March 8, 1966 S. M. POMEROY 3,238,686

ELEVATOR PANELS

Filed April 29, 1959

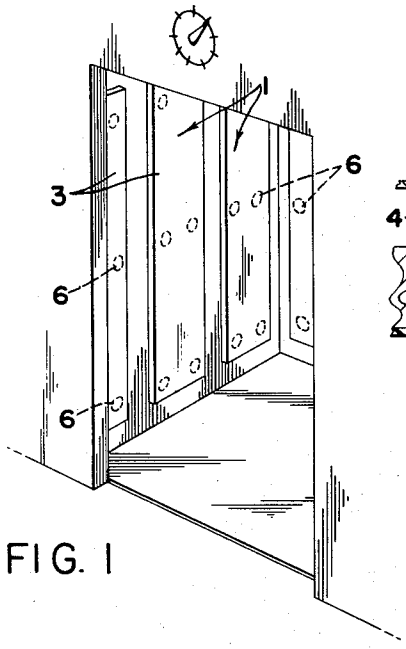
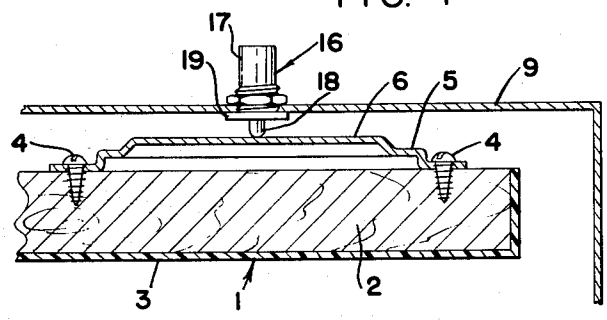


FIG. 1

FIG. 4



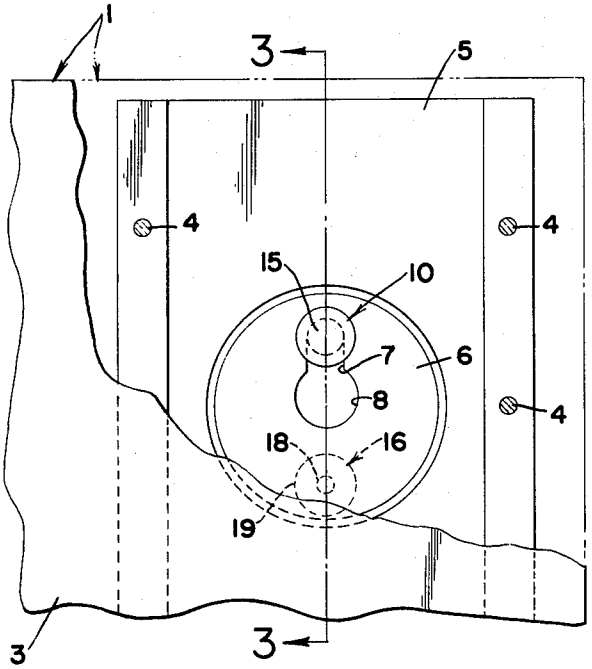


FIG. 2

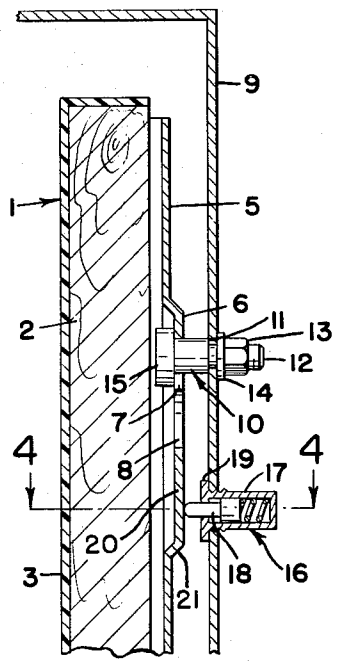


FIG. 3

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ELEVATOR PANELS

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This invention relates to panels which may be removably secured to supporting structures. Panels of this type have, of course, a variety of useful applications and find particularly advantageous utilization as ornamental or decorative means for the inside walls of elevator cabs.

Panels have been used to decorate elevator cabs prior to this time but, for a variety of reasons, have never been entirely satisfactory. One problem which has faced the industry for many years has been to provide a panel which is easily detachable for servicing purposes. Heretofore, panels of the detachable variety have either been too difficult to operate or have not been sufficiently positive to remain securely locked in place due to the relatively rapid acceleration and deceleration of the elevator cab. This sudden starting and stopping has a natural tendency to cause the detachable panels to work loose from their supporting structures. In addition to the problems of providing panels which are easily detachable and yet sufficiently resistant to dislodging forces is added the economical factor. Detachable panels have to be provided which are not so costly as to be not commercially feasible.

