T. C. McPHERSON.

RUNNING BOARD MAT.

APPLICATION FILED MAR. 9, 1918.

1,291,977. Patented Jan. 21, 1919.

Fig. 1.

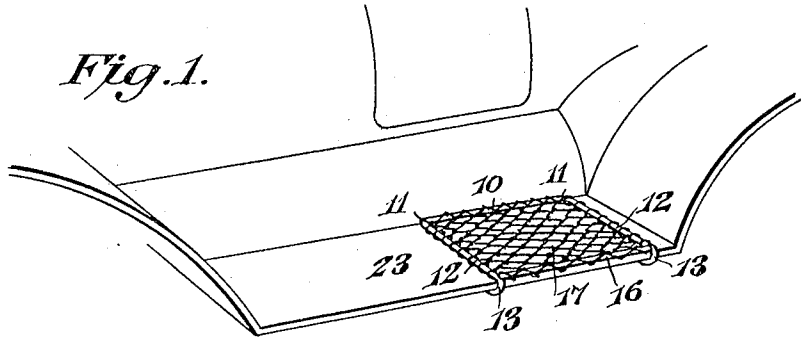


Fig. 2.

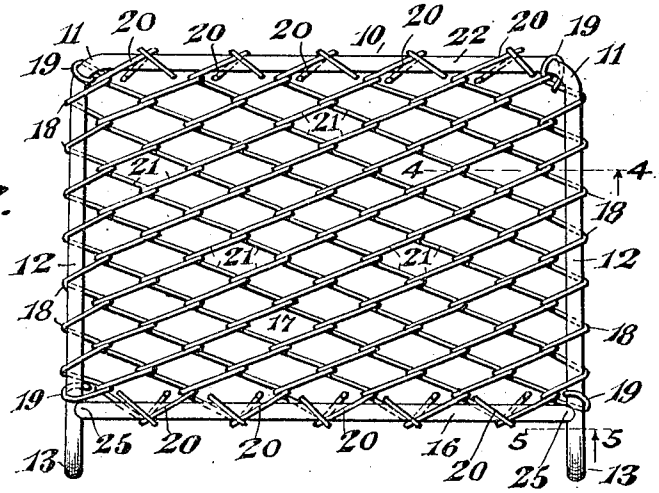


Fig. 5.

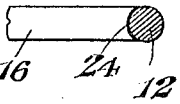


Fig. 3.

Fig. 4.

WITNESSES

Jas. E. McCachran

J. P. Smith.

INVENTOR

Thomas C. McPherson,

BY E. G. Siggers

ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS C. McPHERSON, OF BEAVER FALLS, PENNSYLVANIA, ASSIGNOR TO KEYSTONE WIRE MATTING CO., OF BEAVER FALLS, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

RUNNING-BOARD MAT.

1,291,977. Specification of Letters Patent. Patented Jan. 21, 1919.

Application filed March 9, 1918. Serial No. 221,533.

To all whom it may concern:

Be it known that I, THOMAS C. McPHERSON, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented a new and useful Running-Board Mat, of which the following is a specification.

This invention relates to mats, and particularly to mats which are adapted to be secured upon the running board of an automobile.

In general, the object of this invention is to provide a mat of superior construction which will not only afford convenient foot-wiping means but will constitute an anti-slip device or foot-hold.

To be more particular, it is my object to provide a mat easy to manufacture, of rugged construction and durable materials, one which will not readily collect dirt, which may be cleaned with despatch and which may be slipped on or off the running board of an automobile with ease.

In order to attain these objects, the mat is constructed preferably of rust-proof wire coils interwoven with each other and held under tension on a heavy resilient wire frame which is provided with retaining prongs. To more fully comprehend this invention, attention is directed to the accompanying drawings which form a part of this specification.

