

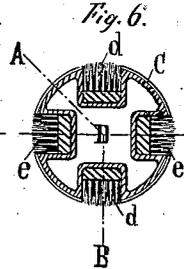
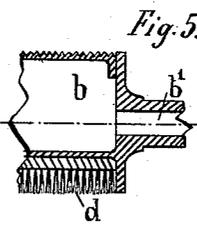
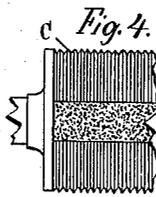
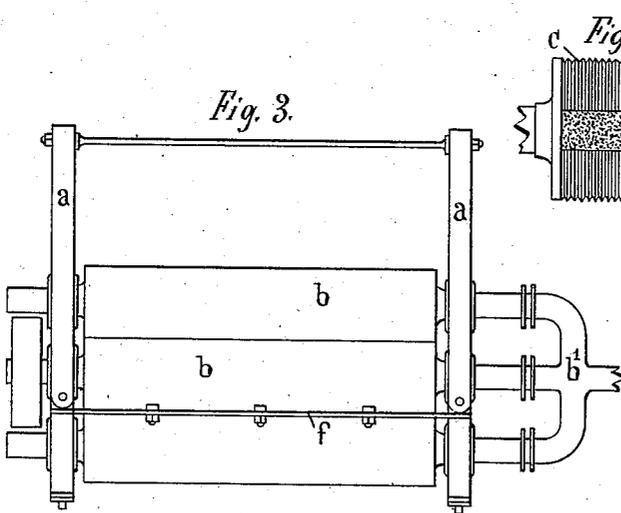
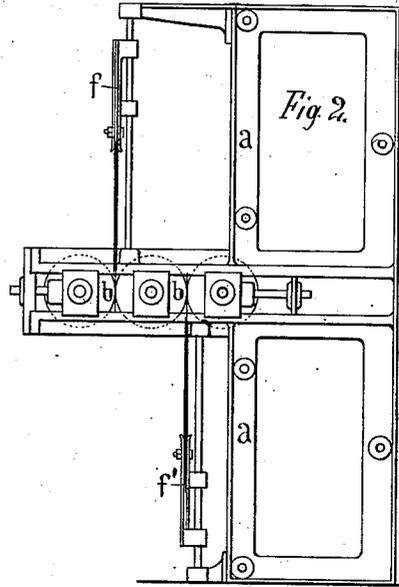
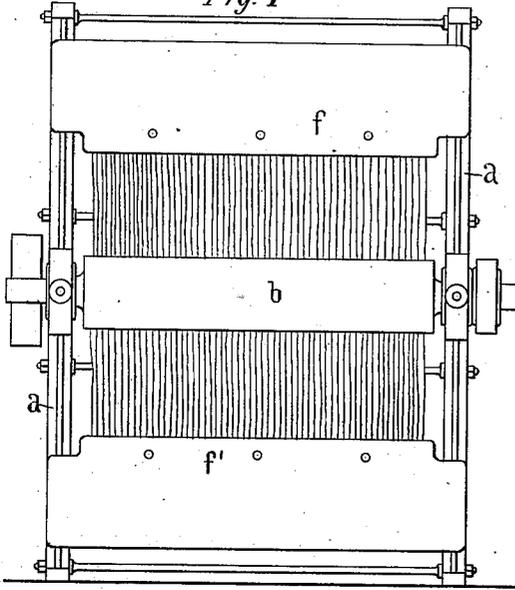
(No Model.)

F. KUNZ.

PROCESS OF AND APPARATUS FOR PREPARING FIBER FOR THE
MANUFACTURE OF BRUSHES AND BROOMS.

No. 295,021.
Fig. 1

Patented Mar. 11, 1884.



Witnesses.

Victor Coumbs
Robert Corbett.

Inventor:

Frida Kunz.

By James L. Norris,
Att'y.

UNITED STATES PATENT OFFICE.

FRIDA KUNZ, OF DONAUESCHINGEN, GERMANY.

PROCESS OF AND APPARATUS FOR PREPARING FIBER FOR THE MANUFACTURE OF BRUSHES AND BROOMS.

SPECIFICATION forming part of Letters Patent No. 295,021, dated March 11, 1884.