It is therefore, one object of my invention to provide a panel especially applicable for use in elevator cabs, which is readily detachable from the structure upon which it is supported.

A further object of my invention is to provide a detachable panel which is easily installable and which employs novel attachment means for securement to a supporting structure.

Still another object of my invention is to provide novel means for detachably locking a panel in place once it has been installed.

Another object of my invention is to provide a panel meeting the foregoing objectives, which is sufficiently economical and non-complex to be commercially feasible.

Other objects and advantages of my invention will be apparent from the detailed description to follow.

Referring now to the drawings:

FIG. 1 shows a perspective view of a portion of the inside of an elevator cab with panels mounted therein;

FIG. 2 is an elevation view, with a portion of the panel broken away, of the novel attachment and locking means constituting a part of my invention;

FIG. 3 is a view partly in longitudinal section and taken along line 3—3 of FIG. 2; and

FIG. 4 is a view partly in cross-section and taken along line 4—4 of FIG. 3.

With more particular reference to the drawing, I have shown a panel or panel member indicated generally as **1**. The panel in this instance has been illustrated as including a body portion **2** of wood or the like, having attached thereto a facing **3**. It will be understood, of course, that this representation is merely for the purposes of description, and that the panel itself could have numerous other types of construction.

Attached to the rearward side of the panel as by screws **4** or the like and included broadly as a part of the combination of elements comprising the panel member **1** is a substantially rigid structural strip **5**. I have shown this strip as being generally U or channel-shaped in cross-section, but, of course, a variety of other forms could be employed. This strip **5** may extend for substantially the entire length of the panel, if desired, or a series of separate strips could be used at each location where the panel is attached to the elevator wall. In either instance the strips act as panel reinforcing members, but in the case where the strips extend for substantially the entire length of the panel considerably more reinforcement is provided. A plurality of these strips **5**, laterally spaced from one another, may be employed depending upon the width of the panel. Provided in the strips adjacent each position at which the panel is to be attached to the elevator wall is a cup-shaped deformation or enclosure **6** having an interior facing in a direction toward the body portion **2** of the panel **1**. This configuration gives added strength to the strip **5**.

Somewhat offset from the center of the cup-shaped portion **6** is an elongated slot **7** having an adjacent relieved portion, enlarged portion or opening **8** at one end thereof such that the slot approximates the shape of a keyhole. The opening **8** provides access to the interior of the cup-shaped deformation or enclosure **6**. Mounted in the wall **9** of the elevator is a specially constructed bolt indicated generally as **10**. The longitudinal axis of the bolt **10** is normal to the plane of the wall **9**, as is apparent from an inspection of FIG. 3. The shank of the bolt is provided with a stepped external diameter to provide a shoulder or base **11** adapted to abut the wall of the elevator. The reduced diameter portion **12** of the shank is of a size to fit through a hole formed in the elevator wall and may be threaded to receive a nut and washer **13** and **14**, respectively. The shoulder or base **11** and the nut and washer combination **13** and **14** act to securely fasten the bolt **10** to the elevator wall. It will, of course, be realized that cotter pins or the like could be employed in place of the nut **13**.

Further included in the bolt construction is an enlarged head or hook **15** which is of a size to fit through the relieved portion **8** of the slot **7**. The portion of the shank adjacent the head has a sliding fit with the slot proper. By this arrangement the bolt head may be slipped through the relieved portion **8** of the slot, and the shank of the bolt may be moved into the slot proper by a lateral motion of the panel with respect to the bolt to thereby secure or hang the panel in place.

It should be understood that, depending on the strength requirements for any particular application, depending on the width of the bolt head and depending on the space between the strip **5** and the rearward surface of the panel **2**, it may not be necessary to employ the cup-shaped deformation **6** at all.

Spaced from the longitudinal axis of the bolt is a bullet catch indicated generally as **16** which includes a casing **17** mounted in the elevator wall **9** by means of threads or the like. The catch further includes an engaging or nose member **18** which is spring biased in a direction towards the panel and which is of a length to tightly engage the strip **5** when the panel is hung on the bolt **10**. In the particular embodiment illustrated in the drawings, I have shown the nose **18** as engaging a portion **20** of the cup-shaped deformation or enclosure **6**, although this need

not be necessarily the case. The casing **17** is provided with a radially extended flange **19** which may abut the wall **9** of the elevator cab to thereby serve as a limit means or positioner for the bullet catch and also as a thread locking means. A plurality of panel hanging bolts and bullet catches may be used on any given panel depending on its size and weight.

