

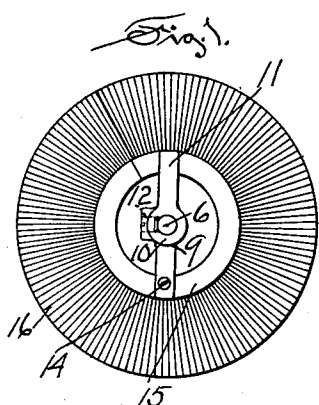
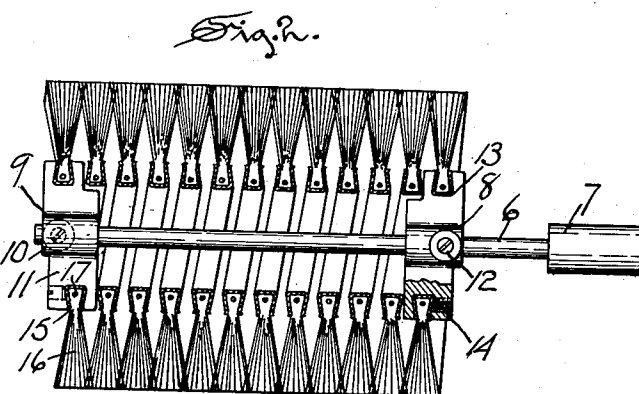
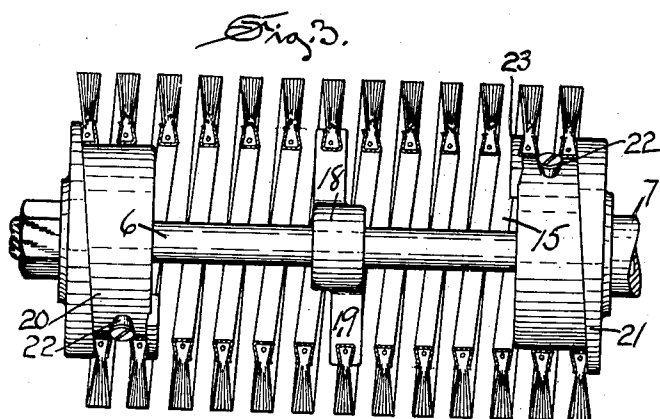
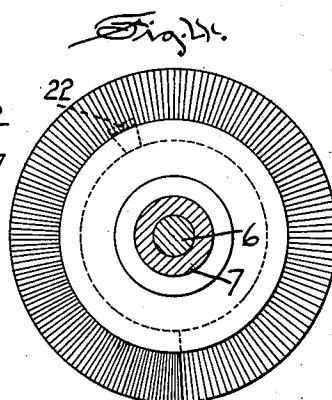
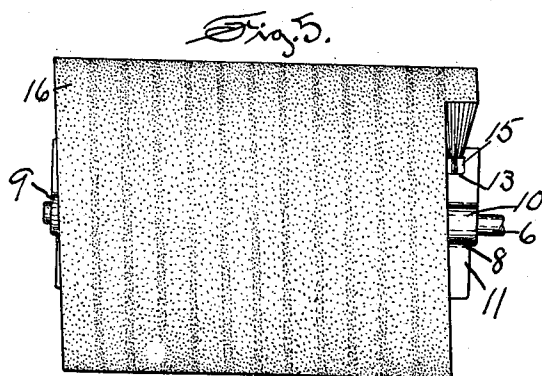
Oct. 19, 1943.

C. G. ROWLAND

2,332,490

BRUSH

Filed April 14, 1942



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## UNITED STATES PATENT OFFICE

2,332,490

BRUSH

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Application April 14, 1942, Serial No. 438,869

5 Claims. (Cl. 15—182)

My invention relates to that class of brushes that are more commonly employed for application to interior surfaces, as bores of gun barrels and the like but which may be equally well applied to exterior surfaces and either manually or by means of power applied to the spindle comprising a support for the brush structure, and an object of my invention, among others, is the provision of a brush of this type that shall be more or less flexible as to the whole structure whereby it may readily yield to permit access to or conformation with irregular shapes and particularly one which may be flexed to adjust itself to curved surfaces.

One form of a brush embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing, in which—

Figure 1 is an end view of my improved brush.

Figure 2 is a view in central lengthwise section of the brush, the inner parts being shown in full.

Figure 3 is a view similar to Fig. 2 but illustrating a modification of the invention.

Figure 4 is an end view of such modification.

Figure 5 is a side view of the brush structure.

