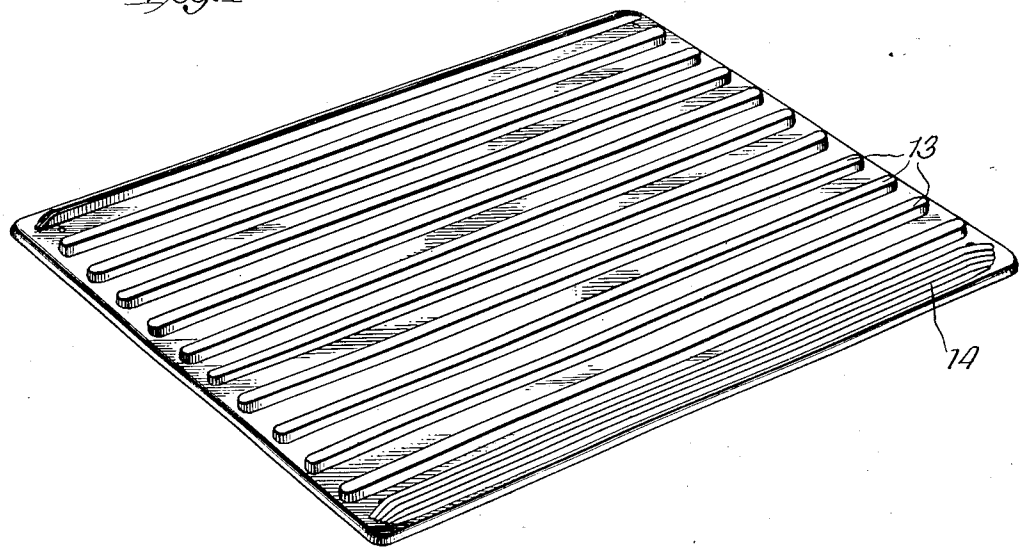
F. H. STANWOOD.

STEP PLATE.

APPLICATION FILED OCT 24, 1919.

1,409,125. Patented Mar. 7, 1922.

Fig. 1



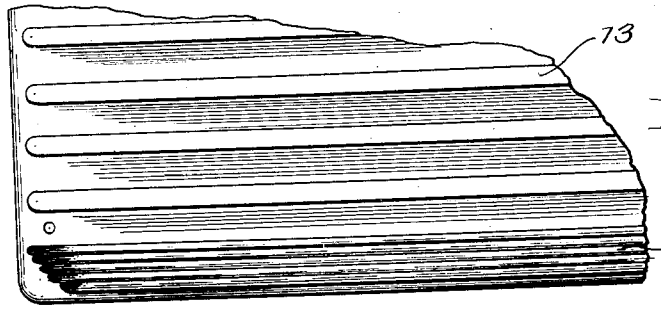


Fig. 2

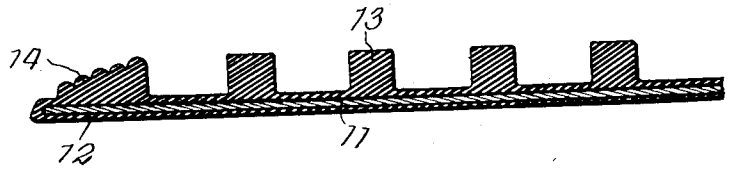


Fig. 3

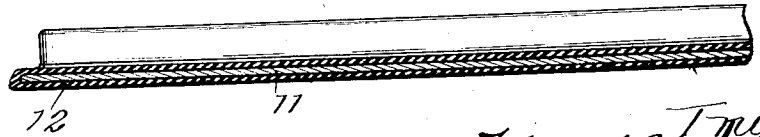


Fig. 4

Inventor

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UNITED STATES PATENT OFFICE.

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STEP PLATE.

1,409,125. Specification of Letters Patent. Patented Mar. 7, 1922.

Application filed October 24, 1919. Serial No. 333,094.

To all whom it may concern:

Be it known that I, FRANK H. STANWOOD, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Step Plates, of which the following is a specification.

This invention relates in general to safety step plates for automobile running boards and has more particular reference to plates of this character composed largely of rubber and from which rubber ribs extend up to be engaged by the foot of persons entering or leaving the automobile, to prevent slipping and also to clean the shoes of such persons on entering car.

I have found that plates of this character are most effective when the ribs are arranged in upstanding isolated relation and preferably in parallelism.

