

United States Patent

Moss et al.

[15] 3,636,603

[45] Jan. 25, 1972

[54] BUFFING DEVICE	2,366,877	1/1945	Schlegel.....	15/230.12
[72] Inventors: Theron V. Moss, Shaker Hts., Ohio; Ollie Ray Caylor, McDonald, Tenn.	2,658,315	11/1953	Peterson.....	15/230.13
	2,724,937	11/1955	Churchill.....	15/230.13
	2,660,010	11/1953	Larsen.....	15/230.19
[73] Assignee: said Moss, by said Caylor	2,854,286	9/1958	Salick.....	300/21
[22] Filed: Dec. 18, 1969	2,983,940	5/1961	Beyer Olsen.....	15/181
[21] Appl. No.: 886,180	3,251,596	5/1966	Niizaki.....	15/179 UX

FOREIGN PATENTS OR APPLICATIONS

Related U.S. Application Data	1,053,486	2/1954	France.....	300/21
[62] Division of Ser. No. 749,806, Aug. 2, 1968, Pat. No. 3,531,815.	589,606	3/1959	Italy.....	15/230.14

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[52] U.S. Cl.....	29/120, 29/148.4, 300/21, 15/230.16
[51] Int. Cl.....	A46b 7/10, A46b 3/16
[58] Field of Search.....	15/230.19, 230.18, 230.16, 15/230.15, 230.14, 230.13, 230.12, 230; 300/21; 161/61; 29/120, 148.4 D

ABSTRACT

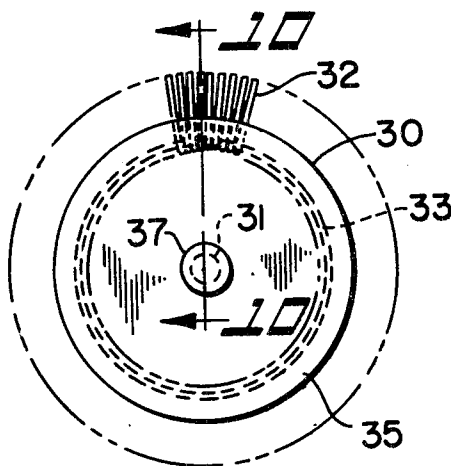
A buffing device formed from a longitudinally extending wrapping of yarn which is collapsed substantially centrally along its longitudinal axis to form looped yarns on opposite sides of the collapsed section. The wrapping is attached to a support which may have means to mount the buffing device on an arbor or the like. The buffing device is made by forming such a longitudinally extending wrapping, collapsing the same longitudinally thereof to form the looped yarns and attaching the wrapping to a supporting means.

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10 Claims, 10 Drawing Figures



