Dec. 19, 1950 E. D. BRANZELL 2,534,851

POSTER EXHIBITING DEVICE

Filed Feb. 27, 1950 3 Sheets-Sheet 1

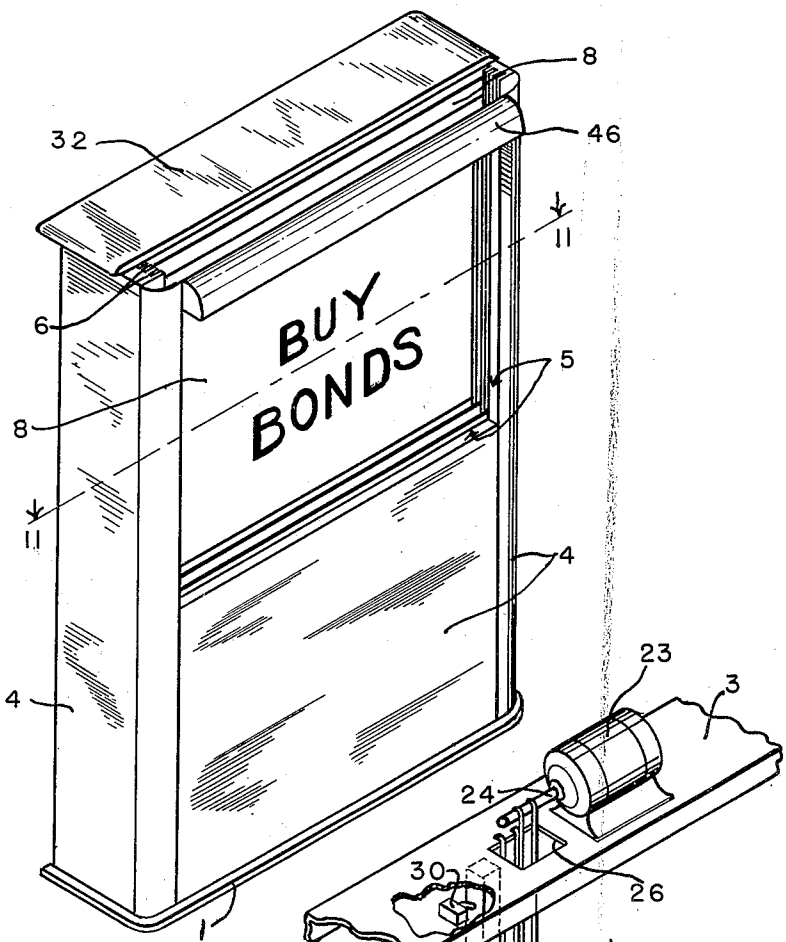
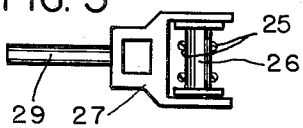


FIG. 1

FIG. 2

FIG. 3



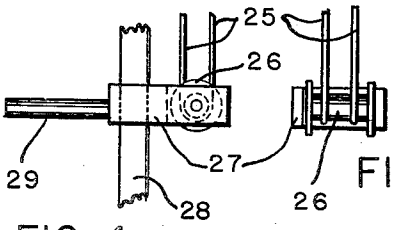


FIG. 5

FIG. 4

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POSTER EXHIBITING DEVICE

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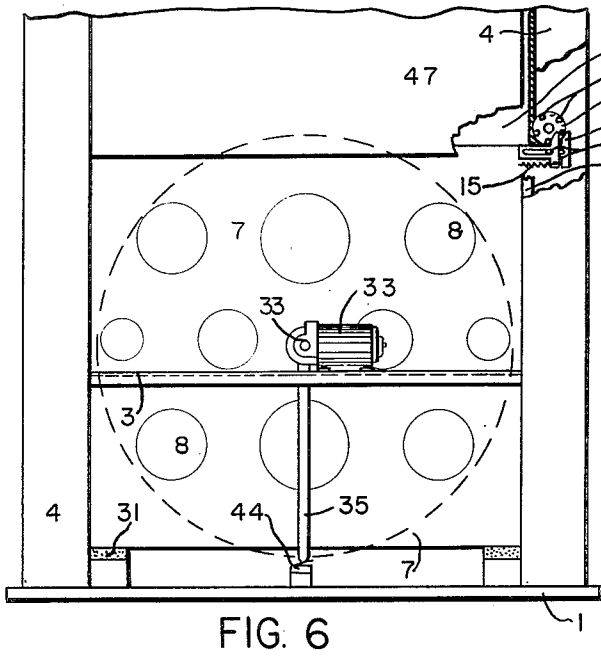


