

Aug. 6, 1963

Q. S. BECK

3,099,900

METHOD OF INSTALLING AN AREAWAY WALL

Filed Feb. 5, 1959

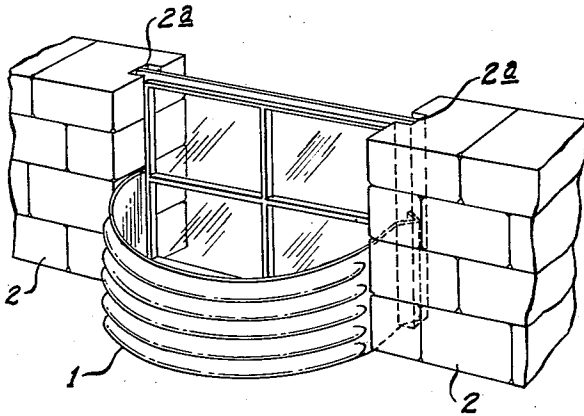


Fig. I

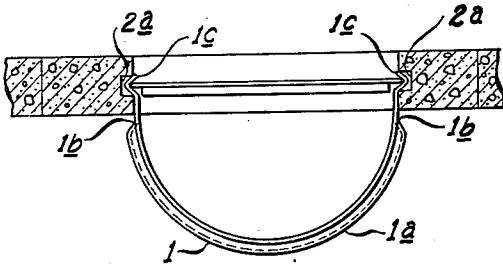


Fig. II

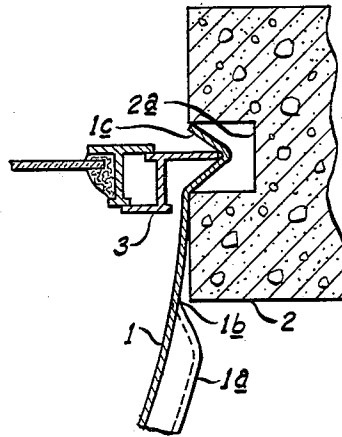


Fig. III

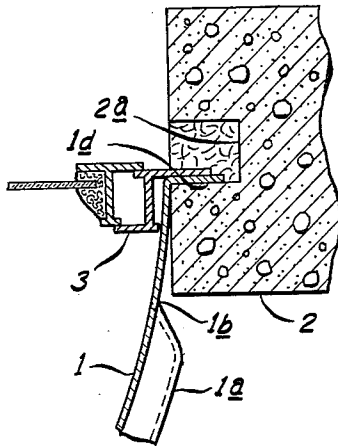


Fig. IV

INVENTOR

QUENTIN S. BECK

BY

Lloyd F. Engle, Jr.

ATTORNEY

1

3,099,900

METHOD OF INSTALLING AN AREAWAY WALL
Quentin S. Beck, Carnegie, Allegheny County, Pa., as-
signor of one-tenth to Lloyd F. Engle, Jr., Pittsburgh,
Pa.

Filed Feb. 5, 1959, Ser. No. 791,367
4 Claims. (Cl. 50-533)

This invention relates to the method of installing an areaway wall and more particularly to the method of installing an areaway wall outside an opening in a fixed foundation wall either before or after the sash has been installed therein.

In the construction of building walls, as for example foundation walls which have openings therein extending below the ground level for air and light, it has been the practice to provide a wall to restrain the earth or backfill around the outside of the said openings. The more recent attempts to define such an air space have comprised an areaway wall of sheet metal which is installed by attaching the ends thereof to the outside of the foundation wall on either side of the opening therein. The areaway walls which are presently used in the construction art are ordinarily fabricated in the form of a semi-circle having outwardly extended flanges at each end thereof. In present practices, the attachment of these areaway walls is effected by inserting masonry nails or lag bolts through the outwardly extended flanges into the foundation wall on the outside thereof and laterally removed from the sides of the opening which is sought to be enclosed.

It will be obvious that these installations require a great amount of time and labor, since several insertions of the fastening means through the flanges of the areaway wall into the foundation wall are necessary for each areaway wall.

Recently it has been the practice in the building art to provide special recessed vertical keyways in the sides of the openings in masonry or monolithic foundation walls for receiving the sash frames to be affixed in the said openings. These keyways have been provided by using special blocks at the sides of the openings in foundation walls which are constructed of modular units or by employing suitable form work for casting monolithic foundation walls. The proportions of the said keyways have become relatively standard, that is, in the order of approximately three-quarters ($\frac{3}{4}$) of an inch in depth and width. Into these keyways the side flanges of the sash frames are inserted by lowering the sash frames thereinto prior to the erection of the building sill or a lintel above the opening in the foundation wall. Thereafter the excess space in the keyways is usually filled with grout to firmly fix the sash therein.

