United States Patent

[11] 3,597,869

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[54] **THEFTPROOF INSTALLATION FOR FRAMED MIRRORS, PICTURES AND THE LIKE**
7 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **40/152.1**
[51] **Int. Cl.** **G09f 1/12**
[50] **Field of Search** 248/224, 497, 489; 40/152, 152.1, 128, 155, 156; 52/627

[56] **References Cited**

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Assistant Examiner—Wenceslao J. Contreras
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ABSTRACT: A frame means is fixed against a surface, such as a wall, by fastening means, such as screws, with the heads thereof interengaging with an opening formed in the backing plate of the frame means, with a locking tongue arrangement which permits the frame, in which the mirror, picture or the like is mounted, to be moved into a permanently locked position on the heads of a plurality of screws or projections in such manner that the mirror or picture frame cannot be removed without the destruction thereof. The present arrangement is particularly adaptable for use in restrooms, hotels and the like for the mounting of mirrors, pictures and the like.

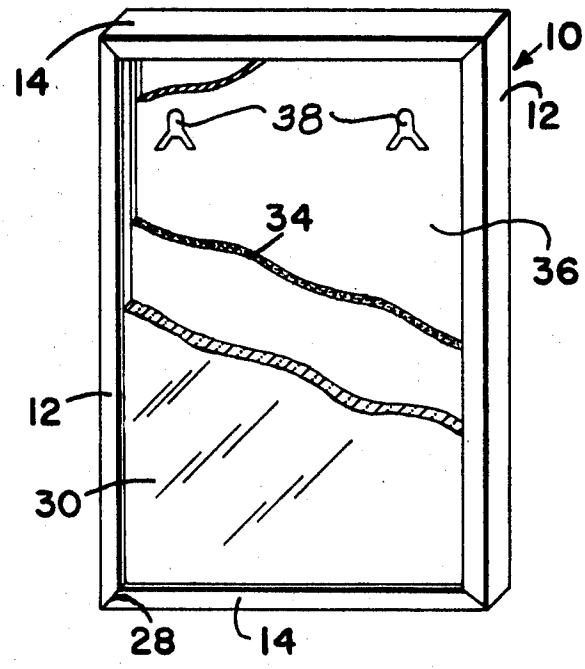


FIG. 1.

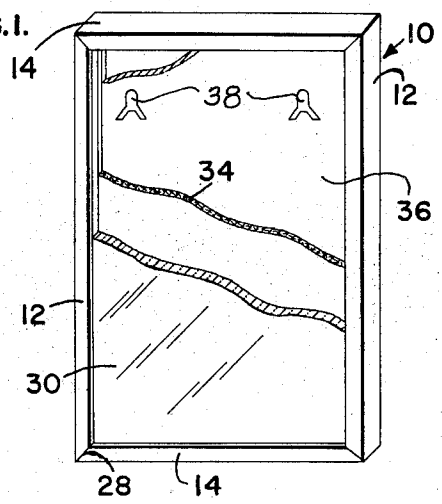


FIG. 2.

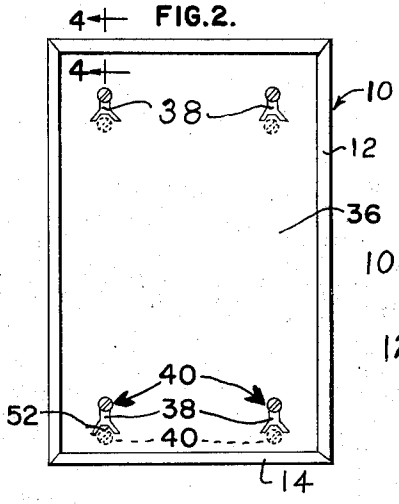


FIG. 3.



FIG. 4.