FIG. 6

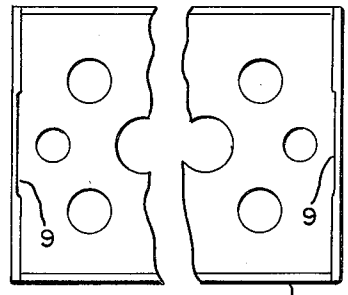


FIG. 10

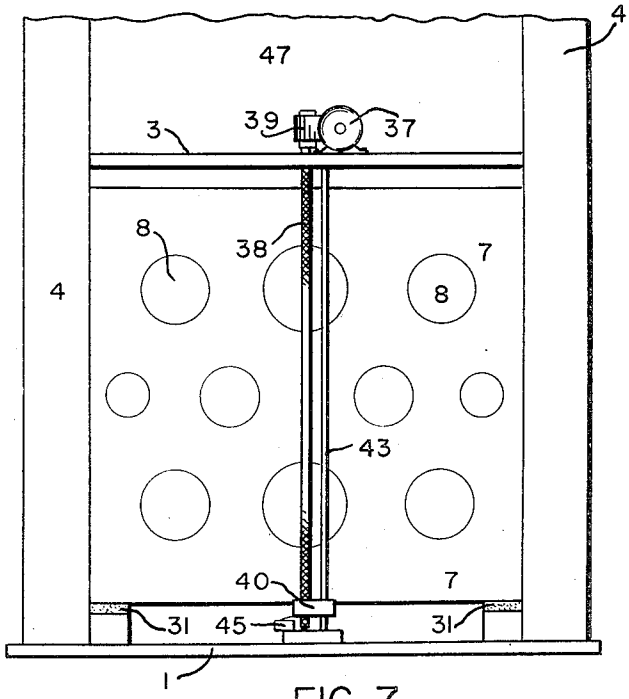


FIG. 7

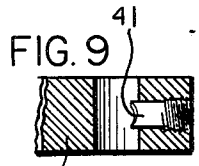


FIG. 9

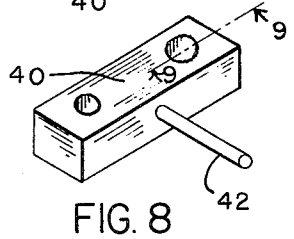


FIG. 8

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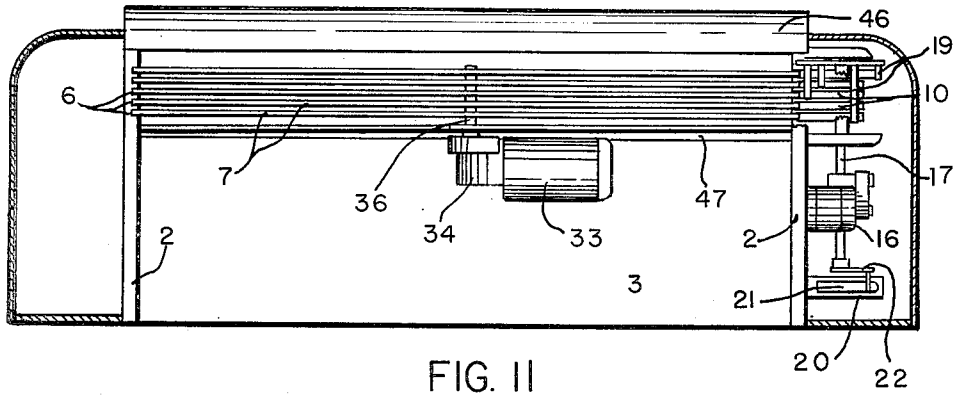
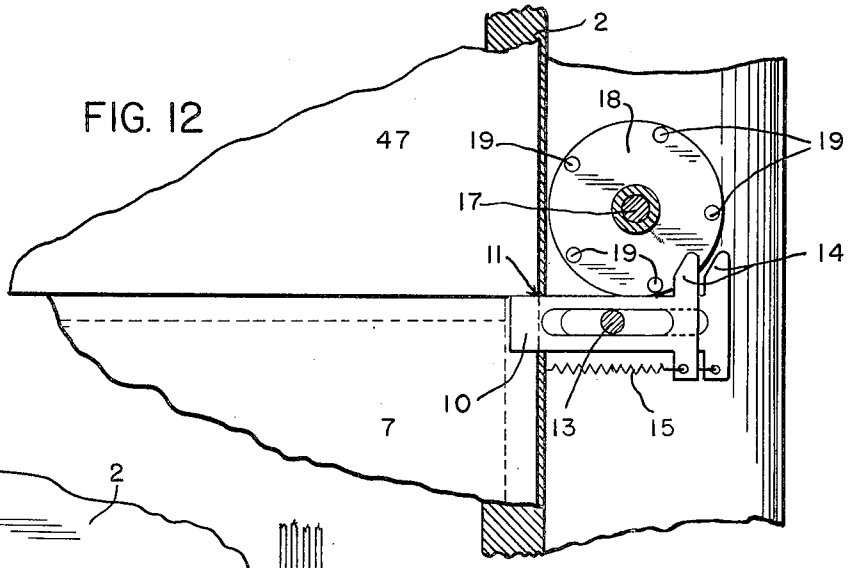


FIG. 11

FIG. 12



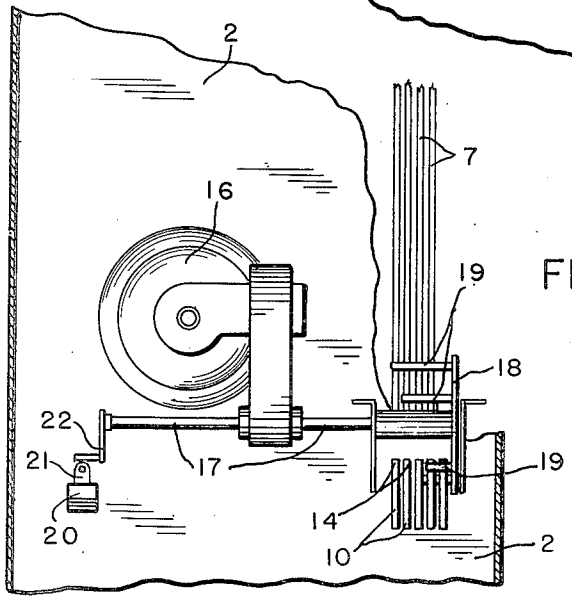


FIG. 13

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POSTER EXHIBITING DEVICE

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Application February 27, 1950, Serial No. 146,614

4 Claims. (Cl. 40—79)

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This invention relates to exhibiting devices and has special reference to a device for displaying a plurality of cards or posters in sequence.

One of the principal objects of my invention is to provide a simple and relatively inexpensive device for displaying a sequence of advertising material.

Another object is to provide an efficient means for operating and controlling a display device.

Another more specific object is to provide a plurality of slides or grooves in which posters or cards are carried, means to retain the posters in display position, and means to remove the poster from display position to reveal another poster.

A still further object is to provide simple and efficient means for returning all posters to their starting or display position simultaneously.

Other objects are to provide quiet operation for a display device, and to provide poster holders which permit ready change of display material.

These and other objects and advantages will become more apparent as the description of my invention proceeds.

In the accompanying drawing forming a part of this application:

Fig. 1 is a perspective view of the housing or cabinet for my exhibiting device with the top cover slid back to show parts of the device.

