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3,564,637

PLASTIC BLOCK FOR REVOLVING BRUSH

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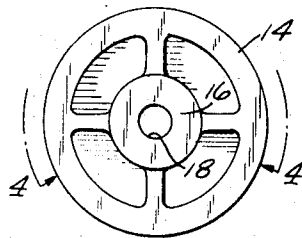
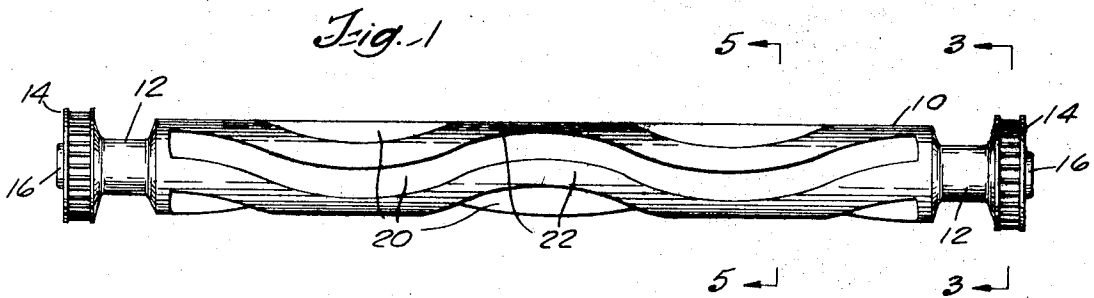


Fig. 2

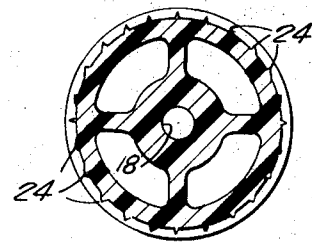


Fig. 3

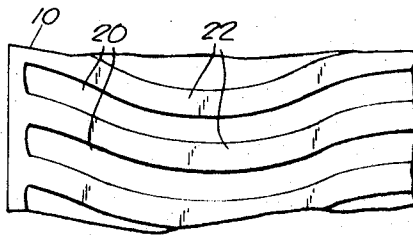


Fig. 4

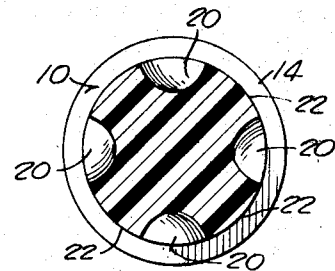


Fig. 5

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3,564,637

PLASTIC BLOCK FOR REVOLVING BRUSH
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3 Claims

ABSTRACT OF THE DISCLOSURE

A block for a revolving brush such as the kind used in carpet sweepers which has sinuous shaped elongated recesses, integrally formed pulleys with radially projecting ridges, and bearing holes characterized by being molded from polystyrene in condition for final use except for the drilling of the bristle tuft holes in the ribs between the recesses.

BACKGROUND OF THE INVENTION

(1) Field of invention

This invention relates to blocks for revolving brushes of the kind customarily used in carpet sweepers.

(2) Description of the prior art

Revolving brushes of the type for which the block of this invention is used are found for example in U.S. Pats. 525,721; 2,121,880; 2,975,449 and many others. A patentability search uncovered U.S. Pats. 2,753,583; 2,762,073; 3,005,224. U.S. Pat. 2,753,583 shows integral plastic lands for bristle mounting. However, none of this prior art shows the integral pulleys with the molded projecting teeth or ridges which provide a gripping surface for a rubber tread.

SUMMARY OF THE INVENTION

The essence of this invention is a molded plastic block for a revolving brush which has sinuous or undulating elongated recesses between lands adapted to mount bristle tufts, integrally formed pulleys with radially projecting teeth or ridges, and integral bearings; such block being molded to required size without machining except for drilling holes in the lands for bristle tufts.

BRIEF DESCRIPTION OF THE DRAWING

In the drawing:

FIG. 1 is a plan view of a brush block embodying the present invention;

FIG. 2 is an enlarged end view of the brush block of FIG. 1 taken from the right-hand end thereof;

FIG. 3 is a sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is an enlarged fragmentary developed view of several sinuous recesses indicated by the line 4—4 of FIG. 2; and

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawing by reference numerals the brush block embodying this invention consists of a main cylindrical body 10 which has reduced necks 12 at each end. The necks 12 each support pulleys 14 integrally formed thereon. As shown in FIG. 2 each pulley has a hub 16 provided with a bearing hole 18.

The brush block is molded from polystyrene. One type which has been proven satisfactory is identified as Dow

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475. The injection mold is elongated and has a parting line extending centrally longitudinally of the brush block including necks 12, and inner faces and cylindrical surfaces of pulley 14. Axially withdrawn die members form the end faces and hubs 16 of such pulleys. In order to save expense and weight the body 10 has four sinuous or undulating recesses 20 extending for substantially the length of such body. Two diametrically opposed recesses cross the parting line of the mold and consequently have flats which mar the smoothness of the recess. However the lands 22 between the recesses 20 have smooth outer cylindrical surfaces. These lands are later provided with drilled holes of about $\frac{1}{16}$ " in diameter spaced according to a standard and well-known pattern. Tufts of bristles 15 are seated in such holes.

Thus the brush block has its cylindrical body 10, necks 12, pulleys 14, hubs 16 and bearing holes 18 formed integrally by one molding step. The only other step is the drilling of holes for the tufts of bristles.

A special feature of this invention is the forming on the outer cylindrical surface of the pulleys 14, radially projecting ridges or teeth 24 extending axially of the outer surface of the pulley. In order that these ridges can be molded with the pulleys in the elongated mold and have the casting easily ejected, each ridge has slightly different shape than an adjacent ridge. As illustrated in FIG. 3 the ridges at the parting line and at the center of the top and bottom are symmetrically tooth shaped. The ridges next above and below the parting line have a long side and a short side so that they are not symmetrically shaped. The long side is angled substantially perpendicular to the parting line. Thus the mold can be easily separated and the casting ejected.

The purpose of these teeth or sharp ridges is to provide a good frictional grip for rubber facing rings (not shown) which are stretched on the pulleys to provide better friction drive with the wheels of a carpet sweeper or other device for rotating the brush block.

What is claimed is:

1. A plastic block for a revolving brush comprising: a main cylindrical body, sinuous recesses extending for substantially the length of such body, and lands between such recesses adapted to mount tufts of bristles; reduced diameter necks extending from and integral with the ends of said cylindrical body; and pulleys integrally formed on the ends of said necks, said pulleys having hubs and bearing holes axially aligned.
2. A plastic block as defined in claim 1 in which: said pulleys have cylindrical surfaces from which project integrally therefrom angularly spaced ridges.
3. A plastic block as defined in claim 2 in which: some of said ridges are non-symmetrically shaped to permit ejection of the block radially of a mold.

References Cited

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U.S. Cl. X.R.

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