Sept. 24, 1940. H. E. HARGY, SR 2,215,522

BUFFING WHEEL

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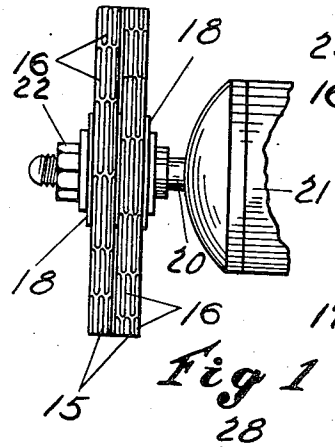


Fig 1

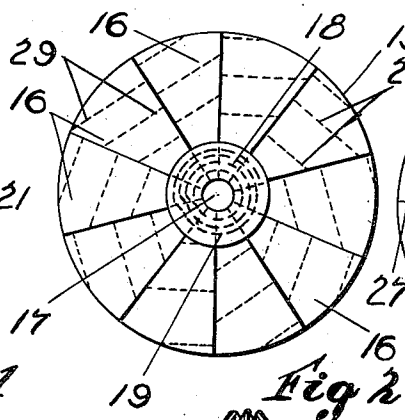


Fig 2

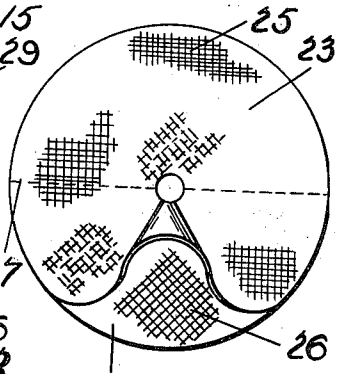


Fig 3

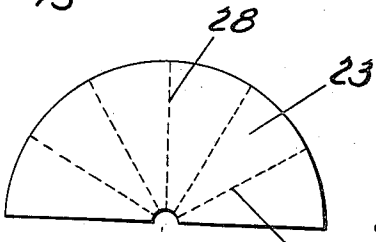


Fig 4

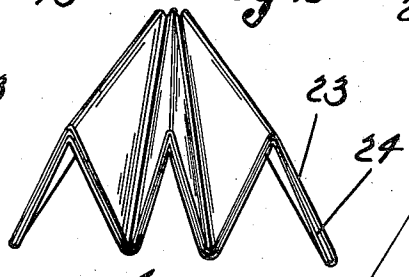


Fig 5

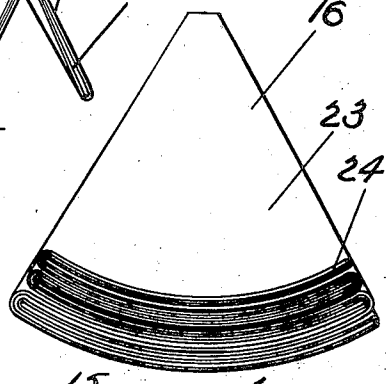


Fig 6

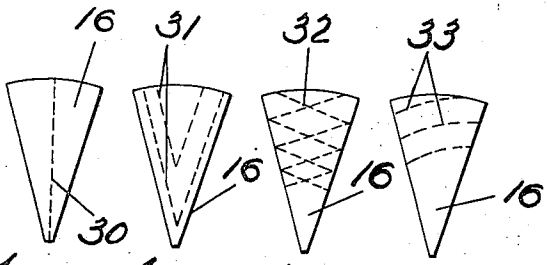


Fig 7 Fig 8 Fig 9 Fig 10

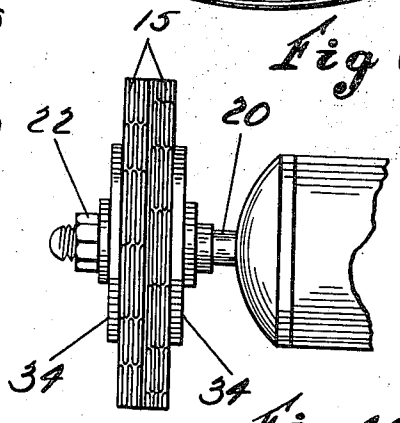


Fig 11

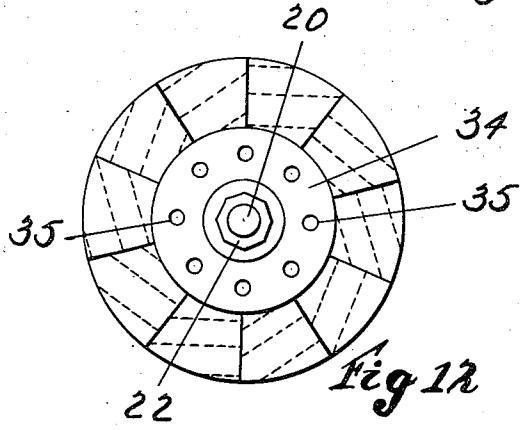


Fig 12

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BUFFING WHEEL

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Application May 2, 1940, Serial No. 333,007

5 Claims. (Cl. 51—193)

The present invention relates to rotary devices for buffing and polishing metal surfaces or the like and is particularly directed to improvements in buffing wheels of this nature.

An object of the invention is to provide a buffing wheel having improved cutting and polishing action and which will take up a relatively large amount of buffing compound when the latter is applied to it during rotation.

Another object of the invention is to provide a buffing wheel having the aforementioned qualities which presents the greatest possible amount of material at its periphery resulting in less waste of material at the unused center of the wheel.

A further object of the invention is to provide a buffing wheel having a continuous working surface and also a wheel having a plurality of flat sectors provided with radial edges, said edges during rotation tending to stiffen each sector along radial lines due to the centrifugal force set up by said rotation.

Other objects will be apparent from the following specification and drawing, in which:

Fig. 1 is a side elevational view of a completed buffing wheel employing my invention.

Fig. 2 is a front elevation of the buffing wheel of Fig. 1 shown removed from the motor shaft.

