Nov. 12, 1940. H. I. NEAL 2,221,358

DOORSTEP FOR THE HOME

Filed Oct. 7, 1938 2 Sheets-Sheet 1

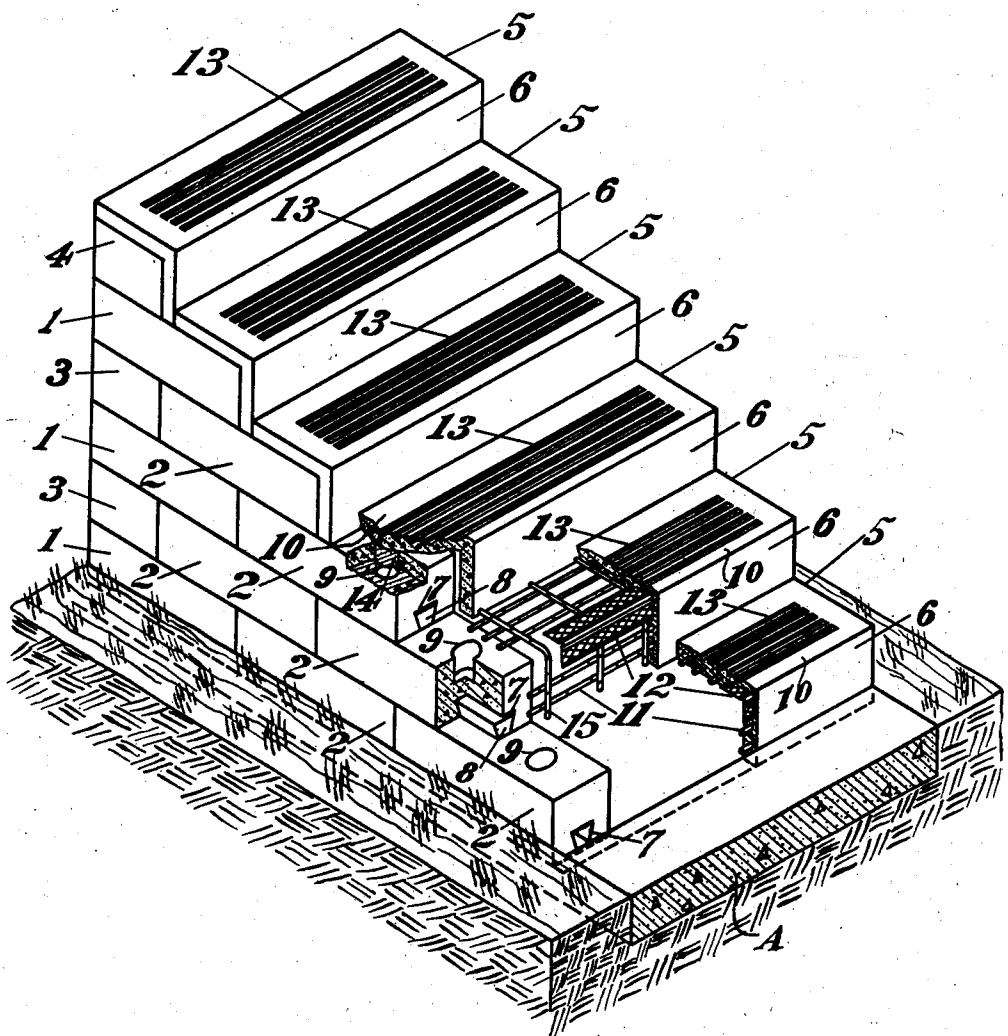


Fig. 1.

Herman Ivy Neal INVENTOR.

Nov. 12, 1940. H. I. NEAL 2,221,358

DOORSTEP FOR THE HOME

Filed Oct. 7, 1938 2 Sheets-Sheet 2

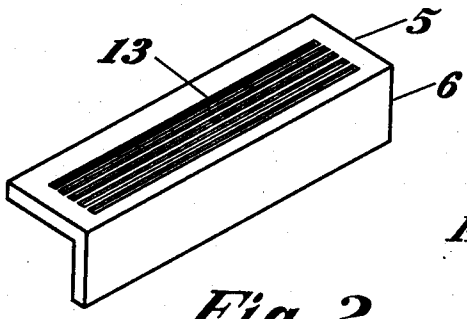


Fig. 2.

