Sept. 14, 1965 D. GAWNE ETAL 3,205,601

DISPLAY HOLDER

Filed June 11, 1963

Fig. 1.

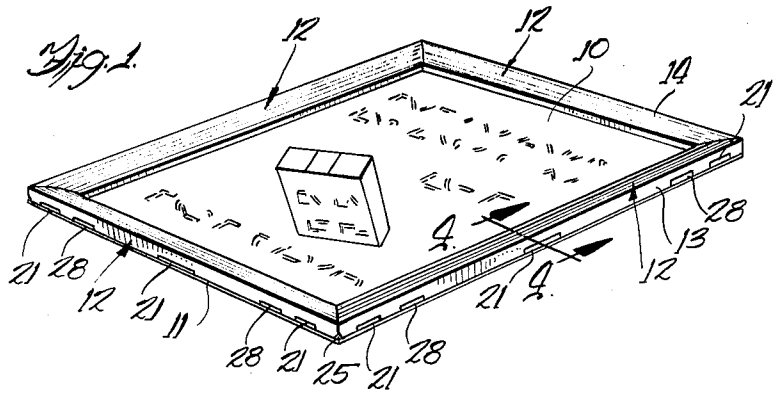


Fig. 2.

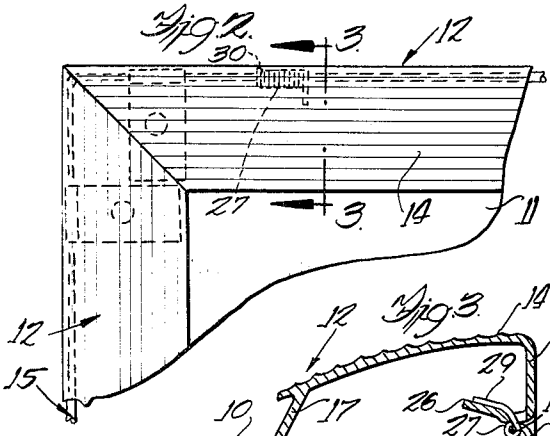


Fig. 4.

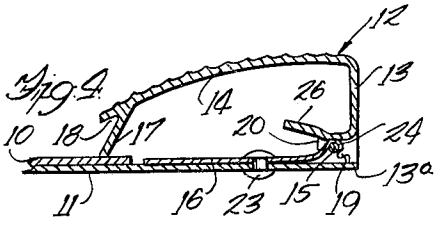


Fig. 3.

Fig. 5.

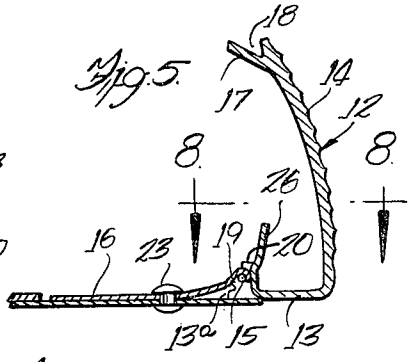


Fig. 6.

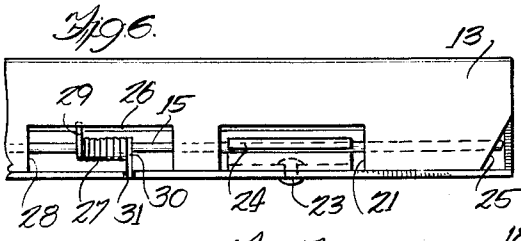


Fig. 8.