Fig. 3 is a plan view of the wheel in the initial stage of construction showing the superposed discs, the top disc being turned back to show the disc beneath it.

Fig. 4 is a plan view of folded discs for my wheel.

Fig. 5 is an enlarged perspective view of the folded discs.

Fig. 6 is a perspective view of a flattened sector formed from the folded discs of Fig. 5.

Figs. 7, 8, 9, and 10 are plan views of a sector for my wheel provided with various forms of stitching.

Fig. 11 is a side elevational view of a modified form of my invention.

Fig. 12 is a front elevational view of the wheel shown in Fig. 10.

The embodiment of my invention consists of a wheel 15 constructed from a plurality of independent sectors 16 disposed in edge to edge relationship about the center 17 of the wheel. The sectors are bound together by means of a circular disc 18 which is fastened concentrically to both sides of the sectors by means of circular rows of stitching 19. Fig. 1 shows two of the wheels 15 made from a plurality of sectors positioned on the driven shaft 20 of a motor 21, nut 22 serving to clamp said discs in any suitable manner to said shaft. It will be noted that when two or more of my wheels are used that the sectors are disposed in other than transverse alignment.

The sectors may comprise one or more discs, but in either case, the sectors are folded in the same manner. As shown in Fig. 3, a disc 23 is made of any suitable buffing material such as fibre, canvas, paper, or the like, superposed upon a disc 24 in such a manner that the warp and woof threads 25 and 26 respectively are distributed at relatively different angles. The superposed discs of Fig. 3 are folded along a diameter indicated by dotted lines 27 to assume the shape indicated in Fig. 4. In the latter condition the discs are again folded on a number of radii indicated at 28 in Fig. 4, preferably five in number. Fig. 5 shows the discs in an intermediate stage of being folded to the flattened condition shown in Fig. 6.

