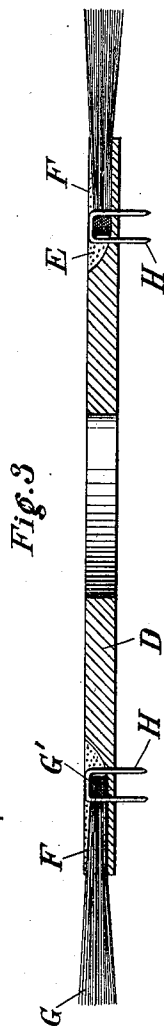
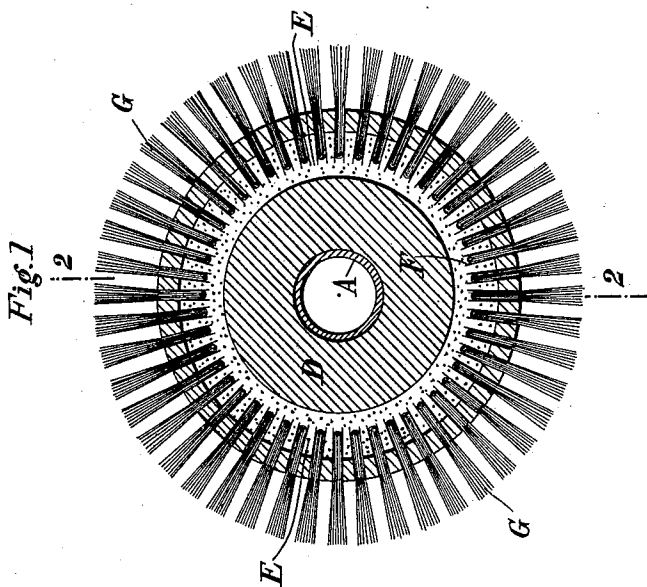
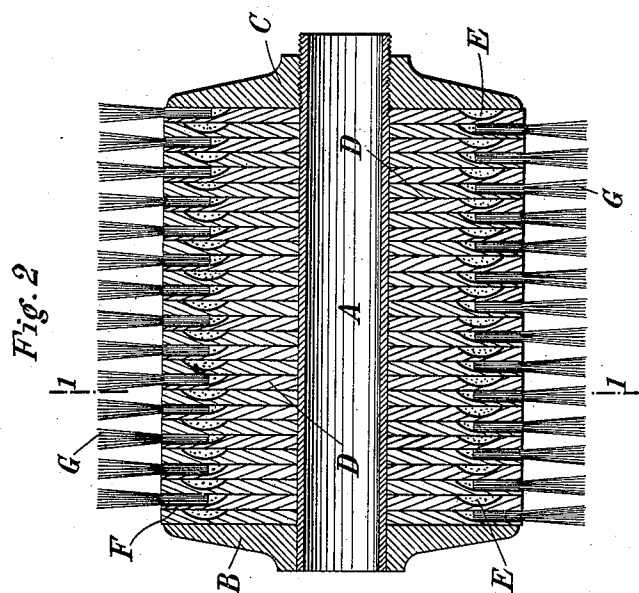


(No Model.)

E. PAIN.
ROTARY BRUSH.

No. 599,044.

Patented Feb. 15, 1898.



Witnesses:
E. Ober
B. Sommers

Inventor
Ernest Pain
by *James M. Dally*

UNITED STATES PATENT OFFICE.

ERNEST PAIN, OF AUXERRE, FRANCE.

ROTARY BRUSH.

SPECIFICATION forming part of Letters Patent No. 599,044, dated February 15, 1898.

Application filed September 3, 1897. Serial No. 650,530. (No model.)

To all whom it may concern:

Be it known that I, ERNEST PAIN, a citizen of the Republic of France, residing at Auxerre, Yonne, France, have invented certain new and useful Improvements in the Manufacture and Mounting of Rotary Brushes, of which the following is a specification.

This invention has for its object certain improvements which I have made in rotary brushes employed in certain industries, particularly in the manufacture of boots and shoes, for finishing, polishing, and other operations.

