Dec. 2, 1952 G. W. HAYES ET AL 2,619,666

BALL PROCESSING BRUSH

Original Filed Feb. 20, 1948

Fig. 1.

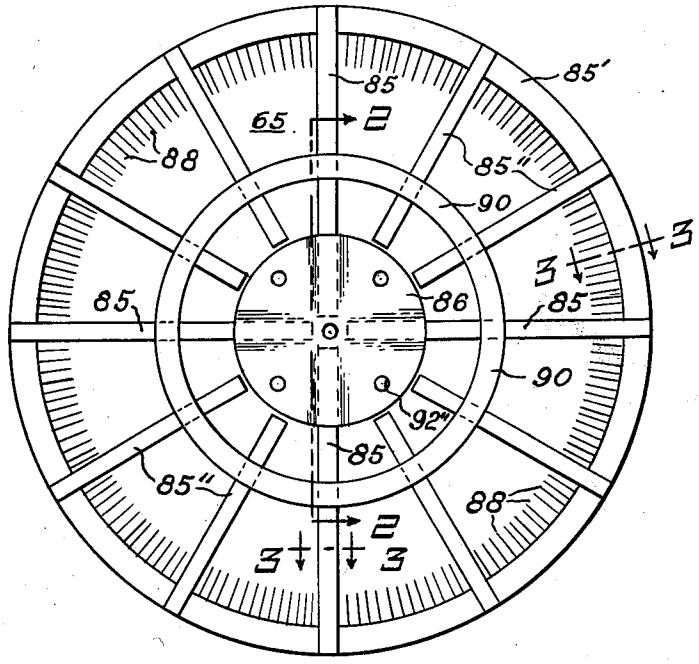


Fig. 2.

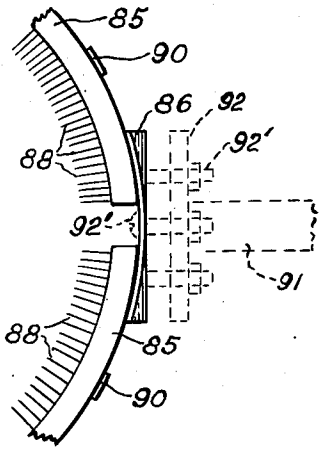
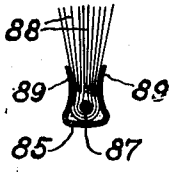


Fig. 3.



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BALL PROCESSING BRUSH

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3 Claims. (Cl. 15—179)

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The invention pertains to apparatus for cleaning, polishing and processing balls or like spherical objects.

This case is a divisional application of applicants' copending application No. 9,865, which was filed on February 20, 1948.

It is an object of our invention to provide an improved ball cleaning or polishing brush.

Further objects and advantages are within the scope of the invention, such as relate to the arrangement, operation and details of construction and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification in conjunction with the drawing disclosing a specific embodiment of the invention, in which:

Fig. 1 is a rear elevational view showing one of the ball processing brushes;

Fig. 2 is a fragmentary sectional view on line 2—2 in Fig. 1 with a mounting shaft shown by dotted lines;

Fig. 3 is an enlarged cross-sectional view of a bristle bearing element of the brush, taken on either line 3—3 in Fig. 1.

Referring more specifically to Figs. 1, 2 and 3 of the drawings, it will be seen that our improved ball cleaning and polishing brush comprises a cup shaped brush 65 to fit over the ball. This brush 65 is made of bristle carrying elements or ribs 85 bent to an arcuate form and having one end of each secured to an end mounting disc 86, as by welding thereto. These bristle carrying ribs or elements are a well known product available on the market and each comprises bristles 88 secured by a locking wire 87 between sidewalls 89 which have been bent or crimped inwardly in a snug clamped relation thereon. In such bristle carrying elements, the sidewalls 89 are provided by bending up the edges of an elongated metal strip into a substantially U-shaped cross-section in a well known construction, and the bristles project from the open side thereof, as shown. Such bristle carrying elements or ribs 85 are selected and shaped by us so that the bristles 88 are directed inwardly in a suitable conformation to engage an embraced ball and to give it an effective scrubbing or processing. The outer ends of these bristle carrying ribs 85 are secured, as by welding, to another bristle carrying element 85', which has been bent into a circular shape with its bristles 88 directed inwardly for engaging a ball. Intermediately, the ribs 85 are encircled on the outside by a reinforcing hoop 90, secured thereon as by welding. The end mounting disc 86 is preferably distorted slightly, as shown, for

