

Nov. 30, 1954

T. H. PETERSON

2,695,689

UNITARY STAIRWAY FOR BASEMENT ENTRANCES

Filed Sept. 28, 1950

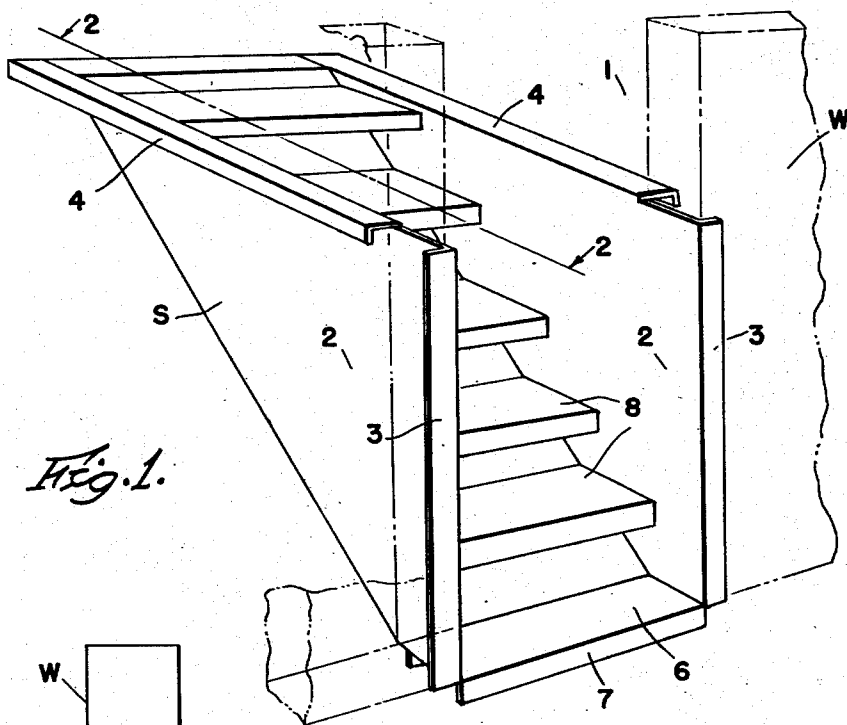


Fig. 1.

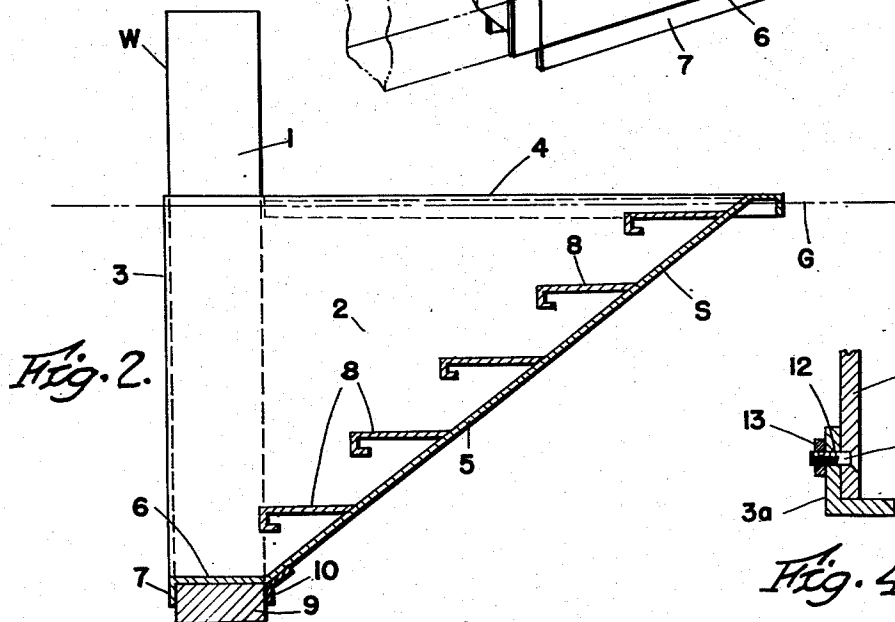


Fig. 2.

