July 31, 1928. 1,678,722

W. C. CARLSON

PICTURE DISPLAY DEVICE FOR CANDY BOXES OR THE LIKE

Filed Nov. 4, 1926 2 Sheets-Sheet 1

Fig. 1.

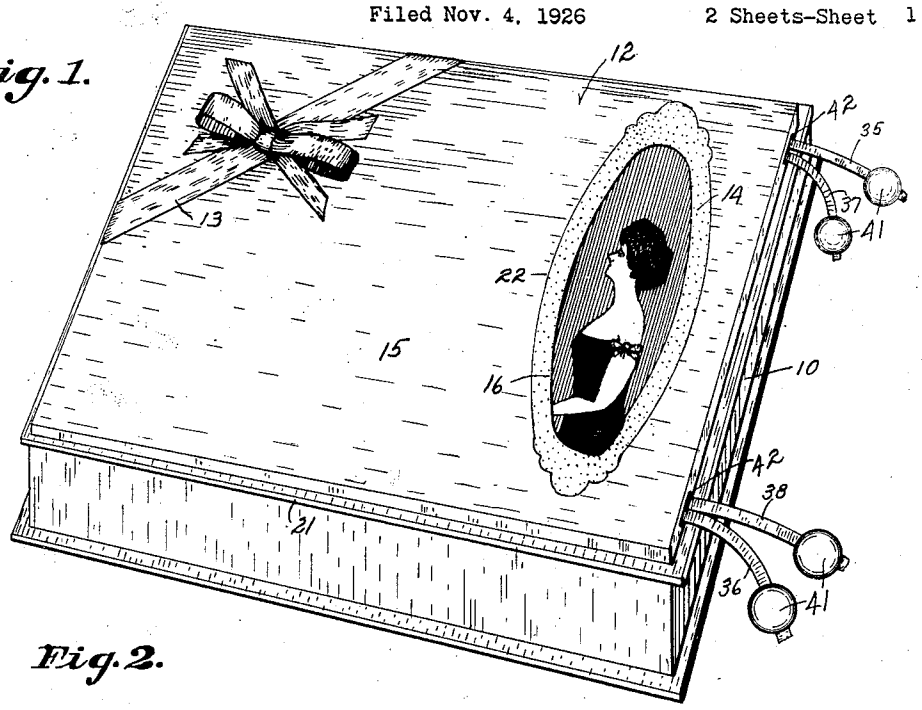


Fig. 2.

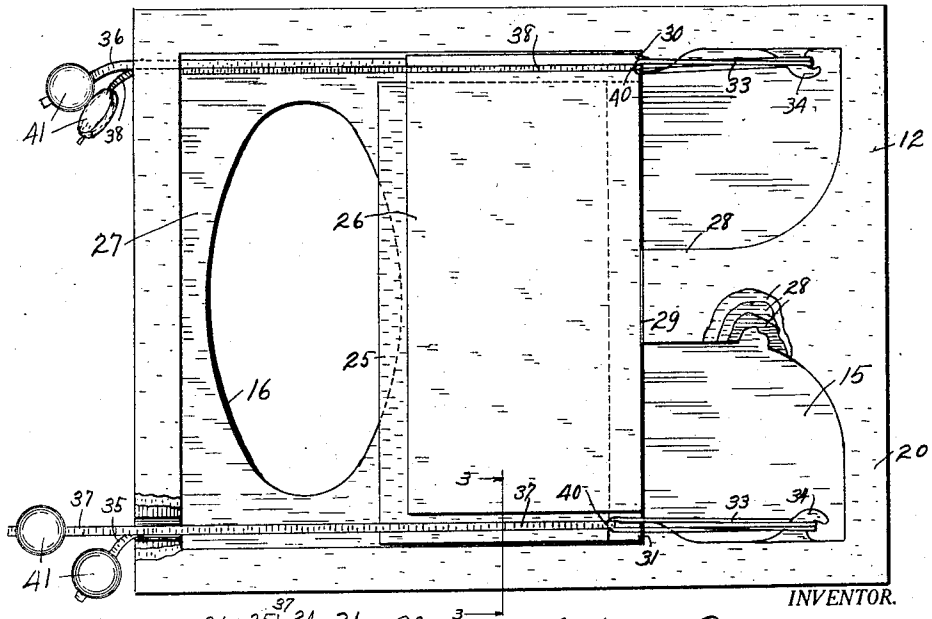


Fig. 3.

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Fig. 4.

