

May 20, 1930.

T. L. STROUD
BRUSH MAKING MACHINE

1,759,068

Filed Sept. 14, 1928

2 Sheets-Sheet 1

Fig. 1.

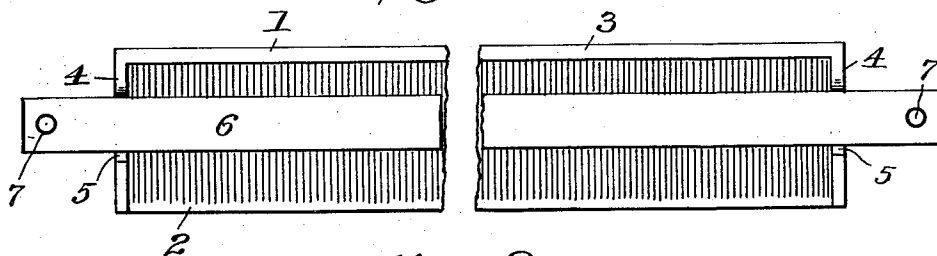


Fig. 2.

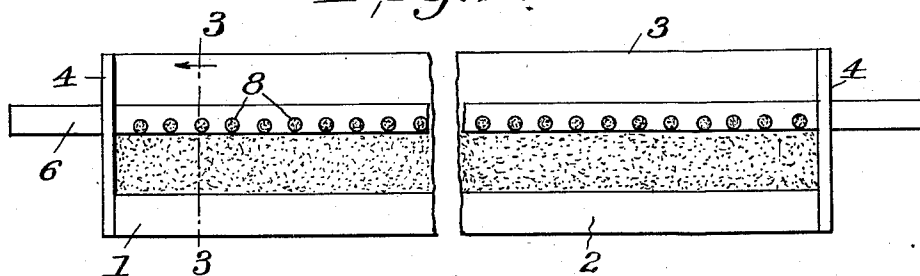


Fig. 3.

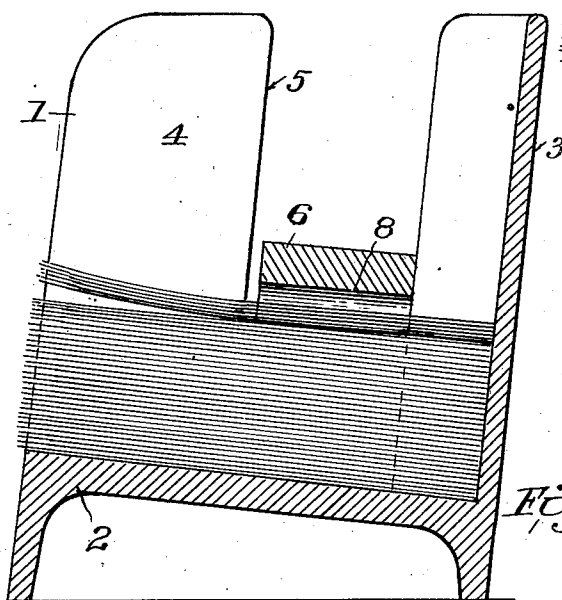


Fig. 4.

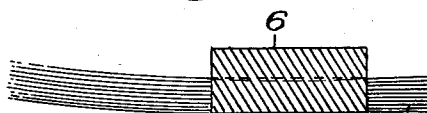


Fig. 5.

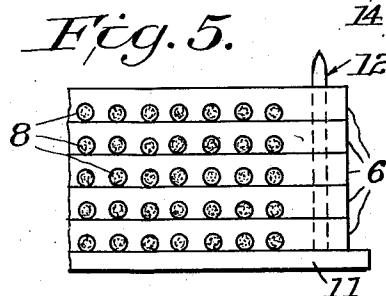
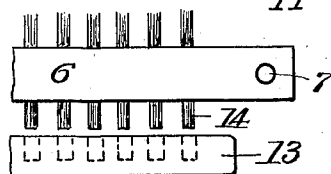


Fig. 6.



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Fig. 7.

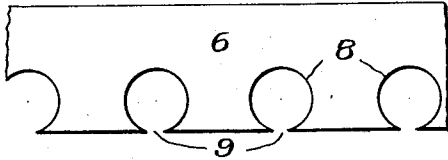


Fig. 8.

