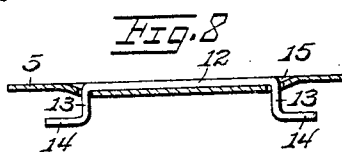
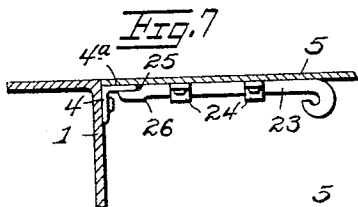
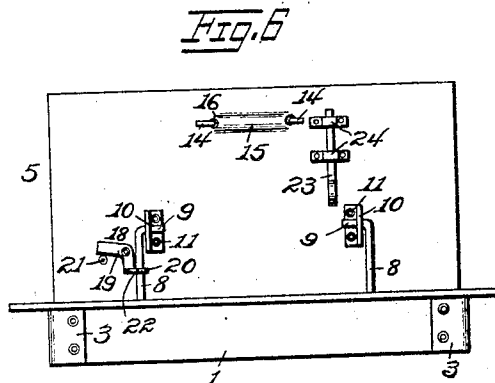
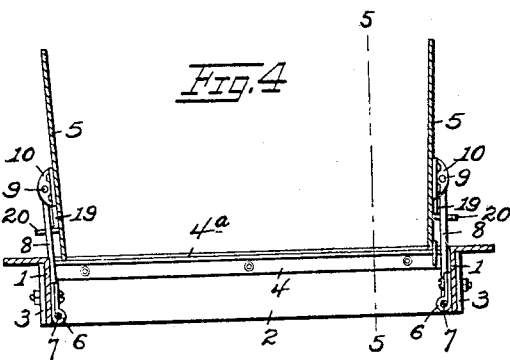
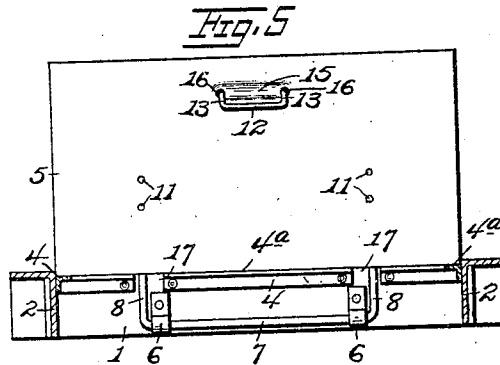
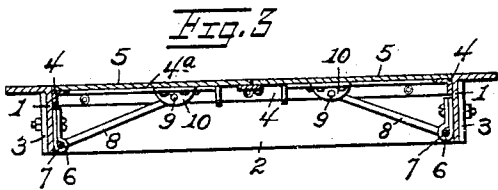
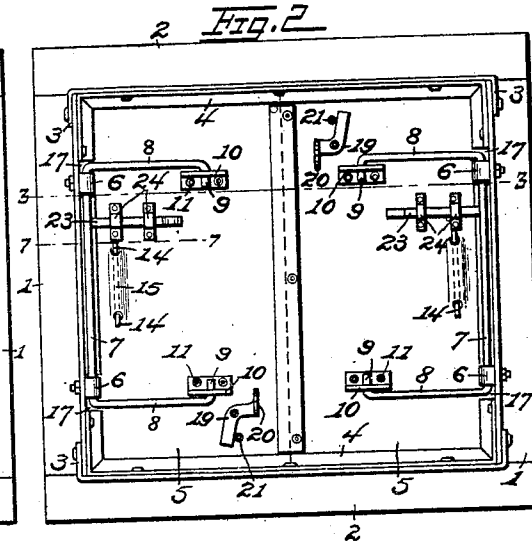
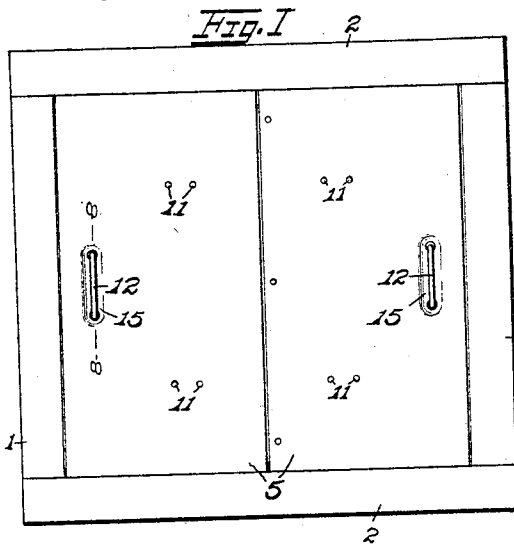


W. E. McKIBBEN.
CELLAR DOOR.
APPLICATION FILED FEB. 5, 1908.

948,282.

Patented Feb. 1, 1910.



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WILBERT E. McKIBBEN, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO
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CELLAR-DOOR.