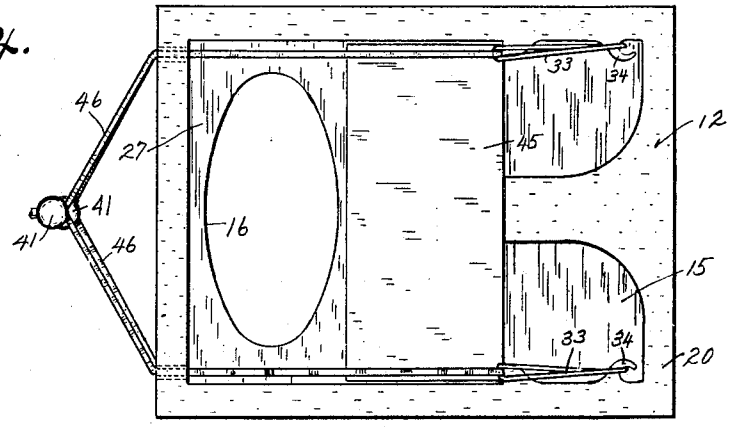


Fig. 5.

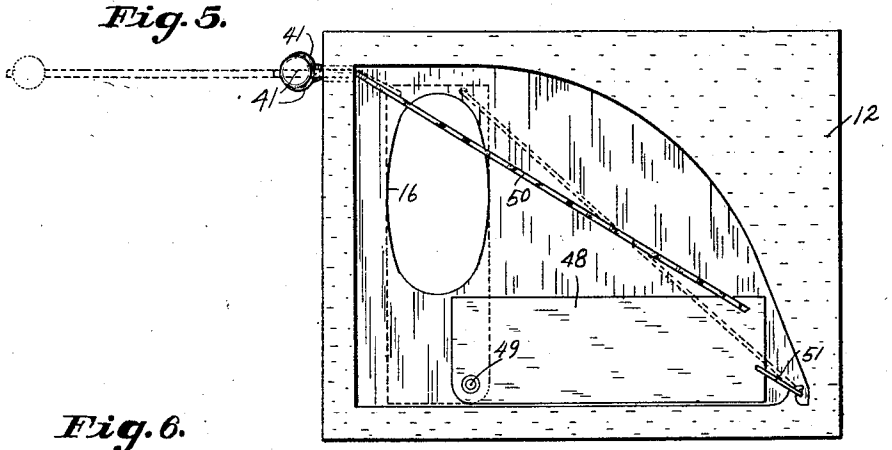
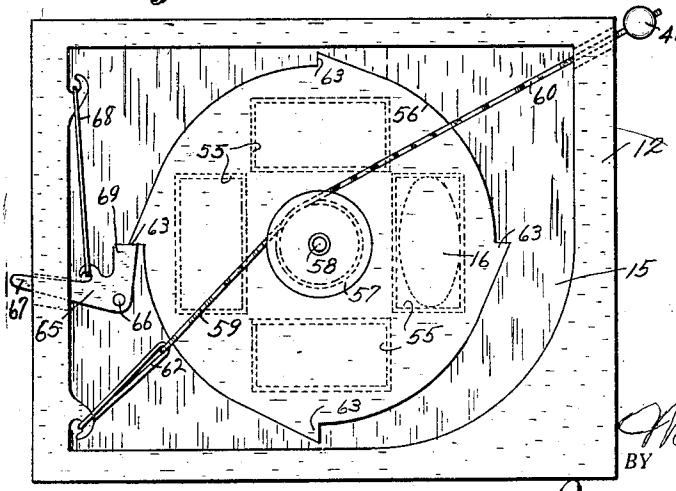


Fig. 6.



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UNITED STATES PATENT OFFICE.

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PICTURE-DISPLAY DEVICE FOR CANDY BOXES OR THE LIKE.

Application filed November 4, 1926. Serial No. 146,189.

This invention relates to improvements in picture display devices for candy boxes or the like.

It is the object of the invention to provide a novel, simple, inexpensive, and compact mechanism for displaying selectively a series of pictures or portraits. In the particular embodiment of the invention illustrated in the accompanying drawing, the device is applied to a candy box, and it is my purpose to provide a structure peculiarly adapted for this purpose.

In the drawings:

Figure 1 is a view in perspective showing a candy box embodying this invention.

Figure 2 is a rear view in plan of the inverted composite frame or structural member in which the device is incorporated, such member being shown independently of the box in order that the working parts may be exposed.

Figure 3 is a detail view in section taken on line 3—3 of Figure 2.

