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S. M. BLANCH

WIRE BRUSH

Filed Jan. 14, 1926

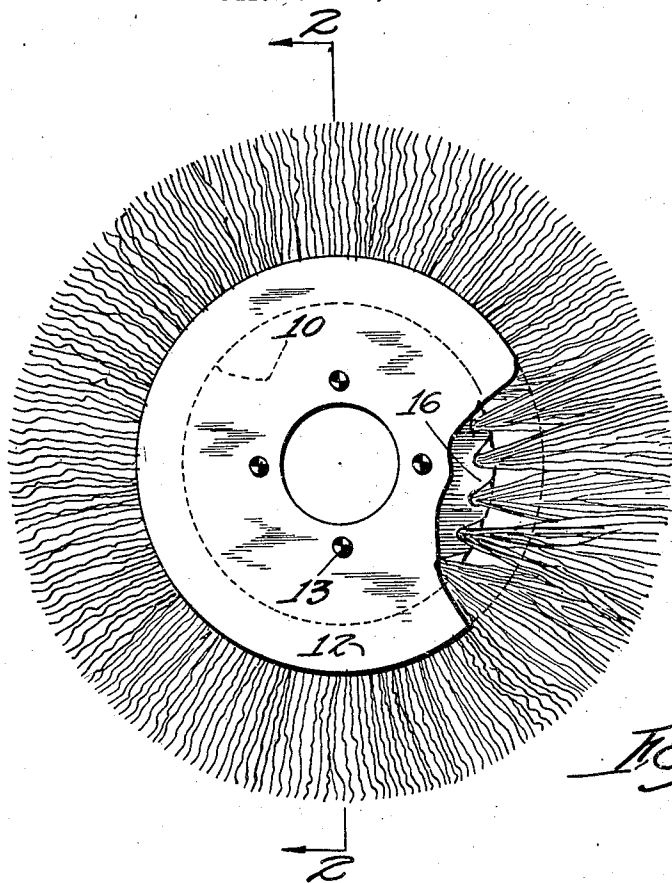


Fig. 1.

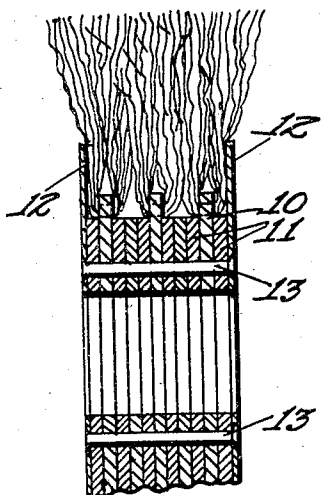


Fig. 2.

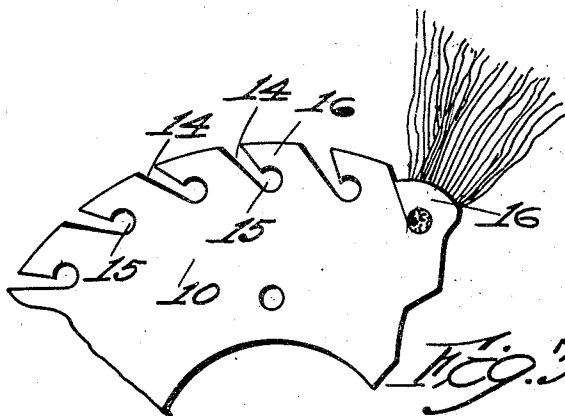


Fig. 3.

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WIRE BRUSH.

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This invention relates to a rotary wire brush. The principal objects of the invention are to provide a construction of rotary brush in which the wire bristles extend in a substantially radial direction, constructed in such form that there will be no need of threading tufts of wire through holes in metal plates and therefore the cost of production will be very greatly reduced, and to provide improvements in the rigidity and stability of the brush when built.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is an end view of a brush constructed in accordance with this invention showing the tufts of bristles located in their final position;

Fig. 2 is a diametrical sectional view of the same on the line 2—2 of Fig. 1; and

Fig. 3 is an enlarged view of one of the bristle holding discs showing the way of manufacture.

As usually constructed, metallic wire brushes of the type in which this invention belongs are made by introducing tufts of bristles through perforations in circular sheet metal plates and then providing some arrangement so that they will stick out radially and not get out of place too readily. This invention involves similar principles, but is carried out in a more practical way so as to save time in manufacture and improve the product itself.

The brush is made up of a plurality of circular metal discs 10 spaced apart by means of a series of smaller discs 11 of fibre, paper or other non-metallic substance. In the present case, I have shown the metallic discs as separated from each other in each case by three of the non-metallic discs between them. On the outside are placed two non-metallic discs 11 and then two end plates 12 which are circular and extend beyond the circumferences of the other discs. These two plates or discs 12 are secured together by rivets 13 extending all the way through all of the discs so that, when the brush is all assembled, it will be a durable construction and cannot come to pieces.

The discs 10 are provided around the circumference with a series of slanting slits 14

each terminating in a circular perforation 15 communicating with the adjacent slit. The wires which form the bristles are first twisted and separated to form a wavy construction for the purpose of spreading them apart and insuring their uniform occupation of the space around the circumference of the brush. A tuft of these wire bristles arranged in a straight condition is then grasped by the operator in the two hands and its center inserted in one of the slits 14 until the wires fill the circular perforation 15. This is a simple operation because the wires can be guided into the perforation through the slit which is slightly tapered.

After this is done as shown at the left in Fig. 3, the metal of the disc is forced over at the edge so that the tooth 16 at one side of the slit is bent down into contact with the other side and the perforation 15 closed. This permanently secures the tufts of bristles to the plate at the centers of the tufts. There is no need of providing any separate fastening means, so an important economy is effected and a durable brush is provided. The bristles are then bent outwardly at both sides so as to project in approximately a radial direction and in approximately the plane of the disc. As many of these discs thus filled, as may be desired, are assembled in the manner shown in Fig. 2 which has already been described. It will be seen that the plates 12 which project beyond the circumferences of the plates 10 hold the wire bristles on the outside in proper shape for a suitable distance beyond the circumferences of these discs 10. Therefore the bristles all through the brush will be forced to bear back against each other and hold each other in place and the only flaring of the bristles takes place beyond the circumferences of the plates 12.

This constitutes a very simple and economical way of manufacturing the brush and positively locks the tufts of bristles in the edges of the discs 10 and in the assembly of the whole device forces the bristles into a compact mass and prevents their flaring too much at the sides or ends of the brush. The bristles are also clamped in place permanently in this very simple manner.

Although I have illustrated and described

only a single form of the invention I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims.

Therefore I do not wish to be limited to all the details of construction herein shown, but what I do claim is:—

1. A brush comprising metal discs each having series of slanting slits extending from the circumference, said slits having enlargements at the inner ends thereof, the faces of said slits being substantially in contact with each other, and a corresponding

series of tufts of wire bristles seated in said enlargements. 15

2. The method of making a wire brush which consists in providing a metal plate with a perforation near its outer edge and an open slit extending from the edge to said perforation, placing a tuft of wire bristles into said perforation through said slit and then closing the slit by forcing the metal on one side thereof against the opposite side to firmly hold the bristles in place. 20

In testimony whereof I have hereunto affixed my signature. 25

SVEN MALCOLM BLANCH.