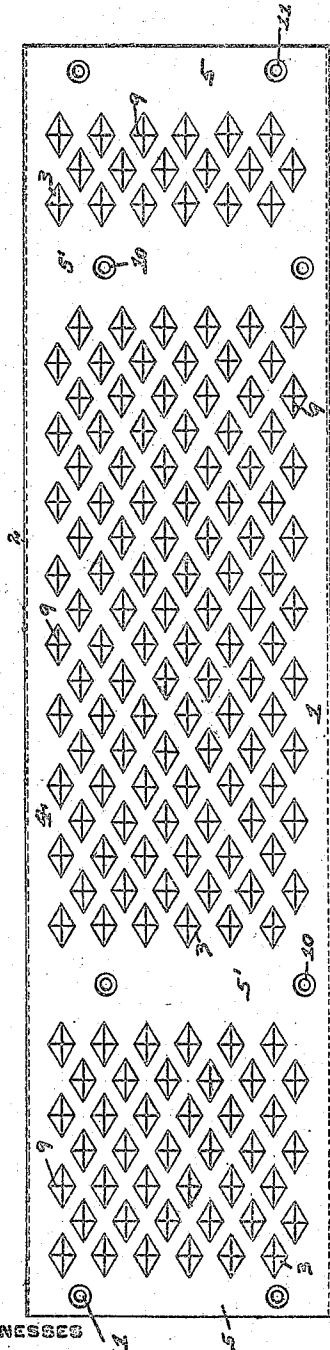


W. CAIRNS.
STEP OR RUNNING BOARD.
APPLICATION FILED MAY 8, 1909.

937,415.

Patented Oct. 19, 1909.

Fig. 1.



WITNESSES

O. L. Thompson.
James R. Weber.

Fig. 2.

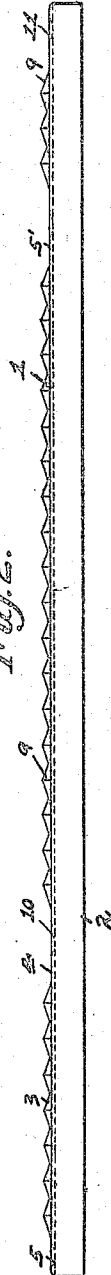


Fig. 4.

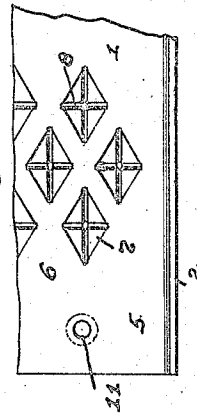


Fig. 3.



INVENTOR

William Cairns.
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UNITED STATES PATENT OFFICE.

WILLIAM CAIRNS, OF CLEVELAND, OHIO, ASSIGNOR TO PARISH AND BINGHAM COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF WEST VIRGINIA.

STEP OR RUNNING-BOARD.

937,415.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed May 8, 1909. Serial No. 494,904.

To all whom it may concern:

Be it known that I, WILLIAM CAIRNS, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Steps or Running-Boards; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to steps or running boards, and has special reference to such steps or boards as are generally used on the sides of motor vehicles.

The object of my invention is to form a step or running board from sheet metal by pressing or stamping, which will be cheap, simple and efficient in its construction, can be easily and quickly manufactured, and can be readily and conveniently set in place.

My invention consists, generally stated, in the novel arrangement, construction and combination of parts, as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved step or running board, I will describe the same more fully, referring to the accompanying drawing, in which—

Figure 1 is a top plan view of my improved step or running board. Fig. 2 is a side view of the same. Fig. 3 is an enlarged end view of the same, partly in section. Fig. 4 is an enlarged bottom view of one end portion of the step or board.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing my improved step or running board is formed from a sheet metal plate, which is cut to the shape and size required, and this plate is adapted to be placed within and between suitable dies of a press while in a cold state for being pressed or stamped at one operation to form the top or body 1 and side flanges 2 bent out at a right angle therefrom. After the step or board has been thus shaped a series of projections 3 are formed on the upper face 4 of the body 1, and such projections are preferably of diamond shape and staggered, and preferably with the longest edge portion of the shape of the same running lengthwise of said body and the shortest edge portion running across the same. These projections 3 extend sub-

stantially throughout top or body 1 of the step or board with the exception of the portions 5 at the ends of said body and the portions 5' within the same, and they are formed by means of a suitable punch (not shown), which has its punching end of the same diamond shape as said projections and provided with a raised cross-portion on such end. This punch is directed against the bottom face 6 of the body 1 by any suitable pressure and will bend the metal of said body outwardly to form the projections 3 thereon, which will form the hollow portion 7 in said projections and on said face, while the raised portion on said punch will form the cross-shaped groove 8 in said hollow portion 7, as shown in Fig. 4, and thereby enable the metal as it is forced outwardly thereby in forming said projections to permit the formation of a sharp angle to the edge portions 9 on said projections.

The step or running board being thus formed to finished shape is now ready to be attached in place, and in case of its use on the ordinary approved form of an automobile, the step brackets or hangers usually extending from the frame of such vehicle can be secured to the step or board in any suitable manner through the medium of the holes 10 in the solid intermediate portions 5' of the body 1, and through the holes 11 in the solid end portions 5 of said body being secured in any suitable manner to the front and rear wheel fenders of the vehicle, although it will be evident that the step or board can be connected to the vehicle in any other manner desired.

It will thus be seen that my improved step or running board will have unusual strength for the purpose intended and will enable its formation from thinner metal than is usual in this class of work, while being formed without holes therein will prevent the mud, dirt, etc., from coming up through the same, and will enable it to be formed of lighter material. It will also prevent the paint or enamel from wearing rapidly and easily from the top of the same, as in the case with the flat or open tops, and persons using the same will not be liable to slip on the surface of the top, but will be able to retain a firm foot-hold upon the same at all times and through the sharp angular shape of the projections thereon.

It will be obvious that my improved step

or running board can have the projections formed therein by a gang of punches or a single punch after the metal has been stamped or pressed to form the body and flanges thereon, or such projections can be formed during such stamping or pressing operation, and that end flanges can be formed on the same with or without the side flanges.

10 Various other modifications and changes in the design and construction of my improved step or running board may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

15 What I claim as my invention and desire to secure by Letters Patent, is—

1. A step or running board pressed or stamped from a plate of sheet metal into a flanged form and having hollow projections bent up from the body of the same and provided with sharp angular edges thereon.

2. A step or running board pressed or stamped from a plate of sheet metal into a

flanged form and having hollow diamond-shaped projections bent up from the body of the same and provided with sharp angular edges thereon. 25

3. A step or running board pressed or stamped from a plate of sheet metal into a flanged form and having hollow projections bent up from the body of the same and said hollow portions having grooves therein for forming sharp angular edges on said projections. 30

4. A step or running board pressed or stamped from a plate of sheet metal into a flanged form and having hollow diamond-shaped projections bent up from the body of the same and said hollow portions having cross grooves therein for forming sharp angular edges on said projections. 35

In testimony whereof, I, the said WILLIAM CAIRNS, have hereunto set my hand.

WILLIAM CAIRNS.

Witnesses:

H. H. FISHER,
AGNES DOYLE.