Figures 4, 5, and 6 are views similar to Figure 2 on a reduced scale showing various modified embodiments of this invention.

Like parts are identified by similar reference characters throughout the several views.

The candy box 10, in which this invention has been embodied, is of ordinary construction so far as its outward appearance would indicate. It is customary to provide a pad on the cover of such a box in order to convey an impression of substantial weight and solidity. In accordance with the present invention, however, a special frame or casing for the mechanism hereinafter to be described is made up of a number of plies of cardboard and is decorated to resemble the usual face of a padded box cover. The frame or casing is designated in its entirety by the reference character 12, and it will be noted in Figure 1 that a ribbon 13 is applied across the corner thereof, and an elliptical panel 14 is applied to its face for decorative purposes.

In the particular embodiment of the invention herein illustrated, the frame or casing 12 comprises five plies of cardboard as best shown in Figure 3. All of these plies are of like rectangular outline and are superimposed upon each other to give the outward appearance of a solid block. The normally uppermost or outermost ply 15 is provided at 16 with an opening about the margin of which the ornamental frame 14 extends. The remaining plies 17, 18, 19, and 20 are skeletonized to provide room for the operating mechanism. The frame or casing 12 is open at its back except in that, in actual practice, it is closed by the top 21 of the box cover to which it is glued or otherwise fixed. One of the pictures which it is desired to display is permanently secured to the box cover 21 in such a position that it appears through the display opening 16 at 22. In the preferred embodiment of the invention shown in Figures 1, 2, and 3, the remaining pictures to be displayed are mounted on slides 23, 24, 25, and 26. These slides are simply cardboard panels superimposed upon each other within the space provided at 27 in the interior of the frame or casing 12. Any one of the several picture-carrying slides may be drawn from a normally concealed position within the frame 12 to a position in which its picture will register with display opening 16, being superimposed upon the picture 22 normally displayed through such opening.

All of the four plies 17, 18, 19, and 20 have registering tongues 28 which project into the center of the space 27 within frame 12 to provide a stop 29, which limits the retractive movement of the several slides. Similar stops are provided at 30 and 31 by shoulders formed integrally with the skeletonized plies aforesaid. The length of the slides or cards 23, 24, 25, and 26 is such that each card abuts only two of the three stops thus provided. Thus the cards 24 and 26 are so positioned that their margins are guided adjacent to the farther margin of frame 12 as viewed in Figure 2, whereas slides 23 and 25 are guided adjacent to the nearer margin as clearly appears both in Figure 2 and Figure 3. The first mentioned pair of slides contacts with stops 29 and 30, whereas the second mentioned pair of slides contacts with stops 29 and 31. This arrangement, wherein alternate slides are laterally offset with reference to each other to be guided by opposite margins of the interior casing or frame 12, has the advantage that it leaves a space between the faces of the slides in which the operating connections may be positioned.

Each slide is acted upon by a tension spring which may conveniently take the form of a rubber band such as is shown at 33. Each such rubber band is anchored to

a hook 34 which may be formed integrally with each of plies 18 and 19 which compose the casing or frame 12. In that event a two-ply hook results, the double thickness being adequate to give the required strength. Fastened to each of the several slides is a tension member which may conveniently take the form of a tape. Tapes 35, 36, 37, and 38 are connected respectively with slides 23, 24, 25, and 26. Each tape is glued to its respective slide and is provided at the rear of the slide with a loop 40 in which the rubber band 33 is secured.

Suitable openings 42 in the end of the frame permit the passage of the several tapes, such openings being conveniently formed by cutting through one or more of the plies of which the frame is composed. Handles 41 at the ends of the respective tapes facilitate their manipulation. It will be noted that each of the openings 42 is aligned with the hook 34 and with the portion of the slide to which the tapes are secured. In consequence, each tape and the rubber band connected to the slide controlled by the tape will lie in a straight line. Hence when the tape is pulled, the tension thereon will be transmitted directly and lineally to the rubber band without any tendency whatever to deflect the picture-carrying slide from its normally erect position. In Figure 2, slide 25 is shown partially advanced, as by the exertion of a tensional force through tape 37. It will be obvious that ultimately, in the continued advance of this slide, its forward margin will reach the end of the space 27 and contact with the inner side of the frame or casing 12. Thereupon the picture carried by said slide will be in registry with display opening 16. When the tension on tape 37 is relieved, the rubber band 37 connected with such tape will act upon the picture-carrying slide to withdraw it to its original retracted position and thereby to expose the permanently fixed picture 22. Likewise, any other slide of the series may be selectively advanced to display position by pulling the proper tape, and upon release of the tape, the rubber band or spring 33 connected with such slide will retract it again.