Fig. 2 is a fragmental perspective view of one form of poster return means.

Fig. 3 is a top plan view of the poster return traveler shown in Fig. 2.

Fig. 4 is a side elevation view of Fig. 3.

Fig. 5 is an end view of Fig. 3.

Fig. 6 is a fragmental elevation view of the device shown in Fig. 1, showing another form of poster return means.

Fig. 7 is a similar view showing a different poster return means.

Fig. 8 is a perspective view of the pawl device employed in the poster return means shown in Fig. 7.

Fig. 9 is a sectional view on the line 9—9, Fig. 8.

Fig. 10 is a broken plan view of a poster holding frame.

Fig. 11 is a sectional view on the line 11—11, Fig. 1.

Fig. 12 is a side elevational view of the poster release mechanism.

Fig. 13 is an end view of the poster release mechanism.

In the drawing the reference numeral 1 indicates the base member of the cabinet of my device, which may be provided with casters if

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desired. The numerals 2—2 indicate opposed side members on standards of the chassis of the device they being fixed to and upstanding from the base 2 adjacent each outer end thereof. Intermediate the upright members of the chassis a shelf-like member 3 is secured, preferably parallel with the base member as shown. This structure provides the chassis or frame for my device.

A housing 4 is provided of any suitable design, to enclose the chassis and working parts of the exhibiting device, the housing having a sight opening 5 in the front face thereof, the opening being preferably of an extent to include substantially the entire upper half of the housing or cabinet, as shown.

A plurality of vertically disposed parallel grooves or channels 6 are provided in either the standards 2, or in a suitable piece of material secured to the standards. These grooves 6 are in opposed alined pairs, they extend from the upper end of the device to adjacent the bottom thereof, and are the slides or channels in which the poster holders 7 are carried and operated, one holder to each opposed pair of grooves or channels, as clearly shown in Figs. 1 and 11 of the drawings.

The poster holders comprise a rectangular frame of suitable size to carry posters 8 to fill the sight opening 5, they being of a suitable uniform thickness so as to be freely slidable vertically in the channels or grooves 6 in which they are carried. The holders may be made from sheets of metal having the edges thereof turned over to provide poster holding means, in which event, the edges would be cut away as at 9 to permit posters to be inserted and removed readily. Or, if desired, the poster holders may comprise a rectangular frame, not shown, fabricated from strips of metal folded longitudinally to a close U-shape cross section, and then formed to a rectangular frame. The main consideration in regards to the holders 7 is that they be able to hold a poster or card, and that they slide freely in the channels 6 in which they are carried.

The sight opening 5 is in the upper portion of the housing or cabinet of the device, and the posters or cards are normally held, in their respective slides, opposite the sight opening, and the foremost poster is dropped from view to expose the next poster after the said foremost poster has been exposed to view for a predetermined time interval. When the second poster has been exposed for a predetermined time interval, it is dropped from view to expose the third poster,

and so on, until all posters have been exhibited. The posters are dropped so that they are hidden from view behind the lower front portion of the cabinet or housing, of course.

The means for holding the posters in their upper or normal position and for releasing the posters in sequence at the desired time, is clearly disclosed in Figs. 6, 11, 12, and 13 of the drawings.

The numeral 10 indicates the reciprocable stops or slides which hold the posters up and which are moved to release the posters. As shown, these slides are elongated thin members which extend through the frame member which has the channels or grooves 6 therein, one slide being provided for each of the grooves 6. The slides are mounted in suitable openings 11 in the frame of the device, and have a slot 12 longitudinally therein to receive a holding pin 13 to keep them in place and to permit them to be reciprocated into and from their respective channels 6. As seen in Fig. 12 the slides 10 extend into the channels 6 so that one corner of the poster holder rests thereon. The poster holders, being of a size to slide within the channels 6 and being quite large in height and width, are held in their upper or normal position by the slides 10 engaging only one corner thereof. The very slight tip that is imparted to the poster by this holding means is not noticeable to the eye, and the posters are prevented from slipping or falling until their appointed time.

