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1,535,628

J. J. PETERSON

BRUSH

Filed March 7, 1924

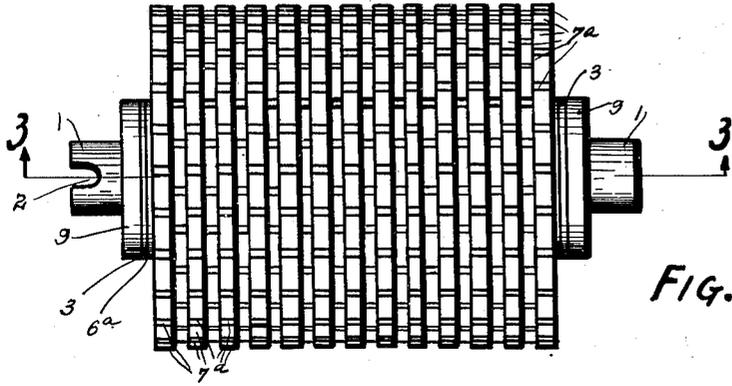


FIG. 1.

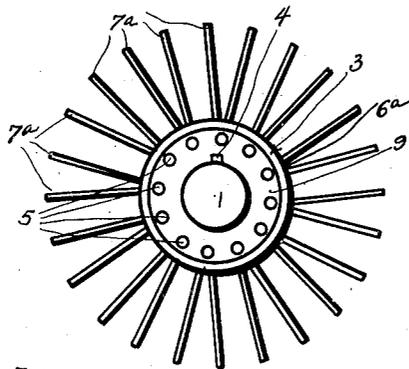


FIG. 2.

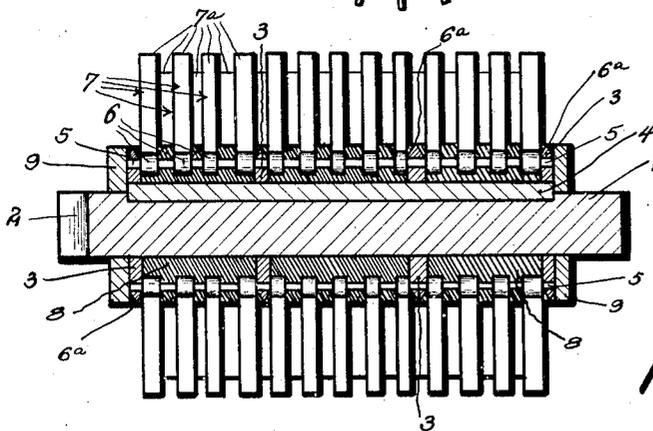


FIG. 3.

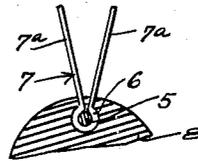


FIG. 4.

J. J. PETERSON INVENTOR
BY Victor J. Evans
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN J. PETERSON, OF STEUBENVILLE, OHIO.

BRUSH.

Application filed March 7, 1924. Serial No. 697,606.

To all whom it may concern:

Be it known that I, JOHN J. PETERSON, a citizen of the United States, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to brushes, and more particularly to brushes specially adapted for use in cleaning meat blocks and other structures where it is desired to remove a portion of the outer surface.

One of the main objects of the invention is to provide a brush having bristles which possess sufficient rigidity to exert a decided abrasive effect, these bristles also possessing great strength and being mounted in such manner as to prevent breaking of the bristles due to excessive vibration thereof when the brush is in use. A further object is to provide a brush of this character which can be produced at comparatively small cost. Further objects will appear from the detail description.

In the drawings:—

Figure 1 is a plan view of the brush;

Figure 2 is an end view;

Figure 3 is a section taken substantially on line 3—3 of Fig. 1;

Figure 4 is a fragmentary transverse section through the brush.

