Sept. 20, 1955 J. A. MOORE 2,718,038

LOCKING CLIP FOR JALOUSIE PANELS

Filed Dec. 20, 1954 2 Sheets-Sheet 1

Fig. 1.

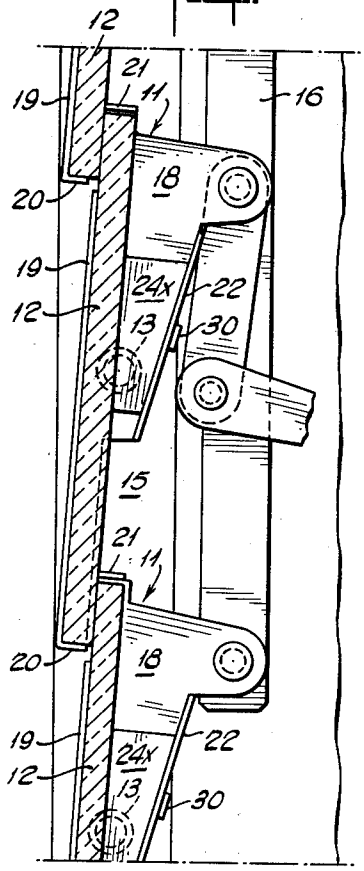


Fig. 2.

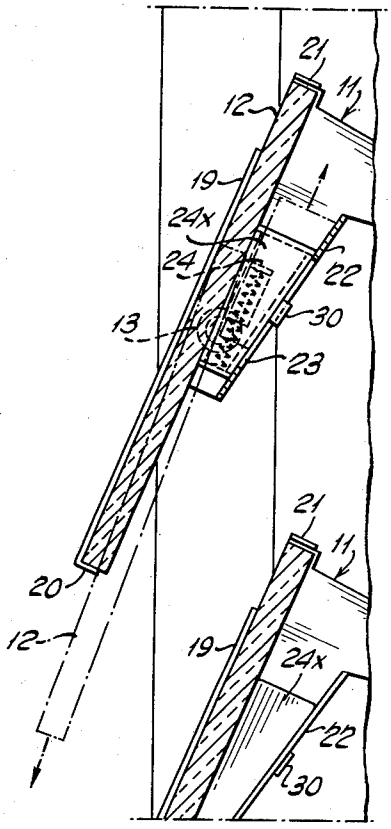


Fig. 3.

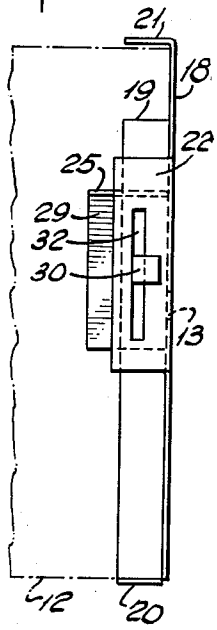
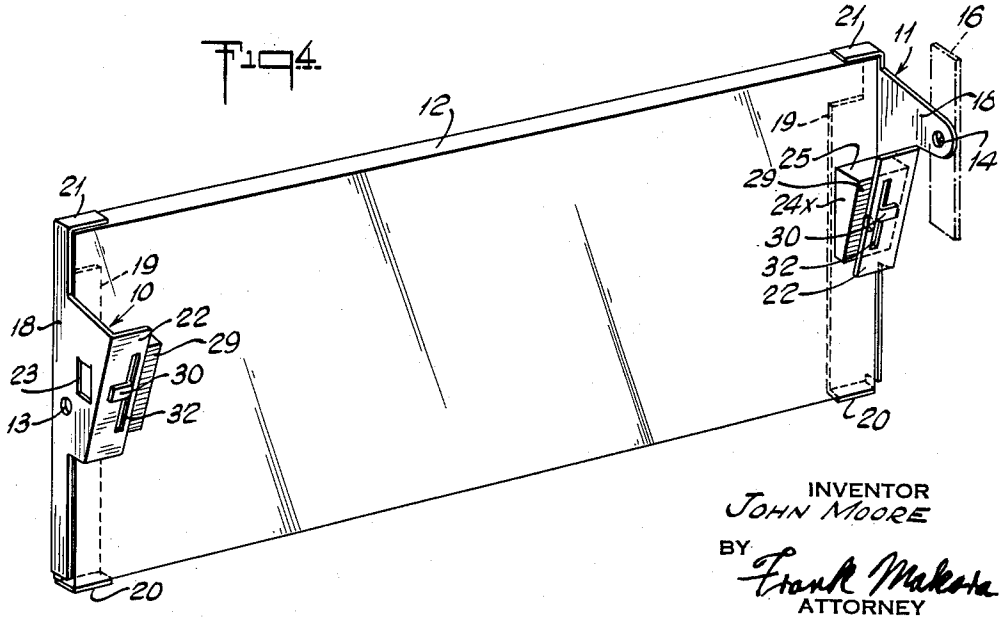


Fig. 4.