Each of the slides 10 is provided with a finger 14, by means of which the stops are operated in one direction, and with a spring 15 which biases the stops into their respective channels.

A timing device is provided to operate the slides at predetermined intervals, and the timing device here shown includes a small electric motor 16 which is of the slow speed type, or which is geared down to slow speed. The motor drives a shaft 17 at the desired speed, the shaft having a timing wheel 18 thereon adjacent the slides, which is rotated by the shaft. A plurality of lugs 19 are provided on one face of the wheel 18 to extend over the stops. The lugs are arranged adjacent the periphery of the wheel and are of progressively increasing length so that the shortest lug will engage the finger 14 of the slides which controls the outermost poster as the timing wheel is rotated. The next lug will engage the finger 14 of the slide for the second poster, and so on. As the lugs engage their respective fingers 14, they push against the latter and pull the slide out of the groove or channel 6 a distance sufficient to release the poster and let it drop, by gravitation, out of sight. The poster's position in the channel will keep the stop in outermost position, of course when the poster is down. Each of the slides is operated in a similar manner, the time interval being controlled by the speed of rotation of the shaft and timing wheel. The speed normally will be about one r. p. m. to give the posters the desired exhibition period.

It may be readily seen from the above that, starting with all posters in uppermost exhibiting position, each may be dropped from view successively, from front to rear, until all of the posters are in their lowermost position. It will be desirable to provide a stationary poster 47 at the rear of the slidable posters so that even when the last movable posters is dropped, there will still be some advertising, or the like, on exhibit. It may readily be seen that simple means may be provided to change the indicia of the last or stationary exhibit.

To bring the posters back to normal or standing position after they have all been exhibited and dropped from view, I employ a switch 20, preferably a microswitch, having an operating spring or lever 21. The switch 20 is positioned adjacent the shaft 17 so that a crank arm 22 extending from, and rotated by the shaft, will engage the lever to trip the switch once on each rotation of the shaft. The timing arrangement is such that the switch 20 is tripped after the last movable poster has been dropped and the stationary poster has been exhibited its desired time interval.

The microswitch so completes an electrical circuit to the motor 23 which is carried on the member 3 which extends between the standards 2—2. The motor has a long shaft 24, and a pair of flexible cables 25 are secured to the shaft so that as the motor rotates, the cables are wound on the shaft. The cables extend through an opening 26 in the member 3, and are rove over a pulley 27 adjacent the bottom of the cabinet or housing, then are brought back up from the pulley and are fastened to the member 3 adjacent the opening 25. The pulley is rotatably carried by a yoke or traveler 27, the traveler being carried and guided by a guide post 28 which is fixed vertically between the base 1 and the member 3, as shown. Obviously, as the motor rotates, the cables are wound on the shaft 24, and the pulley and traveler are slid or pulled upwardly on the guide post 28, the posters are also lifted or carried up and brought back to normal position. As the posters are raised slightly above the level of the slides 10, the slides spring back into their respective channels 6 and prevent the posters from falling down until released by the slides. Obviously the guide post should be of a cross section other than round so that the traveler will not turn on the post.

A microswitch 30 is positioned adjacent the upper end of the post 28 so that the traveler will engage its operating lever and trip same to break the motor circuit and stop the latter. As soon as the motor circuit is open, the weight of the traveler will unwind the cable from the shaft 24 and return the traveler to normal position adjacent the base 1 of the housing to be ready to bring the posters back up to their normal position for the next cycle.

Suitable cushioning means is provided for breaking the fall of the posters and to eliminate objectionable noise, this means preferably being a layer of sponge rubber 31, the cushion being so placed that the foot 29 will extend under the posters and not bear the weight thereof until the motor 23 is started to bring the posters up to normal position.

We now have a complete operative unit, and to change posters thereon, I have made the top member 32 slidable so that it may be moved back, or rearwardly, to expose the channels 6 and the posters. It may readily be seen that the posters, and holders, may be removed at will, and new posters inserted in their place.