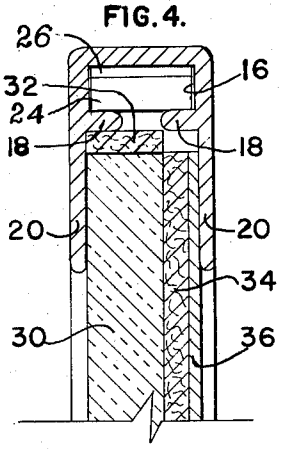


FIG. 5.

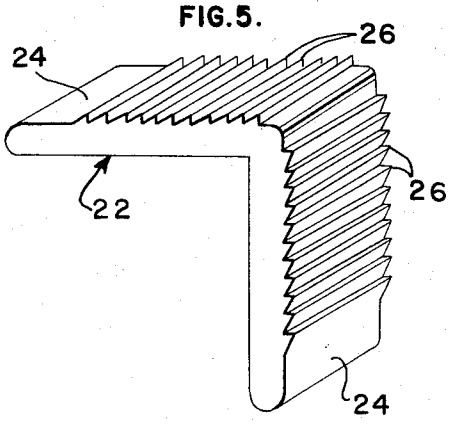


FIG. 6.

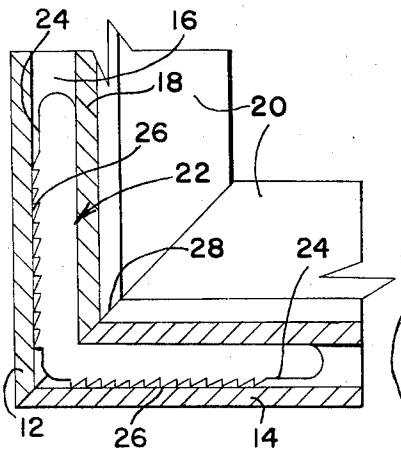


FIG. 7.

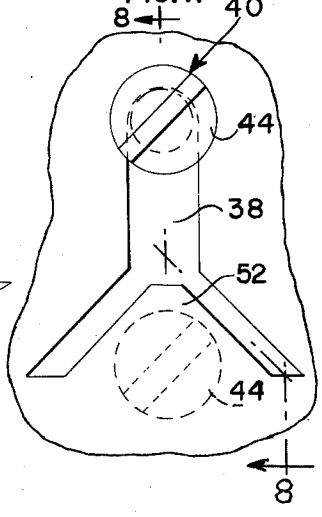
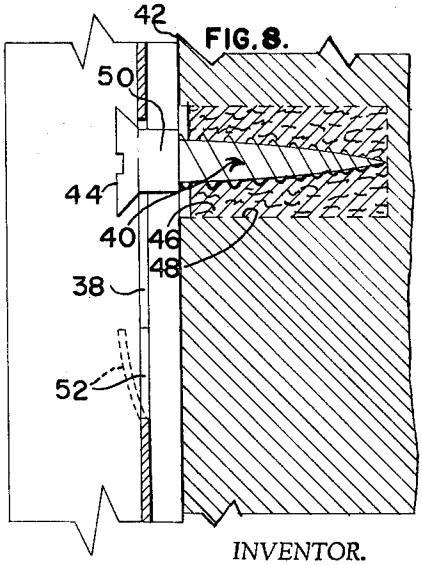


FIG. 8.



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THEFTPROOF INSTALLATION FOR FRAMED MIRRORS, PICTURES AND THE LIKE

BACKGROUND OF THE INVENTION

The present invention relates to so-called theftproof, framed mirrors or the like, which may be attached to a wall, and which cannot be removed intact.

It is desirable to provide a frame of this type, which is devoid of removable hooks, latches or unlocking devices, and which is simple and inexpensive in construction, yet sturdy and reliable in use and which requires a minimum of maintenance.

It is difficult to provide an effective theft proof frame for mirrors, pictures and the like, which is neat in appearance, and which embodies the above-mentioned characteristics.