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Filed Dec. 20, 1954 2 Sheets-Sheet 2

Fig. 5.

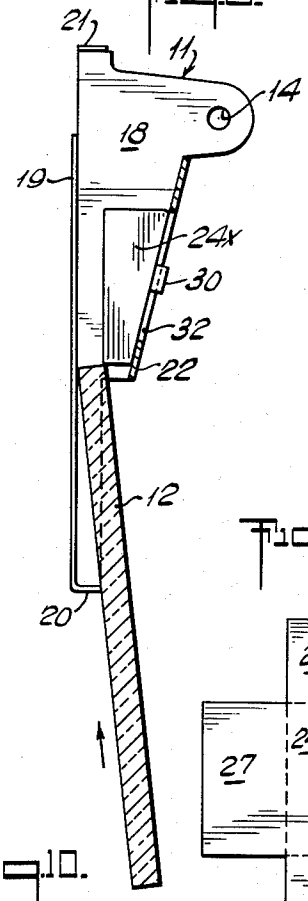


Fig. 6.

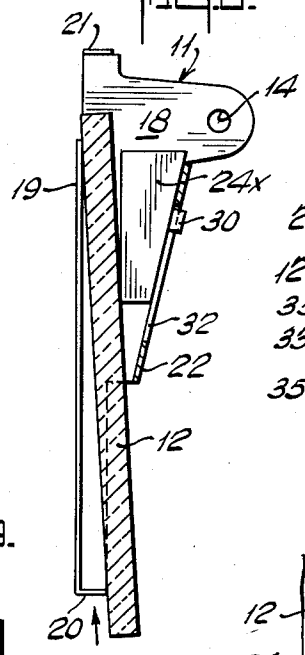


Fig. 7.

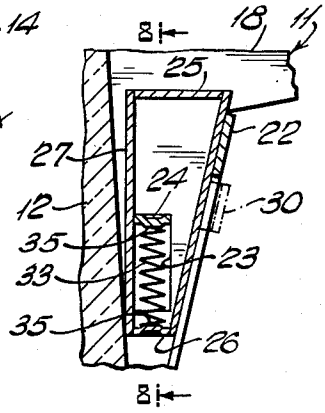


Fig. 9.

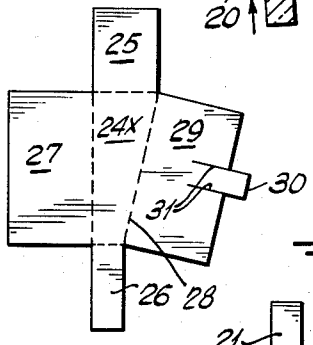


Fig. 8

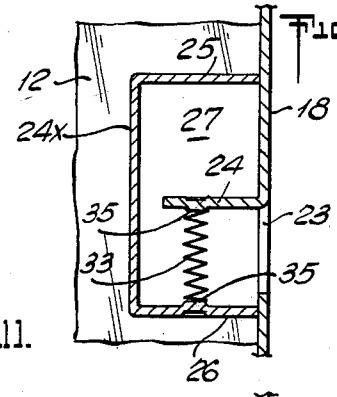


Fig. 10.

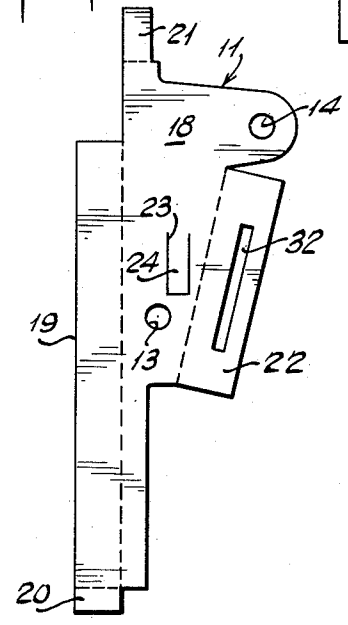


Fig. 11.

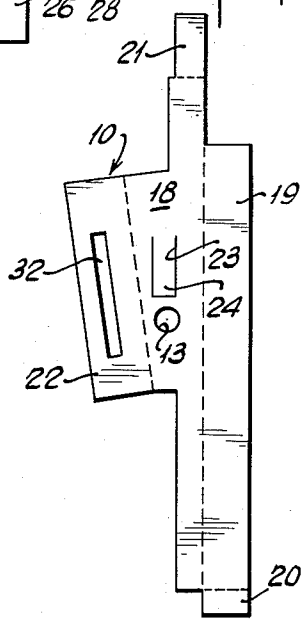
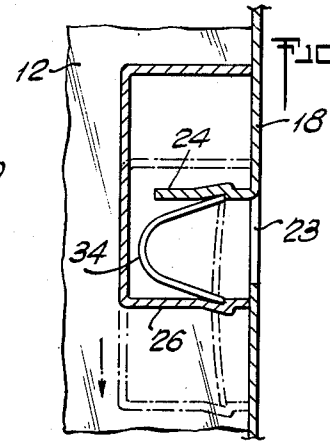


Fig. 12.



