Jan. 8, 1929. 1,698,005

F. H. STANWOOD

INDIVIDUAL STEP BRUSH INSERT

Filed Sept. 22, 1924 3 Sheets-Sheet 1

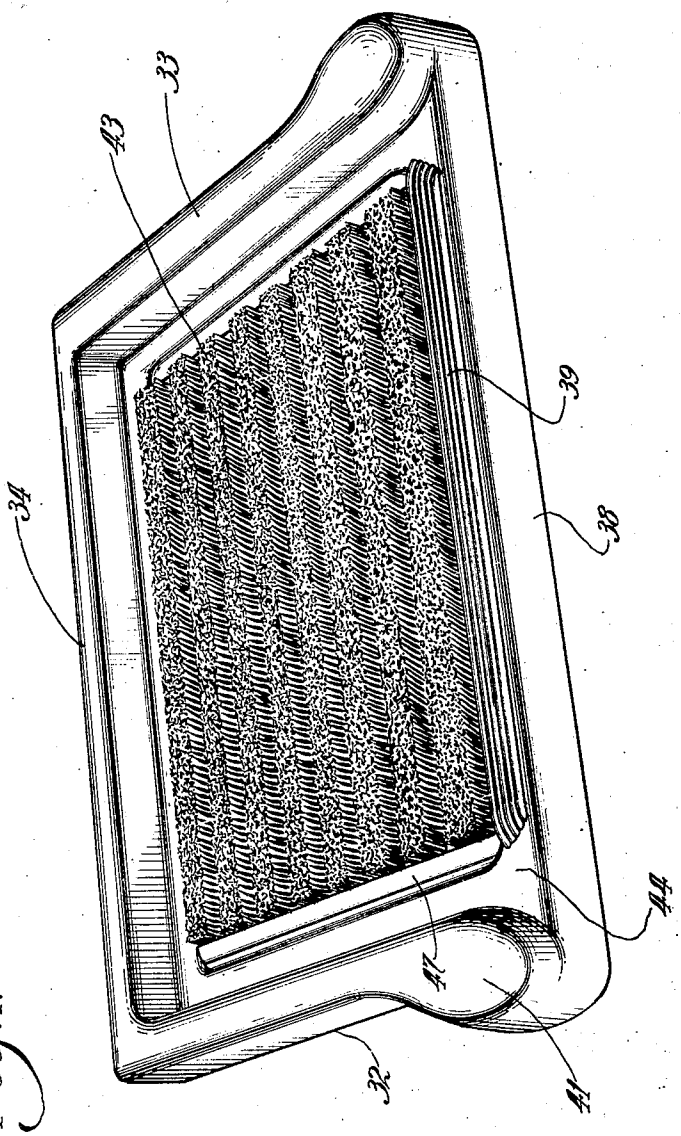


Fig. 1.

Inventor:
Frank H. Stanwood
By Munday, Clarke & Carpenter Attys.