Prior art theftproof mirrors and the like have employed rather complex and expensive latching mechanisms and these, for the most part, where not theftproof, as means were provided for releasing the latches, hooks or the like, which nullified the theftproof factor, and which does not fulfill the requirements if a mirror or picture frame with positive theftproof characteristics, except by destruction.

SUMMARY OF THE INVENTION

U.S. Pat. No. 1,149,141 to Hook, Aug. 3, 1915; U. S. Pat. No. 1,908,147 to Hoegger, May 9, 1933; U.S. Pat. No. 2,066,962 to Ostrander et al. July 2, 1935; U.S. Pat. No. 2,306,023 to Lumley, Dec. 22, 1942; U.S. Pat. No. 2,928,199 Novak, Mar. 15, 1960;

SUMMARY OF THE INVENTION

A frame means which is constructed for fixed attachment to a plane surface, such as a wall, by a plurality of screws or projection, which defies removal without destruction. A backing plate associated with the frame means has a plurality of especially formed openings or slots to complementally engage complementary projections or heads of screws, so upon movement of the frame means, which may carry a mirror, picture or the like, with respect to the projecting screwheads, the frame is locked into place against retrogression or removal.

A frame means surrounds and overhangs the edges of a mirror or picture means and is secured against removal, once it is within the frame, and is locked in place by toothed means, against separation or retrogression.

The backing plate is of a material of such resiliency, that, when the heads of the screws or projections are moved into the respective openings or slots, past the resilient tongues, the tongues move behind the screw or projection to prevent retrogression of the backing plate which is fitted within the frame means.

A theftproof frame means for mirror, pictures or the like comprises a channellike frame surrounding the mirror or picture, and overlapping the mirror or picture, which frame is held together by toothed members which may be forced into biting engagement within the channellike frame and when the toothed members are forced into openings, the teeth will bite into the frame to maintain the frame against retrogression and separation.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the mirror or picture according to the present invention, with parts broken away and shown in section to bring out the details of construction;

FIG. 2 is a front elevational view of a mirror or picture frame with the mirror or picture removed from the frame, and showing only the backing plate, and showing the projections or screws in dashed outline position prior to the installation of the mirror or picture frame on the wall or the like, and showing screws or projections in full outline, after the heads have been moved inward with respect to the locking tongues;

FIG. 3 is a side elevational view of the mirror or pictures frame as shown in FIG. 1;

FIG. 4 is a greatly enlarged sectional view taken on the line 4–4 of FIG. 2, looking in the direction indicated by the arrows;

FIG. 5 is a greatly enlarged perspective view of a toothed frame corner lock device;

FIG. 6 is a sectional view, on a greatly enlarged scale, taken on the line 6–6 of FIG. 3, looking in the direction indicated by the arrows; and showing the toothed corner locking device in place;

FIG. 7 is a greatly enlarged front elevational view of the mounting screw or projection, and the mounting slots in the backing plate; and

FIG. 8 is a sectional view taken on the line 8–8 of FIG. 7, looking in the direction indicated by the arrows, with an alternate position shown in dashed outline.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein like reference characters designate like parts in the several views thereof, and as seen most clearly in FIGS. 1, 2, 7 and 8, the mirror or picture frame means is designated generally by the reference numeral 10, and includes substantially elongated frame portions 12 and 14 forming the sides and ends respectively of the frame means 10.

The elongated frame portions 12 and 14 are preferably formed of modified channels, each having a longitudinal opening 16 formed therein with inturned ribs 18 and with laterally extending flanges 20. Each longitudinal opening 16 is of a character to receive one end of toothed wedge member designated generally at 22, which member 22 is preferably made of hard metal. Each wedge member 22 has toothless portions, as indicated at 24, and toothed portions, as indicated at 26, thereon. This enables the toothless portions 24, of each wedge member 22, to be inserted into the respective openings 16 of the elongated frame portions 12 and 14, the ends of which have been angulated, as indicated at 28.