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LOCKING CLIP FOR JALOUSIE PANELS

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4 Claims. (Cl. 20—62)

This invention relates to an improvement in retainer clips for holding jalousie window panels in place.

One of the disadvantages of a commonly used retainer clip for jalousie panels is that the clip must be bent by a pair of pliers in order to dispose a retaining tongue adjacent the panel. Repeated bending of this retaining tongue may cause it to break so that the entire retaining clip becomes useless. Moreover the area of contact between the retaining tongue and the glass is small, so that the panel is not firmly held and thus may be easily rattled.

It is an object of this invention to provide a retaining clip which firmly locks the jalousie panel to the framework.

It is another object of this invention to provide a retaining clip having a spring loaded wedge-shaped movable element adapted to engage a substantial area of the panel in a wedge functioning relationship.

It is a further object of this invention to provide a spring-loaded wedge means for wedging a glass panel firmly in place in a jalousie construction.

These and other objects of this invention will become apparent upon reading the disclosure taken in conjunction with the accompanying drawing in which,

Fig. 1 is a partial side view of a window construction and showing a pair of retaining clips,

Fig. 2 is a view of the window construction of Fig. 1 with the panels in an open position and showing in dotted outline the manner of moving the retaining wedge in order to remove the glass panel,

Fig. 3 is a rear view of the retaining clip,

Fig. 4 is a perspective view of a single jalousie glass panel held in place by a pair of retaining clips,

Fig. 5 is a side view showing the manner of inserting a glass panel,

Fig. 6 is a view similar to Fig. 5 but showing the insertable panel in another position,

Fig. 7 is a section view of the retaining wedge of Fig. 6,

Fig. 8 is a section view taken on line 8—8 of Fig. 7,

Fig. 9 is a view of the retaining wedge blank prior to being folded into a wedge,

Fig. 10 is a side view of the right clip blank, shown in Fig. 4,

Fig. 11 is a side view of the left clip blank shown in Fig. 4, and

Fig. 12 is a section view of a modified retaining wedge showing a bow-spring in lieu of the coil spring of Fig. 8.

Referring to Figs. 1 to 4, a left panel clip **10** and a right panel clip **11** (Fig. 4) are removeably secured to a plate glass panel **12**. The right panel clip **11** is provided with a pivot aperture **13** and a hinge aperture **14**. The pivot aperture **13** is journaled by conventional means to the fixed frame work **15** and the aperture **14** is journaled by conventional means to a travel bar **16**. A plurality of right panel clips are swingably secured in spaced relationship to bar **16** (Fig. 1), so that movement downwardly of bar **16** causes all panels to move outwardly (Fig. 2).

As shown in Fig. 4, only the right panel clips **11** are secured to a travel bar **16**.

Referring to Figs. 10 and 11, the left clip **10** and the right clip **11** are identical with the exception that the right clip **11** is additionally provided with hinge protuberance **17** having a hinge pin aperture **14**.

As shown in Figs. 10 and 11, the left clip **10** and the right clip **11** are cut or stamped from a single sheet of material, preferably aluminum sheet metal and are provided with a central panel area **18**, which is vertically disposed in the assembled jalousie window or door assembly, and a plurality of bendable panel areas.

A front bendable panel area **19** is adapted to engage the front face of the plate glass panel **12** and is provided with a bottom support arm **20**. In the prepared clips **10** and **11** the panel areas **19** are bent inwardly at right angles to the central panel area **18** and the support arm **20** is itself bent inwardly at right angles to panel area **19** and in touching and adjacent relationship to the central area **18** (Figs. 5 and 6).

The central panel areas **18** of both the left and the right clip are provided with a bendable tab **21** adapted to engage the top edge of a glass panel **12**.

The central area **18** is further provided with a bendable panel area **22** disposed in angular relationship to the panel area **18** and providing a slideway support for a wedge piece to be described later.

The panel areas **22** are bent inwardly at right angles to central panel area **18**, but because of the slope of the fold or bend line the panel is disposed at a slope to the vertical plane.

The tab **21** and support arm **20** are of a width substantially that of the plate glass panel **12**. The support arm **20** being a load bearing arm and supports the weight of the glass panel **12**.

As shown in the drawing the central panel area **18** is provided with a suitably located opening **23** formed by stamping out a spring retaining tab **24** (Figs. 8 and 9).