The invention from a broad standpoint embodies the idea of a coiled brush strip embodying a grooved base with bristles of any suitable character secured within and projecting from the mouth of the groove and which bristles may as an additional security be fastened within the strip by means of a wire extending within the loops formed by the doubled lengths of bristles secured within the strip. The main idea is to support this coiled strip so that there shall be a considerable length of coiled structure between the supports thereof so that the structure may readily yield and conform its shape to irregular or curved surfaces whereby access may be had to the entire area of such surfaces. This purpose will be accomplished by supporting the coiled structure at opposite ends, but in instances where a brush of extreme length may be required it may be advisable to provide a support or supports between such ends in which case the distance between the supports would, as is evident, be the equivalent of a shorter brush in which the strip is supported only at its ends. I have therefore shown in the drawing herein a structure in which the coiled brush strip is supported only at its ends as embodying the main idea and I have also shown a modified form in which the equivalent

appears in the coiled strip supported between the ends.

In the accompanying drawing the numeral 6 denotes the spindle of the brush which may be secured in a holder 7 of any suitable shape and construction adapted for rotation preferably by means of mechanical power. Supports 8—9 are secured to the spindle at suitable distances apart, as shown in Fig. 2, these supports, in the form illustrated, each comprising a hub 10 with radial arms 11 extending therefrom and preferably diametrically oppositely arranged, set screws 12 being employed for rigidly securing the supports in place. Seats 13 in the form of grooves are provided in the ends of each of the arms 11, there being preferably two of these seats only in each of the supports. Clamping screws 14 are employed for fastening the opposite ends of the coils securely to each of the supports, as shown in Fig. 2.

With this construction it will be seen that substantially the whole of the length of the brush structure comprising grooved strips 15 with a row of doubled bristles projecting from the mouth of the strip and having a holding wire extending through the loops formed by the doubled bristles is unsupported between its ends so that it is free to flex and thereby accommodate itself to application to irregular surfaces in a manner that will readily appear.

The structure shown in Figs. 3 and 4 is substantially the same as that shown in Figs. 1 and 2, the principal difference being that an intermediate support is supplied, this comprising a hub 18 with branching arms 19 similar to the end supports shown in Fig. 2 with the exception that a single notch is formed in the outer end of each arm through which the coil or grooved strip 15 extends. In this structure the end supports 20 are of circular form with end flanges 21 tapered to fit the tapered sides of the brush strip 15, holding screws 22 having tapered heads engaging the other side of the brush strip to hold it in place. It is contemplated, however, that these end supports may be of the same shape as those shown in Figs. 1 and 2. It is noted that there are two coils upon the end supports 20 and when such structure is employed the hold of the screws 22 is backed up by flanges 23, as shown in Fig. 3 of the drawing.

I claim:

1. A brush comprising a supporting spindle, brush strip supports rigidly secured to said spindle in spaced apart relation and having grooved seats in the supporting parts thereof, and a

brush strip comprising a base shaped to fit said grooved seats and with bristles secured thereto and projecting laterally therefrom, said strip being arranged in coiled form and extending in lengthwise direction out from said seats and secured to said supports in unsupported condition therebetween.

2. A brush comprising a supporting spindle, brush strip supports rigidly secured to said spindle in spaced apart relation and having grooved seats in the supporting parts thereof, and a brush strip of cylindrical form and comprising a base shaped to fit a wall of said grooved seat and with bristles secured thereto and projecting laterally therefrom, said strip being arranged in coiled form and extending in lengthwise direction out from and away from said seat and secured to said supports in unsupported condition therebetween.

3. A brush comprising a supporting spindle, brush strip supports rigidly secured to said spindle in spaced apart relation and having grooved seats with tapered side walls, a brush strip comprising a trough shaped base with bristles secured within the trough and projecting outwardly therefrom and with tapered side walls to fit the tapered walls in said supports, said strip being arranged in coiled form and secured to

said supports in unsupported condition therebetween and means for securing the extremities of the brush strip to said supports.

4. A brush comprising a supporting spindle, brush strip supports rigidly secured to said spindle in spaced apart relation and having seats with tapered supporting walls to receive brush strips with tapered walls, and a brush strip comprising a base with bristles secured thereto and projecting laterally therefrom from between tapered walls, said strip being arranged in coiled form and secured at its opposite ends to said supports in unsupported condition therebetween.

5. A brush comprising a supporting spindle, brush strip supports rigidly secured to said spindle in spaced apart relation and having grooved seats with tapered walls for brush strips, a brush strip comprising a base with bristles secured thereto and projecting laterally therefrom from between tapered side walls to fit the tapered side walls of said grooves, said strip being arranged in coiled form and secured to said supports in unsupported condition therebetween and means for securing the extremities of said strip and comprising screws having tapered heads to engage the tapered side walls of said strip opposite the tapered side walls of said grooves.

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