130 and the removal of a poster by its upper rod as by means of the hook clip 123.

Mode of operation

In the operation of the exhibiting machine, it will be assumed that the machine is empty and that the posters 80 are to be fed therein in the desired order or sequence so that a train of exhibitions may be displayed one after the other. The lowermost poster rods of the posters are fed to the machine after the motor 26 has been started by passing the rods downwardly between the inclined guides 175 and 176. By feeding one end of the poster to the vertical guide, the hook clip 123 at each side of the machine will engage the rod and carry the same downwardly along the chain path and the upper poster rod of the poster can then be positioned over the end of the latch lever 138 so that it will finally come to rest on the rack 90 and will slide downwardly therealong until limited by the projection 91. The lowermost poster rod will then be disengaged from the hook clips 123 so that it will position directly against the limiting stop member 156. The next poster fed to the machine will likewise be engaged by the hook clip 123 and carried to a similar position and disposed in back of the poster previously inserted. When the machine has been loaded with two or more posters in the manner above described, the remaining posters may be inserted by feeding the lowermost rod thereof while the hook clips 123 and 130 are in the back portion of the machine by permitting said rod to be engaged by the conveyor hook 123 until it reaches the deflector plate 120. The hook clip 123 is large enough to accommodate the poster rod of a poster already in the machine as well as the poster rod of a poster being fed to the machine through the guide ways 175 and 176. In other words, if a poster is being conveyed by the conveyor chains, and a poster is being fed to the machine while the poster already in the machine is in the back thereof, the hook clip 123 will engage the lower rods of each poster and convey them to the stack of previously fed posters. In the event that there are several posters in the display machine and it is desired to add another poster so as to follow in sequence the posters already in the machine, it would be advantageous to permit the posters in the machine to run their full course of display before inserting the new poster as above described so that the new poster would follow in sequence the remaining posters. Thus the added poster may follow the ones already in the machine and will be arranged so that a series of successive displays may be given in successive order. After the posters have thus been inserted in the machine, the continued travel of the endless chains 79 will cause the hook clip 123 to engage the upper poster rod 81 of the foremost poster 80 so that the poster will be carried over the rollers 60 and 58 and the upper end will then be inverted as shown in Figure 3 when the poster rod in its inverted position reaches the guide plate 20, it is moved inwardly by reason of the inclined cam face 122 out of the path of the following hook clip 128. Simultaneously, the trip clip 135 engages the weighted switch lever 136 and projects the pointed end 138 into the path of the upper poster rod during its downward travel also shown in Figure 3 so that said rod will be removed from the hook clip 130 and will be guided upon the inclined rack 90.

Upon continued travel of the endless conveyor chains, the clip 146 will have previously released a poster rod as shown in Figures 2 and 3 by engaging the arcuate releasing lever 154 causing the release lever 156 to move downwardly a sufficient distance and length of time to release a single poster rod and allow the same to abut the cam plate 110 so that when the upper poster rod is again engaged by the hook clip, the lower rod will pass between the inclined edges 94 and 113 of the guide plates 85 and 110 respectively so that the lower end or poster rod will traverse the front guide members 88 and 106. After said poster has been carried upwardly and over the rollers 58 and 60 as before, the clip 146 again trips the arcuately curved lever 58 and releases another poster rod by allowing the pointed end 156 of the lever 154 to drop down and then be moved upwardly by the coil spring 78*a*.

The time of display of the foremost poster depends on the length of the conveyor chains 79, and it is to be noted that the foremost poster is displayed for a length of time equal to the time required for the endless chain conveyors to make a complete cycle.

The switch lever operating clip 135 and the release lever clip 146 are of different lengths so that the arcuately curved trip lever 148 will be operated by only one of said clips. However, both clips 135 and 146 will operate the switch lever but at the time that the switch lever is operated by the clip 146, the poster has been removed from the conveyor chain and the operation of the switch lever is ineffective.

It is to be understood, that the form of the invention herewith shown and described is to be taken as a preferred embodiment of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

What I claim is:

1. An exhibiting machine comprising a plurality of display elements, conveying means, spaced display element engaging members carried by the conveying means for removing the display elements from a position of rest, feeding

means for feeding said display elements into and out of the path of the display element engaging members and means carried by the conveyor means in spaced relation thereon for operating said feeding means one of said feeding means being controlled by one of the spaced means on the conveyor means to feed the display elements to the conveyor at the front of the machine and the other spaced means on the conveyor means being operable to feed the display elements from the conveying means in the rear of the display machine to said position of rest.