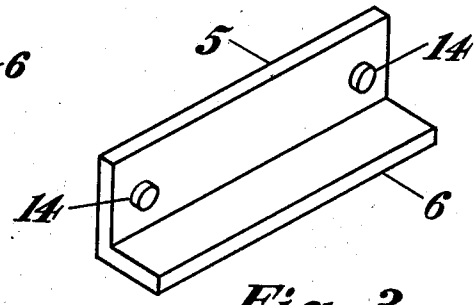


Fig. 3.

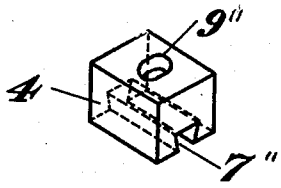


Fig. 4.

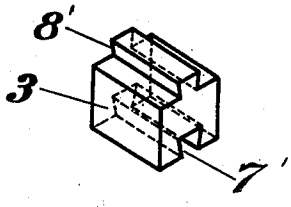


Fig. 6.

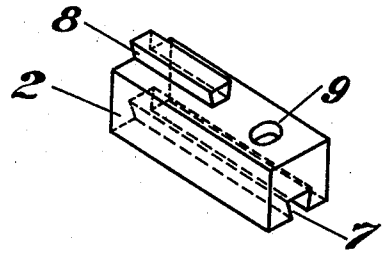


Fig. 5.

Herman Irving Neal INVENTOR.

Patented Nov. 12, 1940 2,221,358

UNITED STATES PATENT OFFICE

2,221,358

DOORSTEP FOR THE HOME

Herman Ivy Neal, Oklahoma City, Okla.

Application October 7, 1938, Serial No. 233,722

4 Claims. (Cl. 72—96)

This invention relates to concrete step or stairway construction, the primary object of the invention being to provide a stairway constructed of a plurality of units having interlocking means whereby the various units will be securely held together when the units have been positioned in the formation of a structure such as a stairway or step.

An important object of the invention is to provide a stairway or step construction wherein the various supporting blocks and tread units thereof, may be molded or formed in such a way that they may be readily assembled in the building of stairways or steps, eliminating the necessity of reshaping the units or varying the construction thereof in any way, thereby eliminating delay caused by concrete curing, when a structure is built in the usual and well known manner.

A further object of the invention is to provide a concrete structure made up of a plurality of units having means for interlocking the units, to the end that the structure may be built by persons unskilled in the art of laying plastic blocks or bricks, insuring at the same time, the perfect alignment of one unit with respect to another.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a perspective view of a stairway constructed in accordance with the invention, portions thereof being broken away to illustrate various details.

Figure 2 is a perspective view of one of the step units.

Figure 3 is a rear elevational view of one of the step units.

Figure 4 is a perspective view of another unit, used in the construction of the stairway.

Figure 5 is a perspective view of another unit used in the construction of a stairway.

Figure 6 is a view of the unit used at the top of the stairway.

Referring to the drawings in detail, the stairway constructed in accordance with the present invention, comprises a plurality of units or sections, 2, 3 and 4. These sections are rectangular in formation, but may be of various constructions, adapting them for a particular use in forming a stairway.

The foundation or base of the structure is indicated by the reference character A.

Units 2, are substantially long and are provided with dovetailed grooves 7 in the lower surfaces thereof, and dovetail ribs 8 formed on the upper surfaces thereof, the ribs 8 being disposed intermediate the side edges of the upper surfaces of the units and extended from one end of each unit to a point substantially intermediate the ends thereof. An opening 9 is also formed in each unit 2, the opening being disposed between the forward end of the rib 8 and front end of the unit.

The units 3 are also rectangular in formation and are provided with grooves 7' in the lower faces thereof, and ribs 8' on the upper surfaces thereof, the grooves 7' and ribs 8', extending throughout the entire lengths of the units.

The units 4 which are used at the upper end of the stairway, are provided with grooves 7'' in their lower faces, and circular openings 9'' in the upper surfaces thereof.

The tread sections of the stairway are indicated generally by the reference character 5, each of which comprises a riser section 6 and a tread surface 10, the tread sections 5 being constructed of plastic material, such as concrete or the like and provided with a plurality of spaced parallel reenforcing rods 11 embedded in the riser sections of the tread unit, and spaced horizontal reenforcing rods 12 embedded in the plastic material of which the tread surfaces of the units 5 are formed.

The reenforcing rods 11 and 12 are held in proper spaced relation with respect to each other, by means of the rods 15, which are also embedded in the plastic material and secured to the reenforcing rods 11 and 12 in any suitable manner.