In order to install a panel in the elevator cab, it is merely necessary to align the enlarged portion of the keyhole slot in the strip mounted on the rear surface of the panel with the heads of the bolts mounted on the elevator cab wall. The panel is then moved towards the elevator wall in order to pass the head of the bolt through the enlarged or relieved portion of the slot, after which the panel is moved laterally with respect to the bolt in order to lock the bolt head within the smaller slot portion. The bullet catch resiliently engages the strip mounted on the rear side of the panel to thereby provide a frictional locking of the panel in place.

It can be seen, in instances where a cup-shaped deformation is employed on the strip and where the spacing between the bullet and bullet catch is proportioned with respect to the cup-shaped deformation in a manner similar to that shown in FIG. 3, that the slanted edges **21** of the cup-shaped deformation may act as a means to cam the bullet catch inwardly against the action of the spring as the panel is moved laterally with respect to the bolt. The combination of the lower portion **20** of the deformation **6** and the slanted edge **21** thus comprises a compression means for the bullet catch with the particular relationship of the compression means and the bullet catch providing a novel means for securing a panel on a wall. Thus, it may be seen that the panel may be placed in a first position with the bolt **10** in the opening **8** without requiring the compression of the bullet catch. It is only when the panel is shifted to a second position and the bolt is being secured in the slot **7** that the bullet catch comes into operation to provide a friction lock for the panel.

A perusual of the foregoing detailed description will disclose the fact that my invention provides a solution to the problems attendant to detachable panels having special applicability as decorative means for the walls of elevator cabs. For the purpose of simplicity of description, I have shown my invention as being included in the single embodiment. It will be immediately apparent that numerous modifications could be made to the illustrated embodiment without departing from the essentials of the invention. It is my intention, therefore, to be limited only by the spirit and scope of the appended claims.

I claim:

1. In combination,
a wall member,
a panel member adapted to be mounted on said wall member,
a bolt having a base portion at one end thereof fastened to one of said members,
an enlarged head on the end of the bolt opposite the end with the base portion,
means defining an opening in the other of said members,
said opening being of such dimension with respect to said enlarged head that said enlarged head may pass therethrough,
slot means in said other member in communication with said opening,
said slot means being of a dimension to engage said head but of sufficient size to receive said bolt intermediate said head and said base,
resilient means operatively carried by one of said members and compressive means on the other of said members in compressive engagement with said resilient means when said bolt is received in said slot means,
said resilient means comprising a spring-biased bullet catch on said wall member.

2. In combination,
a wall member,
a panel member,
structure for mounting said panel member on said wall member comprising a fastener having a base secured to one of said members,
a hook extending away from said base,
the other of said members having an opening adapted to receive said hook,
means adjacent said opening defining a slot adapted to receive said hook and thereby secure said panel member to said wall member,
said panel member being movable on said wall between a first position wherein said hook is received in said opening and a second position wherein said hook is secured in said slot,
resilient means carried by one of said members in spaced relation to said hook and said opening,
said resilient means being compressed by the other of said members in said second position of said panel member and being spaced from the other of said members in said first position of said panel member.

3. In combination,
a wall member,
a panel member mounted on said wall member,
a bolt having a base portion at one end thereof fastened to one of said members,
an enlarged head on the end of the bolt opposite the end with the base portion,
a structural strip carried by the other of said members,
said strip having a cup-shaped portion with the interior of said cup-shaped portion facing said other of said members thereby presenting a raised portion to said one of said members,
said raised portion including a keyhole slot formed therein, with the keyhole slot comprising an enlarged opening and a slotted portion in communication therewith,
said opening being of such dimension with respect to said enlarged head that said enlarged head may pass therethrough,
the slotted portion in said keyhole slot being of a dimension to engage and retain said head but of sufficient size to receive said bolt intermediate said head and said base,
resilient means secured to said one of said members and spaced from said bolt so that the resilient means engages said raised portion and is compressed thereby when said head is engaged by said slotted portion of said keyhole slot.

4. In combination,
a wall member,
a panel member mounted on said wall member,
a bolt having a base portion at one end thereof fastened to one of said members,
an enlarged head on the end of the bolt opposite the end with the base portion,
the other of said members being provided with a keyhole slot,
said keyhole slot including an enlarged opening of such dimension with respect to said enlarged head that said enlarged head may pass therethrough,
said keyhole slot further including a slot communicating with said enlarged opening and being of a dimension to engage and retain said head but of sufficient size to receive said bolt intermediate said bolt and said base,
a spring biased bullet catch carried by said wall member,
a raised portion carried by said panel member,
said raised portion including a slanted edge portion adapted to cam said bullet catch when said bolt is moved into engagement with said slot.

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