I have discovered that areaway walls of the type shown and described in my co-pending application, Serial No. 771,765, may be installed by inserting the outwardly projecting flanges thereof into the keyways in the sides of openings in a foundation wall. I have further discovered that areaway walls; of the type previously described herein, which are presently used in the construction art may also be installed in this same manner. When any of these areaway walls are installed in accordance with my method, it is important primarily that the outstanding flanges be inserted in the keyways. This may be accomplished, when using an areaway wall fabricated of flexible material in the order of sheet metal or plastic, by inwardly compressing the flanged ends of the areaway wall laterally, inserting the said flanged ends into the opening in a foundation wall, and allowing the ends of the areaway wall to expand so that the outstanding flanges of the areaway wall project into the keyways in the sides of the opening. On the other hand, if the areaway wall being employed in the practice of my method is fabricated of relatively

2

rigid material, in the order of cement impregnated fibers, the flanges must be inserted into the keyways by sliding them vertically downward thereinto.

It will be obvious, from this description and the accompanying drawings, that when my method has been used to install an areaway wall of the type described herein or in my co-pending application, Serial No. 771,765, now abandoned, a complete seal is provided at the point of attachment with the fixed foundation wall.

One object of my invention is to provide a method of installing an areaway wall in an opening in a fixed foundation wall without the use of any separate attaching means. A further object of my invention is to provide a method whereby an areaway wall may be quickly installed in an opening in a foundation wall with a minimal amount of labor and without the use of any tools. A still further object of my invention is to provide a method of installing an areaway wall in an opening in a foundation wall whereby a positive seal is afforded to prohibit the infiltration of ground water and earth particles into the space defined by the areaway wall. Still further objects and advantages of my invention will be apparent from the following description and appended claims.

Referring now to the drawings:

FIG. I is an isomeric view of a portion of a foundation wall showing an areaway wall installed according to my method and a typical sash in place.

FIG. II is a partial plan view and a partial cross-sectional view showing a portion of a foundation wall with an areaway wall installed according to my method and a typical sash in place.

FIG. III is an enlarged cross-sectional plan view taken through the side of an opening in a foundation wall showing one form of flange of an areaway wall installed according to my method and a portion of a sash frame in place.

FIG. IV is an enlarged cross-sectional plan view taken through the side of an opening in a foundation wall showing a different form of flange of an areaway installed according to my method and a portion of a sash frame in place.

In the accompanying drawings, the numeral 1 designates generally an areaway wall which is shown in the form which I prefer for the practice of my method and being fabricated from sheet metal. It should be understood that horizontal corrugations are usually provided in sheet metal areaway walls as shown at 1a but are not essential to the practice of my method. However, when they are provided, they should terminate at a point removed from the flanged end of the areaway wall, as at point 1b, so that they will not interfere with the fit of the areaway wall in the foundation wall 2. The areaway wall which I prefer for the practice of my method has a returned flange 1c, that is to say the flange is substantially U-shaped in cross-section with the arcuated portion extended outwardly from the body of the areaway wall. The said flange 1c on each end of the areaway wall fits into the keyway 2a on each side of the opening in the foundation wall 2 when the areaway wall 1 is installed according to my method. In the practice of my method, the flanged ends of the areaway wall 1 are first inserted into the vertical keyways 2a in the sides of an opening in the foundation wall 2, either by inwardly compressing the said flanged ends while inserting the said ends horizontally into the opening and allowing the said ends to expand outwardly so that the flanges 1c or 1d, as the case may be, seat in the said keyways 2a, or by sliding the said flanges vertically downward into the said keyways 2a. After the areaway wall 1 is in place as described, the sash frame 3 is slid vertically downward so that the outstanding side flanges thereof seat firmly in the recessed curve of the flange 1c when that form is used.

When an areaway wall of the modified type shown in FIG. IV is employed in the practice of my method, the outstanding flange 1d of the areaway wall 1 is inserted into the keyway 2a in the manner described hereinbefore. Thereafter, the sash frame 3 is slid vertically downward into the keyway 2a and is forced toward the outside of the foundation wall 2 where the side flange of the sash frame 3 firmly clamps the flange 1d against the outermost side of the keyway 2a. After the areaway wall 1 and the sash frame 3 are so placed, the remaining space in the keyway 2a is filled with grout to make a finished installation. In the drawings, the grout is omitted for the purpose of clarity. It will be understood, of course, that in this modification the sash frame 3 can be installed first and, thereafter, the areaway wall 1 slid vertically downward with the flanges 1d in the keyways 2a, or the sash frame 3 and the areaway wall 1 can be slid vertically downward into the keyways 2a at the same time.