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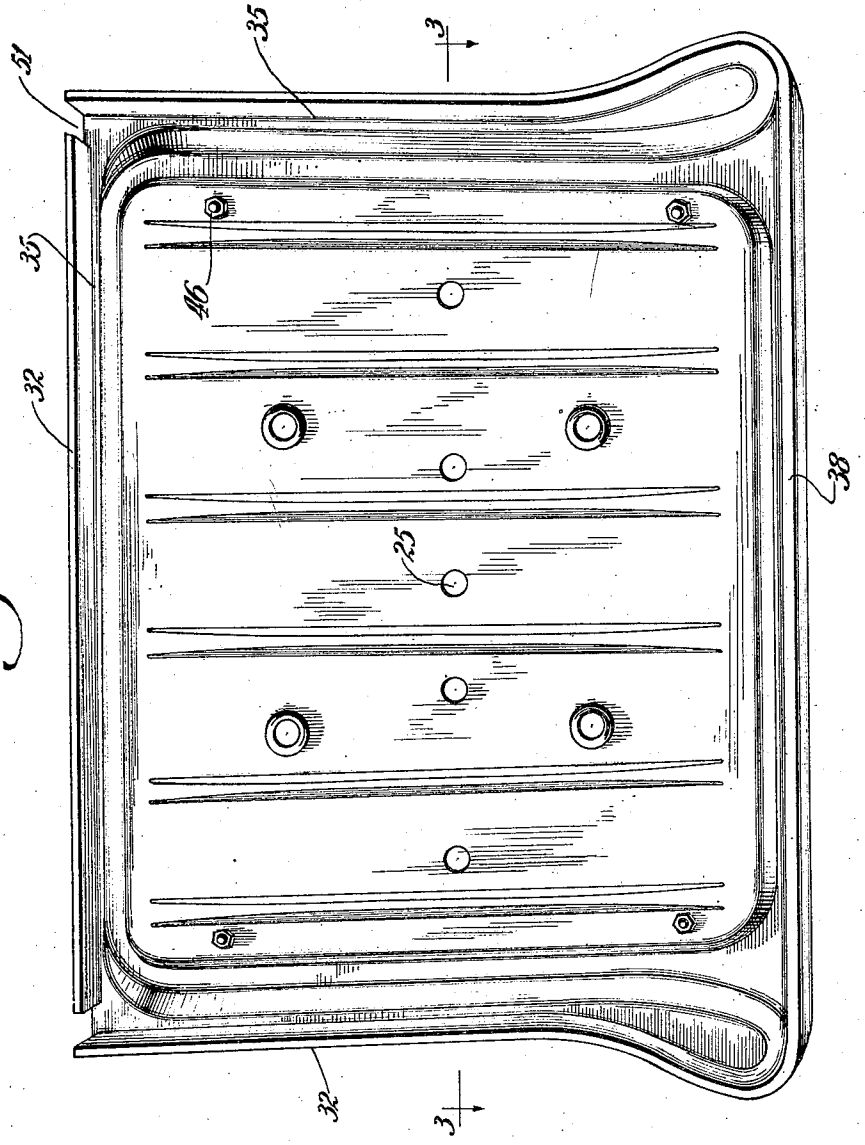


Fig. 2.

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Frank H. Stanwood
By Munday, Clarke & Carpenter Att'ys.

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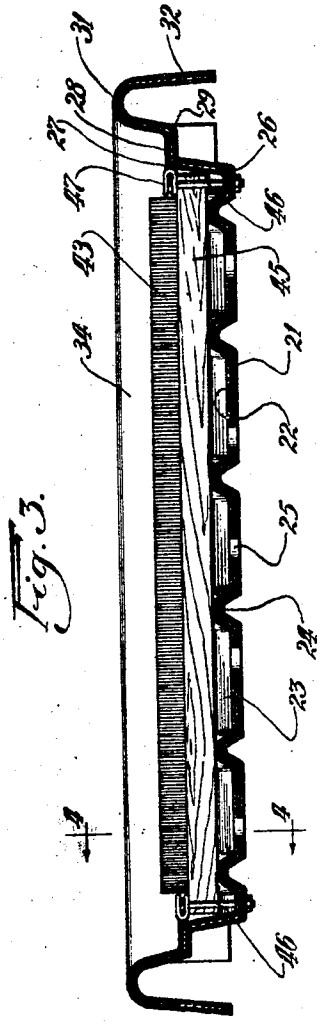


Fig. 3.

