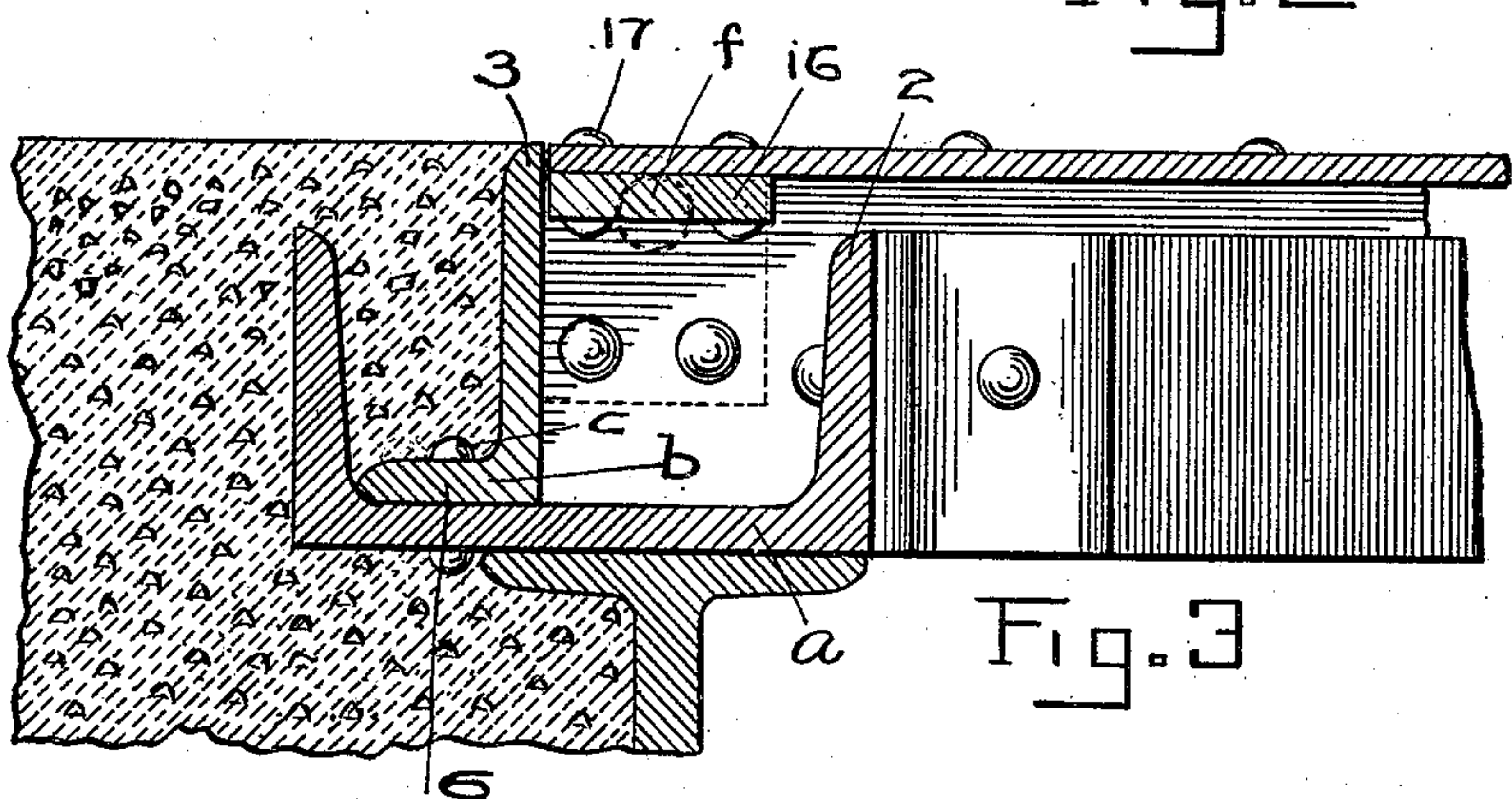
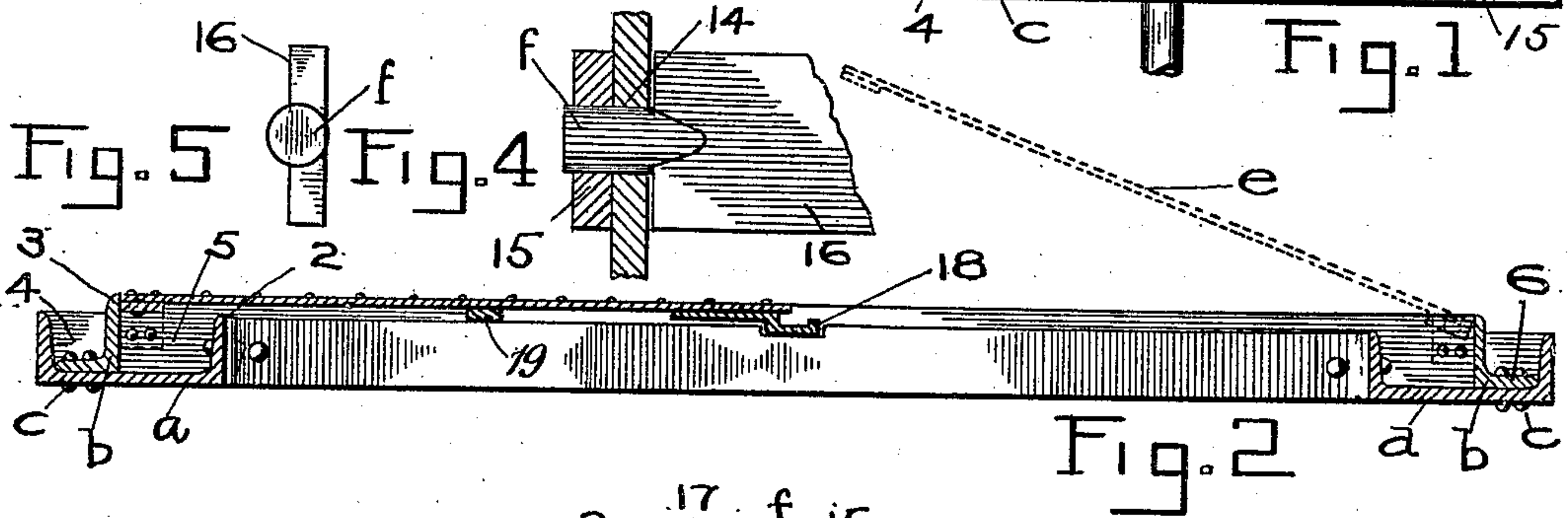


