April 15, 1930. W. H. DEY 1,754,851

PLATE FRAME

Filed May 4, 1928

Fig. 1.

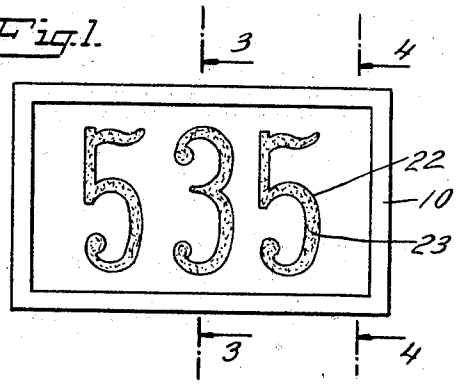


Fig. 2.

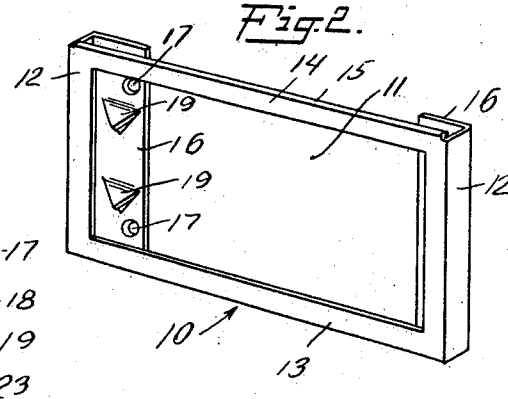


Fig. 3.

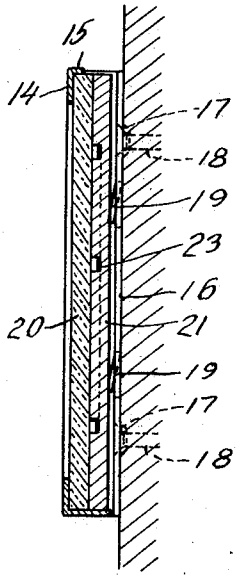
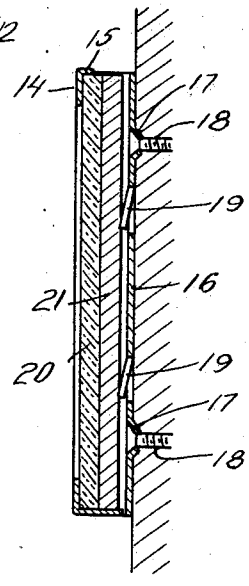


Fig. 4.



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UNITED STATES PATENT OFFICE

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PLATE FRAME

Application filed May 4, 1928. Serial No. 275,015.

This invention relates to display devices and is concerned more particularly with a device of this type adapted to be permanently attached to an object to convey information, such for example as identifying data. The device of this invention is especially useful for displaying the number of a room in a hotel, the street number of a building or the like, and is so constructed that it may be readily attached to the object and the parts then assembled. When in that condition, the device cannot be easily tampered with and the data changed or removed by unauthorized persons, except with considerable difficulty. The device is therefore particularly useful when the data it bears are formed by means of luminous compounds, the novelty of which creates a special hazard due to souvenir hunters. Another reason why this device is particularly useful with luminous materials is that such materials require protection because of their delicate character and this is accomplished by means of a plate of transparent material, glass being most suitable for the purpose. An embodiment of the invention useful in displaying luminous numbers will be described as typical of its many adaptations.

In hotels, each room must have its number readily visible, and for this purpose a number plate is ordinarily mounted on the door. Number plates having characters of luminous material visible at night are desirable for the purpose, but as such plates are expensive, they must be protected to prevent removal. Accordingly, the parts of the device should be capable of ready attachment and assembly but when so assembled should be locked in place.

The device of the present invention admirably serves these purposes and it consists of a frame of metal or the like having a front opening and means operable through the opening for attaching the frame to an object. This attaching means may conveniently take the form of flanges formed to partially overlie the opening at the rear and having holes for the reception of screws which can be driven into the door. These flanges are so positioned that a screw driver can be passed through the opening in the frame to drive the screws. The frame includes side walls and a bottom wall forming a slot, and the frame has a top wall with an overhanging lip or flange partially closing the entrance to the slot. The luminous characters are carried by a plaque of any suitable material such as the product known commercially as pyralin and this plaque is of a size to fit snugly in the slot. A glass plate is used to protect the plaque. The plate and plaque are introduced into the frame separately and when in position, the glass is held under the lip by the plaque and the lip prevents its removal. The plaque is not covered by the lip but as the glass lies in front of it, it cannot be reached for removal.

