June 19, 1934. C. PETERSON 1,963,866

CONCRETE STEP

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Fig. 1.

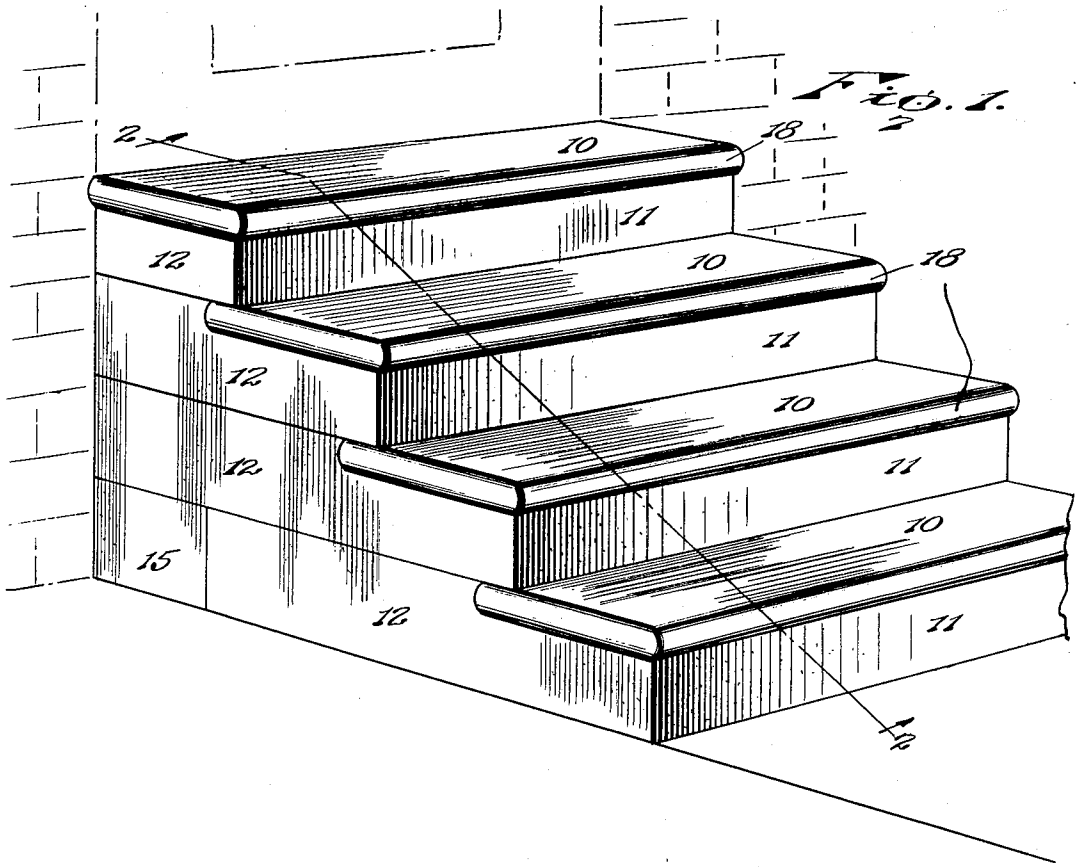


Fig. 2.

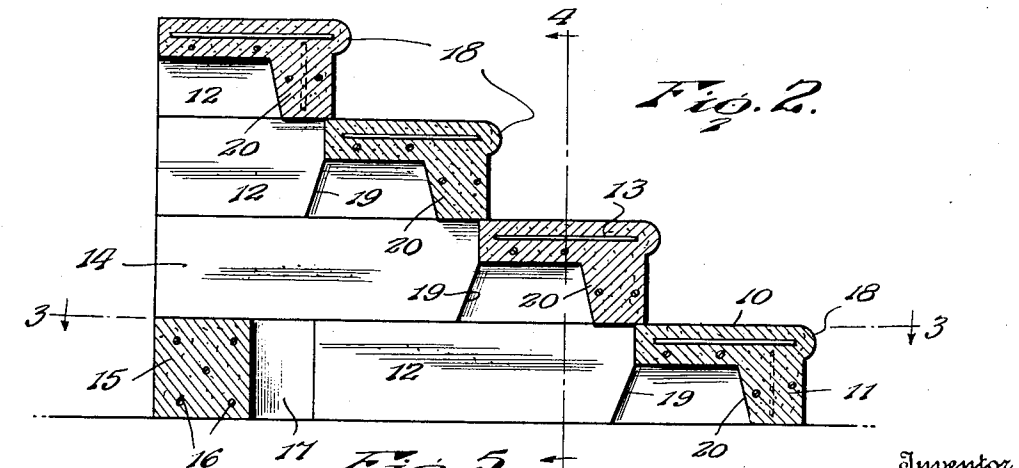
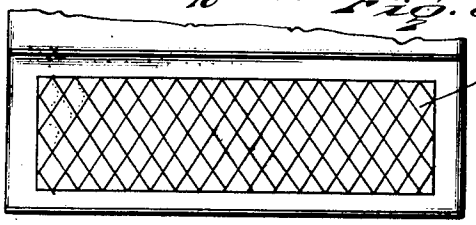


Fig. 3.