928,756.



INVENTOR
Charles S. Hoffman
by E. E. O'Brien
ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES S. HOFFMAN, OF SAN FRANCISCO, CALIFORNIA.

SIDEWALK-ELEVATOR DOOR.

No. 928,756.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed November 28, 1908. Serial No. 464,869.

To all whom it may concern:

Be it known that I, CHARLES S. HOFFMAN, a citizen of the United States, and a resident of the city and county of San Francisco and State of California, have invented a new and useful Improvement in Sidewalk-Elevator Doors, of which the following is a specification.

This invention relates to improvements made in metal frames and doors of elevator hatchways, or openings in a sidewalk through which merchandise is handled.

The object of the invention is chiefly to provide a frame and door for sidewalk openings in which the hinges will be situated within the frame and below the surface, and the doors when closed will be flush with the side-walk, presenting a smooth level surface even with the top of the sidewalk.

The object of the invention is further the production of a light and strong door-frame simple and inexpensive in construction adapted to set in a concrete sidewalk and to be inclosed by the concrete but leaving the hinges of the doors uncovered, and accessible when the doors are opened.

These and other objects are attained in and by the construction and combination of parts as hereinafter described and pointed out in the claims.

The accompanying drawing referred to in this specification illustrates a sidewalk-door of my invention, having two doors.

Figure 1 is a plan or top-view of the complete frame with one door closed, the other door being removed to expose the frame X. Fig. 2 is a longitudinal sectional-view through $x-x$ Fig. 1. Fig. 3 is a detail on an enlarged scale of a portion of the frame at one corner embedded in the concrete and showing the manner of placing and joining the members of the frame and the construction of the hinge. Figs. 4 and 5 are details of the hinge; Fig. 4 being a top-view of the pintle-bar and Fig. 5 an end-view of the same part.

A novel feature in constructing a door frame of my invention for a sidewalk-elevator consists in forming it of the channel-bars a and the angle-bars b laid together and united by rivets c so as to produce a rectangular frame with an inner standing rim 2 and an outer standing rim 3 inclosing two deep grooves or channels 4—5, extending around the four sides of the frame. These two channels are formed by setting the angle-iron member b of the frame in the channel-

iron member with the horizontal flange 6 of the angle-iron turned outward and resting against the outer flange of the channel-iron, and riveting through the flange and the bottom of the channel-iron. The upright flange of the angle-iron being wider than the flange of the channel-iron extends above the top of the inner and the outer rim of the frame and forms the standing sides and ends of the opening in which the doors $d-e$ are fitted and make a close joint therewith.