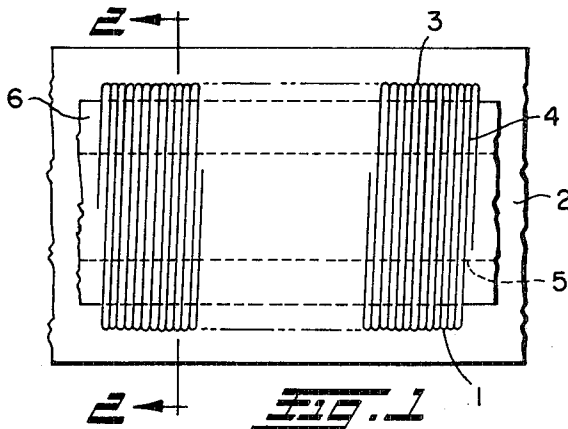


FIG. 1

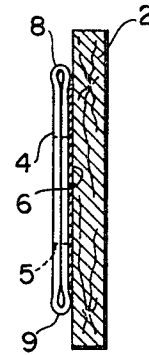


FIG. 2

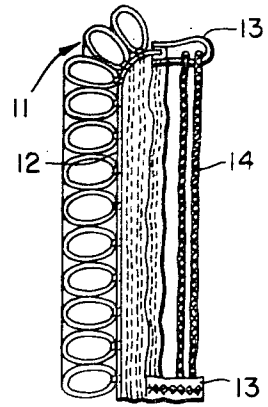


FIG. 4

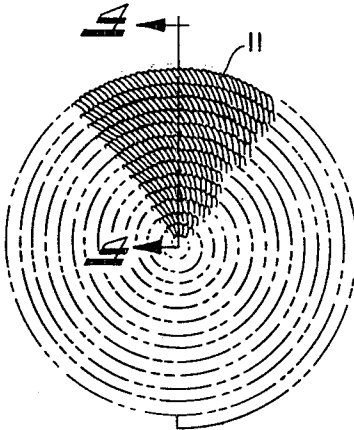


FIG. 3

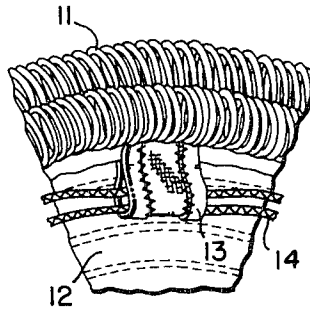


FIG. 5

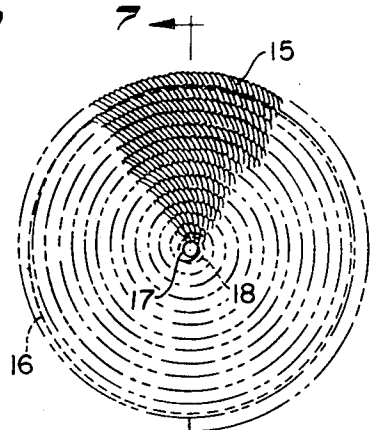


FIG. 6

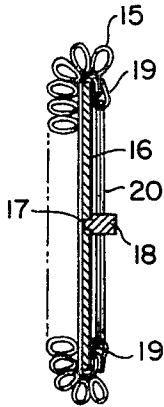


FIG. 7

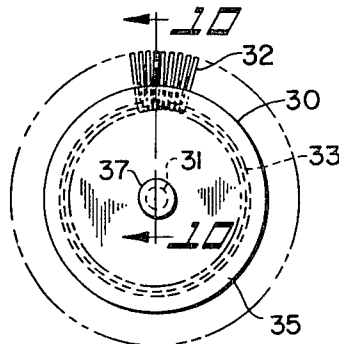


FIG. 9

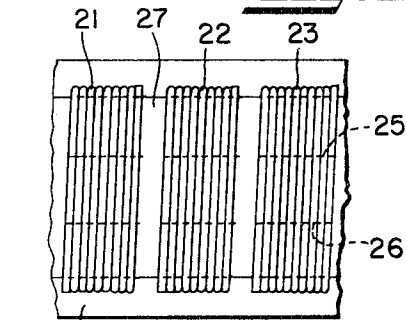


FIG. 8

INVENTORS

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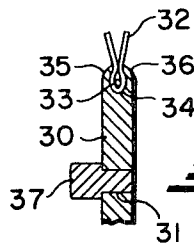


FIG. 10

BUFFING DEVICE

This application is a division of U.S. application Ser. No. 749,806, filed Aug. 2, 1968, now U.S. Pat. No. 3,531,815, granted Oct. 6, 1970, and relates generally as indicated to a buffing device, and more particularly to such a device formed of a unique material to provide a buff having a substantially increased useful life.

Buffing devices of various types have, of course, been widely used for many years to buff or polish machine parts, stampings, floors, etc. It has been a continuing objective to provide buffing devices which are of a durable construction and capable of withstanding severe use and repeated cleaning to achieve a greater overall working life. Accordingly, it is one of the objectives of this invention to provide such a buffing device.

Another object of the present invention is the provision of a buffing device which is formed from a material whereby the production of lint during use or cleaning will be minimized.

A further object of this invention is the provision of a buffing device in which the material forming the working surface thereof will not unravel during use or cleaning.

Yet another object of this invention is the provision of a buffing device in which the yarn can be very tightly packed and secured in position to provide a durable and versatile device.