It will be noticed that while it is desirable to have a direction of pull of the tape aligned with the direction of pull of the rubber band, any deflection toward the adjacent margin of the case or frame 12 will be comparatively unobjectionable, since the slide will in any event be guided by such margin in case of contact therewith.

It will further be noted that the point of connection between the rubber band and its slide is, in each case, intermediate the two stops against which the slide abuts. Accordingly, there is always a tendency for the rubber band to draw the slide to an ultimate position of contact with both stops. If the slide has become tilted in its path of movement so that it contacts first with one stop before reaching the other, the spring will continue to act in a direction to straighten the slide for contact with both. In view, however, of the arrangement whereby the direction of pull of rubber band 33 is aligned with the direction of pull of the tape, each slide will ordinarily move along its path in an erect position, its front end requiring no guide other than that afforded by the opposing tensions of the tape and rubber band which tend to maintain themselves in alignment.

This completes the disclosure of the preferred embodiment of this invention, and it will be obvious that the objects of the invention are fully satisfied and the mechanism is so compact and inexpensive as to be readily incorporated in the cover of the candy box as disclosed. It will be obvious that various other manufacturing expedients may be resorted to, if desired, but the multi-ply cardboard construction of the frame or casing 12 recommends it for the particular use for which it is shown.

The slides 25 may carry any desired type of picture. For example, they may be provided with a series of pictures in commemoration of mother's day or other special occasions or, if desired, they may be left blank to receive family pictures to be mounted thereon by the purchaser.

In the remaining views of the drawings, various modifications are suggested.

In Figure 4, the construction is essentially like that previously designed with the exception that each slide 45 is co-extensive in length with the width of the space 27 in which the slides operate, and each slide is provided with two tapes 46 connected to its opposite ends and brought together to a common tab 41, a corresponding number of rubber bands 33 being used.

In the Figure 5 construction, the several cards 48 are pivoted at 49 for oscillatory instead of sliding movement within the frame 12. Each card may be provided with a tape 50 fastened to one of its corners and with a rubber band or equivalent spring 51 fastened to it at such a point that the line of pull of the tape 50 will be as nearly as practicable aligned with the line of pull of the rubber band.

In the Figure 6 construction, the several cards 55 are likewise mounted for oscillation, but instead of being pivoted directly to the frame, they are mounted at the several sides of a rotor 56 to which a spool 57 is made fast, concentric with its center 58 of rotation. Two tapes 59 and 60 are wound in opposite direction on spool 57, the tape 60 being extended through an opening at the end of the frame and provided with a

handle or tab 41, and tape 59 being made fast to a rubber band or equivalent spring 62. It will be obvious that when the operator pulls tab 41, the rotor will be caused to rotate clockwise as viewed in Figure 6, so as to bring the several cards 55 into registry with the display opening 16. When the tab 41 is released, the rubber band will act in an opposite direction to rotate the drum 57 and connected cards counter-clockwise.

In order to maintain any particular card in registry with the display opening 16, I provide the periphery of rotor 56 with teeth 63 corresponding in number to the cards with which such rotor is provided. A suitably positioned detent or trigger 65 is pivoted to the frame or case 12 at 66 and has a handle projecting at 67 to an opening in the end of the frame. A rubber band 68 draws the trigger to the position in which it is shown in the drawing. In this position the detent portion 69 of the trigger projects into the path of teeth 63. When, however, the trigger is oscillated counter-clockwise upon its pivot 66 against the tension of rubber band 68, the rotor will be permitted to move to a new position.

Various other modifications will suggest themselves, these herein disclosed being merely typical. It will be understood that each of the frames or cases shown in Figures 4 to 6 inclusive is suggested as an alternative for the frame shown in Figure 2 and is intended to be completed and closed at its back by mounting it on the cover of a candy box or some equivalent support as shown in Figure 1. In these views, the parts are shown separately from the cover or other backing only for convenience in the disclosure of the interior construction.

I claim:

1. The combination with an apertured frame having interior side bearing surfaces, of a plurality of slides reciprocable in said frame between retracted positions and advanced positions in registry with said aperture, said slides being of less length than the interior width of said frame and being positioned therein in staggered relation with their respective ends abutting bearing surfaces on opposite sides of the frame, and actuating means for each slide connected thereto at the end thereof which abuts a frame bearing surface.

