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BRUSH BELT, ESPECIALLY FOR ROTARY BRUSHES

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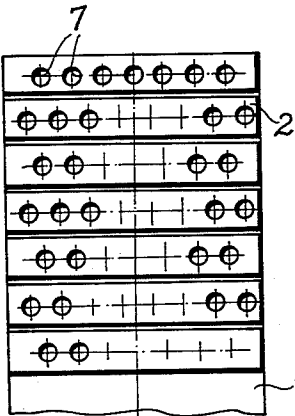


Fig. 1

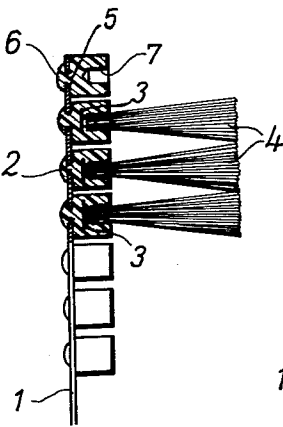


Fig. 2

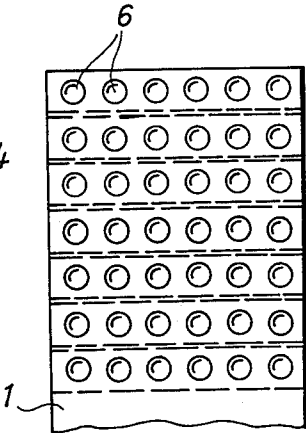


Fig. 3

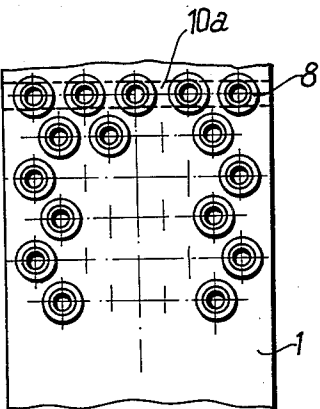


Fig. 4

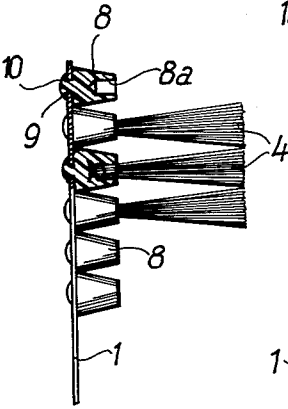


Fig. 5

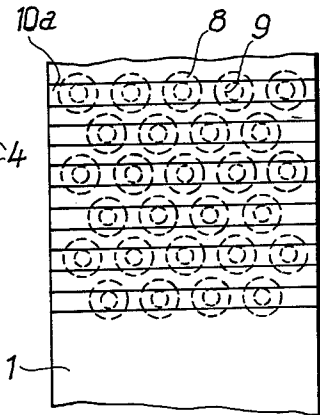


Fig. 6

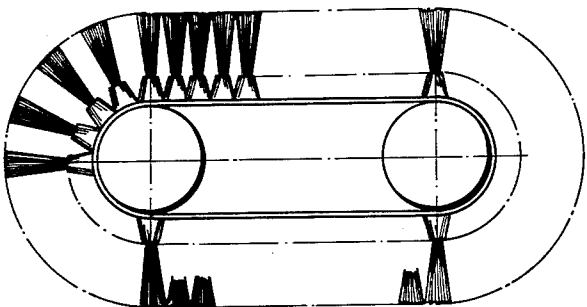


Fig. 7

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2 Claims. (Cl. 15-183)

The present invention relates to a brush belt, especially an endlessly arranged brush belt for a rotary brush. More specifically, the present invention concerns a brush belt having transversely arranged strips or buttons of synthetic material for anchoring the tufts. In connection with brushes, it is known to provide a tuft carrier in the form of a rubber foil or the like, which is provided with apertures extending therethrough, while individual button members extend through said apertures with tufts anchored in the said button members and the button members held in said foil.

In connection with shoe-cleaning implements, there has also become known a device which comprises a plurality of parallel endless rotatable straps having mounted thereon transversely extending wooden brush bodies arranged in spaced relationship to each other, said bodies being connected to said straps by transverse wooden members.

It is an object of this invention to provide a brush belt, particularly a brush belt adapted to be used as an endless brush belt, in which the tufts are reliably anchored in such a manner that the anchoring means will not interfere with the passage of such belt over rollers, or the like.

This and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

FIGURE 1 is a bottom view of a brush belt according to the present invention but with the tufts omitted, i.e. a view of FIG. 2 as seen from the right-hand side thereof;

FIGURE 2 shows a brush belt of FIGURE 1 partly in section and partly in view;

FIGURE 3 is the top view of the brush belt shown in FIGURE 2 i.e. as seen from the left-hand side of FIG. 2;

FIGURE 4 is a bottom view of a modified brush belt according to the invention with the tufts omitted;

FIGURE 5 shows the brush belt of FIGURE 3 partly in section and partly in view;

FIGURE 6 is the top view of the brush belt shown in FIGURE 5.

FIGURE 7 shows a brush belt according to the invention as an endless brush belt around some rollers.