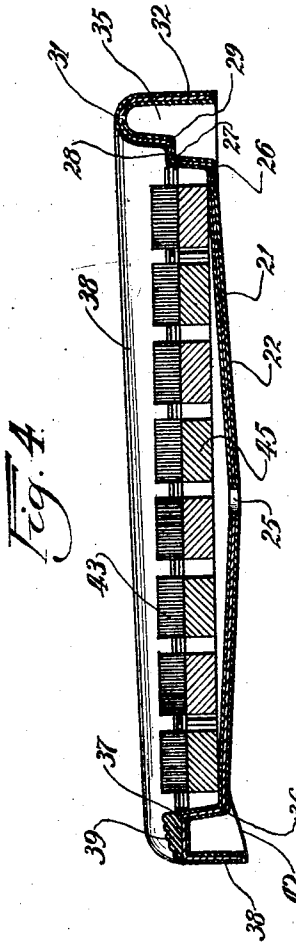


Fig. 4.

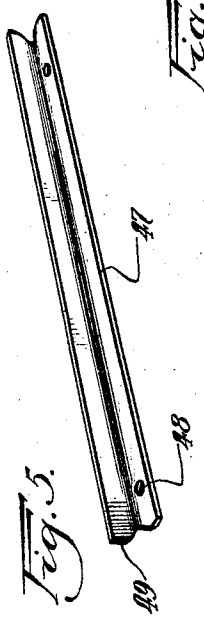


Fig. 5.

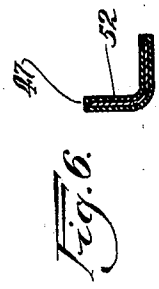


Fig. 6.

Inventor:
Frank H. Stanwood
By Munday, Clarke & Carpenter Attys.

Patented Jan. 8, 1929. 1,698,005

# UNITED STATES PATENT OFFICE.

FRANK H. STANWOOD, OF WILMETTE, ILLINOIS, ASSIGNOR TO STANWOOD EQUIPMENT COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MAINE.

## INDIVIDUAL-STEP BRUSH INSERT.

Application filed September 22, 1924. Serial No. 738,969.

My invention relates to individual steps for automobiles and has for its principal object the provision of a step of the general character shown in my co-pending application Serial No. 728,521, filed July 28, 1924, equipped with a brush, or brushes adapted for cleaning the shoes of persons entering the car.

An important object of the invention is the provision of an automobile step having inserted brushes arranged in such manner as to be easily removable for replacement or other cause, provision being made, in this connection, for substituting single sections when desirable without replacing the entire brush unit employed in the step.

A further object is the provision of an individual step of this character so formed as to be automatically cleaned, provision being made for discharging the dirt collected by the brushes without attention by the person caring for the car.

Another object is the provision of an individual step of compact and rigid construction, which will be durable in service and will present a pleasing apperance, enhancing the beauty of the car on which it is used.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure. 1 is a perspective view of an individual step in which my invention is embodied;

Fig. 2 is a bottom plan view thereof;

Fig. 3 is a longitudinal section, taken substantially upon the section line 3—3 in Fig. 2;

Fig. 4 is a front-to-back section, taken substantially upon the line 4—4 in Fig. 3;

Fig. 5 is a perspective view of the plate employed for receiving and concealing the heads of the bolts which are used in securing the brushes in place; and

Fig. 6 is a transverse sectional view of said plate with the rubber covering thereon.

The automobile step which I have shown upon the drawings, for purposes of illustration, comprises a unitary metal insert 21, which is preferably made of pressed steel and is enclosed within a rubber covering 22, extending, in the present instance, over the entire surface of said metal insert on both sides thereof, said covering being formed of flexible rubber, which may be molded to the form desired and bonded to the metal by a suitable vulcanizing process, though it will be understood that, from certain aspects of the invention, this covering and the manner in which it is applied are immaterial and may be omitted altogether, if desired.

The rubber covering 22 conforms throughout to the shape of the metal member 21 and the unit formed by these parts will, therefore, be described as a single piece. The body thereof consists of a plurality of channels 23, formed by front-to-back ribs 24, the bottom of said channels being inclined from both ends toward the center and openings 25 being provided in each channel at the low point therein.