For a better understanding of the invention, reference may be made to the accompanying drawings, in which

Fig. 1 shows a face view of the complete device;

Fig. 2 is a perspective view of the frame alone, and

Figs. 3 and 4 are sectional views on the lines 3—3, and 4—4 of Fig. 1.

Referring to the drawings, the device is illustrated as comprising a frame 10 preferably made of sheet metal or the like. This frame has an open center 11 in its front wall through which the data are to be visible, and it has two side walls 12 and a bottom wall 13, which together form a slot for the reception of plates. The top 14 of the frame has a rearwardly extending flange or lip 15 which partially overlies the top of the slot.

Extending from the rear edges of the side walls are flanges 16, each of which lies substantially parallel to the plane of the frame, and these flanges are wide enough to be visible through the open center of the frame. Each flange has holes 17 through which screws 18 may be inserted and driven into the object to which the frame is to be attached, by a screw driver inserted through the open center. Each flange also may have one or more tongues 19 struck from it and extending into the slot in the frame in a downward direction. These tongues are pref-

erably of triangular shape and formed by slitting the metal of the flanges.

The device also includes a plate of glass 20 which fits the slot in the frame snugly, and a plaque 21 of similar size made of pyralin or the like and carrying symbols 22 such as numerals. Preferably when the numerals are formed of luminous compounds, they are sunk into the face of the plaque and the luminous material 23 lies in the recesses so formed.

In using the device, the frame is attached to the desired object in the manner described. The glass plate is then inserted in the slot and pushed to the front so that its upper edge lies beneath the lip 15. The plaque is now slipped into the slot behind the plate as illustrated in Fig. 4. The frame is so formed that the slot will receive both the plate of glass and the plaque and when these parts are in the slot, they fit snugly. In introducing the plaque into the slot, it bends down the tongues 19 slightly and the ends of the tongues bear against the rear face of the plaque and force it and the plate toward the front face of the frame.

With the device assembled, the plate and plaque overlie and conceal the screws so that they cannot be removed. The plate of glass cannot be slipped out of the frame because its upper edge lies beneath the overhanging lip 15, and the plaque cannot be removed because the glass protects its front face so that it cannot be reached and its upper edge lies flush with the top of the frame. Thus the glass and the plaque hold each other in place in a manner which prevents their unauthorized removal. The tongues also resist removal of the plaque as upward movement of it will cause the sharp points of the tongues to dig into the plaque.

The device will be seen to be of simple inexpensive construction, easily attached and assembled, and preventing unauthorized changes or removal of the parts. The frame can be made of any suitable metal finished to be in harmony with the finish of the door and the device provides a neat number or display plate useful for many purposes and in different forms. The device likewise affords means for mounting the protective glass plate in position without using outwardly extending flanges or exposed screws, a method which is usually unsightly and causes tearing of dusters and cloths and catching and holding of parts thereof.

The device is compact and may be made to hold any desired number in a single frame, whereas installation of such numbers separately involves considerable labor and great difficulty in aligning the numbers properly. Also, the use of separate numerals individually mounted requires more intelligent workmen and under the best conditions, it is difficult to make a finished attractive installation. When a change in data is required the only change necessary is the removal of the plate which can be accomplished by means of a special thin tool insertable into the frame from beneath. No change in the mounting of the frame is required and defacement of the door or object is thus avoided. Also, by reason of its compactness, the device requires little space in the same plane and may thus be mounted where separate characters individually mounted could not be used.

The device also permits the surface on which it is mounted to be refinished without damage to the data. Where separate characters are employed, they must be removed when the surface is refinished or else especial care must be taken to avoid effacing them. Even when this is attempted, defacement is likely to result. The new device makes refinishing without injury to the device a simple matter due to the device having a rectangular shape with flat sides.

I claim:

1. A display device comprising an open center frame having walls defining a slot, one of the walls having a part partially overhanging the slot to form a restricted entrance thereto, a pair of plates of substantially the same thickness received in the slot, one of these plates lying beneath said overhanging part, and held there by the second plate, said second plate lying opposite the opening to the slot and means at the rear of the frame and within the lateral margin thereof for attaching it to an object.

2. A display device comprising an open center frame having walls defining a slot, one of the walls having a part partially overhanging the slot to form a restricted entrance thereto, a pair of plates of substantially the same thickness disposed in the slot, these plates having lateral dimensions slightly less than those of the slot, and having a combined thickness substantially equal to the depth of the slot, one of these plates being held beneath said overhanging part by the other plate, and means at the rear of the frame and within its lateral margin for attaching it to an object.