Application filed August 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRIDA KUNZ, a citizen of Germany, residing at Donaueschingen, Germany, have invented new and useful Improvements in the Process of and Apparatus for Preparing Fiber for the Manufacture of Brushes and Brooms, of which the following is a specification.

This invention relates to improvements in the process of and apparatus for preparing fibers to be made into brushes and brooms, and has for its object to render the fiber of the cocoon elastic and similar to ordinary bristles. This I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of my machine; Fig. 2, a side elevation; Fig. 3, a plan view; Fig. 4, a side elevation of one of the rolls partly broken away; Fig. 5, a central longitudinal section of the same, taken through the line A D B, Fig. 6; and Fig. 6, a cross-section of the same.

The cocoon fiber, in its natural state, is of a rough and brittle character, totally unfit for the manufacture of brushes and brooms. In order to prepare it for such purposes, I subject it to the action of revolving rolls armed with teeth, bristles, and wires, and heated by steam, whereby the fibers are smoothed, pointed, and polished. I then thoroughly grease them with lard or similar grease to render the fibers elastic, after which they are ready to be made up into brushes and brooms in any of the usual and ordinary ways.

Referring to the drawings, *a* indicates a frame-work of any suitable construction, and preferably of iron. *b b* indicate hollow rolls journaled in suitable journal-boxes, said journal-boxes being connected with steam-pipes *b'*, or in any of the well-known ways ordinarily employed in steam-heated rolls, and provided with suitable means for rotating the same. The rolls, in the present instance, are three in number, and are journaled in close proximity to each other. The said rolls, upon their peripheries, are provided with circumferential ribs and grooves *c*, and each roll is provided with four (more or less) recesses or pockets extending its entire length, in which

are alternately secured brushes *d d*, composed of ordinary bristles, and *e e*, composed of wires, as fully shown in Fig. 6. Immediately over one pair of said rolls is secured a clamping device, *f*, consisting of two plates secured together by a set-screw, between which plates the fibers to be treated are secured. This clamping device is made vertically adjustable, so that the fibers may be properly presented to the rolls. Immediately under the other pair of rolls is similarly secured a like clamp, *f'*.

The operation of my machine is as follows: The cocoa fibers to be treated are secured in the clamps *f f'*, and the clamps so adjusted as to present the ends of the fibers to the rolls, as shown in Fig. 2. The rolls are heated by steam, as before described, and are rapidly rotated by any suitable power. As the heated rolls rotate, the fibers are smoothed out by the ribbed portion *cc* of the rolls, the wire brushes *e e* comb out and point the fibers, and the bristles *d d* polish the same. The rolls impart heat to the cocoa fibers and set free the oil contained therein, facilitating the operation. The fibers are now removed from the clamps *f f'* and are reversed—that is to say, the ends just treated are placed in the clamps and the untreated ends presented to the action of the rolls. After both ends of the fibers have been properly smoothed, pointed, and polished, the fibers are treated with lard or other suitable grease. The fibers are now cut in two at their middle, thus making two bristles out of each, said bristles being employed in the manufacture of brooms, brushes, and similar articles.

I have shown three rolls and two clamps for holding the fibers; but it will be apparent that the number of rolls and clamps may be varied without departing from the spirit of my invention. In lieu of the circumferential ribs upon the peripheries of the rolls, I may use teeth of wire or similar material.

What I claim is—

1. The process of preparing cocoa fiber to be used in the manufacture of brushes, consisting in subjecting their ends to the action of heated rolls provided with circumferential ribs, and brushes of bristles and wires, and then greasing the same, substantially as described.

2. The combination of the frame *a a*, hav-

ing journaled therein the rolls *b b*, said rolls
being provided with circumferential ribs *c*,
brushes *e*, and wire brushes *d*, and means for
heating the same, substantially as described,
5 and for the purpose specified.

3. The combination, with the frame *a a*, hav-
ing journaled therein the steam-heated rolls
b b, said rolls being provided with circumfer-
ential ribs *c*, brushes *e*, and wire brushes *d*,
10 of the vertically-adjustable clamps *f f'*, all

constructed and arranged substantially as
shown and described, and for the purpose
specified.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing 15
witnesses.

FRIDA KUNZ.

Witnesses:

EDWARD RETTICK,
C. L. JUL. BAUMANN.