Jan. 27, 1942. C. J. GERNDT 2,271,494

BRIDLE BRUSH

Filed June 20, 1940

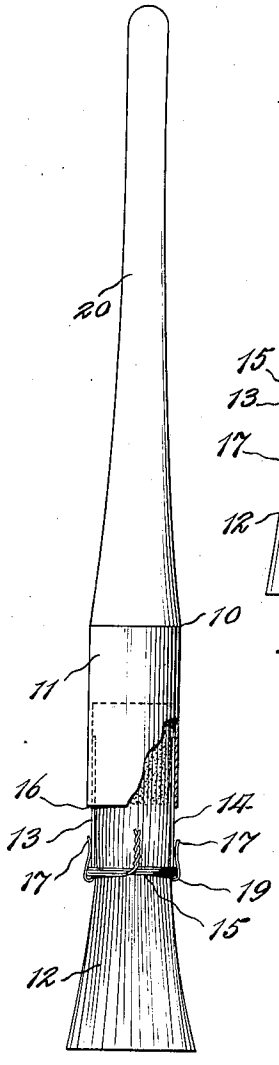


Fig. 3.

Fig. 1.

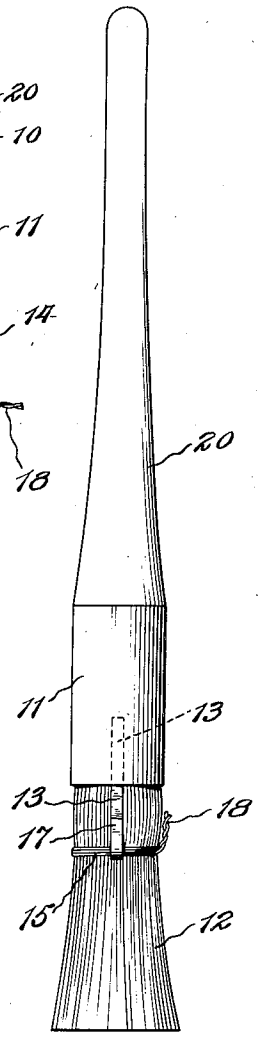


Fig. 2.

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Patented Jan. 27, 1942 2,271,494

UNITED STATES PATENT OFFICE

2,271,494

BRIDLE BRUSH

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Application June 20, 1940, Serial No. 341,404

2 Claims. (Cl. 15—168)

The invention relates in general to a brush of the type which is provided with a bridle to prevent undue spreading of the bristles. As the bristles of such brushes wear down in use towards the bridle they gradually lose their flexibility, become stiff and the remaining portion of the set of bridles between the bridle and ferrule becomes useless. The invention specifically relates to the bridle element of such brushes, and particularly to the parts by means of which the bridle is secured to the ferrule of the brush.

Brushes of this bridle type as heretofore constructed have been expensive to make, among other reasons due to the necessity of providing bridle forming parts which had to be preformed to exact sizes and dimensions to accommodate the size of brush for which it was intended, which parts often required machine assembling, and which assembling heretofore has required some mechanical fastening means for securing the bridle to the ferrule of the brush.

The primary object of the invention is to provide a simple and easily manufactured form of bridle brush in which the bridle forming elements can be secured to the brush without necessity of providing any fastening means other than those needed for the fabrication of the brush itself.

The invention features a form of brush of the bridle type which can be manufactured economically and, with this object in view, the invention contemplates the use of stock parts in the bridle securing means and which stock parts are initially simply straight thin strips of metal which do not require any machining or other operations prior to being assembled during the otherwise conventional fabrication of the brush.

It has been known heretofore in actual practice for the user of the brush to cut the bridle and its attaching parts away from the partly used brush in order to prolong its life, but this usually requires the use of some suitable form of cutting tool and a careful manipulation of the cutting tool on the part of the operator to avoid injury to the brush or to himself. At the time the operator decides to cut the bridle away the brush is not infrequently covered with paint, glue or other material in which the brush is working at the time, and in general the operation is difficult and messy, often leaving sharp edges to the cut parts which are apt to catch on to anything they may contact.

Accordingly another object of the invention is to provide a simple form of bridle which can be quickly and neatly demounted from the brush without the necessity of using any tools whatsoever and to effect the severing of the bridle from the brush by a simple manual operation which will leave a neat finished appearance to the brush.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawing and in part will be more fully set forth in the following particular description of one form of brush embodying the invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawing:

Fig. 1 is a view in side elevation of a brush forming a preferred embodiment of the invention and with part of the ferrule broken away to show one of the anchoring strips in side elevation;

Fig. 2 is a view of the brush of Fig. 1 looking at the same at right angles to the showing in Fig. 1; and

Fig. 3 is a detailed view showing the outbending of the anchoring strips to prevent the release of the bridle.