3. A display device comprising an open center frame having front and rear walls defining a slot, the front wall having a part partially overhanging the slot to form a restricted entrance thereto, a pair of plates of substantially the same thickness disposed in the slot, one in front of the other and the front plate held beneath said overhanging part by said rear plate only, said plates resting on the lower wall of the slot, with the top of the rear plate opposite the open end of the slot, and means at the rear of the frame and within its lateral margin for attaching it to an object.

4. A display device comprising an open center frame having walls defining a slot,

one of the walls having a part partially overhanging the slot to form a restricted entrance thereto, a pair of plates of substantially the same thickness disposed in said slot, one in front of the other with one of said plates held beneath said overhanging part by the other plate, and means at the rear of the frame for attaching it to an object, said means being operable through the opening in the frame when said slot is empty but concealed and rendered inoperable by said plates when they are in position in the frame.

5. A display device comprising an open center frame having walls defining a slot, one of the walls having a part partially overhanging the slot to form a restricted entrance thereto, flanges at the rear of the frame having openings for the passage of fastening means, these openings being accessible through the open center of the frame when the slot is empty and a pair of plates in the slot of substantially the same thickness lying one in front of the other with one plate held beneath said overhanging part by the second plate, the plates in the slot concealing and rendering inaccessible fastening means inserted through said openings.

6. In a display device, an open center frame having walls defining a slot to the rear of the plane of the front of the frame, an extension from one of said walls partially overhanging the slot and forming a restricted entrance thereto, and a pair of plates of substantially the same thickness in the slot removable through the entrance and having a combined thickness greater than the width of the entrance to the slot, one of said plates being held beneath said extension by the other plate.

7. In a display device, an open center frame having front and rear walls defining a slot, a lip on the front wall extending rearwardly to partially overhang said slot and form a restricted entrance thereto, and a pair of plates of substantially the same thickness in said slot removable through the entrance, these plates being disposed one before the other and having a combined thickness such that the front plate is held under the lip by the rear plate when the plates are in position in the slot.

8. In a display device, an open center frame having walls defining a slot, an extension from one of the walls partially overhanging said slot to restrict the entrance thereto, and a pair of plates of substantially the same thickness in the slot and removable separately through the entrance, these plates having a combined thickness greater than the width of the entrance whereby when the plates are in position in the slot one in front of the other, one plate is held by the other beneath said extension, the plate so held being transparent and the other plate carrying symbols visible through the transparent plate.

9. In a display device, an open center frame of metal having front and rear walls defining a slot, an extending lip from the front wall partially overhanging said slot to restrict the entrance thereto, a pair of plates of substantially the same thickness in the slot removable through the entrance and disposed one in front of the other with the front plate held under the lip by the rear plate, the front plate being of glass and the rear plate carrying symbols, and means on the frame for securing it to the flat surface of an object, said means lying within the lateral margin of the frame.

10. In a display device, an open center frame having front and rear walls defining a slot, a lip extending rearwardly from the front wall to partially overhang the slot and restrict the entrance thereto, a pair of plates in the slot, lying one in front of the other with the front plate held under the lip by the rear plate, and means at each end of the frame for forcing both plates toward the front of the frame, said means also resisting removal of the plates.

11. In a display device, an open center frame having front and rear walls defining a slot, an extension from the front wall overhanging the slot partially to form a restricted entrance thereto, a pair of plates in the slot and lying one in front of the other, with the front plate held beneath said extension by the other plate, and means on the frame for forcing said plates toward the side of the frame from which said extension springs, said means engaging the rear plate and acting to resist removal thereof.

12. In a display device, an open center frame having walls defining a slot, an extension from one of said walls overhanging the slot partially to form a restricted entrance thereto, a pair of plates in the slot lying one in front of the other, with one plate held beneath said extension by the other plate, and tongues struck from the frame to enter the slot and engage one of the plates to resist the removal thereof.

13. A display device comprising an open center frame, the walls of the frame defining a slot having an open end, inwardly extending flanges from the frame at the rear thereof, these flanges lying parallel to the plane of the frame and having openings for the reception of means for fastening the frame to a flat object, said means being operable through the opening in the frame, an extension from the top wall of the frame partially overlying the slot and restricting the entrance thereto, a pair of plates in the slot, lying one in front of the other, with the front plate held beneath the extension by the other plate, and means on the flanges engaging the rear plate and resisting its removal from the slot.

In testimony whereof I affix my signature.

WILLIAM H. DEY.