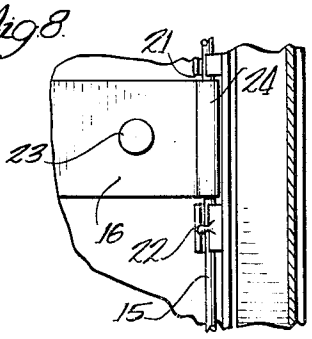
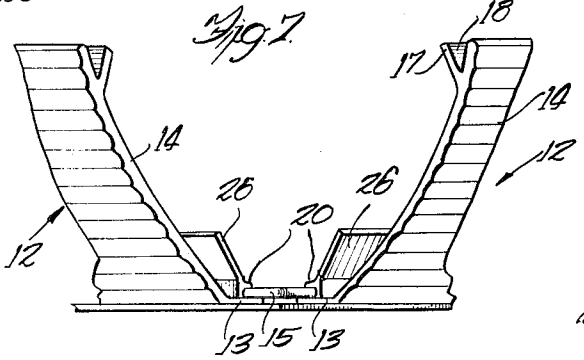


Fig. 7.



Inventors
Daniel Gawne
Paul R. Fortier
By Welsh and Bradway
Attorneys

United States Patent Office 3,205,601 Patented Sept. 14, 1965

3,205,601

DISPLAY HOLDER

Daniel Gawne, 12118 S. 88th Ave., Palos Park, Ill., and Paul R. Fortier, 9332 S. Francisco Ave., Evergreen Park, Ill.

Filed June 11, 1963, Ser. No. 286,973
5 Claims. (Cl. 40—156)

This invention relates generally to a holder for display materials, such as posters, and more particularly, to a holder of the type having a flat backing plate with elongated clamping members extending along its edges and mounted to move between a clamping position in which the member holds display material against the plate and an open position spaced from the plate so as to permit withdrawal and insertion of display material. When the members are in the clamping positions, the holder has the appearance of a picture frame.

The primary object of the present invention is to provide a novel construction of the clamping members and mounting of the same on the plate to insure firm clamping of the display material against the plate while facilitating movement of the members between their two clamping and open positions.

Another object is to provide a novel construction of a clamping member enabling the same to be formed at reasonable cost as an extrusion.

A further object is to construct each clamping member and its mounting in a novel manner for positive overcenter action in the movement between the two positions.

A more detailed object is to construct each clamping member in a novel manner enabling leaf springs to be utilized both to provide an overcenter spring action and maintain the clamping member in proper position along an edge of the backing plate.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings in which:

FIGURE 1 is a perspective view of a display holder embodying the novel features of the present invention and shown with a poster mounted for display;

FIG. 2 is a fragmentary plan view of a corner of the holder;

FIG. 3 is a fragmentary sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is a fragmentary perspective view taken along the line 4—4 of FIG. 1;

FIG. 5 is a view similar to FIG. 4 but showing the clamping member in a different position;

FIG. 6 is a fragmentary edge elevational view of a corner of the holder with a clamping member in closed position;

FIG. 7 is a fragmentary enlarged edge view of a corner of the holder with two clamping members in open positions; and

FIG. 8 is a fragmentary sectional view taken along the line 8—8 of FIG. 5.

The invention is shown in the drawings for purposes of illustration embodied in a holder for display material such as a poster **10**. Generally, the holder is of the type having a flat backing plate **11** of rectangular shape with clamping members **12** extending along its edges and movable between closed positions (FIGS. 1 to 4) in which the members clamp the poster against the backing plate and open positions (FIGS. 5 and 7) in which the members are out of the way so as to permit the withdrawal and insertion of posters. Although the members may be formed in shorter sections or with a member on only one edge of the plate movable, there is one member extending the full length of each plate edge in this instance and

each member is movable between the two positions. When the clamping members are in their closed positions, they cooperate with the plate to simulate a frame around the display material as well as holding the material against the plate. Through the use of suitable fastening devices (not shown) the holder may be supported on a wall or other place where the poster is to be viewed.

