June 4, 1929. L. J. DAME 1,715,903

SIDEWALK DOOR

Filed Dec. 8, 1926

FIG. 2

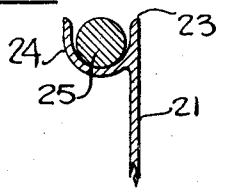


FIG. 1

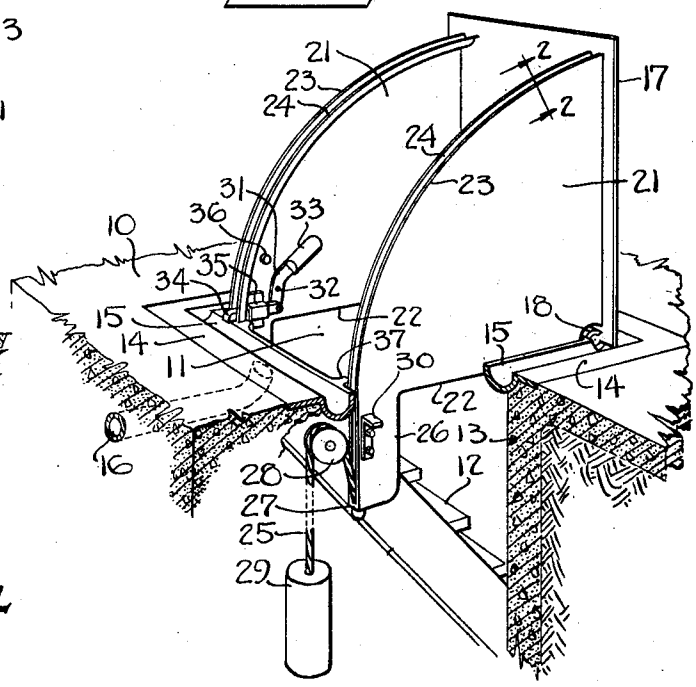


FIG. 3

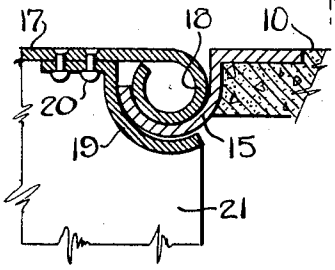


FIG. 4

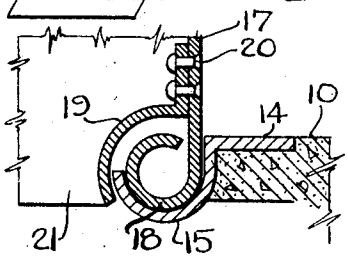


FIG. 5

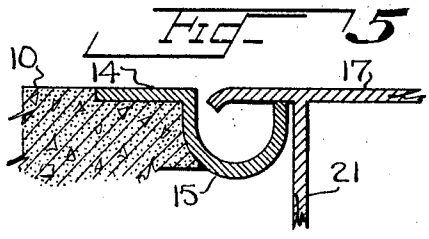


FIG. 6

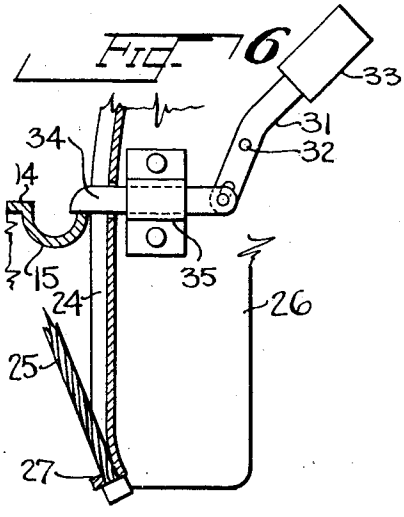
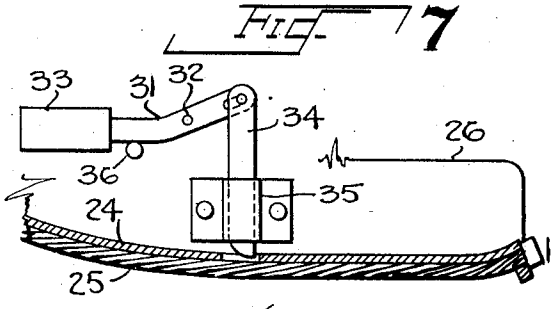


FIG. 7



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UNITED STATES PATENT OFFICE.

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SIDEWALK DOOR.

Application filed December 8, 1926. Serial No. 153,340.

This invention relates generally to closures for openings formed in sidewalks and floors around which it is not desirable to maintain a guard rail when the closure is in an open position.

The first object of this invention is to provide an exceedingly simple and efficient form of sidewalk door so constructed that it will be easily handled by a person of ordinary strength, and that it will not be self-destructive, as is the case with ordinary doors, due to their great weight and the fact that they are usually dropped when being closed.

The second object is to so construct the door that when opening same it automatically provides guards for the sides of the opening which will effectually prevent people or objects from falling through the opening.

