United States Patent [19]

Wakefield

[11] **3,717,894**

[45] **Feb. 27, 1973**

[54] **EDGE GUARD FOR BUFFING MACHINE**

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[22] Filed: **May 6, 1971**

[21] Appl. No.: **140,683**

[52] **U.S. Cl.**.....**15/97 R,** 15/230.15, 15/230.19

[51] **Int. Cl.**.....**A47l 11/14**

[58] **Field of Search**.....15/230.19, 230.18, 230.17, 15/230.16, 230.15, 230.14, 230.12, 230, 97, 98, 235; 300/21; 29/120, 148.4 D

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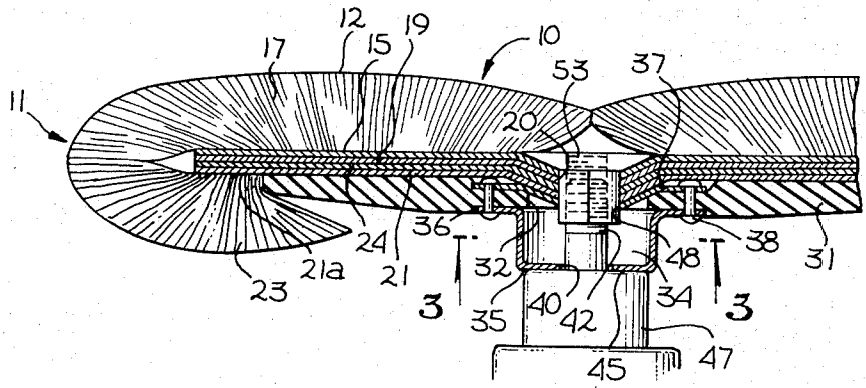
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[57] **ABSTRACT**

The present invention discloses an edge guard for a buffer pad. The buffed pad is formed of a canvas backing provided with a nap of wool on the front working surface thereof. The edge guard is similarly formed of a canvas backing with a wool nap, but the nap therefor is on the back surface of the canvas backing and only extends about an annular area adjacent to the outer circumference thereof. During the assembly of the buffer pad on a circular rubber back-up disc that is used for holding the buffer pad on the projecting end of a driving spindle, the edge guard pad is first positioned on the back-up disc with the back surface of its canvas backing against the back-up disc such that the annular area provided with the nap of wool surrounds and extends beyond the outer circumferential edge of the back-up disc. Then the buffer pad is positioned on the back-up disc with the back surface of its canvas backing against the front surface of the edge guard pad. The assembly is then fastened together by a clamping nut.

4 Claims, 4 Drawing Figures



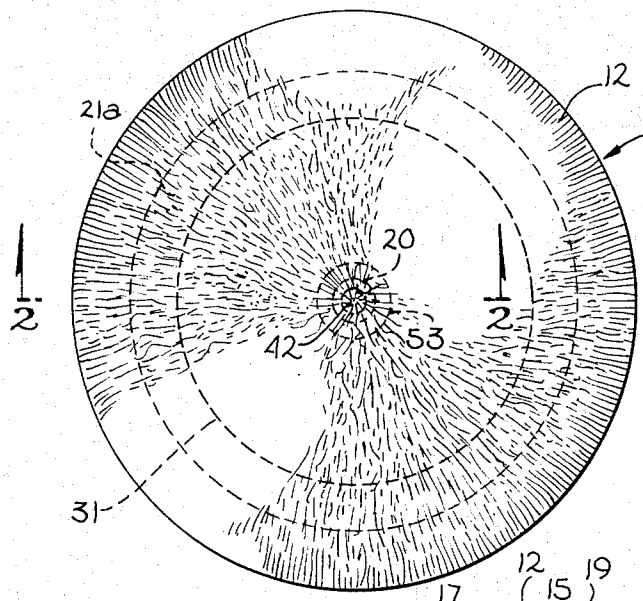
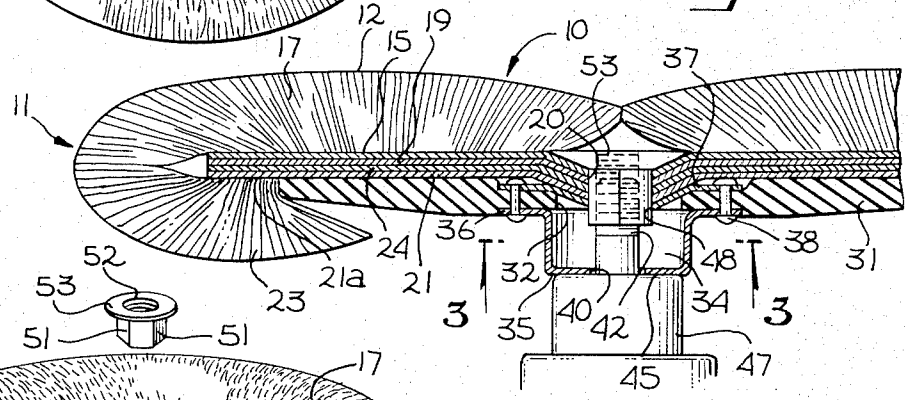