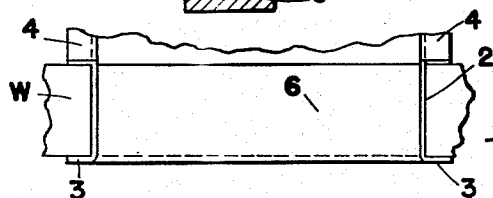


Fig. 3.

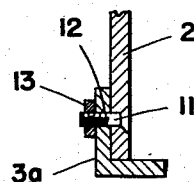


Fig. 4.

INVENTOR
THOMAS H. PETERSON

BY
Orin W. Kennedy
ATTORNEY

1

2,695,689

UNITARY STAIRWAY FOR BASEMENT ENTRANCES

Thomas H. Peterson, Worcester, Mass.

Application September 28, 1950, Serial No. 187,216

2 Claims. (Cl. 189—43)

The present invention relates to a unitary stairway for use in connection with the cellar or basement entrances of dwellings, or other buildings. The object of the invention is to provide a pre-fabricated hatchway or stairway, which can be readily applied, as a unit, to a suitable opening in any cellar or basement wall to give ready access to the interior of the cellar or basement, from the outside ground level.

The usual way of providing an entrance to a cellar or basement is by the construction of a stairway of masonry or wood, and since most of the stairway is below the ground level, its construction presents numerous difficulties from the standpoint of preventing the seepage of water into the cellar or basement. Even when the sides of such a basement stairway are of masonry, there is always the possibility that this masonry will break away from the foundation walls of the building, due largely to the uneven settling of the stairway sides with respect to the foundation.

According to the present invention, the above noted difficulties are eliminated by providing a pre-fabricated sheet metal hatchway or stairway, which is so formed that it can be conveniently applied, as a unit, to the vertical sides of an opening that has been previously provided in the cellar or basement wall, at any point in the foundation of the building where access is desired. Since my unitary stairway receives its support from the foundation wall, no labor is involved in the installation of the stairway, other than the removal of sufficient dirt in front of the foundation opening to receive the stairway when it is lowered into position, or to permit the stairway to be installed from the outside of the wall.

The above and other advantageous features of my invention will hereinafter more fully appear from the following description, when considered in connection with the accompanying drawings, in which,

Fig. 1 is a view, in perspective, showing the unitary stairway of the present invention applied to an opening in the cellar or basement wall of a building.

Fig. 2 is a vertical sectional view along line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a partial plan view of the stairway shown in Fig. 1.

Fig. 4 is a fragmentary sectional view illustrating a modification of the invention.

Referring first to Fig. 1, there is shown a portion of a foundation wall W which encloses the cellar or basement of a building. This wall W is made of cement, or suitable masonry, and provides an opening 1, having vertical parallel sides which extend to the top of the wall. It is to be noted that the wall W extends somewhat above the level of the ground G, as indicated in Fig. 2, so that the opening 1 is readily accessible from the ground for the purpose of installing my improved unitary stairway, which is generally indicated by the reference character S.

The stairway S consists of a pair of triangular side members 2, the vertical edges of which provide oppositely extending flanges 3 that are adapted to engage the inside corners of the wall opening 1. The horizontal edges of the side members 2 provide oppositely extending flanges 4, and each flange 4 is spaced from the flange 3 of the corresponding side member 2, a distance substantially equal to the width of the wall W along one side of the opening 1.

The side members 2 are joined together in spaced relation by a bottom 5 secured to the inclined edges of

2

the side members, as by welding, and the bottom 5 provides a flat tread portion 6 terminating in a downwardly extending flange 7 lying in the same plane as the flanges 3 of the side members 2. The side members 2 are also connected by a series of horizontal treads 8 extending across the stairway above the bottom 5, with opposite ends of each tread 8 being secured to the side members 2, as by welding. The stairway structure S, as constituted by the side members 2, bottom 5, and treads 8, is a welded prefabricated unit, with all of its parts readily formed of pressed metal. Obviously, when these parts have been joined together, they constitute a rigid structure which can be readily shipped and handled, as a unit, prior to its installation within the opening 1 of a foundation wall W.