In joining the longitudinal members and the transverse members of the frame, the standing flanges 2 of the inner rim are cut away as seen at 10—12, 10—13, Fig. 1, at the point of intersection of the two flanges for the purposes of producing a continuous channel around the four sides of the frame; but the longitudinal angle-irons on the contrary are carried out to the end; and have the transverse members set in between them, it being only important that the inner channel should continue around the four sides to form a continuous channel and not the outer channel, as the inner one is intended to form a gutter for catching and carrying off the water, while the outer channel is filled up with the concrete. As thus constructed the frame is formed wholly of the longitudinal and transverse channel-iron members, with the angle-iron members set in and united thereto.

The doors $d-e$ are of proper dimensions to fit into the opening inclosed by the standing flanges of the angle-iron members and they are attached to the frame by pivot-hinges comprising pintles $f-g$, on opposite sides of the door, and sockets or holes 14 in the standing flanges of the angle-irons a longer bearing for each pintle than that which would be furnished by the thickness of the standing flange of the angle-iron being provided by riveting a bearing-block 15 on the side of the flange. The pintles for each door are preferably formed on the ends of a flat bar 16 which is fastened to the underside of the door by countersunk rivets 17 and the pintles being fitted to circular holes or sockets 14 in the flange and bearing blocks are slipped into place and the door attached to the frame before the transverse members of the frame are placed and the members drawn together for riveting. The pintles are set in such close relation to the top edge of the standing flange that the door when turned down will be level with the rim around the opening

which is formed by the standing flange 3, and the top surface of the door will be flush with that rim with no part standing above such surface. To bring the pintles within the top
 5 of the frame so as to be covered by the door, they are formed as described on the end of a flat bar which is fastened in place by riveting it to the underside of the door. A door
 10 frame of this construction permits the concrete to be filled in and laid closely to the door opening without a break, and covering all parts of the frame, so that only the standing rim around the doors is exposed, and the concrete surface can be brought up to and
 15 finished closely to the frame—without break or interruption or division in the surface of the sidewalk. This description of the door-construction applies to both doors, when the frame is of such size of opening as to require
 20 two doors in which construction a supporting bar is provided under the meeting edges of the two doors, as shown in Figs. 1 and 2. This support is a bar 18 on the underside of one of the doors secured thereto so as to be
 25 carried out of the way when the door is raised, and to be brought in place across the opening when the door is closed. It is permanently fixed on that account to one door, and is formed with a gutter portion extending
 30 under the joint formed by the meeting edges of the two doors in order to catch water that may leak through the joint, and conduct it to the channel in the frame; the ends of the bar extend over the inner standing rim 2 to dis-
 35 charge the water into the trough and resting on the rim serve to support the doors in the center of the opening. Where additional support for the doors is found necessary they are provided with bearing blocks or
 40 strips 19 riveted to the underside and placed in position to rest on the inner rim 2 of the frame when the door is closed.

From the foregoing description the novel feature of this invention will be seen to com-

prise the construction of the frame of chan- 45
 nel-iron members and angle-iron members laid and joined together so as to form or in-
 close an inner channel or trough with a standing rim to support the doors, and an
 50 outer channel for the concrete or material of which the sidewalk is laid; also the manner of pivotally hanging and supporting the doors in the frame by which the pivots are situated within the frame and below the top
 55 surface and are also accessible when the doors are opened.

I claim:—

1. A frame for sidewalk elevator openings, comprising longitudinal channel-iron mem-
 60 bers, transverse channel-members arranged in a rectangular frame in combination with angle-iron members laid in the said channel-iron members with their horizontal flanges turned outwardly and secured to the bottom
 65 of the channel and their upright members extending above the top edge of the inner stand-
 ing flange of the channel-iron members.

2. In a frame and doors for side-walk ele-
 70 vators, the combination of channel-iron members and angle-iron members arranged in a rectangular frame, the angle-iron mem-
 75 bers being secured in the channel-iron members whereby the trough inclosed between the standing flanges of the channel-iron is divided into an inner channel and an outer
 80 channel around the sides of the frame, the upright flange of the angle-iron members extending from the bottom of the channel above the top edges of the channel-iron flanges, and doors pivotally attached to the
 said upright flanges of the angle-iron mem-
 bers and adapted to be flush with the top edge of the standing rim surrounding the
 elevator opening when the doors are closed.

CHARLES S. HOFFMAN.

Witnesses:

M. REGNER,
 E. E. OSBORN.