948,282.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed February 5, 1908. Serial No. 414,329.

To all whom it may concern:

Be it known that I, WILBERT E. McKIBBEN, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Cellar-Doors, of which the following is a specification.

This invention relates to improvements in cellar-doors, and more particularly to that type of door employed as a cover for sidewalk cellar-entrances, vaults, hatchways and the like; and it consists in the particular construction, arrangement and combination of parts which will hereinafter be fully described.

The chief object of the invention is to provide a flush-surface door or cover of the character mentioned, and further to provide a door in which the use of upwardly-projecting sidewalk-obstructing hinges is wholly dispensed with.

A further object is to provide a cellar-door, which, when raised, stands in substantially vertical position, and is automatically locked in such position against displacement.

A still further object is to provide a door of the character mentioned whose weight is so balanced upon its pivotal mounting that but little effort or strength is required to accomplish the raising thereof. And a still further object is to provide a flush-surface cellar-door, which, as it is being lowered to its normal closed position in the frame, automatically removes from the ledges on which it normally lies such dirt, snow, or ice as may have collected or accumulated thereon while it remained upraised.

In describing the invention in detail, reference is herein had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a top plan view of the invention with the doors lowered or closed; Fig. 2 is a plan view of the under side of the same; Fig. 3 is a cross section on the line 3—3, Fig. 2, showing the doors closed; Fig. 4 is a similar view showing the doors open; Fig. 5 is a section on the line 5—5, Fig. 4; Fig. 6 is a side elevation of the invention showing the doors open; Fig. 7 is an enlarged section on the line 7—7, Fig. 2; and Fig. 8 is a similar section on the line 8—8, Fig. 1.

Referring to said drawings, in which like

reference characters distinguish like parts throughout the several views—1 indicates the sides and 2 the ends of a rectangular frame which is adapted to be mounted flush with the surface of a sidewalk about the cellar opening, said sides and ends being formed of any appropriate material, but preferably of angle-iron, as shown; the ends of the vertical portion of each of said angle-iron ends 2 are turned inward at a right angle forming lugs 3 which are bolted or riveted to the vertical portions of the angle-iron sides 1 for holding the parts of said frames in fixed relation.

Attached to the inner sides of the frame by means of bolts or rivets are small angle-iron bars 4, the horizontal portions 4^a of which constitute ledges upon which the doors 5 rest when lowered. Said ledges stand below the level of the top of the frame a distance substantially equal to the thickness of said doors 5 so that when the latter are lowered thereon, said doors lie flush with the top of the frame.

Rigidly secured to the inner face of the vertical portion of each side 1 of the frame is a pair of bearing-lugs 6 in which is rotatably held the longitudinal horizontal member 7 of a substantially U-shaped balance-rod or pivot-bar whose lateral members or legs 8 stand substantially at right angles to said member 7. Terminals 9, formed by turning the ends of said legs inward in parallel alinement with said member 7, are pivoted in lugs 10 which are secured by rivets to said doors, as shown.

A suitable hasp is provided by means of which each door 5 may be raised and lowered, said hasp preferably consisting of a longitudinal member 12, vertical members 13, and out-turned terminals 14. A longitudinal dent 15 is preferably provided in the door 5 at a point adjacent to its outer lateral edge in which said longitudinal member 12 normally lies substantially flush with the face of said door, the vertical members 13 of the hasp being vertically movable in orifices 16 in said door adjacent to the ends of said dent 15.

When a door 5 is raised by means of its hasp, it swings back on the supporting terminals 9 of the balance-rod, and the longitudinal member 7 of said rod rotates back in the bearing-lugs 6 until the legs 8 assume substantially vertical positions, resting

against the sides of the frame, said bars 4 being recessed or cut out, as shown at 17, for allowing said legs to assume such positions.

The lugs 10 are so located upon the under side of each door 5 that when the latter is upraised to a substantially vertical position, its inner edge stands firmly upon the ledge 4^a. It will therefore be seen that in order to allow the door to assume such position and also to assume a proper position when lowered, said lugs 10 must be located substantially midway between the upper edge of the door as it stands in an upright position and the pivotal connection of the horizontal member 7 with the frame.

For preventing the forward swinging of the balance-rod, and also for preventing the swinging of the door upon the terminals 9 when said door occupies a vertical position, a dog 18 is pivoted on the under side of the door laterally of and adjacent to one of said legs 8 for automatically dropping into interlocking engagement with said leg. Said dog consists of an angular member 19 pivoted in the angle and having an outwardly-extending hook 20. The weight of the rear end of said dog is such as to normally hold the hook thrust forward into a position for engaging said leg 8, and a stop 21 is provided against which said ends strike for preventing said dog from swinging back too far—that is, to an inoperative position. The outer edge of the hook 20 is beveled or rounded as shown at 22 so that when it is engaged by the leg 8, the dog is thereby swung back on its pivot to allow said leg to pass.