Fig. 1

Fig. 2



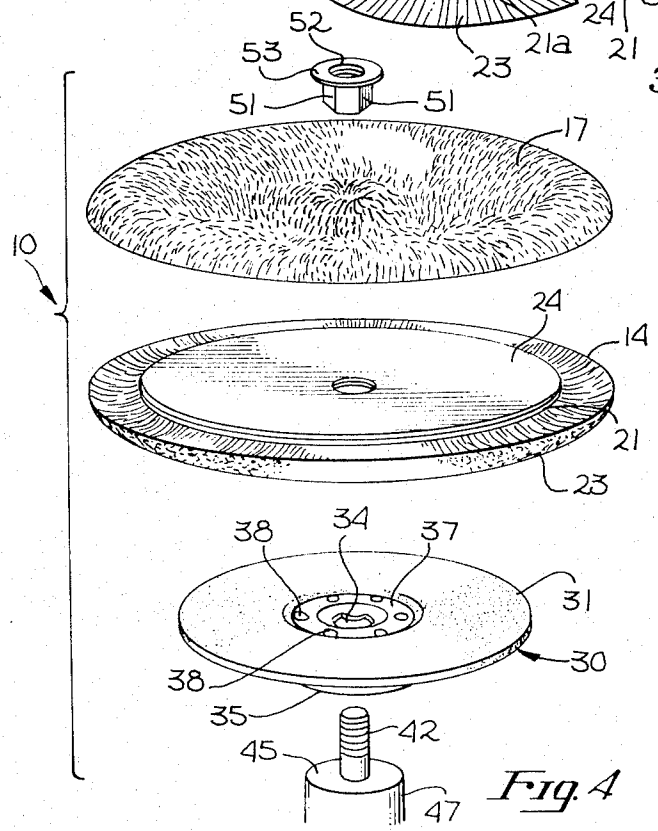
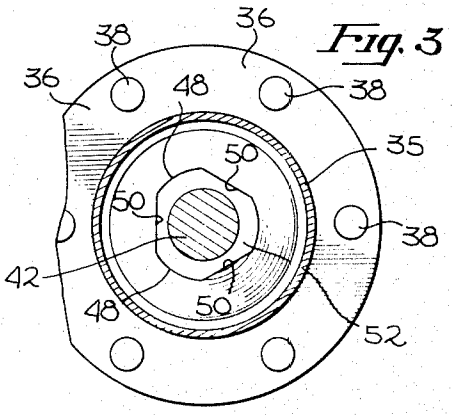


Fig. 4

Fig. 3



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EDGE GUARD FOR BUFFING MACHINE

This invention relates to power driven buffer pads for use in the automotive service field, for example, and more particularly to an improvement in the form of an edge guard for such a buffer pad.

When using hand-operated power driven buffer pads for polishing the surfaces of automobiles and similar equipment, it is conventional to provide a circular canvas backing with a nap of wool on the outer or working surface thereof. While the nap so formed by the wool tends to lean outwardly such as to extend beyond the outer circumferential edge of the circular canvas backing, this form of construction nevertheless leaves the sharp outer edge and the rear portion of the canvas backing exposed. Thus during the use of the rotating buffer pad and especially when encountering sharp contours on the surface of the automobile during the buffing operation, extra precaution is required of the operator to prevent the outer edge and exposed rear portion of the canvas backing from marring or otherwise defacing the surface which is intended to be polished.

Accordingly the present invention forms an improvement in buffer devices which provides for covering the edge and outer rear portions of the canvas backing of a buffer pad and thus guards these portions from damaging the surface to be buffed.

Another object of the invention is to provide an edge guard for a conventional buffer pad which is simply formed and which is adapted to be readily attached to a rotatable back-up disc provided for the buffer pad.

These and other objects and advantages of the present invention will be more clearly understood by reference to the following description and the accompanying drawings in which:

FIG. 1 is a top plan view of the buffer pad device of the present invention.