In the drawings—

Figure 1 is a perspective view showing the device attached to the running board of an automobile;

Fig. 2 is a plan view of the mat;

Fig. 3 is a perspective view of the heavy wire frame;

Fig. 4 is a sectional detail on an enlarged scale, the view being taken on the line 4—4 of Fig. 2; and

Fig. 5 is a detail sectional view on the scale of Fig. 4, the section being on the line 5—5 of Fig. 2 and the wire matting being omitted.

Referring to the drawings, 10 designates a heavy wire which is bent intermediate of its ends at 11 to form a substantially U-shaped or three-sided frame, having the side arms 12 of equal length. Each of these arms is bent back upon itself as indicated at 13, so as to form clamping portions or arms 14. The bend or arc at 13 is greater than a semi-circle with the result that the portions or arms 14 have an inclination toward or a normal tendency to approach the arms 12, as clearly shown in Fig. 3. The side arms gradually diverge outwardly from the bends 11 to the bends 13, so that they are spaced farther apart at the bends 13 than at the bends 11, as will be seen upon reference to Fig. 2. The extremities of the wire 10 are bent outwardly or away from the arms 12, as indicated at 15 to provide a flared entrance. As will be readily understood, the manner of bending the wire 10 as described provides retaining prongs or arms which will grip the underside of the running board of an automobile and will hold the mat securely in place under all conditions of service. At the same time, the prongs or arms permit ready removal of the mat when desired.

The part described above, when assembled with a cross piece or bar 16, made of the same heavy material, as shown in Fig. 2, forms a substantially rectangular frame provided with integral retaining prongs. Upon this frame as a supporting structure is woven the wire mat proper, indicated generally by the numeral 17. This mat is made up of a number of wire coils interwoven with each other as will be explained.

Looking at Fig. 2, it is seen that a wire coil 18 is wrapped loosely around a side arm 12 of the frame, and that its end loops 19 secure it to the arm near the bends 11 and 13. One end 20 of a similar wire coil 21 is looped about the wire 10, and the coil 21 is interlocked or woven with the coil 18 across the width of the frame until the other side is reached, where the other end 20 encircles the cross-piece 16. The manner in which the coils are held to each other is clearly shown in Fig. 4. In this way, the entire mat is formed starting at one end and ending at the other, each coil being uniformly interlocked with the preceding and following one and having its ends 20 looped about the middle portion 22 of the wire 10 and the cross-piece 16 of the frame, all of which is clearly shown in Fig. 2. The completed mat is secured upon a running board 23 as shown in Fig. 1.

In the manufacture of this mat, the rod 10

is completed in the form shown in Fig. 3, prior to the weaving of the fabric thereon. The first coil as it comes from the machine is woven about either side 12 of the frame and locked as described; then another coil is interwoven with it, and one of its ends is locked to the wire 10, then another, until the opposite end is reached. The free or outer ends 20 of these coils will now lie in a line extending between the arms 12 of the frame at the bends 13. This weaving process is not attended with difficulty because the wire coils are not rigidly secured to each other but only intertwine with each other. To complete the mat and give the desired tension to the fabric, the cross-piece 16, which might be called a "tensioning" member is inserted. This element is applied by hand through the free outer ends 20 of the coils and its ends 25 abut against arms 12.

As clearly shown in Fig. 5, each end of this tensioning cross-piece 16 is made concave, as indicated at 24, and the curvature of these concaved ends is such that the cross-piece fits exactly the heavy wire frame where it contacts with the same. In order for the cross-piece to fulfil its function of stretching the wire fabric of the mat, it is made somewhat longer than the distance between the arms 12 at the bends 13, with the result that after one end is abutted against an arm 12, some force must be exerted to spread the arms apart to accommodate the other end of the cross-piece. This spreading is accompanied by a great increase in the tension between the interwoven coils, and by a flattening of the coils, which is shown in the cross-sectional view, Fig. 4. The mat is now completed, and consists of a very tightly stretched wire fabric held on a strong, heavy wire frame, the whole being peculiarly well adapted for its purposes.