In order that my invention and the manner in which it is to be performed may be clearly understood, I shall describe it with reference to the accompanying drawings, in which—

Figure 1 is a cross-section of my improved rotary brush on the line 1 1 of Fig. 2. Fig. 2 is a longitudinal section on the line 2 2 of Fig. 1 of a brush constructed according to my invention; and Fig. 3 is a detail section, on a larger scale, of one of the disks which compose my brush, showing the manner in which the bristle-tufts are fixed therein.

My brush consists of an iron tube A, fixed on the driving-shaft, which is intended to impart rotary motion to the brush. At one of its ends this tube is formed with a fixed head B, while at its other end it is screw-threaded to receive a movable head C, similar to the head B, and which is arranged to screw upon the screw-threaded portion of the tube. These heads serve to clamp between them the whole of the disks D, which form the brush. Each of these disks (which are all threaded onto the tube A and are held on the latter by the grip of the heads B and C) is preferably made of walnut wood, although any other suitable wood may be used. Upon one of its faces this disk is formed with a groove or circular recess E (best shown in section in Figs. 2 and 3) and in which there opens a certain number of equidistant notches F, formed in the same face of the disk radially to its circumference and extending only over a part of the thickness of the disk.

To mount the brush, I proceed in the following manner: After having unscrewed the movable head C from the tube I place upon the latter one of the disks D, which I push

on the tube until its full face bears against the fixed head B of the tube. Then, the tufts having been made of the desired length by folding the bristles to form a loop, I insert into the loop G' of each tuft G thus formed one of the legs of a metallic fastener or staple H of $\cap$ shape. I then dip the tuft and the staple into hot pitch, and I insert the tuft thus dipped into one of the notches F, nailing the staple H onto the disk D and taking care that the pitch shall not get beyond the surface of the disk, so as not to form upon the latter an extra thickness, which would prevent the next following disk from fitting close up. When all the notches in the disk D have been filled in this way, there is threaded onto the tube A a second disk, which is pushed until it bears against the first disk. Then the second disk is treated in the manner above described and the operation is continued until the desired number of disks have been mounted on the tube A. Then the movable head C is placed in position and is tightened up as firmly as possible, and the brush is thus mounted. As the legs of the staple H are longer than the thickness of the disks, the result is that when the staples are driven in they pass through the disk in which they are inserted and they become fixed in the preceding disk, whereby a homogeneous whole is formed. After the disks have been thus piled together and tightened up together there is no longer any danger of the bristles leaving the brush, because they are held in the notches F by the staple passing through the loops and by the pitch.

It is to be understood that I do not limit myself strictly to the precise arrangement of the parts shown, because it is obvious that the arrangement may be varied to a certain extent without departing from the principle of my invention.

I claim—

1. A cylindrical brush composed of a number of disks each provided on one of its faces with radial notches or grooves, tufts of bristles within said grooves and staples attaching the bristles within said grooves and the disks together, for the purpose set forth.
2. A cylindrical brush composed of a number of disks each provided in one of its faces with substantially circular recesses, and a

notch or groove radiating from each of said
recesses to the periphery of the disk, brush-
tufts formed by doubling a bunch of bristles,
the said tufts within the radial grooves and
5 the doubled ends thereof within said recesses,
and staples attaching said doubled ends with-
in their recesses and the disks together, sub-
stantially as described.

10 3. A cylindrical brush composed of a tubu-
lar hub screw-threaded at one end and pro-
vided with a circular head at the other, a
number of disks each provided with radial
notches or grooves in one of its faces, tufts

of bristles within said grooves, staples attach-
ing the tufts within their grooves and the 15
disks together, and a retaining-disk screwing
onto the hub and clamping the connected
disks to the fixed head, for the purpose set
forth.

In witness whereof I have hereunto set my 20
hand this 23d day of August, 1897, in pres-
ence of two subscribing witnesses.

ERNEST PAIN.

Witnesses:

R. H. BRANDON,
EDWARD P. MACLEAN.