Extending from the tread section of the tread unit, are lugs 14 which are of diameters to fit within the openings 9 formed in the units over which the tread units are positioned, thereby holding the tread units in place.

Although it is not necessary to use plastic material such as mortar or the like between the various units, it is within the scope of the invention to secure the units, in addition to the mechanical securing means shown, by using mortar or the like material.

The upper surfaces of the tread unit are formed with spaced parallel ribs 13, to prevent slipping when walking over the tread units.

In constructing a stairway in accordance with

the present invention, the lowermost blocks or units 2 are positioned as shown by Figure 1, in the base or foundation A, which is preferably constructed of plastic material.

The units 2 and 3 of the adjacent upper layer of blocks are now positioned, the dovetailed grooves of the lower surfaces thereof being fitted over the dovetail ribs of the lower row, securing the units in proper alignment with respect to each other, and at the same time uniting the units one with another.

The adjacent upper rows or layers of bricks are now positioned, so that the forward edges thereof are in stepped formation, and the openings 9 are exposed to receive the lugs 14 of the step units, securing the step units in position.

It will of course be understood that in constructing a stairway, the units or blocks are arranged in forming spaced supports at the opposite ends of the tread units as clearly shown by the drawings. If desired, suitable plastic material may be used in the grooves 7 and openings 9, so that the members entering the grooves, will be secured against displacement.

From the foregoing it will be seen that due to the construction shown and described, I have provided a plurality of units which may be molded or formed at the factory, and shipped to the job, where they may be readily assembled in the formation of a concrete stairway as described. It will also be seen that by using the method outlined, the waste of time required in proper curing of concrete when poured, is eliminated at the job, and the stairway may be set up and used immediately.

What is claimed is:

1. A stairway construction comprising spaced supports embodying blocks constructed of plastic material, said blocks being laid one upon another, said blocks having grooves in their lower surfaces, certain of the blocks having ribs on their upper surfaces, the ribs of said blocks extending forwardly from the rear ends thereof and terminating in spaced relation with the front ends of the blocks, said ribs being fitted in the grooves of the adjacent upper blocks securing the blocks together, said blocks being arranged in stepped relation with respect to each other and formed with circular openings formed in the upper surface and disposed between the front ends of the ribs and front ends of the blocks, tread members, lugs formed on the tread members, the lugs adapted to fit in the openings of said blocks, securing the tread members to the blocks, and the upper surfaces of said tread members being roughened to provide anti-slipping surfaces.

2. A stairway construction comprising spaced supports embodying blocks constructed of plastic material, said blocks having grooves of dovetail formation, formed in the lower surfaces thereof, dovetail ribs formed on the upper surfaces of certain of said blocks, said ribs extending from the rear ends of the blocks and terminating in spaced relation with the front ends of the blocks, the dovetailed ribs of the blocks being fitted in the dovetail shaped grooves of the adjacent upper blocks, securing the blocks together, certain of said blocks having circular openings in the upper surfaces thereof, said openings being arranged between the front ends of the ribs and front ends of the blocks, and tread members having lugs fitted in said circular openings, securing the tread members to the spaced supports.

3. A stairway construction comprising supports spaced apart and embodying blocks constructed of plastic material and laid one upon another, certain of said blocks having circular openings formed near the forward ends thereof, said blocks being laid so that the forward ends of the blocks are arranged in stepped relation with respect to each other and the circular openings are exposed, interlocking ribs and grooves formed on the blocks for securing the blocks together, tread members, lugs extending from the tread members and adapted to fit within said openings of the blocks securing the said members to the blocks, and said tread members having roughened tread surfaces.

4. A stairway construction comprising spaced supports embodying blocks laid one upon another, the forward ends of the blocks being arranged in stepped relation with respect to each other exposing the forward ends of certain of said blocks, said blocks having circular openings, ribs formed on the upper surfaces of certain of the blocks, said blocks having grooves formed in their lower surfaces, the grooves of one block accommodating the ribs of the adjacent lower block, tread members embodying a tread section and a riser section, fitted over the forward ends of the blocks, said tread members being constructed of plastic material, lugs extending from the lower surfaces of the tread sections of the tread members and fitted in the openings of the blocks securing the tread members to the blocks, and the tread surfaces of said tread members being roughened.

HERMAN IVY NEAL.