The step member, at the sides and back, is turned upwardly at 26 and then horizontally at 27, providing a ledge 28 and being again turned upwardly at 29 and arched, as indicated at 31, to provide downwardly extending flanges 32, the side walls 33 and rear wall 34 thus formed being relatively thick and giving a substantial appearance, as well as providing channels 35 on the under side of the step for a purpose which will hereinafter appear.

At the front, the step member is turned upwardly at 36, then horizontally at 37 and terminates in a depending flange 38, above which is a nosing 39 formed by thickening and corrugating the rubber covering, as shown in Figs. 1 and 4. The side walls 33 are widened at the forward ends thereof, as shown at 41, and the side flanges 32 are sloped downwardly at 42 (see Fig. 4) to the plane of the lower extremity of the front flange 38. The step thus formed is very rigid and durable and presents a massive and substantial appearance.

Clearing brushes 43 are inserted in the inset floor portion of the step, the bristles of said brushes being secured in base members 45, which, in the present instance, are formed of wood and rest upon the ribs 24 in the bottom of the step. The opposite ends of these front and back base members 45 are secured to the step by means of bolts 46, extending therethrough and through apertures provided at the corners of the step member (see Figs. 2 and 3), the heads of said bolts being disposed in a U-shaped re-

taining plate 47 which extends across the ends of the base members 44, holding the intermediate brushes in place and concealing the heads of the bolts. Suitable apertures 48 are provided in one flange of said U-shaped member 47 and the top flange 49 thereof is smooth and is adapted to be disposed just within and forming continuations of the ledges 28 of the side member. A rubber covering 52 is provided for the plates 47 and it will be apparent that there is no exposed metal which might rust and thus mar the appearance of the step.

It will be evident that by merely removing the bolts 46, the brushes 43 may be removed, and, inasmuch as the top surface of the plate is made up of a plurality of brushes, or brush sections, they may be individually replaced when necessary, in economical and convenient manner.

The dirt falling between the brushes 43 will be directed to the center of the channels 23 and out through the holes 25, this discharge of the dirt being effected ordinarily merely by the vibrations of the car and the step, therefore, requiring little or no attention after it has been positioned.

The rear ends of the channels 35 are open, as indicated at 51, in order that the step may be placed upon a suitable hanger, or supporting bracket extending out from the car and, if desired, fastening devices may obviously be employed to attach the rear flange 32 to the car body, the particular manner of attachment not forming any part of my invention and, therefore, not being shown in the drawings.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent 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. An individual step for an automobile, comprising, a one piece pressed metal member adapted to be supported from a chassis of an automobile, said member being formed with upstanding rear and side border walls forming an intervening inset, the bottom walls of said inset portion being provided with struck-up ribs extending substantially thereacross, said ribs being formed to provide intervening pockets having downwardly converging walls terminating in a discharge aperture through said walls, a plurality of individual brushes mounted in spaced apart relation and resting on said struck-up ribs, being substantially co-extensive with said inset, and means for detachably holding said brushes in assembled relation.

2. An individual step for an automobile, comprising, a one piece pressed metal member having upstanding back and side walls forming an intermediate inset, said pressed steel member being covered with a rubber coating, and the front wall of said steel member having a nosing extending along its forward edge, a plurality of individual brushes disposed in said inset in spaced apart relation, means for detachably fastening said brushes in position, the bottom wall of said inset portion being formed with suitable perforations therethrough, whereby to permit the discharge of dirt falling from said brushes between the spaces thereof.

3. In an individual step for automobiles, the combination of a pressed metal member having its wall portions formed to provide an inset, a plurality of brushes disposed in said inset and in spaced apart relation, bolts passing upwardly through the bottom wall of the inset, a clamping strip overlying said brushes connected to said bolts, said clamping member having an integral portion adapted to overlie said bolts to hide them from view.