2. An exhibiting machine comprising a plurality of display elements, conveying means engageable with said display elements to move the same from a display position to a position of rest in the rear of the exhibiting machine, means for feeding said elements to the conveyor means during the initial movement of the display elements from their display position, means for removing said display elements from said conveyor means as they are conveyed to the rear of the exhibiting machine to a position of rest, said feeding and removing means being positioned at the bottom and top of the machine and operated by the conveyor means whereby said display elements will be moved upwardly and rearwardly to said position of rest in the rear of the machine.

3. An exhibiting machine comprising a plurality of display elements, conveying means engageable with said display elements to move said display elements upwardly from a display position to a position of rest in the rear of the machine, feeding means for feeding the display elements to said conveyor means in the front of the machine, means for removing the display elements from the conveyor means in the rear of the machine to said position of rest and means carried by the conveyor means in spaced relation thereon for operating the feeding and removing means in timed relation with the conveyor means whereby the lower end of the foremost display element will be fed to the conveyor means prior to the engagement of the upper end of said display element by the conveyor means.

4. An exhibiting machine comprising a plurality of display elements at rest, conveyor means engageable with said display elements for moving the same upwardly and rearwardly from a display position to said position of rest, means for feeding the lower ends of the display elements intermittently to the conveying means, means for removing the display elements at the rear of the exhibitor to said position of rest and means carried by the conveying means in spaced relation thereto for operating said feeding and removing means in timed relationship whereby the foremost display element will be released a short time interval before being engaged by the conveyor means for movement from said display position to said position of rest.

5. An exhibiting machine comprising a plurality of stacked display elements suspended from the upper end of the machine, conveying means engageable with said display elements to carry the display elements upwardly to the rear of the machine individually from a display position to a position of rest, means for feeding the lower ends of the suspended display elements to the conveying means, means for intercepting the display elements at the rear of the machine after they have been moved rearwardly toward their position of rest, said feeding and intercepting means being operated by the spaced operating clips carried by the conveying means to trip said feeding and intercepting means in timed relationship therewith.

6. An exhibiting machine comprising a plurality of stacked display elements suspended from the upper end of the machine, conveying means engageable with said display elements to singularly remove the same from the stack and cause the display element to move upwardly toward the rear of the machine from a display position to a position of rest, means for feeding the lower ends of the display elements intermittently in the front of the machine to the conveying means and means for intercepting the following end of the display elements at the rear of the machine for being guided to said positions of rest and means operable by the conveying means to effect the operation of the feeding and intercepting means in timed relationship.

7. An exhibiting machine comprising a plurality of display elements, means for supporting the display elements in a suspended position, conveying means engageable with the top and bottom of said display elements for moving the same from a display position to a position of rest, means carried by said conveying means in spaced relation thereon, feeding means for feeding said display elements into and out of engagement with the conveying means, means for releasing the lower end of one of said display elements at a time to be fed to the conveying means, means for intercepting the following end of display element in the rear of the machine as they are moved from a display position to a position of rest and means carried by the conveying means in spaced relation thereon for operating the releasing and intercepting means.

8. An exhibiting machine comprising a plurality of stacked display elements, means for supporting the display elements in a suspended position so that the foremost display element will be in a position of display, conveying means for shifting said display elements from said display position upwardly and rearwardly to a position of rest, means carried by the conveying means for removing the upper end of display elements from said stack one at a time from their display positions, means for releasing the lower ends of said display elements simultaneously to be fed into the path of the removing means, means in the rear of the exhibitor for removing the following end of display elements from the conveying means and means carried by the conveying means in spaced relation thereon for operating the releasing and removing display element means whereby said display elements will be moved from their positions of display and inverted during their movement to a position of rest.

9. An exhibiting machine comprising a plurality of stacked display elements, means for supporting the display elements in a suspended position so that the foremost display element will be in a position of display, conveying means for shifting said elements from said display position upwardly and rearwardly to a position of rest, means carried by the conveying means for removing the upper end of said display elements from the front of the stack singularly, means for releasing the lower end of the display elements from its display position individually for engagement with the conveying means, means in the rear of the machine for interrupting the circuitous travel of the display elements and guiding the following ends to said position of

rest in the rear of the stack and means spaced apart on and operable by the conveying means for operating said releasing and interrupting means whereby said display elements will be moved from their positions of display and inverted during their movement to a position of rest.

10. An exhibiting machine comprising a plurality of display elements arranged in end stacked relation, means for supporting said display element in suspended relation, conveying means for shifting the display elements from the front of the exhibiting machine from a display position upwardly to the rear thereof to a position of rest, means carried by the conveying means for singularly removing the upper end of one of said display elements at a time from the front of the stack, means for releasing the lower end of said display element in advance of the removing means, means in the rear of the machine for interrupting the circuitous travel of the display element and positioning the following end on the supporting means at the rear of the stack and means carried by the conveying means in spaced relation thereon for operating the releasing and interrupting means in timed relation whereby said display elements will remain in a display position for relatively long periods of time.