Other objects, features and advantages of this invention will become apparent to those skilled in the art after a reading of the following more detailed description.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawings:

FIG. 1 is a partial plan view illustrating one method of forming the present invention;

FIG. 2 is a section view taken on line 2—2 of FIG. 1;

FIG. 3 is a plan view of one form of the invention;

FIG. 4 is a fragmentary section view taken on line 4—4 of FIG. 3;

FIG. 5 is an enlarged partial plan view of the back side of the buffing device;

FIG. 6 is a plan view of a further form;

FIG. 7 is a section view on line 7—7 of FIG. 6;

FIG. 8 is a partial plan view illustrating a further modification; and

FIGS. 9 and 10 are a plan view of a further embodiment and a partial section view on line 10—10 of FIG. 9 respectively.

Referring more particularly to the drawings, in FIGS. 1 and 2, one method of forming the device is illustrated. A plurality of yarns 1 (the terminology "yarns" is used herein generically and includes strands, cords and other similar materials) are placed on a support 2, such as a conveyor or table, to form a longitudinally extending wrapping 3. The wrapping is then collapsed substantially centrally of its width as shown at 4, which may be simply by sewing the yarns together longitudinally of the wrapping. If desired, a second row of stitching 5 can also be used to better secure the wrapping in the desired configuration.

To facilitate handling of the wrapping of yarn and to provide a buffing device of greater strength, the yarn is preferably laid down on a fabric or canvas supporting piece 6, which may be previously positioned on the supporting surface 2. When the wrapping is collapsed along its longitudinal axis, the yarns may be secured to the supporting fabric by sewing in the manner described above.

In FIG. 2, the construction of the wrapping is illustrated more clearly, having looped yarns 8 and 9 on opposite sides of the collapsed central section 10. The width of the loops will, of course, depend upon the positioning of the stitching or other means which is used to form the collapsed section. As used herein, the term "collapsed central section" is intended to in-

clude varying positions of such stitching with respect to the width of the wrapping and the use of a plurality of rows of stitching or other means spaced apart to provide relatively small loops and a relatively greater collapsed section.

In FIGS. 3 and 4, the wrapping of looped yarns has been formed into a convolute configuration 11 by winding the wrapping upon itself as shown. It will also be appreciated that the wrapping may be wound about a mandrel or the like, if desired, to provide a rotary buffing device. The buffing device may also be formed from a plurality of such wrappings which are formed into concentric circles, if desired. In FIGS. 4 and 5, the backside of a preferred form of the buffing device is shown which has a plurality of straps 13 substantially uniformly spaced about the periphery thereof and attached to the supporting fabric 12 through which a cord 14 may be inserted to help secure the buff to a supporting work member as in a floor polishing machine, for example.

Preferably, to provide a more sturdy buff, the wrapping of looped yarns 15 is mounted, as for example with an adhesive, on a supporting disc, designated by numeral 16 in FIGS. 6 and 7, which may be a relatively sturdy fabric, latex backing, etc. The supporting disc may have a substantially central opening 17 therein to mount the buff on an arbor or the like 18. As in the form shown in FIGS. 3—5, the buff may have straps 19 spaced thereabout with cord 20 inserted therethrough to help secure the buff to the backing and supporting work member.

Referring to FIG. 8, a modification of the wrapping is shown. In this form, the wrapping comprises a plurality of wrappings 21, 22 and 23 on support 24 which are collapsed substantially centrally as shown at 25 and 26 to form the looped yarns. The wrappings are spaced slightly from one another as at 27. The wrapping may also, of course, be placed on a fabric or other supporting piece as shown in FIGS. 1 and 2. After formation of the wrapping, it may be formed into a rotary buffing device, as described above.

The wrapping of looped yarns may also be formed by helically winding yarn, or a plurality of yarns, about two supporting pieces which are spaced apart a predetermined distance whereby an annular wrapping is formed extending longitudinally of the supporting pieces. After a wrapping of sufficient length has been formed, it will be collapsed substantially centrally thereof along its longitudinal axis so that looped yarns will be formed on opposite sides of the collapsed central section, as illustrated in FIGS. 1 and 2. After the wrapping has been thus formed, it may be attached to a fabric support and further processed as desired.