FIG. 2 is a cross-sectional view of the buffer pad device as viewed along lines 2—2 of FIG. 1.

FIG. 3 is a cross-sectional view of the attachment device for the buffer pad device as taken along lines 3—3 of FIG. 2.

FIG. 4 is an exploded view of the parts comprising the buffer pad device.

Referring to the drawings, a buffing machine generally noted by the reference numeral **10** includes a pad assembly **11** comprising a buffer pad **12** and an edge guard **14** pad. The buffer pad **12** is provided with a backing formed of a circular sheet of canvas **15** having a central opening **20**. Tufts of lamb's wool are sewn on the front surface of the canvas **15** to form a nap **17**. The tufts of wool forming nap **17** extend in a direction substantially normal to the surface of the canvas **15** throughout most of the working surface of the pad **12**. However, in the region of the central opening **20** provided on the canvas **15** the nap **17** tends to lean radially inward and in the region of the outer circumference of the canvas **15** the nap **17** tends to lean radially outwardly such that part of it lies substantially in the same plane as the canvas **15**. A second circular sheet of canvas **19** is glued over the canvas **15** for the purpose of covering up the ends of the tufts of wool sewn thereon and for further reinforcing the backing. The canvas **19** has the same outer diameter as the canvas **15** and a similar central opening **20**.

The edge guard pad **14** is similarly provided with a backing formed of a circular sheet of canvas **21** having the same outer diameter as canvas **15** and a similar central opening **20**. In the fabrication of the edge guard pad **14**, tufts of lamb's wool are sewn on outer annular portion **21a** only of the rear surface of canvas **21** to provide a nap **23**. As indicated, nap **23** tends to lean inwardly at the inner radius of annular portion **21***a* and tends to lean outwardly at the outer radius thereof such that part of the nap lies substantially in the same plane as the canvas **21**. The edge guard pad **14** has a second circular sheet of canvas **24** which is glued onto canvas **21** for the purpose of covering the sewn ends of the wool and further enforcing the backing therefor. The buffer pad **12** and the edge guard pad **14** when positioned with their canvas backings back-to-back form the buffer pad assembly **11** of the present invention. It should be noted that when so combined the nap **17** on the outer edge of the buffer pad **12** and the nap **23** on the outer edge of the edge guard pad **14** tend to lean radially outwardly such that they meet in the common plane of their canvas backings.

In order to rotate the buffer pad assembly **11**, it is held on a rotatable back-up plate **30** which is adapted to be mounted on a spindle **47** of a power driven unit. The back-up plate **30** comprises a relatively hard, flat, rubber disc **31** provided with a central opening **32**. The disc **31** has a diameter smaller than the canvas backing of buffer unit **11** such as to give a sufficient degree of rigidity thereto while permitting the outer circumferential edge portion of the canvas backing to be free to bend when under pressure. A metal center holder **34** for the disc **31** is formed of a cup **35** with an outer flange **36** on the upper end thereof. A metal cover **37** is provided for cooperating with the flange **36**. The inner edge portion of the central opening **32** of the rubber disc **31** is held between the outer flange **36** of the cup **35** and the cover **37** therefor and securely clamped in position by a number of equally spaced rivets **38**.

The metal holder **34** has a central opening **40** in the bottom of the cup **35** for receiving the projected threaded end **42** of the spindle **47**. The cover **37** of the cup **35** is provided with a central opening **48** formed with three equally spaced flat sides **50** which conform with flats **51** on the body of a clamp nut **52** provided with a cap **53** on the upper end thereof. Thus the body of the clamp nut **52** is inserted through the central opening **20** of the canvas backing for the buffer pad **12** and edge guard pad **14** and through the central opening **48** of the cover **37** such that the flats **51** provided on the body of the nut **52** engage the flat sides **50** provided in the opening **48**. The nut **52** is thus engaged to the cover **37** such that thy rotate as a single member. Then when the threaded projected end **42** of the spindle **47** is threadably engaged on the clamping nut **52**, the top **53** engages the inner edge of the central opening of the canvas backing for the pads and securely clamps them against the upper surface of the cover **37**.