The brush belt according to the present invention is characterized primarily in that on one side of said brush belt there are provided strips or buttons carrying the tufts and having extensions extending through said brush belt and being provided on the other side of said belt with heads, the arrangement being such that the tuft-holding bodies are, on one side of said belt interconnected by strips or webs. The arrangement makes possible a simple manufacture, in one operation, of the tuft carrying means by injection molding of synthetic material in a correspondingly shaped mold. When making a brush belt in which the bottom portion thereof comprises strips in which the tufts are anchored, said strips, due to their extension over the entire width of the belt, form that portion of the synthetic parts from which extend the protrusions which pass through the belt and have the holding head formed thereto on the other side of the belt.

When providing at the bottom of the belt buttons in which the tufts are anchored, the holding heads are interconnected by webs.

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Referring now to the drawing in detail, and FIGS. 1 and 2 thereof in particular, the brush belt shown therein comprises a belt of flexible material, for instance of fabric or interwoven threads or of foils of synthetic material or rubber. The brush belt 1 has mounted thereon strips 2 which extend transversely to the longitudinal extension of said belt and serve as carriers for the tufts 4. The said strips consist of such thermoplastic or hardenable synthetic materials that the narrow wire-anchors 3 carrying ends of the tufts will sufficiently strongly adhere thereto and be anchored therein. Preferably, such synthetic materials are employed which are suitable for the mechanical insertion of the tufts.

Each strip 2 is provided with a plurality of extensions or protrusions 5 comparable to rivet shanks, which extend through corresponding apertures in belt 1 and on the other side of said belt carry heads 6 similar to rivet heads, which hold the strip firmly connected to belt 1 without, however, impairing the flexibility of the said belt for its passage over rollers, or the like. Each strip 2 is provided with closed bores 7 for receiving the tufts. As will be obvious from the drawing, the heads 6 are arranged so close to each other and are so low in height that they will not interfere with the passage of the brush belt over rollers.

Referring now to the embodiment of FIGS. 4 to 6, the modification shown therein likewise comprises a belt 1 which may consist of the same material as described in connection with the belt 1 of FIGS. 1 to 3. While, however, according to FIGS. 1 to 3, belt 1 has connected thereto a plurality of strips 2 each of which carries a plurality of tufts, according to FIGS. 4 to 6, each individual tuft 4 is mounted in an individual carrier 8, while all carriers 8 which have the form of a button are connected to belt 1 in a manner similar to the connection of the strips 2 to belt 1 in FIGS. 1 to 3. In other words, each button 8 has a shank 9 extending from the bottom side of belt 1 to the top side thereof and ending in a head 10. The embodiment of FIGS. 4 to 6 furthermore differs from that of FIG. 2 in that, whereas according to FIGS. 1 to 3, the strip interconnecting the heads 6 of one row of bristles is formed by the strip 2 at the top side of belt 1, the heads 10 of the arrangement of FIGS. 4 to 6 of the individual rows are interconnected by a strip 10a on the top side of belt 1, said strips 10a forming webs between the individual heads 10. These connecting webs greatly aid in holding the heads 10 and individual buttons 8 in their respective desired position. The buttons 8 may be of any desired shape, for instance, may be of a truncated cone shape. Each of the buttons 8 has a recess 8a in which the respective tufts 4 is anchored and held. As will be seen from the drawing, the tufts in successive rows are offset with regard to each other.

When producing the belt according to FIGS. 1 to 3, the synthetic material forming the strips 2 passes through the apertures in belt 1 and, in the correspondingly shaped mold, forms the heads 6.

When producing the embodiment of FIGS. 4 to 6, the synthetic material being cast is introduced from the top side of the belt and here forms the webs 10a, while after passing through the apertures in belt 1, forms the individual buttons 8.

Thus, while any suitable thermoplastic synthetic material may be used for the strips 2, 10a, buttons 8, and heads 6 and 10, material such as polyvinyl-chloride, polyethylene, poly-amide, or cellulose acetate, has been found particularly advantageous for this purpose.

It is, of course, to be understood, that the present invention is, by no means, limited to the particular arrangement and method described herein, but also comprises any modifications within the scope of the appended claims.

What I claim is:

1. A flexible belt, especially for rotary brushing implements, which includes: a plurality of rows of tufts arranged on one side of said belt and extending transverse to the longitudinal direction of said belt, and a plurality of mounting elements respectively pertaining to said rows, each of said mounting elements consisting of one single piece of solidified castable synthetic material anchoring thereto the tufts of the respective row while simultaneously maintaining them aligned in a row and firmly connecting them to said belt, each of said mounting elements including a plurality of neck portions extending from that side of said belt on which said tufts are arranged to the opposite side of said belt and being respectively provided with heads on said last-mentioned belt side, said heads having a diameter greater than the diameter of the respective neck portions pertaining thereto, each of said mounting elements also including portions arranged on said last-mentioned belt side and interconnecting the heads of the respective row.

2. A flexible belt, especially for rotary brushing implements, which includes: a plurality of strips extending in a direction transverse to the longitudinal direction of said belt and arranged on one side thereof, a plurality of sets of tufts, each of said sets being anchored in one

of said strips, and knob means arranged on the other side of said belt and having extension means extending through said belt and connected to the respective adjacent strip, each of said strips and the knob means adjacent thereto as well as the respective extension means pertaining thereto consisting of one single piece of solidified castable synthetic material.

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