As has been said, the sectors 16 so formed are disposed in edge to edge relationship about a common center so that the thickness of a sector is equal to the thickness of the finished wheel, and further, the arcuate working surface of said sector is formed on the diameter of said finished wheel. The means for binding the sector together comprises a line of stitching which may take a number of different forms. I preferably employ the stitch indicated in Fig. 2, which is made by making a number of parallel lines of stitching 29 which are disposed at an angle to the radius of the sector. The ends of the stitching of adjacent sectors are in opposed non-aligned positions so that alternate sectors will always present a line of stitching at the peripheral working surface of the wheel as it is worn down during use. As shown in Figs. 7, 8, 9, and 10, my sector may be provided with other forms of stitching, Fig. 7 showing a central line of stitching 30 positioned on the radius of said sector. Fig. 8 shows a number of V-shaped lines of stitching 31 parallel with the radial sides of the sector. Fig. 9 shows diamond-shaped lines of stitching 32, whilst Fig. 10 shows a line of stitching 33 similar to the preferred form of stitching 29, except that said stitching is in a curved form.

A modified form of the invention is shown in Figs. 11 and 12, and consists of a plurality of buffing wheels 15 constructed in a manner similar to that of my preferred form and mounted on the driven shaft of the motor 20 by means of a nut 22 which exerts pressure against two

parallel plates 34 disposed on each side of said wheels. The plates are mounted concentrically on the shaft 20 and are provided with a number of holes 35 which aid in introducing air to the inner portion of the wheel to aid in cooling the wheel during operation.

What is claimed is:

1. In a buffing wheel the combination of a plurality of superposed discs having their warp and woof threads distributed at relatively different angles and said superposed discs folded on radial lines to form a sector equal in thickness to the wheel and having an arcuate working surface of the diameter of said wheel, parallel lines of stitching for the sector disposed at an angle to the radius of said disc and adapted to hold said sector together and create a number of pockets having relatively drastic buffing action in the working surface thereof, a plurality of sectors, disposed in edge to edge relationship about a common center to present a continuous circumference to the finished wheel, the ends of the stitching of adjacent sectors being in opposed non-aligned positions, and means adjacent the inner ends of the sector for fastening said sectors together.

2. In a buffing wheel the combination of a plurality of superposed discs having their warp and woof threads distributed at relatively different angles and said superposed discs folded on radial lines to form a sector equal in thickness to the wheel and having an arcuate working surface of the diameter of said wheel, parallel lines of stitching for the sector disposed at an angle to the radius of said disc and adapted to hold said sector together and create a number of pockets having relatively drastic buffing action in the working surface thereof, a plurality of sectors, disposed in edge to edge relationship about a common center to present a continuous circumference to the finished wheel, and means adjacent the inner ends of the sector for fastening said sectors together.

3. In a buffing wheel the combination of a plurality of superposed discs having their warp and woof threads distributed at relatively different angles and said superposed discs folded on radial lines to form a sector equal in thickness to the wheel and having an arcuate working surface of the diameter of said wheel, means for binding the folds of the sector together in a flat compact condition, a plurality of sectors disposed in edge to edge relationship about a common center to present a continuous circumference to the finished wheel, and means adjacent the inner ends of the sector for fastening said sectors together.

4. In a buffing wheel the combination of a disc folded to form a sector having an arcuate working surface of the diameter of the wheel, means for binding the folds of the sector together in a flat compact condition, a plurality of sectors disposed in edge to edge relationship about a common center to present a continuous circumference to the finished wheel, and means adjacent the inner ends of the sectors for fastening said sectors together.

5. In a buffing wheel the combination of a disc folded to form a sector having an arcuate working surface of the diameter of the wheel, means for binding the sector together, a plurality of sectors disposed in edge to edge relationship about a common center, and means adjacent the inner ends of the sectors for fastening said sectors together.

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