When the buffer unit **11** of the present invention is to be used, the parts are assembled together in the following order as best shown by the reference to FIG. **4**. First the buffing device is held with its spindle **47** in an upright position, and the back-up plate **30** is dropped over the end of the spindle **47** such that the bottom of the cup **35** of the metal center holder **34** for the back-

up plate 30 rests on the shoulder 45 of the spindle 47, and the projected threaded end 42 of spindle 47 extends upwardly through the central opening 40 in the bottom of the cup 34. Then the edge guard pad 14 is placed on the back-up plate 30 with the inner radius of the annular portion 21a thereof adjacent the peripheral edge of the disc 31. It should be noted that the edge guard pad 14 is put on backwards in the sense that the nap 23 on the annular portion 21*a* extends generally downward in direction. When so positioned the nap near the inner radius of annular portion 21*a* leans radially inwardly about the outer edge of disc 31 and the nap near the outer radius thereof leans radially outwardly such as to lie substantially in the same plane as the canvas 21. Next the buffer pad 12 with the nap 17 on its working surface facing in the upper direction is dropped over the exposed canvas surface of the edge guard pad 14. When the pads 12 and 14 are so positioned on the back-up plate 30, the projecting end 42 of the spindle 47 extends upwardly through the center opening 20 of the pad assembly. The clamp nut 52 is then inserted through the center opening 20 from the front of the pad assembly such that the body of the clamp nut fits in the opening of the cover 37, and the cap 53 of the clamp nut 57 engages the edge portion of the center opening 20 of the canvas backing. The threaded projected end 42 of the spindle 47 is then advanced on to the nut 52 such as to clamp the edges of the center opening between the cap 53 and the cover 37 of the center holder 34 and the assembly is then completed. It should be particularly noted that with the edge guard pad 14 in position on the buffer pad 12, the sharp outer edge and outer rear portions of the canvas backing for the buffer pad 12 is completely covered by the nap of lamb's wool extending from the edges of the pads such as to insure that no portions of the canvas backing are exposed which could inadvertently mar the surface being polished by the buffer pad.

While the description has been concerned with a particular structural embodiment, it is to be understood that modifications and variations in the construction and arrangement may be provided for without departing from the spirit and scope of the invention or sacrificing any of its advantages. The invention is therefor considered as including all such possible modifications and variations coming within the legitimate and valid scope of the appended claims:

What is claimed is:

1. A buffing device comprising:

a buffer pad including a circular canvas backing and a nap of wool attached to the front surface of said backing;

an edge guard pad having a circular canvas backing of comparable size to said canvas backing of said buffer pad, and having a nap of wool attached to the outer annular area of the rear surface of its said circular canvas backing;

said pads being assembled with the front surface of the canvas backing for said edge guard pad engaging the rear surface of the canvas backing for said buffer pad, the nap on the outer circumferential edge of the front surface of said buffer pad and the nap on the outer circumferential edge of the rear surface of said edge guard pad both tending to lean radially outward such that they meet in the common plane of the canvas backings and thereby protect any object being buffed from being directly engaged by the circumferential edges of said canvas backings;

a resilient circular backup plate having a radius equal to the inner radius of the outer annular area of the rear surface of said edge guard pad, said backup plate being in engagement with said rear surface; and

fastening means coupling the centers of said buffer pad, said edge guard pad, and said backup plate to each other, and adapted for attachment to the end of a rotatable drive shaft.

2. A buffing machine of the type used in the automotive service field and for other purposes including:

a buffer pad comprising a circular canvas backing provided with a nap of wool on the front surface thereof,

an edge guard pad comprising a circular canvas backing provided with a nap of wool on the outer annular area of the rear surface thereof,

said pads being assembled with the rear surface of the canvas backing for the buffer pad held adjacent the front surface of the canvas backing for the edge guard pad,

the nap on the outer circumferential edge of the front surface of the buffer pad and the nap on the outer circumferential edge of the rear surface of the edge guard pad tending to lean radially outwardly such that they meet in the common plane of the canvas backings for the pads and thereby provide for covering the circumferential edge of said buffer pad,

a circular backup plate for said buffer pad, and

said circular backup plate having a radius equal to the inner radius of the outer annular area on the rear surface of the canvas backing of the edge guard pad that is provided with a nap of wool.

3. The invention in accordance with claim 2 wherein said circular back-up plate is formed of rubber.

4. The invention in accordance with claim 3 wherein said buffer and edge guard pad assembly is provided with a central opening,

wherein said back-up plate is provided with a central opening in line with the central opening of said pad assembly, and

wherein said buffing machine includes a driving spindle having a threaded projected end that extends from the rear of said back-up plate through the central opening of said back-up plate and said pad assembly, and

a clamping nut provided with a cap,

said nut being inserted from the front of said pad assembly into the central opening thereof such as to engage the threaded projected end of said spindle to enable the cap thereon to clamp the inner edge of the central opening of said pad assembly against said back-up plate.

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