This invention is a continuation in part of the brush disclosed in my U. S. application for cleaning and abrasive device, Serial No. 609,923, filed December 30, 1922, and one of the primary objects of the present invention is to so mount the bristles as to prevent breakage thereof due to excessive vibration which is an objectionable feature of the brush of my application above identified. In constructing the brush of the present invention I provide a shaft 1 which is provided at one end with a slot 2 for reception of a driven member for rotating the brush when mounted in a suitable casing or supporting structure, such as that described in my copending application. A plurality of discs 3 are mounted upon shaft 1 in spaced relation, these discs being secured upon the shaft for rotation therewith by means of a key 4. These discs are each provided with a plurality of equally spaced openings which receive securing rods 5 inserted through the discs. These rods pass through eyes 6 provided at the inner ends of bristle members 7, each of these

members consisting of the eye 6 and two arms 7^a which extend from the ends of the eye and diverge outwardly of the brush. The bristle members are formed of strip steel or other suitable material so as to produce, in effect, a plurality of leaf springs which project radially of the brush and form the bristles thereof. The spaces between discs 5 are filled with an elastic material such as rubber 8 which is molded about shaft 1 and fills the spaces between arms 7^a of bristle members 7. The rubber 8 constitutes what may be termed the body of the brush and serves to hold the bristle members securely in position while permitting flexing or bending of the arms 7^a thereof. As the rubber is elastic it will permit bending of the bristle members sufficiently to prevent breaking of the arms 7^a, such as occurs where the bristle members are mounted in metal or other non-elastic material and the arms 7^a are bent at an appreciable angle and subjected to vibration during rotation of the brush with the bristle members in contact with a surface to be cleaned. The provision of the elastic body which secures and reinforces the bristle members while permitting ready flexing of the arms thereof and deadening vibration, is an important feature of my invention as this effectually prevents breakage of the arms of the bristle members due to vibration thereof.

As will be noted more clearly from Fig. 3, the edge portion 6^a of each disc 3 is beveled oppositely from its center so as to be of substantially V-shape in cross-section, and the rubber 8 extends to the edge of the disc. This effectually prevents pulling away of the rubber body from the discs such as would occur if the discs were not beveled in the manner described. The end discs 3 are effectually secured against outward movement by means of collars 9 secured upon the shaft in any suitable or preferred manner.

The bristles 7 of the brush are arranged in staggered relation so as to insure thorough cleaning or scraping of a surface over which the brush is moved during rotation thereof.

What I claim is:—

1. In a device of the character described, an elastic body, bristle members embedded in said body and each including an eye and resilient arms extending from the ends thereof, and securing rods extending through the body longitudinally thereof, said rods

being inserted through the eyes of the bristle members and acting to secure them in the body.

2. In a device of the character described, 5 an elastic body, reinforcing discs mounted in said body and disposed coaxially therewith, bristle members embedded in the body and projecting substantially radially therefrom, and securing rods extending through 10 the body and the discs, said securing rods being passed through the bristle members.

3. In a device of the character described, 15 an elastic body, reinforcing discs carried by said body, bristle members embedded in the body and projecting substantially radially therefrom, each of said members including an eye at its inner end and arms projecting from the ends of the eye, and securing rods inserted through the discs and the body, said 20 rods being also inserted through the eyes of the bristle members.

4. In a device of the character described, a plurality of coaxially disposed discs ar-

ranged in spaced relation, an elastic body 25 formed in sections fitting between said discs, bristle members embedded in said body, said members each including an eye at its inner end and arms projecting from the ends of the eye, and securing rods passed through 30 the discs and the sections of the body, said rods being inserted through the eyes of the bristle members.

5. In a device of the character described, 35 a plurality of coaxially disposed discs arranged in spaced relation and having their peripheral portions inclined outwardly from the center toward each face of the disc, an elastic body consisting of a plurality of sections fitting snugly between the discs and 40 extending about the inclined surfaces thereof, and bristle members having their inner portions secured in the sections of the body.

In testimony whereof I affix my signature.

JOHN J. PETERSON.