In accordance with the present invention, each clamping member **12** and its mounting on the backing plate **11** are constructed in a novel manner to insure positive holding of the display material **10** while facilitating movement of the member into and out of its different positions. To this end, the member is formed as an extrusion of L-shaped cross section with a shorter leg **13** providing the side edge portion of the frame and a longer leg **14** providing the front face of the frame. Secured to the shorter leg and extending parallel to but spaced from the free edge of this leg is at least one pivot pin **15**. This pin normally is yieldably urged downwardly toward the plate but is spaced farther from the free edge of the shorter leg than it is from the backing plate in the two positions of the member. As a result, the member is in a dead center position with the free edge directly beneath the pin and the yieldable force urges the member toward one position or the other as the edge is shifted in opposite directions out of the dead center position.

The yieldable force urging the pivot pin **15** of each clamping member **12** downwardly is derived from one or more springs **16** which cooperate with the pin to retain the member accurately positioned with respect to the adjacent edge of the plate. Each spring thus is of the leaf type with one end portion secured flat against the backing plate **11** and with the other end curling around the pin on the side of the pin opposite the plate. The spring then provides a bearing for the pin and holds it against shifting toward and away from the adjacent edge of the plate while permitting yielding of the pin away from the backing plate for the overcenter action.

To simulate a standard picture frame, the shorter leg **13** of each clamping member **12** preferably is flat and is disposed in a plane normal to the backing plate **11** and including the adjacent edge of the plate when the member is in a closed position. The longer leg **14** curves from the junction with the shorter leg inwardly toward the backing plate in the closed position of the number. The portion of the longer leg engaging the display material **10** is inwardly projecting lip **17** which is spaced from the free edge of the leg to provide a recess **18** to receive the user's fingers to facilitate lifting of the member away from the plate. On its outer surface, the longer leg is formed with shallow corrugations to provide a pleasing appearance.

Each clamping member **12** preferably is formed as an extrusion of suitable metal such as aluminum. To attach each pivot pin **15** conveniently to its supporting member, two ribs **19** and **20** project inwardly from the inner side of the shorter leg **13** adjacent its free edge and parallel such edge, these ribs having curved opposing surfaces which define a cylindrical aperture to receive the pivot pin. Portions of these ribs and the adjacent part of the shorter leg are cut away at spaced points along the length of each member as indicated at **21** to expose the pin to receive the curled end of the leaf spring **16**. The pin is simply slid endwise into the aperture and preferably is held there by staking or crimping of the ribs as indicated at **22** (FIG. 8). While the pins may extend throughout the length of the members, they preferably are formed in shorter sections extending across the cutaway portions **21** of the members. As shown in FIGS. 2 and 7, a pin of L-shape may extend around each corner with its ends received by adjacent clamping members.

There are at least two leaf springs **16** for each clamping member **12**, these being spaced apart along the length of the member. In the present instance, three springs are provided for each member and there are the same number of cut-away portions **21** for the springs. Each spring is of generally rectangular shape and one end portion is secured flat against the plate as by a rivet **23**. The other end portion is flat except for the curved part **24** at its extreme end which fits over the top of a pivot pin.

To simulate a picture frame, the shorter legs **13** of the clamping members **12** are substantially coextensive with the respective edges of the backing plate **11**. At the corners, the longer legs **14** are mitered and the shorter legs also are relieved at their free edges as indicated at **25** (FIG. 6) to avoid interference in the open positions of the members. To strengthen the extrusion adjacent the free edge of the shorter legs, a ledge **26** preferably extends inwardly from the upper rib **20** defining the pin aperture and, in effect, forms an extension of this rib. This ledge extends inwardly from the shorter leg a substantial distance in a plane which is inclined towards the longer leg from a normal to the shorter leg.

The ledge **26** of each clamping member **12** may be used conveniently to cooperate with one or more coiled springs **27** to augment the force of the leaf springs **16** in urging the clamping member towards its closed position. Each such coiled spring encircles the pivot pin **15** at another cut-away portion **28** of the member and one end **29** of the spring extends along the inner or upper side of the ledge while the other end **30** of the spring is received in a hole **31** formed in the backing plate **11** at the adjacent edge of the plate as shown in FIGS. 3 and 6. Herein, there are two coiled springs for each member and two cut-away portions in the member to expose the pin **15** to receive the springs.