An important feature of this invention is the provision of a spring loaded slideable wedge which is slideably disdisposed on area **22** and which is adapted to engage the rear surface of a glass panel **12** with a locking force or seizure.

The wedge itself is preferably prepared from a flat blank of sheet metal (Fig. 9) preferably of aluminum, by folding the lateral longitudinal and slide areas along fold line joining a central trapezoidal area **24X**.

The area **24X** is integral with a top bendable area **25** and a bottom bendable area **26** of lesser size than panel **20**. A rectangular side panel **27** is integral with the vertical longitudinal edge of the trapezoidal panel **24X** (Fig. 9). A second rectangular side panel **28** secured integrally to the oblique edge **28** of trapezoid **24X** is provided with a finger tab **30**. The finger tab **30** is provided with cut-lines **31** so that it is in effect the end portion of a bendable tongue piece.

In preparing the wedge from the blank shown in Fig. 9, the slide and the top and the bottom areas are bent inwardly, forming a hollow wedge of trapezoidal configuration and open on a lateral side (Fig. 4), said open side of a respective wedge being disposed against the inner surface of a panel area **18** of a corresponding clip **10** and **11**.

As shown in Figs. 10 and 11, each of the clip panels **22** is provided with a centrally disposed longitudinal slot **32** adapted to receive a bent tab (Fig. 4).

The wedges are spring-loaded, with preferably a helical coil spring **33** (Fig. 8) or a bow-spring **34** (Fig. 12), disposed between tab **24** of a respective clip **10** or **11** and the panel **26** of a co-acting wedge.

The tab **24** and panel **25** may be, if desired, provided with stamped protuberances **35** for holding the coil spring

33 in place (Fig. 8). In the case where a bow-spring 34 is employed (Fig. 12), the ends of the spring 34 are inserted in a co-acting aperture in a respective tab 24 and panel 26 and then bent over in locking engagement with said tab 24 and panel 26.

In assembly of the wedge to the clip, the spring 33 or 34 may be inserted through the opening 23.

The movement of the wedge is shown in Figs. 2 and 12, and more particularly by comparing Figs. 5 and 6. As shown in Fig. 5 the wedge is disposed in its natural unlocking position in closest relationship to support arm 20. Fig. 6 shows the moved position of the wedge during the operation of inserting a glass panel 12, the wedge being moved upward by frictional contact between the wedge panel 12 and the corresponding co-acting surface of the glass panel 12. The panel 12 is pushed inward manually until the bottom edge of the glass panel 12 is pushed over the lip of support arm 20 and then seated on said arm 20 and in planar relationship to panel 19.

To remove the glass panel from a clip the tabs 30 of the clips 10 and 11 are moved upward causing the wedge to move upward and away from the glass panel 12 (Fig. 2). The glass panel 12 is then pushed inward until its outer face is over the lip of the clip panels 20 whereupon the panel is pushed downward and removed.

As shown in Fig. 4, the flat surface of the respective panels 27 of clips 10 and 11 engage the glass panel 12 in planar and wedged relationship so that the glass panel 12 is firmly, solidly and immoveably held in place until released by manual operation.

This invention has been illustrated by means of a plurality of embodiments but it is not to be limited to these embodiments because it is of a broader scope.

I claim:

1. An end clip adapted for locking in place jalousie glass panels comprising a base centrally disposed area having an integral tab disposed inwardly and adapted to engage a spring located at right angles thereto, a longitudinal area having an integral support arm at right angles thereto bent inwardly and adapted to support a glass panel, and a longitudinal slide retaining area integral with said central area and secured obliquely thereto, said slide area having a longitudinal slot therein, said central area being provided with at least one aperture adapted to pivotally engage securing means and wedge shaped locking means disposed between said glass panel and said slide area and adapted to slidably engage said slide area and said glass panel in wedge locking relationship.

2. An end clip adapted for locking in place jalousie glass panels comprising a base centrally disposed area having an integral tab disposed inwardly and adapted to engage a spring located at right angles thereto, a longitudinal area having an integral support arm at right angles thereto bent inwardly and adapted to support a glass panel, and a longitudinal slide retaining area integral with said central area and secured obliquely thereto, said slide area having a longitudinal slot therein, said central area being provided with at least one aperture adapted to pivotally engage securing means, hollow moveable wedged shaped means having a finger tab in a rectangular shaped area thereof adapted to engage the slot of said slide area, and spring means disposed between said inwardly disposed spring retaining tab of said central panel area and the inner bottom of said hollow wedge for continuously urging said wedge slidingly and downwardly away from said spring retaining tab and in wedging relationship to said glass panel.

3. The clip of claim 2 having a coil spring for the spring means.

4. The clip of claim 2 wherein said spring retaining tab is provided with an aperture and said wedge bottom is also provided with an aperture, and further wherein said spring means is a compression bow-spring having its ends lockingly disposed in said apertures.

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