S. FRANK.

SIDEWALK DOOR.

APPLICATION FILED JUNE 10, 1913.

1,159,919. Patented Nov. 9, 1915.

Fig. 1.

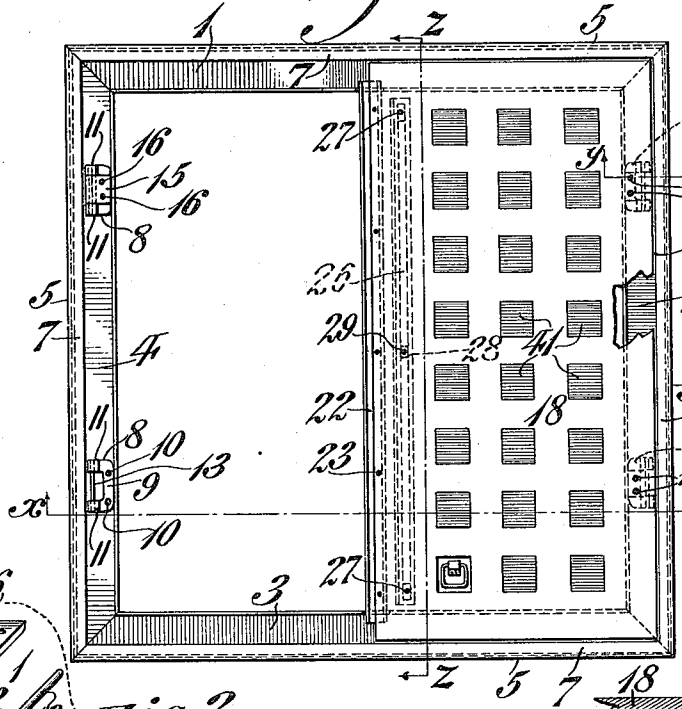


Fig. 2.

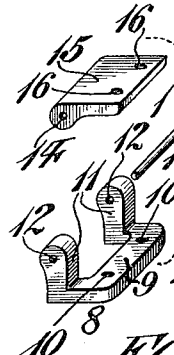


Fig. 3.

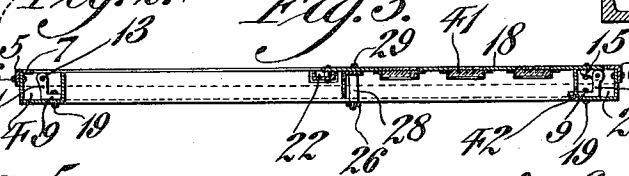


Fig. 4.

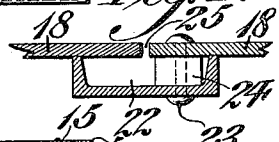


Fig. 5.

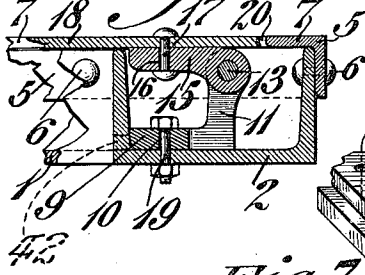


Fig. 6.

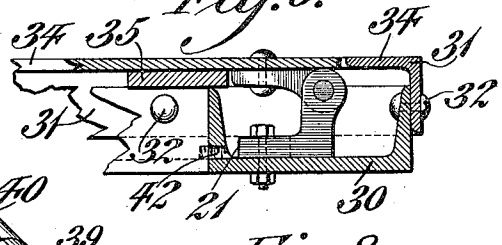


Fig. 7.

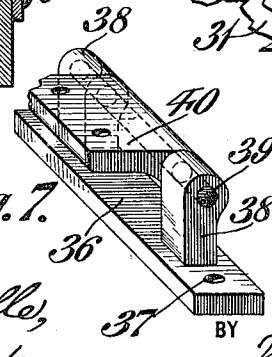


Fig. 8.



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SIDEWALK-DOOR.

1,159,919. Specification of Letters Patent. Patented Nov. 9, 1915.

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To all whom it may concern:

Be it known that I, SAMUEL FRANK, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Sidewalk-Door, of which the following is a specification.

In sidewalk doors as heretofore constructed considerable difficulty has arisen owing to the gutters employed clogging up with dirt and foreign material which passes thereinto through the joints, and this dirt and foreign material after a short time becomes packed in the gutters in such a manner as to seriously interfere with the opening and closing of the door.

With the above in view my present invention consists of a novel sidewalk door wherein the opening or closing of the door tends to remove any dirt, sediment or foreign material which has collected within the gutters.

It further consists of a novel construction of a sidewalk door which is self cleaning, which lies flush with the sidewalk when closed, and which is provided with means for collecting any water which leaks through the joints of the door.

It further consists of a novel sidewalk door wherein the door is hinged or pivoted within the gutter and the joints are formed above the gutters.

It further consists of a novel construction and arrangement for movably mounting the doors.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawing those forms thereof which are at present preferred by me, since the same have been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a plan view of a sidewalk door embodying my invention, one door having been removed for the sake of clearness of illustration. Fig. 2 represents a perspective view of the parts of the hinge in detached position. Fig. 3 represents a section on line *x*—*x* Fig. 1. Fig. 4 represents a sectional elevation showing the central gutter and a portion of the two doors. Fig. 5 represents a section on an enlarged scale taken on line *y*—*y* of Fig. 1. Fig. 6 represents a sectional elevation of another embodiment of my invention. Fig. 7 represents a perspective view of another embodiment of my invention, showing a different arrangement of hinge construction. Fig. 8 represents on a reduced scale a section on line *z*—*z* Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, the frame of the sidewalk door and the door itself may have any desired contour and in the present instance the frame is illustrated as being rectangular in contour and comprising gutters or channels 1, 2, 3 and 4 respectively, which are secured together in any desired manner and placed within the sidewalk or other desired place of installation in the usual way.