The third object is to so construct the door and its casing that it will be impossible to have a leakage around the door when closed from ordinary rainfall, and that the floor surface is flush with the top line of the floor or sidewalk.

The fourth object is to provide a special form of hinge for the door whereby same may be readily installed or removed should such action be desirable.

The fifth object is to provide a special form of latch whereby the door is retained in its wide open position by the automatic movement of a weighted lever which operates a bolt, and that the opening movement of the door is limited by removable stops which make it possible to remove the door.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of the device. Fig. 2 is an enlarged detail through the edge of one of the guards taken along the line 2—2 in Fig. 1. Fig. 3 is a section through the door hinge showing the door in a closed position. Fig. 4 is similar to Fig. 3 but showing the door in a wide open position. Fig. 5 is a transverse section taken through the drain gutter and the edge of the door. Fig. 6 is a view showing the position of the latching mechanism when holding the door wide open. Fig. 7 is a view similar to Fig. 6 but showing the door portion in a closed position.

Similar numbers of reference refer to similar parts throughout the several views.

Referring in detail to the drawing, in order to illustrate the invention there is shown a sidewalk 10 in which is formed an opening 11 for the stairway 12 along whose sides may be provided the side walls 13 if desired. Around the opening 11 is provided a frame 14 whose inner edge is provided with a gutter 15 from which water is carried by means of the drain pipe 16.

The closure or door 17 has one edge 18 beaded into a cylindrical form which drops into the gutter 15 along one edge of the opening. To the under side of the door 17 is secured a curved lip 19 by means of the rivets 20. The lip 19 curves under the gutter 15 and prevents the door from being lifted off from its hinge unless it is moved beyond the vertical position.

Along two edges of the door 17 perpendicular to its hinge are attached the guards 21, preferably in the form of a quadrant whose lower edge 22 projects below the upper edge of the gutter 15, and whose curved edge 23 is provided with a flange 24 which forms a groove for the line 25. From the straight lower edge 22 projects the perpendicular arm 26 to whose end 27 the line 25 is secured. The line 25 passes over a sheave 28 and has attached to its end a weight 29. Removably attached to the outer side of each arm 26 is a stop 30 which engages the under side of the gutter 15 when the door 17 is wide open.

On the inside of one guard 21 is pivotally mounted a bent lever 31 on the pivot 32. The lever 31 is provided with a weighted handle 33 whose position with relation to the pivot 32 determines the position of the lever and its attached bolt 34, which passes through the guide 35 on the member 21 and through the flange 24. A stop 36 is provided on the guard 21 to limit the movement of the lever 31 when the door is in a closed position—that is, when the bolt 34 is withdrawn, as shown in Figure 7.

The operation of the device is as follows: If it is desired to open the door it is raised manually, just as are doors of ordinary construction, except that the major portion of its weight is counterbalanced by the

weights 29, whose action becomes more effective as the door approaches the open position, or when its weight is transferred to the hinge instead of resting along the edges of the gutter.

As the door is opened the weighted handle 33 passes over the vertical center of the pivot 32 and causes the bolt 34 to be projected outwardly so that when the door is wide open the end of the bolt will rest upon the top of the gutter, preventing accidental closing of the door, due to the action of wind or the force of objects bearing against its side. To prevent any undesirable binding or friction, due to pressures against the guard 21, there are provided the lugs 37 along one of the gutters 15, which lugs engage the inner sides of the curved flanges 24.

To close the door it is first necessary for the operator to manually raise the handle 33, after which the door can be closed as slowly as desired.

It can be seen that by this construction it is not possible to slam the door, as is nearly always the case where they are not counterbalanced.

It is also possible by this construction to make the doors in one piece, which eliminates the necessity of a division in the door and the attendant necessity of increasing its weight an undesirable extent, due to the weakening caused by such division.

While I have thus illustrated and described my invention it is to be understood that minor details may be departed from same without departing from the spirit of this invention as outlined in the appended claims.

I claim:

1. A sidewalk door having, in combination, a horizontal frame provided with a gutter around its inner edge, said gutter being provided with a drain; a closure for said door hinged in one of said gutters; a curved lip on said door extending under said hinge forming gutter; a quadrant shaped guard on each side of said door perpendicular to said hinge, the curved portion of each quadrant having a groove formed along same whose lower end terminates in a tangent extension; a sheave below each outer corner of said door opposite its hinge; a line passing around each sheave having one end fastened to the tangent extension and the other end weighted; removable stops on the sides of said guards limiting their upward travel; and a latch for holding said door in an open position, said latch having a pivoted lever provided with a weight on its outer end adapted to automatically move said latch bolt outwardly over said gutter when said door is open and to require a manual operation of said lever before said door can be closed.

2. A hinge for sidewalk doors consisting of a semi-cylindrical trough-shaped member forming one side of the door frame having the hollow side of said cylindrical member uppermost, in combination with a cylindrical hinge adapted to rest within said trough-shaped member and forming the edge of the sidewalk door, and a curved guard secured to said hinge concentrically therewith and outside of said trough-shaped member adapted to permit the removal of said hinge from said trough-shaped member only when the door on said hinge is moved toward an upright or open position.

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