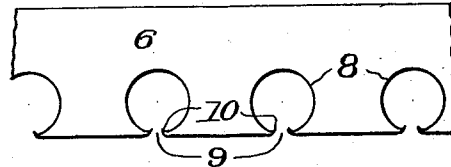


Fig. 9.

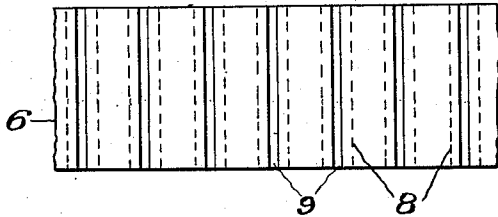


Fig. 9a.

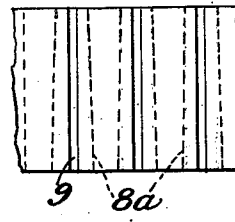


Fig. 10.

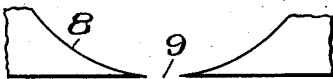


Fig. 11.

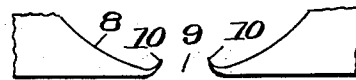


Fig. 12.

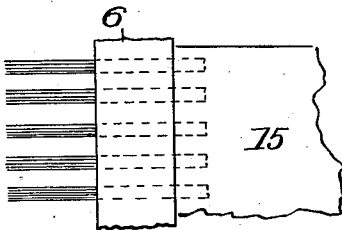


Fig. 14.

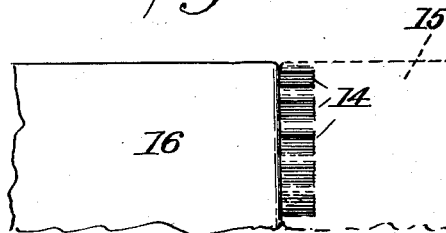


Fig. 13.

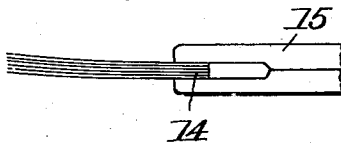
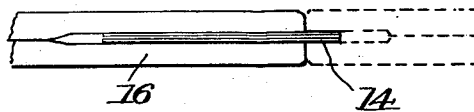


Fig. 15.



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UNITED STATES PATENT OFFICE

THOMAS L. STROUD, OF ROSSLYN, VIRGINIA

BRUSH-MAKING MACHINE

Application filed September 14, 1928. Serial No. 305,953.

This invention relates to the brush making industry, and more particularly to that part of the industry which has to do with the making of bristle brushes.

It is well known in the art that bristles taper throughout their length, being larger at the butt than at the free end. It is also well known that the bristles are not straight but curved throughout their length.

In making the best grade of bristle brushes for many different uses, it is necessary that the butts of all bristles be secured in the brush back, or around the brush handle, and that the bristles curve in the proper direction for the particular uses for which the brush is made.

The object of my invention is to produce a device which will segregate the bristles in knots or tufts of uniform size, with all the butts at the same end and with the curvature of the bristles in the same direction.

Another object is to produce a simple device that segregates the bristles and holds them in such a manner that they may be readily inserted in many styles of brush backs.

Another object is to provide a means for delivering tufts or knots of bristles from a knot picker and forming them into a continuous mass line.

Another object is to produce a device that may be either manually or mechanically operated.

In the drawings forming a part of these specifications:

Figure 1 is a plan view of my device in position to gather the bristles.

Fig. 2 is a front view of the parts shown in Fig. 1.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a cross section of the knot picker with a tuft of bristles held therein.

Fig. 5 shows a battery of knot pickers stacked in position to form an ordinary brush.

Fig. 6 shows the bristles in position to be inserted in the back of a brush.

Fig. 7 is a detail view of a portion of the knot picker.

Fig. 8 is a view similar to Fig. 7, of a modified form of my invention.

Fig. 9 is a bottom view of the knot picker showing the receiving slots for pockets.

Fig. 9^a is a view showing tapered pockets.

Fig. 10 is an enlarged view of the entrance to the bristle pocket.

Fig. 11 is a view similar to Fig. 10 of the modified form of my invention.