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more intimate attachment with the ends of the arcuate shaped ribs 85 welded thereto. Additional bristle carrying ribs 85'' may also be bent to similar arcuate shapes and disposed in spaced relations between the previously mentioned ribs 85, being secured to the circular member 85' and inside of the hoop 90, but not necessarily to the mounting disc. For rotative monting, each such brush is provided with a brush carrying shaft 91 which is provided with head 92 of a disc form similar to the mounting disc 86, shown dotted in Fig. 2 and these are readily assembled and secured together by screws 92' passed through suitable apertures 92'', as will be readily understood. For scrubbing a ball, a pair of such cup shaped brushes 65 are provided rotatively mounted in bearings on swinging arms on opposite sides of a ball carrying track and movable toward or away therefrom, as shown in detail in the parent application. The bristles 88 of these brushes, are selected to produce suitable scrubbing, or abrasive, or polishing action, as desired. In utilizing a plurality of pairs of such brushes, one pair of brushes may be made suitable for removing lacquer and other foreign matter from the surface of a ball, while the bristles of another pair of the brushes may be finer and softer for polishing. The cooperative brushes of each pair of brushes are so mounted on the swinging brush brackets as to embrace opposite sides of a ball passing therebetween on the guide tracks and to lift the ball slightly. Driving belts and pulleys provided are preferably of the V-type, although other driving means may be used if desired, instead of belts. When belts are used for driving the brush driving belts are twisted suitably to cause the two brushes of each pair to rotate in opposite directions.

Dry scrubbing may adequately clean the balls and especially by selecting scrubbing brushes providing a desirable amount of abrasive action, which is a well known expedient in the manufacture and use of brushes, and the brushes may be made up of any desired number of bristle carrying elements.

If desired, the ball may be wetted with a cleansing or solvent fluid before it is scrubbed.

It is apparent that within the scope of our invention modifications and different arrangements may be made other than herein disclosed, and the present disclosure is illustrative merely, the invention comprehending variations thereof.

What is claimed as the invention is:

1. A ball processing brush of open work con-

struction comprising, an end disc mounting member, a plurality of spaced bristle carrying elements of arcuate shape, said elements having bristles projecting from the curved inner sides thereof for engagement with a ball being processed, said elements being secured at one end thereof to said end disc mounting member and extending therefrom in ball clasping relation, and another element of an annular form secured to the other ends of said plurality of bristle carrying elements for joining all the bristle carrying elements together in a substantially cup shaped ball clasping form.

2. A ball processing brush of open work construction comprising, an end mounting and driving member of substantially a disc form, a plurality of bristle carrying elements, each of said elements consisting of a metal strip deformed to substantially a U-shaped cross-section open along the inner side thereof, bristles carried by said elements and projecting from the open side of said U-shaped cross-section, each said bristle carrying element being of an arcuate shape with the bristles projecting inwardly from the curved inner sides of the arcuate shape suitably for engaging a ball to be processed, said bristle carrying elements being secured at one end thereof to said end mounting member in a spaced ball clasping relation, and another bristle carrying element of an annular form engaging the other ends of said plurality of bristle carrying elements and being secured thereto for joining all the bristle carrying elements together in a cup shaped ball clasping form, and the annular formed bristle carrying element having its bristles directed inwardly for engaging the ball to be processed.

3. A ball processing brush of open work construction comprising, an end mounting member

of substantially a disc shape, a plurality of metal strips of suitable arcuate shape to form ball clasping ribs and bearing inwardly projecting bristles, said bristle bearing arcuate metal strips being secured at one end to said end mounting member and extending therefrom in a spreading ball clasping relation, said end mounting member having portions distorted to fit the arcuate curvature of said metal strips for more intimate attachment with the ends of said arcuate metal strips secured thereto, and an element of annular form secured to the extended ends of said arcuate metal strips for joining these together in a substantially cup shaped ball clasping form.

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