The wedge member 22 is of such thickness and shape that the side of the wedge member opposite teeth 26 will force the teeth into biting engagement with elongated frame portions 12 and 14 within the elongated openings 16 therein, and, when each of the elongated frame portions 12 and 14 is forced thereonto, as shown in FIG. 6, the teeth 26 will engage in the metal of the respective elongated frame portions in the elongated opening 16 therein to such extent as to prevent retrogression of the toothed wedge members 22 with respect to the respective elongated frame portions 12 and 14. The elongated frame portion 12 and 14 may be pressed onto the respective toothed wedge members at each corner by any conventional-type press, however, once these are pressed into position, as indicated in FIGS. 1, 2, and 6, they become inseparable, unless damaged or destroyed.

When a mirror or picture of the proper size, as indicated at 30, is positioned within the frame formed by the elongated frame portions 12 and 14, and with the proper cushioning fiberborads 32 around the edges of the mirror or picture 30, and positioned intermediate the mirror or picture and the inturned ribs 18, and with a suitable fiber-backing board 34 between the mirror or picture 30 and a backing plate 36, such as a plate of resilient metal, which mirror or picture 30, backing board 34, and resilient metal backing plate 36 become a composite assembly within frame 10.

The backing plate 36 has a plurality of openings or inverted Y-shaped slots 38 formed therein at spaced intervals, as will best be seen in FIG. 2, which FIG. shows the frame with the mirror and fiber backing board removed to show the location of the openings or inverted Y-shaped slots 38, as well as the position of the screws or projections 40, both prior to and after the installation of the frame 10 on a vertical surface, such as a wall 42.

Preparatory to the installation of the composite framed mirror or picture, as shown in FIGS. 1 and 3, on a wall, to prevent theft or removal or the mirror or picture assembly intact, screws or projections 40 are secured to the wall 42 so that the head 44 of each screw 40 projects outwardly, when screwed

into an anchor plug 46, which may be a rawhide-type plug or it may be a mechanically expansible anchor plug, fitted within each hole 48 formed in the wall 42. It is preferable to have a projection or screw 40, which has a shoulder 50 therein, so when the inner end of the shoulder is screwed in so as to be flush with the wall 42, the head 44 of each screw or projection will project outward a sufficient distance that, when the plate 36 is pressed thereonto, the head of each screw 40 rests on a resilient tongue 52, which tongue forms a triangular side of each inverted Y-slot or opening 38, which is of sufficient length and width to permit a head 44 of a screw or projection to cause the tongue 52 to yield to permit the head to pass through the wide portion of the inverted Y-slot 38. Thus the entire frame may be depressed to cause the several tongues 52 to move into slots 38, as indicated in dashed outline in FIG. 8, which will allow the head a 44, of each screw, to pass through one of the inverted Y-slots 38 and to the upper end thereof, as indicated in FIGS. 7 and 8. In so doing, the resilient tongue 52 will spring back into place, as indicated in full outline in FIG. 8, which will prevent the heads of the screws 40 being moved downward and out through the respective inverted Y-slots 38. Once the heads 44 of the screws 40 are in the position, as indicated in FIG. 2, the frame, containing the mirror or picture cannot be removed intact, from the wall or surface on which it is installed.

While reference is made to heads 44 of screws 40, this is to be broadly interpreted as projections, whether or not the projections are connected to a wall by screws, welding or otherwise.

The arrangement as described above, provided positive protection of the frame against removal without destruction thereof in part, or of the whole.

