Aug. 16, 1927. 1,639,210

C. S. BROWN

MANHOLE STEP

Filed Nov. 22, 1926

Fig. 1.

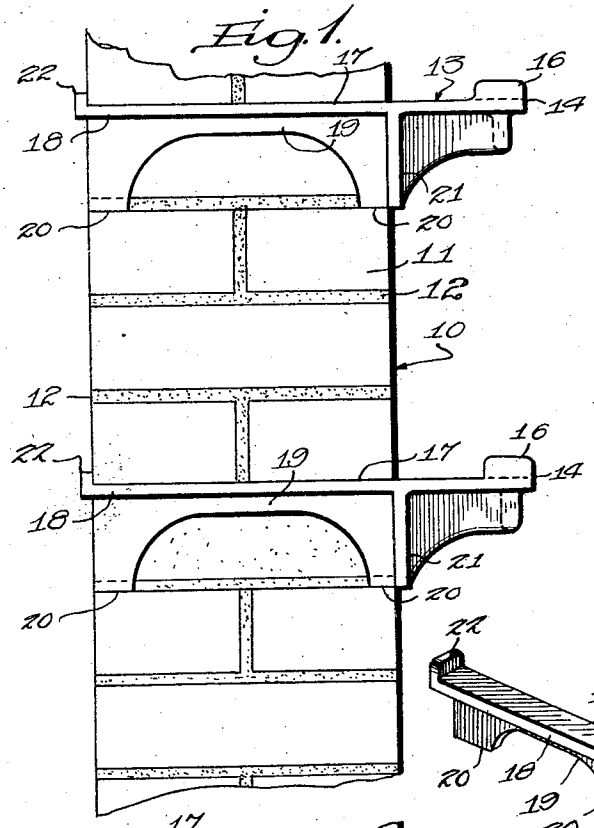


Fig. 3.

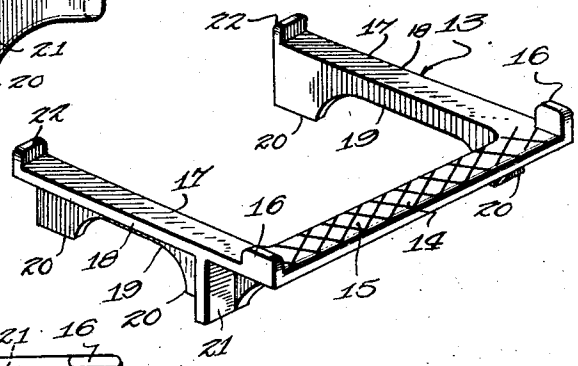
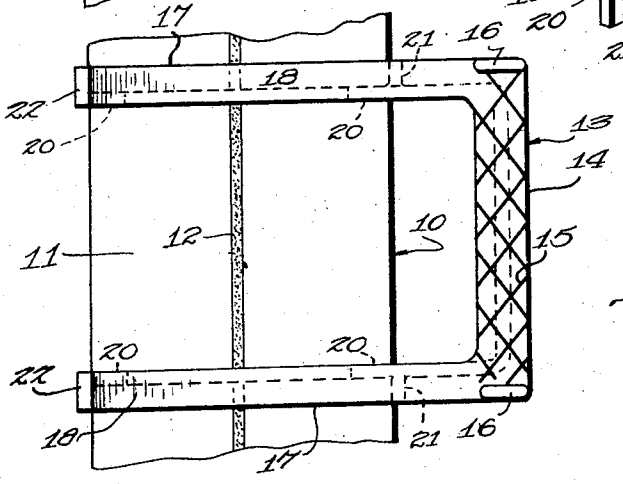


Fig. 2.



Inventor

CHALMERS S. BROWN

By Ch. Farlow

Attorney

Patented Aug. 16, 1927. 1,639,210

UNITED STATES PATENT OFFICE.

CHALMERS S. BROWN, OF LIMA, OHIO, ASSIGNOR TO BROWN AND BROWN, INC., OF LIMA, OHIO, A CORPORATION OF OHIO.

MANHOLE STEP.

Application filed November 22, 1926. Serial No. 150,053.

This invention relates to manhole steps and more particularly to a cast metal step adapted to be built into walls of masonry used in forming manholes.

Manhole steps are usually formed by bending bars of iron into substantially U-shaped form and embedding the ends of the bars in the mortar between the bricks. Such steps are disadvantageous for the reason that they deteriorate very rapidly and break adjacent the wall. Accordingly it is an important object of the present invention to provide a cast step which possesses great strength and durability and which is adapted to be readily built into the wall during the erection thereof.

A further object is to provide a step having a plurality of feet upon which it is adapted to rest while the wall is being completed around the step.

A further object is to provide a step of cast iron or the like formed substantially U-shaped to provide arms which are adapted to be embedded in the mortar between the bricks or the like which form the wall.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings I have shown one embodiment of the invention. In this showing,

Figure 1 is a vertical sectional view through a wall showing two of the devices in position,

Figure 2 is a plan view, and,

Figure 3 is a detail perspective of the step.

Referring to the drawings, the numeral 10 designates a wall of masonry or the like formed of bricks 11 having mortar 12 placed therebetween. The device forming the subject matter of the present invention comprises a substantially U-shaped step indicated as a whole by the numeral 13. The step includes an outer tread member 14 roughened on its upper surface as at 15 to reduce the danger of slipping thereon, and the ends of the tread are provided with guards 16 which also serve to prevent the foot of a person from slipping from the ends of the tread. The device also includes arms 17 the upper portions 18 of which are formed as horizontal flanges, each arm further being provided with vertical flanges 19 which terminate at their ends in feet 20. Each of the forward feet 20 is provided with an additional vertical flange 21 arranged at right angles to the flanges 19 for a purpose to be described. Upturned lips 22 are preferably formed at the rear ends of the arms, as clearly shown in Figures 1 and 3.

In placing the device in position, the wall is built to a desired level, whereupon the step is placed in position. It will be obvious that the portion of the step arranged within the wall is heavier than the projecting portion whereby the step is adapted to remain in position while the mason is preparing to place further layers of bricks in position. The distance between the flanges 19 is preferably equal to the length of a brick or twice the width thereof, whereby these flanges occupy positions between the bricks as the latter are placed in position. The feet 20 rest on one layer of bricks, and when the mortar is placed in position, it extends upwardly into the spaces between the feet 20 as will be apparent. The distance between the lower faces of the horizontal flanges 18 and the lower extremities of the feet 20 is preferably equal to the thickness of a brick, whereby it will be obvious that the flanges 18 lie in a plane between two adjacent courses of bricks, and the space between these flanges is filled with mortar. The lips 22 are adapted to engage against the outer face of the wall as shown in Figure 1. Owing to the fact that the heavier portion of the device lies over the feet 20 it will be apparent that there is no tendency for the tread portion of the device to swing downwardly, hence any tendency which such swinging action would have to injure the "green" mortar is eliminated. From the foregoing it will be apparent that the device is extremely simple and durable in construction and readily may be placed in position as the building of a wall progresses. The tread 14 of each step is spaced from the wall whereby it is adapted to serve as a hand hold when a workman is climbing up the steps.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit

of the invention or the scope of the subjoined claim.

I claim:

A device of the character described comprising a substantially U-shaped cast metal step having the base portion thereof forming a tread, the arms of said step including upper horizontal flange portions and vertical depending flange portions, each of said depending flange portions including a plurality of downwardly projecting feet.

In testimony whereof I affix my signature.

CHALMERS S. BROWN.