Changing posters does not affect the operation of the device, and omitting a poster in one of the sets of channels will not upset the operation of the device. In the latter case, the poster following the empty space is merely exposed a double time interval. This feature may be very desirable in exhibiting posters which carry more indicia than can be absorbed in the ordinary time interval or where emphasis is to be given one particular poster.

In Figs. 6 and 11, and in Figs. 7, 8, and 9, I have shown modified forms of poster return means. The device shown in Figs. 6 and 11 comprises a motor 33, which drives a reduction gear arrangement 34, the motor being started by the switch 20. An arm 35 is rotated by the motor and gear arrangement in the path shown in dotted lines, and a foot 36 is carried by the arm and extends under the posters to carry the latter up to normal position as the arm is rotated. A micro switch 44 is provided to stop the motor and arm when it reaches its lowermost position.

In Figs. 7, 8 and 9, a motor 37 is actuated by the switch 20 to drive a reverse screw 38, through a reduction gear arrangement 39, the screw 38 extending vertically from the base 1 to the member 3, as shown. A traveler 40 is carried on the screw, and has a pawl 41 which rides the screw thread to bring the traveler up and down the screw. A foot 42 is provided on the traveler to extend under the posters and carry them up to normal position. A guide post 43 is provided to prevent the traveler from turning on the screw. A micro switch 45 stops the motor when the traveler has returned to its lowermost position.

A fluorescent light may be provided at the upper edge of the sight opening to illuminate the posters, and a shield or reflector 46 provided for directing the light on the posters.

Having thus described my invention, I claim:

1. A poster exhibiting device comprising a chassis, a plurality of perpendicularly arranged channels carried in said chassis, said channels being arranged in spaced opposed pairs, a plurality of vertically reciprocably carried posters within said channels, a plurality of reciprocable slides extending through portions of said chassis into said channels under one corner of said posters to hold same in their uppermost position, and means to release said slides at predetermined intervals to permit said posters to drop from their uppermost position successively from front to rear.

2. A poster exhibiting device comprising a chassis; a plurality of channels arranged in said channels arranged in said chassis in perpendicular, spaced, opposed pairs; a plurality of posters vertically reciprocably carried in said pairs of channels; a plurality of slides extending into said channels under one corner of said posters to hold same in their uppermost position, said slides being placed in substantially parallel side by side relationship, and a timing device to release said slides successively from front to rear to drop said posters in said channels, said timing device comprising a shaft, means to rotate said shaft, a timing wheel on said shaft, said wheel being in substantial alinement with and adjacent to the foremost one of said slides, and a plurality of lugs

projecting from said wheel transversely over said slides, said lugs being spaced about the periphery of said wheel and of progressively longer lengths so as to engage said slides successively from front to rear as said wheel is rotated by said shaft.

3. A poster exhibiting device comprising a chassis; a plurality of channels arranged in said chassis in spaced, opposed, perpendicular pairs; a plurality of posters vertically reciprocably carried in said pairs of channels, means to hold said posters in their uppermost position in said channels, means to release said posters to drop in their respective channels successively from front to rear, and means to return said posters to their uppermost position after all have been dropped comprising, a motor, a shaft rotatable by said motor, cables secured to said shaft to be wound thereon, a pulley, said cables being rove around said pulley and fastened at their otherwise free end to said chassis adjacent said motor, a traveler, said pulley being carried by said traveler, and means extending from said traveler under said posters whereby when said motor is operated, said traveler is lifted up carrying said posters therewith by means of said cables being wound on said motor shaft.

4. A poster exhibiting device comprising a chassis, a plurality of perpendicularly arranged channels carried in said chassis, said channels being arranged in spaced opposed pairs, a plurality of vertically reciprocably carried posters within said channels, a plurality of reciprocable slides extending through portions of said chassis into said channels under one corner of said posters to hold same in their uppermost position, and means to release said slides at predetermined intervals to permit said posters to drop from their uppermost position successively from front to rear, said means comprising a timing wheel, and a plurality of lugs extending from said wheel over said slides, each of said lugs being adapted to engage and reciprocate one of said slides to release one of said posters.

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