This mat is designed not only to act as a convenient foot-wiper, whereby mud and the like may be removed before an automobilist enters his car, but will serve equally well to prevent slipping upon the running board when getting into or out of a car. As is well known, the feet ordinarily track snow onto a running board in winter, and mud in wet weather. Frequently, the snow or mud causes slipping, and a slip from a running board, may result in a serious fall, especially to the old and infirm. A mat constructed in accordance with my invention will positively prevent all such accidents. When the mat is to be cleaned, it may either be left on the running-board or removed and a hose turned on it. In a short time all snow, ice or mud will be washed out, because the peculiar shape of the loops is not conducive to the retention of such matter. Also, when desired, the mat may be taken from one car and put on another with no trouble at all. The wire being preferably of rustless material, the mat will retain its pleasing appearance for a long time and will have a long life.

While this invention has been described in detail, I wish it to be understood that I contemplate making modifications and changes in the actual construction thereof, and only wish to be limited by the claims hereafter appended.

What is claimed is—

1. A running board mat comprising a relatively heavy substantially rectangular frame, said frame consisting of a substantially U-shaped or three-sided member whose ends are bent back upon themselves to form integral retaining prongs or clamping arms, and a separate cross-piece extending between and frictionally engaging the arms of said member and tending to spread the arms apart, and a relatively light wire fabric joined to the four sides of said frame, said fabric being held under tension upon said frame and retaining the cross piece in place.

2. A running board mat comprising a substantially rectangular wire frame, said frame consisting of a substantially U-shaped or three-sided one-piece member having integral retaining prongs or arms, and a separate cross-piece extending between and engaging the arms of said member, the space between said arms being less than the length of the said cross-piece, and a wire fabric supported upon the four sides of said frame.

3. A running board mat comprising a substantially rectangular wire frame, said frame consisting of a substantially U-shaped member and a cross-piece having concaved ends, the ends of the cross-piece abutting the arms of the U-shaped member, and a wire fabric held by the cross piece and the arms of said member.

4. A running board mat comprising a substantially rectangular frame, said frame consisting of a substantially U-shaped member and a cross-piece having concaved ends, said U-shaped member having integral retaining prongs or clamping arms, said cross-piece being of a length sufficient to spring apart the arms of the member when inserted between the same and said concaved ends fitting the arms, and a wire fabric mounted within the frame and connected to the said member and cross-piece.

5. A running board mat comprising a substantially rectangular frame, said frame consisting of a substantially U-shaped member and a separate cross-piece engaging the arms of said member, and a wire fabric upon said frame, the cross-piece when in place holding the fabric under a tension.

6. A running board mat consisting of a substantially rectangular frame and a wire matting held under tension upon the frame, said matting consisting of a plurality of interwoven wire coils each having its ends

looped about the sides of the frame, one of the sides of said frame being removable so as to be insertible through the coils of the matting and retained in place by the tension of said matting.

7. A running board mat comprising a substantially rectangular frame with clamping arms formed integral therewith, and a wire fabric filling the space between the sides of said frame and connected to said sides, one of the sides being removable and held in place by the tension of the wire fabric.

8. A running board mat comprising a substantially rectangular wire frame, said frame being formed of a substantially U-shaped member, and a separate straight cross-piece spanning the space between the said arms and engaging the same, said arms having a normal tendency to converge at their outer ends and separated by a space of less width than the length of said cross-piece so that the arms must be sprung apart to insert said cross-piece, and a scraping surface connected to said member and said cross-piece and retained in place thereby.

9. A running board mat comprising a substantially rectangular wire frame, said frame being formed of a substantially U-shaped or three-sided member, and a separate straight cross-piece spanning the space between the said arms and frictionally engaging the same, and a woven wire fabric having its coils interlocked with each other and wrapped around the four sides of said frame including the cross-piece, said cross-piece being inserted in place after the wire fabric is mounted on the frame, and serving to stretch said fabric, and being retained in place by the tension of said fabric.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS C. McPHERSON.

Witnesses:
V. SAKRAIDA,
J. G. SAKRAIDA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."