4. In a step for automobiles, the combination of an integral pressed metal member having its side and rear provided with upstanding wall portions forming a three-sided border with a central inset, the bottom wall of said member at said inset being provided with a plurality of upstanding ribs forming intervening pockets, said pockets inclining from each outer edge inwardly and downwardly and terminating in dirt discharging apertures formed through the bottom wall of the inset portion, a plurality of brushes lying on the tops of said ribs and extending across said inset in spaced apart relation, and means for detachably holding said brushes in assembled position.

5. In an automobile step, the combination of a single piece of pressed steel formed with upstanding walls to provide a border portion surrounding the central inset, the front portion of said border walls being provided with a nosing, a plurality of individual brushes spaced apart and co-extensive with the said inset portion, and means for detachably holding said brushes in assembled position, the bottom wall of said inset being formed to discharge dirt passing in between said brushes.

6. A step for an automobile, comprising a pressed steel member having struck-up walls forming two sides and a rear portion, said struck-up walls terminating in depending flanges, spaced from the struck-up wall portion, each portion of the depending flange at the rear being open to permit the insertion of a hanger for supporting said step, the front ends of said struck-up wall portions being widened at the top and slop-

ing downwardly and outwardly, a plurality of brushes detachably mounted in the portion between said side and rear walls, and means for attaching said brushes to said member.

7. In a step for an automobile, the combination of a pressed steel member formed with upstanding walls, providing a border portion and providing an intermediate inset, the front wall portion being relatively low compared to said struck-up portions, said pressed steel member being formed with a rubber covering extending over the entire surface of said metal, on both sides thereof, and being vulcanized thereto, the front portion of said metal member being provided with a thickened rubber coating having a corrugated exterior forming a nosing.

8. In a step for an automobile, the combination of a pressed steel metal member having struck-up border portions providing an intermediate inset, said metal member being provided on both sides with a rubber covering suitably adhering thereto, a plurality of individual brushes mounted in spaced apart relation on said inset, a plurality of fastening means for demountably holding said brushes in assembled position on said inset, and a plurality of metal strips passing over the ends of the brushes, said strips being constructed and arranged to cover said fastening means, said strips having their exposed faces wholly covered with rubber suitably adhered thereto.

9. An individual step, comprising a sheet metal body formed to provide edge flanges and an intermediate inset, a rubber covering completely enclosing said body, a plurality of brushes resting upon rubber covered portions of said body and lying in spaced apart relation substantially co-extensive with said inset, and means for holding said brushes in assembled relation.

10. An individual step, comprising a sheet metal body formed to provide edge flanges and an intermediate inset, said inset having upstanding portions covered with rubber and disposed so as to form supports, a plurality of brushes mounted on said supports in spaced-apart relation, and fastening means for holding said brushes in assembled position.

11. In a step, the combination of a pressed steel member having edge flanges forming a central inset, the body of said inset being provided with spaced-apart upstanding ribs forming intervening pockets constructed and arranged to drain dirt filling thereinto, said upstanding ribs being covered with rubber, a plurality of brushes lying across said ribs in spaced-apart relation, and means for holding said brushes in assembled position.

12. An individual step, comprising a sheet metal body formed to provide edge flanges and an intermediate inset, said body having upstanding portions forming brush supports, said portions being covered with rubber, a plurality of brushes lying across said upstanding portions in spaced-apart relation thereon, clamping strips overlying said said brushes, bolts passing through the bottom of said inset and engaging said clamping strips, whereby to hold said brushes in assembled position.

13. An individual step, comprising a sheet metal body formed to provide edge flanges and an intermediate inset, said body having upstanding portions forming brush supports, said portions being covered with rubber, a plurality of brushes lying across said upstanding portions in spaced-apart relation thereon, clamping strips overlying said brushes, bolts passing through the bottom of said inset and engaging said clamping strips, said clamping strips having a portion adapted to be folded over to cover said bolt to hide the same from view.

FRANK H. STANWOOD.