5 designates angles having one wall thereof connected with the sides of the channels or gutters by means of fastening devices 6, such as for example rivets, so that the top face 7 of the angle is substantially flush with the tread surface of the sidewalk, it being noted that these top flanges 7 extend laterally to overhang their respective gutters.

8 designates hinge brackets best seen in Figs. 1, 2 and 5, and comprising the laterally extending bar or plate 9 having apertures 10 therethrough, the ends of such bar or plate being laterally deflected and provided with a pair of upwardly extending lugs 11, which are apertured as at 12 to receive the ends of a pintle 13 which pass through the apertures 14 of the hinged leaf or plate 15, which latter is apertured as at 16 to receive fastening devices 17, as seen in Fig. 5, said fastening devices being of any desired nature and also passing through the door 18.

19 designates fastening devices passing through the apertures 10 of the hinge bracket 8 and through the bottom of the gutter. It will be seen that the joint 20, see Fig. 5, is directly over the chamber of the gutter. If desired, the bar or plate 9, instead of extending in close proximity to a

side wall of the gutter, may terminate a desired distance therefrom, as indicated at 21 in Fig. 6.

22 designates a central gutter located beneath the joint of the meeting ends of the two doors, as will be understood by reference to Figs. 1, 3 and 4, said central gutter 22 being secured with respect to one of the doors 18 by means of fastening devices 23 which pass through spacing blocks 24 so that the joint 25 is directly above the chamber of the gutter 22. In doors of large diameter the same are preferably reinforced by a truss or tension member 26 having its ends secured as at 27 to the door and centrally connected with the door by means of a spacing block 28 and fastening devices 29, as will be understood by reference to Figs. 1, 3 and 8.

In some cases arising in practice it is desirable to raise the door above the gutter, as seen in Fig. 6, or to employ a gutter of a less height in which case the gutter 30, seen in Fig. 6, has secured to one side thereof an angle 31 by fastening devices 32 so that the top flange 34 is located above the top of the gutter. In this case the door has connected thereto a spacing or reinforcing plate 35 which may rest on the top face of a side wall.

In some cases arising in practice, it is preferable to employ a hinge construction such as seen in Fig. 7, wherein the bar 36 is substantially straight having apertures 37 near the end to receive the fastening devices and provided with apertured lugs 38 through which the pintle 39 passes which latter also passes through the leaf 40. It will be seen that the lugs and leaf in Fig. 7 correspond substantially to corresponding parts in the other figures of the drawings.

42 is a drainage port employed if desired.

The side walls of the gutters are preferably of substantially the same height. The pivotal point of the doors is such that the portion of a circle transcribed by a radius having a door pivotal point as its center and the adjacent end of a door as its termination and lying within the gutter equals or exceeds one-half the circumference of such circle.

It will now be understood by those skilled in this art that I have devised a novel door which is self cleaning, since when the door is opened or closed the tendency will be to remove any dirt or foreign material which has collected in a gutter and any leakage through the joint will be collected in the gutter. Owing to the manner in which the door members are pivoted within a gutter and the location of the pintle the water is prevented from coming into contact with a pintle and thereby reduces to a minimum any likelihood of the hinges becoming rusted and thus preventing improper operation of the door.

Any suitable devices may be employed in conjunction with the doors for raising and lowering the same and it will be apparent that one or more doors may be employed and still be within the spirit and scope of my invention.

It will be apparent from the drawings that I preferably employ a desired number of lenses carried by the door in the usual manner, it being understood that the contour and arrangement of such lenses may vary widely in practice.

It will now be apparent that I have devised a novel and useful construction of a sidewalk door which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described the preferred embodiments thereof which have been found in practice to give satisfactory and reliable results, it is to be understood that the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a sidewalk door, gutters having their side walls of substantially the same height, doors partly covering said gutters and pivotally mounted, with their pivotal points within the gutters substantially centrally thereof and below the tops of the side walls, and means to cover the portions of the gutters not covered by the doors, and the portion of the circle within a gutter and transcribed by a radius having the pivotal point of a door as its center and the adjacent end of the door as its termination exceeding one-half the circumference of such circle.

2. In a sidewalk door, gutters, doors partly covering the gutters and pivotally supported above the gutters, the portion of a circle transcribed by a radius having a door pivotal point as its center and the adjacent door end as its termination and lying within a gutter equaling at least one-half the circumference of such circle, and means to cover the portion of a gutter not covered by a door.

3. In a sidewalk door, gutters, brackets secured to the bottom of said gutters and having upwardly extending lugs located substantially centrally of the gutters, doors pivoted to said brackets below the top of the gutters and partly covering them, and angles secured to the gutters, and each having a top flange extending laterally to overhang the portion of its respective gutter not covered by the door.

4. In a sidewalk door, gutters, brackets secured to the bottom of said gutters and having upwardly extending lugs located substantially centrally of the gutters, doors pivoted to said brackets below the top of the gutters and partly covering them, and angles secured to the gutters, and each having a top flange extending laterally to overhang the portion of its respective gutter not covered by the door, and the inner side wall of one of said gutters having a drainage port therethrough.

SAMUEL FRANK.

Witnesses:
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C. D. MCVAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."