However they may be constructed and arranged the greatest wear under normal conditions, occurs at the outer front and back edges of the plate, and my present invention has for a principal object the construction of the ribs to prevent wear at the edges of the plate shortening the life of the plate.

My invention contemplates the accomplishment of this purpose through the formation of the edge ribs or edge ribbing in such fashion that this edge ribbing may sustain this wear without apparent or actual rapid deterioration. This is accomplished by forming the edge ribs in a fashion to resist the wear and also in a fashion to distribute the wear over the other ribs i. e. the ribs located well within the interior of the plate.

Where the upstanding ribs are provided in parallelism and extending lengthwise of the plate, the greater bending strength which tends to tear the ribs from the plate is, of course, felt at the edges of the plate and my present invention has for a further important object the provision of edge ribs shaped to counteract this tendency, in two fashions; first, through having wider bases and second, by so shaping the ribs as to minimize the bending and tearing strains occasioned by persons stepping upon the plate in entering and leaving the automobile.

Another highly important object is the construction of the edge ribs so that danger of slipping will be minimized.

Another object of the invention is the provision of a step plate having these and other advantages which may be readily positioned without special tools or directions upon the running board of any of the standard automobiles.

Numerous objects and advantages of the invention will be apparent as it is better understood from the following description which considered in connection with the accompanying drawings, illustrates an embodiment thereof.

Referring to the drawings,

Figure 1. is a perspective view of a step plate embodying my present invention;

Fig. 2. is a partial plan view thereof:

Fig. 3. is a partial front to back section; and

Fig. 4. is a partially longitudinal section taken between interior ribs.

A step plate embodying my invention for the purpose of illustration, comprises an internal flat metal sheet 11 encased entirely in a rubber coating 12, which is preferably vulcanized thereto. This vulcanization is probably best accomplished by providing a film or coating of copper upon the plate which causes the vulcanization of the rubber material to bond tightly to the plate.

Upstanding isolated ribs 13 are arranged in parallelism and extending up from the coating above the plate. These ribs are preferably of rectangular cross section and cover by far the major portion of the plate. A different rib formation is provided at the back and front edges for it is at these edges the greatest wear occurs and also at these edges there is the greatest tendency to tear the ribs from place in the use of the plate. The edge ribs 14 are made thicker than the interior ribs and taper from the edge of the plate upwardly. These thickened ribs 14 are preferably corrugated on their upper surfaces so that in effect a number of ribs is provided at each side.

This rib construction accomplishes among others these important results. It minimizes the effect of wear. It minimizes the opportunity for damaging the plate through the tearing of the edge ribs loose and it minimizes the danger of the foot of the user slipping when stepping close to or on the plate edge.

The wear is minimized in several fashions, there is a wide wearing surface provided, and by reason of the shape of this surface being nearly parallel with the sole of the

shoe stepping on it, there is less tendency for the foot to rub over the rubber and the pressure is put evenly on the interior ribs as the person enters the car.

The danger of tearing loose the ribs is also minimized in several fashions; the edge rib which would ordinarily receive the greater strain is given a stronger and wider holding power by reason of the vulcanization, than is given the interior ribs; and by reason of the shape of the exterior ribs the strains are applied more nearly at right angles to the metal plate, or at least at right angles to the greater width of the rib, moreover the character of the engagement between the foot and the edge rib is such as to protect the interior ribs from tearing loose.

The danger of slipping is minimized by reason of the fact that a surface quite or nearly parallel to the foot is presented for engagement by the foot with a greatly increased frictional holding power.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing without further description and it will be manifest that various changes may be made in the form, construction, and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A safety step tread for automobiles and the like, comprising a yielding resilient base of soft material formed with upstanding isolated longitudinal ribs adapted to yield and cling to the sole of the shoe, said base having along its front a relatively wider edge rib formed with a yielding cushioning surface which is inclined forwardly and downwardly towards the edge of the step and is provided with longitudinal corrugations on its inclined surface.

2. A safety step tread for automobiles and the like, comprising a yielding resilient base of soft material formed with upstanding isolated longitudinal ribs adapted to yield and cling to the sole of the shoe, said base having along its front a relatively wider edge rib formed with a yielding cushioning surface which is inclined forwardly and dowwardly towards the edge of the step and is provided with longitudinal corrugations on its inclined surface, and an internal flat metal sheet included in said base.

FRANK H. STANWOOD.