It should be noted that the relative order of assembling the particular component parts of a finished installation according to my method is not the prime important feature of my invention. The essence of my invention resides rather, in the entire concept of engaging an areaway wall to a foundation wall by inserting outstanding flanges on the areaway wall into keyways in the sides of an opening in the foundation wall. Neither is it essential that the areaway wall employed in the practice of my method be formed as shown in the accompanying drawings or described herein. On the contrary, areaway walls of many different forms and of many different materials can be employed in the practice of my method, it being important merely that the areaway wall have outstanding end flanges thereon which can be fitted into the vertical keyways in the sides of an opening in a foundation wall.

It is conceivable that in certain installations requiring considerable depth below the ground level, more than one areaway wall may be stacked one atop another or interlocked and installed according to the practice of my method. It should be understood that such an installation comprises merely a multiple practice of my method and is completely within the spirit of my invention.

Certain changes may be made in the arrangement set forth in the specification and shown in the drawings, it being understood that modifications in the precise embodiment of the invention may be made within the scope of the following claims without departing from the spirit of the invention.

I claim as my invention:

1. The method of installing an areaway wall in a foundation prior to the erection of structure thereon comprising the steps of providing a recessed vertical keyway in each side of an opening in a foundation wall, providing an arcuate areaway wall having spaced sides substantially the same width as the said opening in the foundation wall and having a laterally outstanding flange on each said side, inserting the said outstanding flanges of the areaway wall into the said opening so that the said outstanding flanges fit into the said vertical keyways, inserting the side flanges of a sash frame into the said keyways and adjacent the said outstanding flanges of the areaway wall, forcing the outstanding flanges of the areaway wall and the side flanges of the sash frame together against the outward side of the recessed keyway, and filling the remaining space of the said keyway with sealing material.

2. The method of installing an areaway wall in a foundation prior to the erection of structure thereon com-

prising the steps of providing a recessed vertical keyway in each side of an opening in a foundation wall, providing an arcuate areaway wall having spaced sides substantially the same width as the said opening in the foundation wall and having a laterally outstanding flange on each said side which flange is substantially U-shaped in cross-section with the arcuated portion thereof extending outwardly from said sides of the areaway wall, inserting the said U-shaped flanges of the areaway wall into the said opening so that the outwardly arcuated portions project into the said vertical keyways, and inserting a sash frame by sliding the said frame vertically downward so that each side flange thereof bears against the concave side of each said U-shaped flange.

3. The method of installing an areaway wall in a foundation prior to the erection of structure thereon comprising the steps of providing a recessed vertical keyway in each side of an opening in a foundation wall, providing an arcuate areaway wall of resilient material having spaced sides substantially the same width as the said opening in the foundation wall and having a laterally outstanding flange on each said side, inwardly compressing the said sides so that the said outstanding flanges are less disposed apart than the sides of the said opening in the foundation wall, inserting the said outstanding flanges of the areaway wall into the opening in the foundation wall, permitting the sides of the areaway wall to expand outwardly in a position to insert the said outstanding flanges into the said vertical keyways, inserting the side flanges of a sash frame into the said keyways and adjacent the said outstanding flanges of the areaway wall, forcing the outstanding flanges of the areaway wall and the side flanges of the sash frame together against the outward side of the recessed keyway, and filling the remaining space of the said keyway with sealing material.

4. The method of installing an areaway wall in a foundation prior to the erection of structure thereon comprising the steps of providing a recessed vertical keyway in each side of an opening in a foundation wall, providing an arcuate areaway wall of resilient material having spaced sides substantially the same width as the said opening in the foundation wall and having a laterally outstanding flange on each said side which flange is substantially U-shaped in cross-section with the arcuated portion thereof extending outwardly from said sides of the areaway wall, inwardly compressing the said sides so that the said U-shaped flanges are less disposed apart than the sides of the said opening in the foundation wall, inserting the said U-shaped flanges of the areaway wall into the opening in the foundation wall, permitting the sides of the areaway wall to expand outwardly in a position to insert the outwardly arcuated portion of the said U-shaped flanges into the said vertical keyways, and inserting a sash frame by sliding the said frame vertically downward so that each side flange thereof bears against the concave side of each said U-shaped flange.

References Cited in the file of this patent

UNITED STATES PATENTS

784,925	Crawford	Mar. 14, 1905
1,189,208	Hodkinson	June 27, 1916
1,840,397	Keyes	Jan. 12, 1932
2,105,145	Gurney	Jan. 11, 1938
2,659,950	West	Nov. 24, 1953