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Fig. 3.

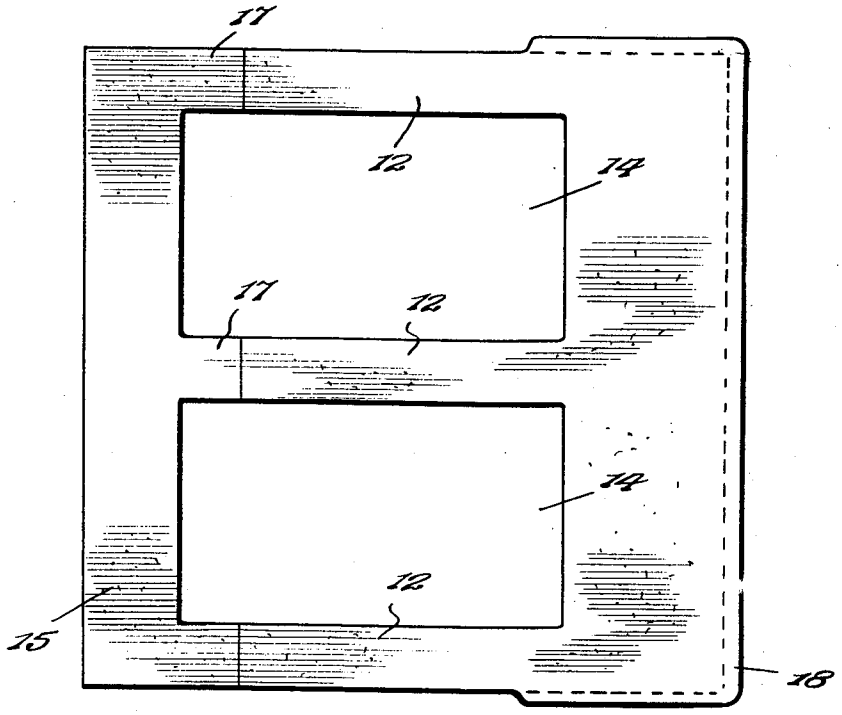
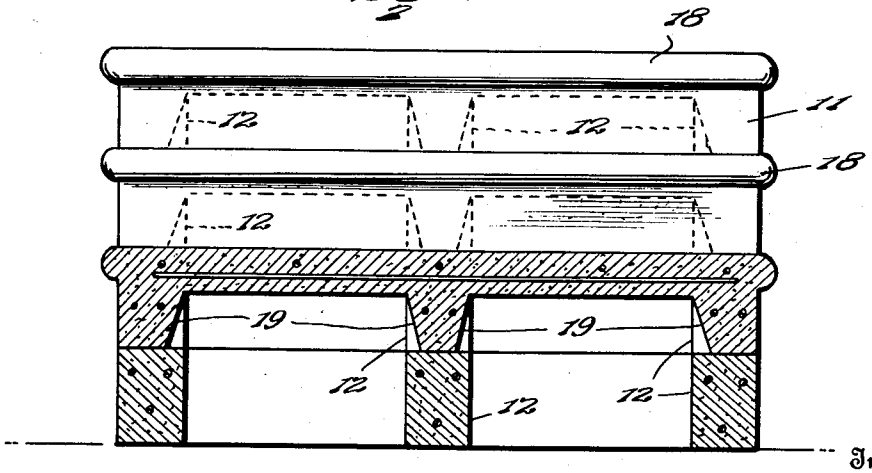


Fig. 4.



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UNITED STATES PATENT OFFICE

1,963,866

CONCRETE STEP

Colquit Peterson, Sulphur Springs, Fla.

Application June 13, 1932, Serial No. 616,983

1 Claim. (Cl. 72—96)

This invention relates to concrete steps and has for an object to provide a monolithic stair step comprising an integral tread and riser, and integral parallel bars extending from the tread and riser forming supporting side and intermediate walls, the structure needing no pegs, keys or other locking means to assemble it with contiguous steps and being light, durable and portable, whereby the step can be made as a stock article and transported to the job ready to be laid without the necessity of skilled labor or the use of forms.