11. An exhibiting machine comprising a plurality of display elements suspended in vertical stacked relation, conveying means, hook elements carried by the conveying means in spaced apart relation for independently removing one of said display elements at a time from said suspended stack to move the same from a display position in the front of the machine to a position of rest in the rear of the machine, means for releasing the lower ends of said display elements individually to be fed to one of said hook elements, means for interrupting the circuitous travel of the display element and guiding the following end to said position of rest in the rear of the machine, means carried by the conveying means and spaced from the hook elements for operating the releasing and interrupting means and means for driving the conveying means at a uniform speed whereby said display elements will be successively moved from a position of display to a position of rest and will remain in a position of display for relatively long period of time.

12. An exhibiting machine comprising a series of display elements suspended in stacked relation, conveying means, hook members spaced on said conveying means a distance slightly less than the length of the display elements, said hook members being engageable with said display elements for independently shifting the same from a display position in the front of the machine to a position of rest at the rear thereof, means for releasing the display elements singularly for engagement with the lowermost hook member on the conveying means, means for interrupting and removing the display elements from the following hook members on the conveying means for returning the display elements to the rear of the stack to their position of rest, means carried by the conveying means for operating the interrupting and removing means in timed relation and guide means presented to the conveying means in the rear of the machine for feeding additional display elements to the exhibitor at a point removed from the interrupting means.

13. An exhibiting machine comprising a circuitous trackway having an inclined supporting rack, a plurality of display elements supported by and suspended from said supporting rack, conveying means, hook members on said conveying means engageable with said display elements for individually shifting the display elements to the rear of the machine from a display position, means for releasing the lower end of the display elements selectively for being fed to one of said hook members, means for interrupting and removing the following end of the display elements from the conveying means and returning said following end to the supporting rack as they reach a position rearwardly of said rack and means carried by the conveying means in spaced relation from said hook members for operating the interrupting means.

14. An exhibiting machine comprising a circuitous trackway having an inclined supporting rack at the upper end thereof, a plurality of display elements suspended from said rack, conveying means extending about said trackway, spaced hook members on said conveying means independently engageable with the upper and lower ends of said display elements for shifting the same from a display position in the front of the machine to the rear of the machine to a position of rest, means for releasing the lower ends of the display elements singularly into the path of the following hook members, means for removing the following end of the display elements as they approach the rear of the machine and switching them onto the inclined supporting rack and trip members carried by the conveying means in spaced relation from the hook members for sequentially operating said releasing means and removing means.

15. An exhibiting machine comprising a circuitous trackway having an inclined supporting rack, a plurality of display elements suspended from said rack, conveying means movable about said trackway for shifting said display elements from a display position upwardly to the rear of the machine onto the inclined supporting rack to a position of rest, means for selectively releasing the lower ends of the suspended display elements for entrance into the trackway, hook members carried by the conveying means for releasably gripping the ends of said display elements, means for removing the following ends of the display elements from the hook members on the conveying means for positioning on the rear of the inclined supporting rack, means for operating the releasing and removing means, said operating means being carried by the conveying means at spaced intervals thereon adjacent one of said hook members.

16. An exhibiting machine comprising a circuitous trackway having an inclined supporting rack at the upper end thereof, a plurality of display elements suspended from said rack, conveying means, hook members on said conveying means spaced apart a distance slightly less than the length of said display elements for shifting the display elements independently from a display position in the front of the machine to a position of rest at the rear for positioning on the inclined supporting rack, means for selectively releasing the lower ends of the display elements for guidance into the trackway after the upper end has been engaged by one of the hook members, means at the rear of the machine for removing the display elements from the following hook members on the conveying means and trackway to the rear of said suspended display

elements to said position of rest, means carried by the conveying means in spaced relation thereon for operating the releasing and removing means in succession, and guide means in the exhibiting machine presented to the conveying means for independently feeding and guiding additional display elements to the conveying means in the rear of the exhibitor.

17. An exhibiting machine comprising a circuitous trackway having an inclined supporting rack at the upper end thereof, a plurality of display elements suspended from said rack adapted to move by gravity to a display position, conveying means, hook members on said conveying means for removing the display elements singularly and shifting them to the rear of the exhibiting machine to a position of rest on said supporting rack, means for selectively releasing the lower ends of said display elements for guidance into the circuitous trackway and engagement by one of said hook members, means for removing the following end of the display elements from the hook members on said conveying means and from said trackway for positioning at rest on the rear portion of the inclined supporting rack, means carried by the conveying means for operating the selective releasing and removing means in timed relation and guide means presented to the conveying means for feeding additional display elements to the rear portion of the circuitous trackway and engagement by said hook members during the operation of the exhibitor.

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