As previously pointed out, the only preparatory work required for the installation of my improved stairway S is the provision of an opening 1 in a foundation wall W, with the opening being accessible above the ground level G, as indicated in Fig. 2. When this opening 1 has been provided, the unitary stairway S can be quickly and conveniently installed by registering the flanges 3 with the inside corners of the opening 1, and then lowering the unit into position, while maintaining the flanges 3 in engagement with the inside of the wall. Before the unit reaches its final position, the ends of the top flanges 4 of the side plates 1 will engage the outside of the wall W, and thereby prevent any tilting of the unit, as it slides downwardly into its lowermost position.

Since in most cases, the bottom of the wall opening 1 will be provided with a sill 9 extending above the cellar floor, as shown in Fig. 2, the flange 7 which forms part of the bottom 5 will engage this sill, and thereby firmly support the entire structure along the horizontal tread 6, which also forms part of the bottom 5. If desired, a flange 10 may be secured to the bottom 5, parallel to the flange 7, and spaced therefrom a distance substantially equal to the width of the sill 9.

After the installation of a stairway unit S has been completed in the manner described above, earth is shovelled in beneath the unit to engage the bottom 5 and the side walls 2 up to the ground level G. While this earth will provide some support for the unit, its main support comes from the foundation wall W, by reason of the fact that the side flanges 3 closely engage the inside edges of the opening 1, while the bottom flange 7 closely engages the sill 9 which extends across the opening. Therefore, when the stairway is in use, any tendency for the stairway to tilt outwardly is strongly resisted by the flanges 3, while the downward thrust of the weight of a person using the stairway, is borne by the tread 6 which rests on the rigid sill 9.

After the stairway S has been installed, it may be covered with a suitable door, or hatch, which can be fitted over the top flanges 4 of the side members 2 to provide a water tight closure. Such a door can either be attached to the flanges 4, or can be constructed so as to slide on the flanges when it is desired to remove the same.

To enable the stairway to be installed within the foundation wall opening of a completed building, where the opening is not accessible from the top, each front flange of the side member 2 can be made separable, as shown in Fig. 4. In this modification, the flange is in the form of an angle iron 3a that is detachably secured to its side member 2 by bolts 11 extending through openings 12 and welded in place. The angle iron 3a is held in position by nuts 13, and can be removed when desired, so as to permit the side members 2 to be inserted into the wall opening 1 from the outside. Then, the stairway unit is locked in position by replacing the angle irons 3a.

From the foregoing, it is apparent that by the present invention, there is provided an improved unitary stairway for a cellar or basement entrance that can be pre-fabricated, and subsequently installed with a minimum of labor, to any opening previously provided in the foundation wall enclosing a cellar or basement.

I claim:

1. A stairway unit for installation by a lowering operation within an opening provided in the foundation wall of a building, which opening provides spaced par-

3

allel vertical sides, said stairway unit comprising spaced vertical side members of triangular form, each of said vertical side members being defined by a vertical edge, a horizontal edge, and an inclined edge, a bottom connecting the inclined edges of said side members, treads extending horizontally between said side members and connected thereto, flanges extending outwardly from the vertical edges of said side members for engaging the sides of the wall opening when the unit is placed in position, and other flanges extending outwardly from the horizontal edges of said side members, said second-named flanges terminating short of the vertical edges of said side members to engage the sides of the wall opening opposite to the first-named flanges and maintain the stairway unit in position.

2. A stairway unit for installation by a lowering operation within an opening provided in the foundation wall of a building, which opening provides spaced parallel vertical sides and a rigid horizontal bottom sill, said stairway unit comprising spaced vertical side members of triangular form, each of said vertical side members being defined by a vertical edge, a horizontal edge,

4

and an inclined edge, a bottom connecting the inclined edges of said side members, treads extending horizontally between said side members and connected thereto, flanges extending outwardly from the vertical edges of said side members for engaging the sides of the wall opening when the unit is placed in position, other flanges extending outwardly from the horizontal edges of said side members, said second-named flanges terminating short of the vertical edges of said side members to engage the sides of the wall opening opposite to the first-named flanges and maintain the stairway unit in position, and a flange extending downwardly along the lowermost tread to engage the corner of said sill.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
389,206	Delany	Sept. 11, 1888
1,412,788	Lehman	Apr. 11, 1922
1,654,073	Fagan	Dec. 27, 1927
2,205,859	O'Donnell	June 25, 1940