In the drawing there is shown a brush 10 of the bridle type including a tubular steel cylinder or band forming a ferrule 11 of conventional form. This ferrule is smooth on both its inner and outer sides and is thus free of the usual fastening means found in known forms of bridle brushes. The ferrule presents a smooth outer surface which can be readily wiped free of paint, glue or other foreign matter which may adhere to the same while in use.

In forming the brush a tuft of bristles 12 is assembled with two initially flat strips 13 and 14 of thin flexible metal diametrically disposed on the bristles and coacting therewith to form a unit. One end of this unit is intruded into the lower end of the ferrule 11; rubber is poured into the ferrule and the bristles together with the intruded ends of the metal strips are vulcanized in rubber or cement following conventional practices in this respect.

The metal strips 13 and 14 may be formed of short lengths of round bendable wire, but preferably are, as illustrated, narrow flat strips of thin gauge metal, easily bendable across their width by finger manipulation. Two or three turns of copper wire are then wound about the tuft of bristles and over the metal strips to form a bridle 15 snugly encircling the unit in spaced relation to the adjacent edge 16 of the ferrule and located a short distance upwardly from the

adjacent ends 17 of the metal bridle anchoring strips 13 and 14 at this time lying flat against the bristles.

The free ends 18 of the wire forming the bridle are twisted together to hold the wire turns into their annular bridle forming contour and bent upwardly as shown in Figs. 1 and 2. This loose twisting of the wire ends permits the subsequent untwisting of the ends to release the bridle should this manner of demounting the same from the brush be desired. However, while the wire wrapping is initially in snug engagement with the unit, the bridle in the form illustrated is intended to be pulled off bodily from the tuft of bristles without necessity of unwinding the ends 18 as hereinafter suggested.

The initially depending ends 17 of the wire strips 13 and 14 are bent back sharply on themselves, upwardly to form a bend 19 underlapping the bridle and leaving the ends 17 on the outside of the unit and exposed for ready engagement by the operator whenever it is desired to remove the bridle. A handle 20 is mounted conventionally in the upper end of the ferrule 11. The brushes are now ready for the market and are used conventionally until wear of the bristles or other conditions suggest the advisability of removing the bridle before continuing to use the brush.

The bridle is released by the operator engaging the ends 17 with his fingers and by bending the ends outwardly and downwardly the strips are restored to their initial flat position paralleling the bristles as indicated in Fig. 3. The ring-like bridle 15 is then slipped downwardly from its position shown in Figs. 1 and 2 and off the free end of the bristles. The twisted together ends at 18 provide a convenient means for gripping the bridle by the operator's fingers or by means of a pair of pincers if the bridle should stick to the bristles. The ends of the metal strips protruding below the ferrule may then be cut off by means of a knife or shears if desired, but it is suggested that the strips may be repeatedly bent back and forth by manual action radially of the brush and transversely of their broad faces, about the ferrule edge 16 as a stop, and in this way the thin metal strips can be quickly severed along the bottom edge of the ferrule leaving a neat appearance to the brush. In this way the partly worn brush is restored for continued service and presents no evidence that it has ever been a bridle brush.

While there have been shown, described and pointed out in the annexed claims, certain novel features of the invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A brush including an annular band forming a ferrule, smooth on both its inner and outer sides and thus free of any fastening means, a unit comprising a tuft of bristles having on diametrically opposite sides thereof, a pair of parallel initially flat imperforated strips of easily bendable metal, one end of said unit, including an end of each of the metal strips, vulcanized within the ferrule and secured solely by the vulcanization in the ferrule, a bridle snugly encircling the unit in spaced relation to the ferrule, the ends of said flat strips at the exposed portion of the unit being bent back outwardly upon themselves to secure the bridle temporarily in place, said bent back ends of the metal strips adapted to be bent back towards the bristles into their initial flat position to permit the ready removal of the bridle from the brush and said metal strips adapted to be broken off at the ferrule as the bristles wear down towards the bridle, the free edge of the ferrule acting as a stop about which the metal strips may be bent back and forth radially of the brush and transversely of their broad faces until they break along the edge of the ferrule.

2. A brush including a tubular form of metal ferrule, a tuft of bristles intruded into one end of the ferrule and vulcanized in place, and an initially straight strip of metal forming a bridle fastening member having one end intruded with the bristles into said end of the ferrule held between the bristles and the inner face of the ferrule and otherwise free of fastening means and having its other end free for ready bending by manual action to and from its initial flat position.

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