Fig. 12 is a plan view showing a portion of a clamp in the act of removing bristles from the knot picker.

Fig. 13 is a sectional view of the parts shown in Fig. 12.

Fig. 14 is a plan view of a clamp receiving the bristles from the clamp mentioned in Fig. 12.

Fig. 15 is an end view of the parts shown in Fig. 14.

Referring to the drawings, like numerals of reference designate corresponding parts in the several views.

Figs. 1, 2 and 3 of the drawings show a complete method of segregating the bristles to be inserted in a brush back, in which the numeral 1, designates a holder for the bristles. The holder consists of a base 2, back 3, and end walls 4. The end walls 4 are each provided with slots 5, and the top and front of the bristle holder are open.

As shown in Figures 1, 2 and 3, the holder is filled with bristles, the butts of which rest against the front face of the back wall 3, of the holder. The base 2, of the holder also acts as the bottom upon which the bristles lie.

The knot picker consists of a bar 6, provided with holes 7, in the ends for a purpose hereinafter described.

The knot picker is rectangular in cross section and is provided with a plurality of cylindrical pockets 8, extending through the bar, and adjacent to the bottom face or receiving side thereof. Entrance slots 9, in the receiving side of the bar communicate with each of the pockets.

In the form of the pockets illustrated in Fig. 11 of the drawings, the edges of the entrance slots 9, are forced inward forming a hook flange 10, extending the full width of the bar on each side of the entrance slot 9.

The operation of the knot-picker is as follows. The bar is reciprocated lengthwise over the bristles, being guided by the slots 5, in the ends 4, of the bristle holder. The reciprocation of the bar together with its weight centrally upon the bristles causes the sockets to fill and the bristles to roll or turn until all curve upwardly or in one direction and assume the position with respect to the bar, shown in Fig. 4, of the drawings. The openings 5, in the end walls 4, of the bristle holder which guide the bar 6, have sides parallel with the back wall of the holder, and as the butts of the bristles abut this back wall, the length of the butt end 14, of the bristles projecting from the side of the knot-picker will always be the same.

Fig. 5 of the drawings show a stack of knot-picker bars containing bristles mounted upon a plate 11, provided with posts 12, which engage the holes 7, in the ends of the knot-picker bars. This is one method of accurately aligning the tufts of bristles to register with the bored brush back 13, shown in Fig. 6.

One method of securing the bristles in a brush back is to fill all the holes in the back with glue or cement before inserting the bristles as shown in Fig. 6.

Figures 12 to 15 inclusive show a method of removing the bristles from the knot-picker bar by means of a flat faced clamp 15. The bristles are removed from the clamp 15 by a clamp 16 which changes the formation from knots or tufts to a continuous mass line with the butts of the bristles exposed when finally held by clamp 16. When so held the line of bristles are in position to be secured in a continuous U shaped metal clamping strip for fastening in or on various kinds of brush backs or rollers. Also when held by clamp 16 the bristles are in position to be dipped in rubber cement or the like. For making paint brushes the mass line of bristles which is held together with dried rubber cement is wrapped around the handle and the natural curvature having been held in one direction assumes the proper pitch, that is, all the bristles curve toward the center of the brush.

For handling hog bristles or other tapering stock the knotpicker pockets are preferably made with a slight corresponding taper as shown at 8^a in Figure 9^a.

As will be seen the knotpicker bars segregates the bristles and releasably holds them in the pockets and that stacking or assembling the bars closes or covers the pocket slots.

Having thus described my invention what I claim is:

1. In a bristle segregating device, a bar, pockets extending transversely of the bar and spaced along the length thereof, slots extending transversely of the bar communicating with said pockets, both of the transverse

edges on each side of the slots terminating in hooks facing one another.

2. In a bristle segregating device, a bar, pockets extending transversely of the bar and spaced along the length thereof, slots extending transversely of the bar communicating with said pockets, both of the transverse edges on each side of the slots terminating in hooks facing one another, and turned inwardly toward the pockets.

3. In a bristle segregating device, a bar, pockets extending transversely of the bar and spaced along the length thereof and tapering from end to end, both of the transverse edges on each side of the slots terminating in hooks facing one another and turned inwardly toward the pockets.

In testimony whereof, I have hereunto signed my name.

THOMAS L. STROUD.