2. The combination with an apertured frame having interior side bearing surfaces, of a plurality of slides reciprocable in said frame between retracted positions and advanced positions in registry with said aperture, said slides being of less length than the interior width of said frame and being positioned therein in staggered relation with their respective ends abutting bearing surfaces on opposite sides of the frame, and actuating means for each slide connected thereto at the end thereof which abuts a frame bearing surface, said means comprising a resiliently yieldable spring and a tension member opposed thereto in substantial alignment with the direction of pull of the spring.

3. The combination with an apertured frame having interior side bearing surfaces, of a plurality of slides reciprocable in said frame between retracted positions and advanced positions in registry with said aperture, said slides being of less length than the interior width of said frame and being positioned therein in staggered relation with their respective ends abutting bearing surfaces on opposite sides of the frame, and actuating means for each slide connected thereto at the end thereof which abuts a frame bearing surface, said frame being provided with a stop adjacent each such bearing surface in the path of the slides coacting therewith and in a position to be contacted by the ends of the respective slides in the retracted positions thereof.

4. In a device of the character described, the combination with a multi-ply frame having an apertured outer ply and skeletonized inner plies providing an interior recess, of a set of slides movable in said frame between retracted positions and positions for registry with said aperture.

5. In a device of the character described, the combination with a multi-ply frame having an apertured outer ply and skeletonized inner plies providing an interior recess, of a set of slides movable in said frame between retracted positions and positions for registry with said aperture, and a box cover providing a backing ply for said frame.

6. In a device of the character described, the combination with a multi-ply frame having an apertured outer ply and skeletonized inner plies providing an interior recess, of a set of slides movable in said frame between retracted positions and positions for registry with said aperture, and a box cover providing a backing ply for said frame, said cover carrying a picture in registry with said aperture in a position to be covered by said slides in their advanced positions.

7. In a device of the character described, the combination with a multi-ply frame having an apertured outermost ply and skeletonized inner plies providing an interior recess, of a slide reciprocable in said frame, and means formed integrally with certain of said plies providing a stop for said slide to limit the movement thereof in one direction.

8. In a device of the character described, the combination with a multi-ply frame having an apertured outermost ply and skeletonized inner plies providing an interior recess, of a slide reciprocable in said recess, a tension spring acting to draw said slide in

one direction in said recess, a tension member opposed to said spring for drawing the slide in the opposite direction in said recess, and means projecting into said recess from certain of the plies of the said frame and providing an anchorage for said spring.

9. In a device of the character described, the combination with a multi-ply frame having an apertured outermost ply and skeletonized inner plies providing an interior recess, of a slide reciprocable in said recess, a tension spring acting to draw said slide in one direction in said recess, a tension member opposed to said spring for drawing the slide in the opposite direction in said recess, and means projecting into said recess from certain of the plies of the said frame and providing an anchorage for said spring, an intermediate ply of said frame being cut away at the end of said frame to provide an aperture through which said member is extended.

10. The combination with a multi-ply frame, of slides reciprocable therein in superimposed relation, alternate slides being in end contact with opposite sides of the frame, extensions from the ends of the several intermediate plies of said frame providing a stop against which all of said slides are adapted to abut, and projections from the sides of said frame integral with intermediate plies thereof against which those slides abut which are in end contact with the respective sides from which a given projection extends.

11. The combination of a multi-ply frame having skeletonized intermediate plies providing an interior recess, slides reciprocable in said recess and alternately in bearing contact with opposite sides of said frame, a hook element projecting from an intermediate ply into said recess at each side of said frame, and a rubber band engaged on each hook element and each band connected with a slide at that side of the frame.

12. The combination of a multi-ply frame having skeletonized intermediate plies providing an interior recess, slides reciprocable in said recess and alternately in bearing contact with opposite sides of said frame, a hook element projecting from an intermediate ply into said recess at each side of said frame, and a rubber band engaged on each hook element and each band connected with a slide at that side of the frame, said intermediate plies being shouldered at each side of the frame to provide stops to be abutted by the ends of slides drawn there against by said rubber band.

13. The combination of a multi-ply frame having skeletonized intermediate plies providing an interior recess, slides reciprocable in said recess and alternately in bearing contact with opposite sides of said frame, a hook element projecting from an intermediate ply into said recess at each side of said frame, and a rubber band engaged on each hook element and each band connected with a slide at that side of the frame, said intermediate plies being shouldered at each side of the frame to provide stops to be abutted by the ends of slides drawn thereagainst by said rubber band, and the end portion of an intermediate ply being formed to provide a central stop abutted by slides projecting from both sides of said frame.

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