A further object is to provide a construction by means of which a concrete stoop or stairway or flight of steps may be so assembled as to provide adequate ventilation spaces so that rotting of the woodwork of the building by moisture from the step structure is positively eliminated.

A further object is to provide monolithic steps which may be set up with cement or lime mortar between the joints, may be made on adjustable forms so that less material and labor is required in manufacture, and which may be constructed light or heavy according to the load to be carried.

With the above and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter fully described and claimed it being understood that various modifications may be resorted to within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of this specification,

Figure 1 is a perspective view of a stoop or stairway embodying my invention.

Figure 2 is a vertical longitudinal section taken on the line 2—2 of Figure 1,

Figure 3 is a horizontal section taken on the line 3—3 of Figure 2,

Figure 4 is a vertical cross section taken on the line 4—4 of Figure 2, and

Figure 5 is a plan view of a modified form of step tread.

The step embodying my invention comprises a tread 10 and a riser 11, there being preferably three parallel bars, 12 integral with the tread and riser, and of the same height as the combined heights of the tread and riser, which project rearwardly from the tread and riser. Suitable reinforcement, such as scrap steel, metal laths, wires, etc., indicated generally by the numeral 13, may be fabricated into the structure to provide increased strength. The tread, risers, and bars are formed in a single piece, and preferably are composed of concrete.

A plurality of steps constructed, as above described, may be superposed one upon the other with the parallel bars of all the steps forming side walls and an intermediate wall which provide between them ventilating spaces, indicated in general by the numeral 14, which open through the back of the stoop, and are of sufficient magnitude to prevent moisture from the steps rotting the sill, door frame, or other structure of the building.

A transverse bar 15, best shown in Figure 3, formed of cement in a single piece and preferably reinforced with metal 16, as above described, serves as a foundation to support the weight of the rear ends of the uppermost steps and is placed in rear of the lowermost step, the bar having preferably three branches 17, as shown in Figure 3, which are of the same height and width as parallel bars 12 of the lowermost step and abut the latter.

It will be observed that all of the steps are of the same length, width and height, the only difference being that the parallel bars 12 of each step, as the steps progress upwardly, are shorter in length than the next step underneath. Consequently an adjustable form may be used to produce the steps at a minimum cost and with a minimum amount of material, it being simply necessary to adjust the length of the form to accommodate the various lengths of parallel bars 12 during manufacture of the steps, whether 2, 3, 4, or any other desired number.

The joints made by the meeting edges of the parallel bars of the various steps may be cemented or lime mortared together if desired to present a one piece finish in appearance, and anchor the steps against creeping although this is not essential since the weight of the steps will be sufficient to permanently assemble the steps without extraneous fastening means.

For ornamental purposes, each step is provided around the marginal edge with a molding 18.

Although three parallel bars are illustrated and described, it is not intended to limit the parallel bars to being three in number, as four or more may be employed if desired, according to the load which the step must bear.

It will be observed that the concealed faces of the parallel bars of all of the steps, underneath the treads, are tapered, as shown at 19 in Figure 4. Likewise the concealed inner faces of the risers are tapered, as shown at 20. The purpose of this is to promote economy in material, while at the

same time present sufficient bearing surface at the bottom edges of the bars to firmly support the steps upon each other.

The branches 17, however, of the back rest or bar 15, are preferably not tapered at the concealed faces, but are substantially rectangular in cross section and the side faces are flush with the side faces of the parallel bars 12 of the lowermost step, as shown in Figures 3 and 4.

If desired, the steps may be plastered or stuccoed to present a solid appearance.

It will be pointed out that each step is monolithic in character, that is, is formed of a single piece of stone and forms its own foundation by virtue of the parallel bars 12 being of the same height as the combined heights of the tread and riser of each step. It will further be pointed out that steps constructed as above described are light, portable, and easy to handle, and may be constructed light or heavy in weight according to the traffic the stoop must support.

As shown in Figure 5, the tread surface 21 of the step may be checkered or otherwise etched to prevent slipping.

From the above description it is thought that the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

A stoop comprising superposed pre-formed reinforced concrete steps, and a single transverse reinforced concrete bar, each step including a tread and a riser and parallel bars extending rearwardly from the tread and riser and equal in height to the combined height of the tread and the riser, the transverse bar being disposed at the rear of the lowermost step and having branches abutting the rear end of the parallel bars extending from said step, said transverse bar supporting the rear ends of the parallel bars of superposed steps and said parallel bars being entirely disconnected at their rear ends whereby the entire back of the stoop above the transverse bar is open, the parallel bars of the steps forming side walls and an intermediate concealed wall for the stoop.

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