Although the present invention has been described and illustrated as including looped yarns, which construction possesses decided advantages, it may be desirable in certain instances where an especially soft buffing surface is desired, as for example in the buffing and polishing of gems or the like, to sever the ends of the yarns. If such construction is desired, it can easily be provided by cutting the ends of the loops 8 and 9 (FIG. 2) after formation of the collapsed wrapping.

The buffing device heretofore disclosed may be mounted on an arbor for use as a rotary buff as illustrated and described and may also be used as a buffing pad, as for example on a floor polishing machine. If the device is to be used as a buffing pad, it may include a substantially central opening to facilitate mounting, but may be secured to the brush of such a machine by frictional engagement and also by the straps and cord which have been illustrated and described.

Referring now to FIGS. 9 and 10, a further embodiment is illustrated. A wheel frame 30 having an arbor hole 31 therein has an annular wrapping 32 placed about the circumference thereof. The wrapping may be in the form illustrated in FIGS. 1 and 2 or in FIG. 8. The wrapping is preferably secured to the wheel frame by a wire 33 which is placed in the trough 34 of the frame. When the looped yarns and the wire are in position, the parallel annular flanges 35 and 36 of the frame may be clamped against the yarns as shown most clearly in FIG. 9 to further secure the yarn tightly in position. The frame is shown mounted on arbor 37. This embodiment is particularly ad-

vantageous since the item to be polished or buffed can be conveniently held against the edge of the yarns as the buff is rotating. If desired, it is also, of course, possible to apply various polishing materials such as abrasive or rouge to the buff, and the ends of the looped yarns may also be cut, if desired, as previously noted.

Many materials are suitable for use in this invention including cotton, rayon, nylon, blends of rayon and cotton and blends of rayon, cotton and nylon, etc. Preferably, soft limp yarn is used, with all cotton or a blend of cotton and rayon being especially suitable. Bleached hemp yarn with a small percentage of braided nylon or other synthetic plastic strands such as orlon or dacron may also be used if desired.

It will thus be appreciated that the buffing device of this invention has several advantages. Due to the provisions of such a device in which the yarns are formed with looped ends, unraveling of the yarns during use of laundering will be precluded. Similarly, such device will minimize the production of lint during laundering and use, which also provides for a buff of greater useful life. Additionally, due to the wrapping with the collapsed central section, the yarns can be very tightly secured in the desired position and hence better able to withstand severe use for the buffing of stampings, machine parts, etc.

We claim:

1. A rotary buffing device comprising a circular support means and at least one longitudinally extending coiled wrapping of yarns attached to the periphery of said support means, said wrapping being collapsed substantially centrally longitudinally thereof and having looped yarns on opposite sides of said collapsed central section, and means for attaching said wrapping to the periphery of said circular support means along said collapsed central section.

2. The buffing device of claim 1 wherein said wrapping of yarns are stitched together along said collapsed central sec-

tion.

3. The buffing device of claim 1 further comprising a support member extending along said collapsed central section, said collapsed central section being secured to said support member by stitching.

4. The buffing device of claim 1 wherein said circular support means comprises a wheel frame having parallel annular flanges extending about said frame forming a circumferential trough therebetween about the periphery of said frame for receipt of said collapsed central section of said wrapping of yarns.

5. The buffing device of claim 4 wherein said means for attaching said collapsed central section to the periphery of said circular support means comprises a wire positioned in said trough.

6. The buffing device of claim 4 wherein said means for attaching said collapsed central section to the periphery of said circular support means comprises said flanges which are clamped against said yarns.

7. The buffing device of claim 4 wherein said support means has a substantially central opening therein to mount said buffing device on an arbor.

8. The buffing device of claim 1 wherein the ends of said looped yarns are cut.

9. A method of making a rotary buffing device comprising forming a longitudinally extending coiled wrapping of yarn, collapsing such wrapping substantially centrally longitudinally thereof thus forming looped yarns on opposite sides of the collapsed central section, and attaching said wrapping to the periphery of a circular support means along said collapsed central section.

10. The method of claim 9 wherein such wrapping of yarn is secured together along such collapsed central section by stitching.

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