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BRUSH RETAINING AID IN SANDING DRUM

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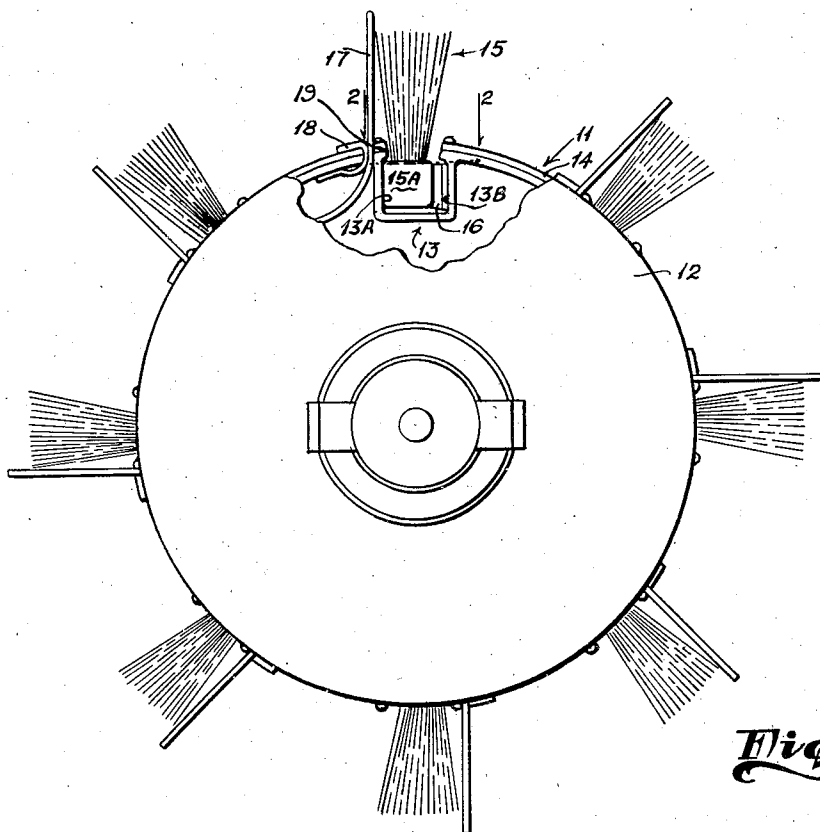


Fig. 1

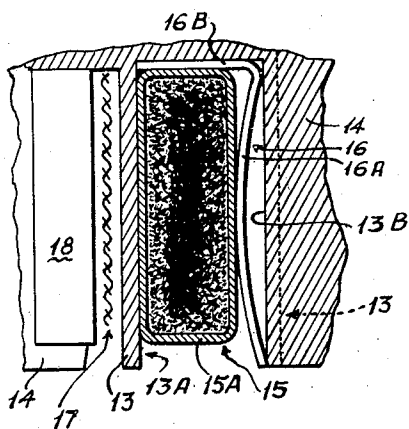
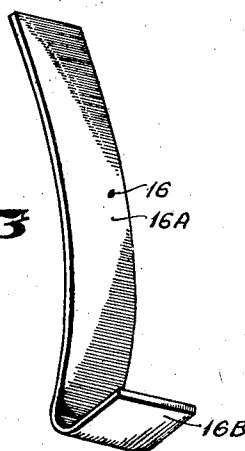


Fig. 2

Fig. 3



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BRUSH RETAINING AID IN SANDING DRUMS

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by direct and mesne assignments, to Merit
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1 Claim. (Cl. 51—194)

1

This invention relates to rotating shaft-mounted drums or wheels or heads for the sanding of wooden, plastic, metal and other articles whose surfaces have narrowly recessed sections more or less inaccessible to ordinary sanding means, the drum containing a plurality of flexible sanding or abrading strips of cloth, paper or otherwise, the free or working ends of the strips protruding outside of the peripheral wall of the drum thru a corresponding plurality of slots therein, each of said free ends being stiffened or backed or supported by a thereto respective one of a corresponding plurality of stiffening means, generally small brushes.

My invention is associable with that set forth in another U. S. patent application filed by me February 3, 1945, under the title, Sanding drum, and bearing the serial number, 564,799 which issued as Patent No. 2,418,966, dated April 15, 1947. In that one there appears a brush housing integrally formed out of the main drum body.