ALTERNATE METHOD OF INSTALLATION OF THE FRAME AGAINST THEFT OR REMOVAL

An alternate method of assembling the frame, with a mirror, picture or the like therein, comprises assembling three sides of the frame onto the toothed wedge members 22, as by pressing, as set out above. Then, with the backing plate 36 only secured in place on the wall 42, as indicated in FIG. 2, the three assembled elongated frame portions 12 and 14, with a mirror picture or the like, and with the fiber-cushioning strips 32 in place and with the fiber-backing board 34 in place, this assembled portion of the frame is passed laterally behind the backing plate 36, which has been secured in place in the proper manner, until the laterally extending flanges 20 extend beneath the peripheral edges of the backing plate 36 on three sides. With these elongated frame portions 12 and 14 in this position, the fourth elongated frame portion, in which toothed wedge members 22 have been placed, are moved laterally so hat each of the toothless ends 24 of the respective toothed wedge members 22 engage within the respective elongated openings 16. Pressure is then applied, as by a press, clamps or the like, to force the teeth 26 into biting relation with the metal of the respective elongated frame portions, and the flanges 20 thereof beneath a side of backing plate 36.

When all corners of the frame 10 are forced together, as indicated at 10, FIG. 1, and with the laterally extending flange 30 forced beneath the backing plate 36, the mirror or picture frame is secured in place against theft. By assembling the elongated frame portions 12 and 14 in this manner, the openings 38 do not necessarily have to be slotted or Y-shaped however, the frame may be assembled into a theft proof mirror or picture frame assembly in either manner as set out above.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, and since the scope of the invention is defined by the appended claims, all changes that fall within the metes and bounds of the claims or that form their functional as well as conjointly cooperative equivalents are therefore intended to be embraced by those claims.

Having thus clearly shown and described the invention, what is I claim as new and desired to be secured by Letters patent is:

1. A theftproof mounting means for framed mirror, picture or the like, which comprises;
   a. elongated frame portions,
      1. each end of each frame portion being angulated,
   b. members permanently securing adjacent angulated ends of said frame portions together to form a frame,
   c. a backing plate associated with said frame, which frame encompasses the perimeter of said backing plate,
      1. said backing plate having a plurality of openings formed therein,
      2. said backing plate having fastening means associated with the openings therein, which fastening means are adapted to attach to a surface,
   d. means associated with each said opening in said backing plate and with said fastening means to prevent movement of said fastening means out of said openings.

2. A theftproof mounting means for a framed mirror, picture or the like, as defined in claim 1; wherein
   a. said elongated frame portions are channels.

3. A theftproof mounting means for a framed mirror, picture or the like, as defined in claim 1; wherein
   a. said members securing said angulated ends of said frame portions together are toothed wedge members

4. A theftproof mounting means for a framed mirror, picture or the like, as defined in claim 3; wherein
   a. a portion of end of each toothed wedge member being toothless.

5. A theftproof mounting means for a framed mirror, picture or the like, as defined in claim 1; wherein
   a. each opening in said backing plate is an inverted Y-shaped opening,
      1. a resilient tongue intermediate the width of the angulated portion of each inverted Y-shaped opening,
   b. each said fastening means has an enlarged head thereon which is adapted to engage said resilient tongue to move said tongue to permit the head of said fastening means to pass thereby into the elongated portion of said inverted Y-shaped opening to secure said fastening means against removal from said opening.

6. A method of installing a theftproof framed mirror, picture or the like, which method comprises the steps of:
   a. providing a backing plate having openings formed therein,
   b. mounting the backing plate on a surface in fixed relation,
   c. providing elongated frame portions, each having a fastening receiving opening formed therein, longitudinally thereof,
   d. securing at least two frame portions together in angulated relation,
   e. fitting a mirror or the like within said at least two said frame portions,
   f. removing other of said frame portions into binding engagement with said frame portions so as a portion of each said frame portion will pass beneath the backing plate,
   g. securing adjacent ends of the frame portions in permanent fixed relation.

7. A method of installing a theftproof framed mirror, picture or the like, as defined a in claim 6; wherein
   a. three frame portions are secured together in angulated relation, into which the mirror or the like is fitted, and
   b. moving another frame portion into permanent binding engagement with said frame portions.