It will be seen that, when each clamping member **12** is in a closed position with the lip **17** on the longer leg **14** engaging the poster **10** and holding the same against the backing plate **11** as shown in FIGS. 3 and 4, the outer side of the shorter leg **13** is normal to the backing plate in a plane including the adjacent edge of the plate. In this position, the force exerted by the leaf springs **16** on the hinge pin **15** acts downwardly toward the backing plate and on a line spaced inwardly from the free edge of the shorter leg and disposed between that edge and the lip **17** so that the lip is urged toward the plate. This force of the leaf springs is augmented by the force of the coil springs **27**.

When the clamping member **12** is moved into its open position by the user inserting his fingers in the recess **18** and pulling the longer leg **14** away from the plate, the free edge of the shorter leg **13** moves first through a dead center position directly beneath the hinge pin **15** and then shifts inwardly beyond the pin, the opening movement of the member being limited by engagement of the outer flat side of the shorter leg with an edge portion of the plate as shown in FIG. 5. In this position, the inward force of the leaf springs toward the plate is exerted on the hinge pin **15** which is spaced outwardly from the free edge of the shorter leg so as to tend to hold the clamping member in the open position. With the clamping members thus held in such positions, the display material **10** may be easily removed and replaced after which the members are moved back through their dead center positions and into the closed positions.

It will be apparent that a positive overcenter action is achieved and yet movement of the clamping member between its extreme positions may be effected quickly and easily due to a leverage advantage resulting from the fact that the spacing of the pivot pin from the free edge of the longer leg is many times the spacing between the pin and the free edge of the shorter leg. The clamping members are of relatively simple construction and the parts are easy to assemble and mount on the plate after the leaf springs **16** are installed. At the same time, considerable strength and resistance to bending are achieved in the extrusion.

We claim:

1. A display holder having, in combination, a rectangular sheet of stiff backing material, at least one elongated clamping member of L-shaped cross section extending along one edge of said sheet and mounted thereon to move between a clamping position in which an edge of a longer leg of the member engages a display sheet to clamp the same against the backing sheet and a flat shorter leg of the member lies in a plane normal to the backing sheet and including the edge and an open position in which the edge of the longer leg is spaced from the backing sheet and the shorter leg lies flat against the backing sheet, said member having hinge parts projecting inwardly from said shorter leg and defining an elongated aperture paralleling the free edge of the shorter leg, at least one pin extending through and secured within said aperture of said member and having an exposed portion spaced from the free edge of the shorter leg of the member a greater distance than said exposed portion is spaced inwardly from said leg, a plurality of leaf springs each secured flat against said sheet at one end portion of the spring and having the other end portion engaging said exposed portion of said pin to urge the pin yieldably toward the backing sheet and the member yieldably into either of said positions while permitting movement of the member overcenter between the positions, said pin having another exposed portion and said shorter leg of said member having a reinforcing ledge projecting inwardly from an intermediate portion of the leg between said aperture portions and the junction with the longer leg and extending longitudinally of but spaced from the longer leg, and a coiled spring encircling said other exposed portion of said pin and having its ends respectively engaging said backing sheet and said ledge of the associated member to augment the action of said leaf springs and urge the member toward its closed position.