For economy in diecasting the type of drum that appears in said application and for ease in forming the metal backs for the said brushes used therefor, a soft metal constitutes the drum and the metal backs. Because of this, regardless of how snugly the newly installed brush-backs may fit in the respective said housings of a new drum, it has been my experience that the backs and the walls of the housing abrade one another rapidly, with the consequence that the retention of the successively installed new brushes eventually becomes so loose that the brushes begin to inadequately support the thereto respective working or free ends of the abrading strips and, with time, the looseness becomes so pronounced that the brushes tend to release themselves from the housing altogether.

The principal object therefor of the instant invention is to provide a simple, auxiliary brush-back-retaining means or insert or spring, also referred to as a brush-retaining-aid, adapted to disposition thereof within a respective one of said housings and to resiliently but firmly press the respective brush-back against the inside surface of one of the walls of said housing, while reacting against a thereto opposed other wall of the housing, whereby movement of the brush-back relatively to the housing is practically eliminated and the therefrom otherwise ensuing abrasion is very considerably lessened.

Although there are other forms of such a resilient insert that can and readily will suggest themselves to persons skilled in the art, I deem it adequate, for the purpose of expounding the

2

principles of this invention, to use only one of them, a simple, typical and practical insert, as the subject of this specification and the accompanying drawing, in which—

5 Figure 1 is a side plan view of a sanding drum containing a plurality of said housings and said brushes and said inserts as per my invention, specifically of the side thereof that is opposed to the shaft-hub-carrying side of the drum.

10 Figure 2 is a sectional view thereof, seen in the plane 2—2 in Figure 1.

Figure 3 is an isometric view of one of said inserts.

The main body of the drum is indicated by 11. A cover member, 12, therefor is broken away to expose one of said brush-back-housings, 13, and other parts. Eight said abrading strips are reeled inside of the drum, their said free ends extending radially therefrom, issuing thru and out of a corresponding plurality of respective slots in the peripheral wall 14 of the drum, and are supported by a corresponding plurality of said brushes respectively and are contributively retained by a corresponding plurality of said springs or inserts respectively.

25 Respective to housing 13 is one of said brushes, 15, the metal back thereof being indicated by 15A, which is resiliently pressed against the inner surface 13A of a wall of housing 13 by a plate-like said spring or insert 16, disposed between back 15A and the inner surface 13B of another wall of the housing, which surface 13B serves as a reaction surface for the insert. The respective one of said abrading strips is indicated by 30 17 and an edge-protecting shield thereat by 18. A lip 19 may be provided at the edge of the radial opening for the brush which is nearest the abrading strip 17. This lip may be formed on the peripheral wall 14 of the drum or on the depending wall of the housing 13, or both.

Referring especially to Figures 2 and 3, it will be noted that the insert, 16, is a plate of quasi-L cross-sectional form. One leg thereof, 16B, is a short one and substantially flat. The other leg thereof, 16A, is long and arced because it is the one that bears on and presses the back 15A. Because leg 16A is the brush-back-engaging leg of the insert, it is arced so that the resiliency thereof can be employed for the purpose described. By doing so it becomes adapted to the variable space occupied by the insert between back 15A and surface 13A, imposed by the economically desirable large tolerances, respecting dimensions of the housing and of the brush-backs, that are adapted to low-cost labor in the

3

manufacturing thereof. Since the function of short leg 16B is only to retain the combination of the brush-back and leg 16A within the housing and prevent displacement of the insert as a whole from the housing, leg 16B need not be arced. Otherwise expressed, the function of leg 16B is to prevent longitudinal movement of the leg 16A and the brush-back relatively to one another.

The insert 16 is introduced into the housing, whereupon the brush-back of the respective brush is forced thereinto against the space-constricting resilient pressure exerted by leg 16A.

I claim:

In a sanding drum assembly, the combination of a drum, the drum having a peripheral surface provided with a radial opening, an integral housing member adjacent said opening and providing a pocket thereunder, the housing having a side aperture therein providing lateral access to said pocket, a brush element projecting outwardly

4

through the radial opening and having a base adapted to be received within said pocket, and a resilient leaf spring insertable as a unit with the brush base through the side aperture into the pocket, said spring acting to maintain the brush element in operative position with respect to said housing.

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