As a means for locking the doors 5 in closed position, slide-bolts 23 are provided on the under sides thereof adjacent to their outer edges, said bolts being supported by keepers 24. A recess 25 is provided in the upper face of the point of each bolt which admits of said point being forced into interlocking engagement with the ledge 4^a of the angle-iron 4, and a shoulder 26 is provided on the under face of said bolt in the rear of said point whereby the foremost keeper is engaged to prevent the withdrawal of said bolt from said keepers.

It will be noted that in closing the door, the lower edge thereof (which is the inner edge when the door is lowered) will slide along the ledges 4^a, and that this will effect the removal of such dirt, snow, ice, etc., as may have collected on said ledges while the door remained open, thus admitting of the lowered or closed door lying flat upon said ledges.

It will further be noted that the weight of the door is so balanced upon the balance-rod that, when the door is being raised or lowered, one must only sustain a portion of the weight thereof, the principal weight being sustained by said balance-rod. Conse-

quently, extremely heavy doors may be opened and closed with comparatively slight effort.

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

1. The combination with a door, of a frame therefor, a ledge carried by said frame on which said door is adapted to rest, and a pivotal connection between said door and said frame, said connection consisting of lugs carried by said door on its under side intermediate its lateral edges, lugs carried by said frame, and a balance-rod connecting said lugs and adapted for admitting of said door swinging from its normal position to a vertical position, and vice versa, said ledge being provided with recesses for the reception of portions of said balance rod.

2. The combination of a door, a frame therefor, a ledge carried by said frame on which said door is adapted to rest, and a pivotal connection between said door and said frame, said connection consisting of lugs carried by said door on its under side intermediate its lateral edges, lugs carried by said frame, and means connecting the lugs of the door and the lugs of the frame whereby said door may be moved from its normal horizontal position to a vertical position and whereby, when in said vertical position, the inner edge of the door is lowermost and in engagement with said ledge, said ledge being recessed at appropriate points for admitting of such movement.

3. In a device of the character described, a door, a frame therefor, and a U-shaped balance-rod connecting said door and frame whereby said door is permitted to swing in relation to said frame and is prevented from swinging outward beyond a position substantially vertical in relation to said frame, said frame being recessed for the reception of said balance-rod when in one position.

4. In a device of the character described, a door, a frame therefor, and a U-shaped balance-rod connecting said door and frame, said balance-rod consisting of a horizontal member rotatably mounted on said frame below the level of the door when closed, and integral legs carried at an angle to said horizontal member, said legs being pivotally connected to said door on the under side thereof, said frame having recesses therein for the reception of said legs when the latter occupy one position.

5. In a device of the character described, a rectangular frame, a ledge about the inner side of said frame, a door adapted for seating upon said ledge, and connecting means between said door and frame whereby the former is permitted to swing in relation to the latter, said means having pivotal connection with both the door and the frame

and being adapted to brace said door when the latter is raised to a substantially vertical position, said ledge having recesses for the reception of said connecting means when in one position.

6. In a device of the character described, a rectangular frame, a recessed ledge about the inner side of said frame, a door adapted for seating upon said ledge, and legs each of which is pivotally connected at opposite ends to said door and said frame, said legs being adapted to enter said recesses to brace said door against further outward movement when the latter is raised to a substantially vertical position.

7. In a device of the character described, the combination with a door of a recessed ledge upon which said door is adapted to rest, and means whereby said door is permitted to swing in relation to said ledge, said means being rotatably mounted below said ledge and being pivotally connected with said door intermediate its lateral edges and on the under side thereof, and being adapted to lie in said recesses when in one position.

8. In a device of the character described, the combination with a door, of a recessed ledge upon which said door is adapted to rest, and a balance-rod whereby said door is permitted to swing in relation to said ledge, said balance-rod being rotatably mounted below said ledge and being pivotally connected with said door on the under side of

the latter, and adapted to move into said recesses when they are moved into substantially upraised positions.

9. In a device of the character described, a frame, a ledge about the inner side of said frame, a door adapted for seating upon said ledge, and legs each of which is pivotally connected at opposite ends to said door and to said frame, said legs being adapted to brace said door against further outward movement when the latter is raised to substantially vertical position, the ledge on the side of the frame to which said legs are connected being cut away to admit of the legs assuming vertical positions.

10. In a device of the character described, a frame, a recessed ledge about the inner side of said frame, a door adapted for seating upon said ledge, and a balance-rod pivotally mounted on said frame below said ledge, said balance-rod having integral legs pivotally connected to said door, said legs being adapted to move into the recesses in the rod to brace said door against further outward movement when the latter is raised to substantially vertical position, and means for locking said legs in vertical positions.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WILBERT E. McKIBBEN.

Witnesses:

E. A. LENKARD,
H. E. DUNLAP.