2. A display holder having, in combination, a rectangular sheet of stiff backing material, at least one elongated clamping member of L-shaped cross section extending along one edge of said sheet and mounted thereon to move between a clamping position in which an edge of a longer leg of the member engages a display sheet to clamp the same against the backing sheet and a flat shorter leg of the member lies in a plane normal to the backing sheet and including the edge and an open position in which the edge of the longer leg is spaced from the backing sheet and the shorter leg lies flat against the backing sheet, said member having hinge parts projecting inwardly from said shorter leg and defining an elongated aperture paralleling the free edge of the shorter leg, at least one pin extending through and secured within said aperture of said member and having an exposed portion spaced from the free edge of the shorter leg of the member a greater distance than said exposed portion is spaced inwardly from said leg, at least one leaf spring secured flat against said sheet at one end portion of the spring and having the other end portion engaging said exposed portion of said pin to urge the pin yieldably toward the backing sheet and the member yieldably into either of said positions while permitting movement of the member overcenter between the positions, said pin having another exposed portion, and a coiled spring encircling said other exposed portion of said pin and having its ends respectively engaging said backing sheet and a part on the shorter leg of the associated member to augment the action of said leaf spring and urge the member toward its closed position.

3. A display holder having, in combination, a rectangular sheet of stiff backing material, at least one elongated clamping member of L-shaped cross section extending along one edge of said sheet and mounted thereon to move between a clamping position in which an edge of a longer leg of the member engages a display sheet to

clamp the same against the backing sheet and a flat shorter leg of the member lies in a plane normal to the backing sheet and including the edge and an open position in which the edge of the longer leg is spaced from the backing sheet and the shorter leg lies flat against the backing sheet, said member having hinge parts projecting inwardly from said shorter leg and defining an elongated aperture paralleling the free edge of the shorter leg, at least one pin extending through and secured within said aperture of said member and having an exposed portion spaced from the free edge of the shorter leg of the member a greater distance than said exposed portion is spaced inwardly from said leg, and a plurality of leaf springs each secured flat against said sheet at one end portion of the spring and having the other end portion engaging said exposed portion of said pin to urge the pin yieldably toward the backing sheet and the member yieldably into either of said positions while permitting movement of the member overcenter between the positions.

4. A display holder having, in combination, a rectangular sheet of stiff backing material, at least one elongated clamping member of L-shaped cross section extending along one edge of said sheet and mounted thereon to move between a clamping position in which an edge of a longer leg of the member engages a display sheet to clamp the same against the backing sheet and an open position in which the edge of the longer leg is spaced from the backing sheet and a shorter leg of the member engages the backing sheet, said member having hinge parts projecting inwardly from said shorter leg and defining an elongated aperture paralleling the free edge of the shorter leg, at least one pin extending through and secured within said aperture of said member and having an exposed portion spaced from the free edge of the shorter leg of the member, and at least one leaf spring secured flat against said sheet at one end portion of the spring and having a curved portion at its other end facing toward said sheet and engaging the side of said exposed portion of said pin

to urge the pin yieldably toward the backing sheet and the member yieldably into either of said positions while permitting movement of the member overcenter between the positions, the spacing of said pin from said free edge of said shorter leg being greater than the spacing between the pin and said backing sheet in both positions of said member to provide a positive overcenter action.

5. A display holder having, in combination, a plate of stiff backing material, at least one elongated clamping member of L-shaped cross section extending along one edge of said plate and mounted thereon to move between a clamping position in which an edge of a longer leg of the member engages a display sheet to clamp the same against the plate and an open position in which the edge of the longer leg is spaced from the backing sheet and a shorter leg of the member engages the plate, said member having a hinge part projecting inwardly from said shorter leg and spaced from the free edge of the shorter leg a distance greater than it is spaced from the leg, and a spring having one portion secured against said plate and another portion acting on said hinge part to define a pivotal axis for the member paralleling the plate and movable toward and away from the plate during movement of the member between said positions, said spring exerting on said hinge part a yieldable force urging the part toward the backing sheet and the member yieldably into either of said positions while permitting movement of said axis toward and away from said plate as the member moves overcenter between the positions.

References Cited by the Examiner

UNITED STATES PATENTS

2,882,633 4/59 Howell ..... 40—156

EUGENE R. CAPOZIO, *Primary Examiner.*

JEROME SCHNALL, *Examiner.*