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C. H. DRIVER

2,180,040

SANDING DRUM

Filed Feb. 16, 1938

FIG. 1.

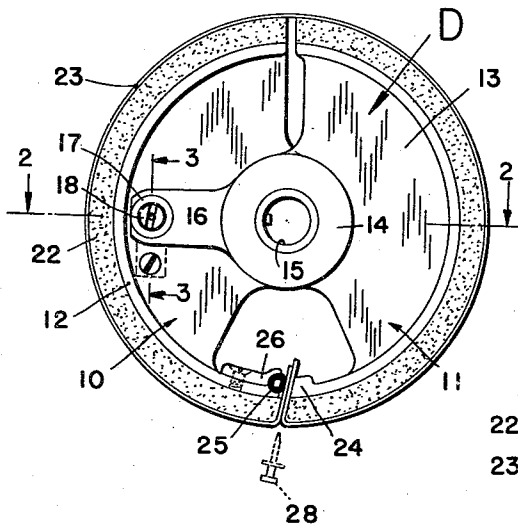


FIG. 2.

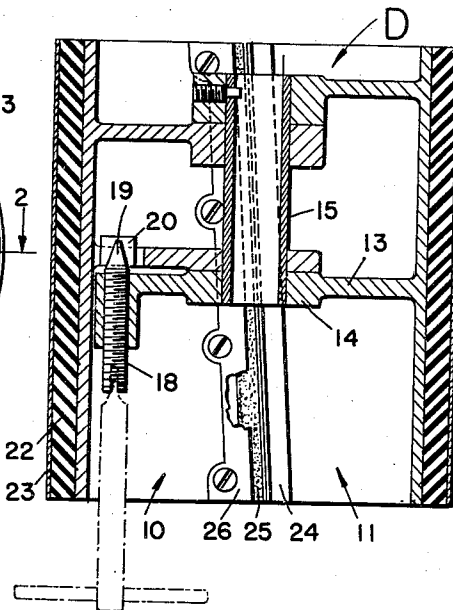


FIG. 3.

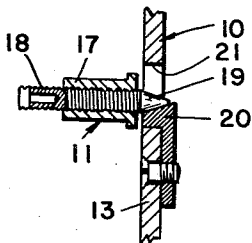


FIG. 5.

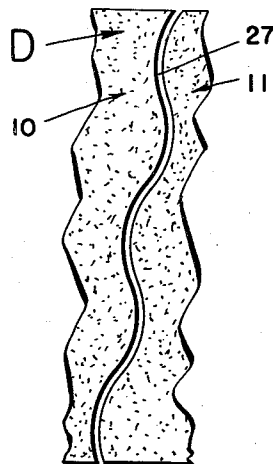
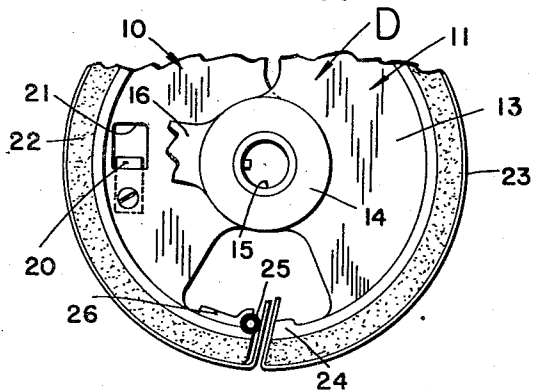


FIG. 4.



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UNITED STATES PATENT OFFICE

2,180,040

SANDING DRUM

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2 Claims. (Cl. 51—194)

This invention appertains to sanding and like drums used more particularly in floor-finishing machines.

One of the primary objects of my invention is to provide novel means for quickly and expeditiously attaching or removing sandpaper or other abrading material to or from the periphery of the drum or wheel.

Another salient object of my invention is to provide a sanding drum having novel means for stretching the sandpaper about the drum during the securing of the sandpaper in place, so as to prevent any slack in the sandpaper.

A further important object of my invention is to provide novel means for automatically taking up any slack in the sandpaper, should the sandpaper stretch during the use of the drum.

A further important object of my invention is to provide a sanding drum comprising, a pair of substantially semicylindrical sections rockably mounted relative to one another, with novel means carried by adjacent edges thereof for gripping the free ends of the sandpaper, means being provided for swinging the sections on their axis for bringing the sandpaper gripping means into tight contact with the ends of the paper by a resilient clamping jaw.

With these and other objects in view, the invention consists in the novel construction, arrangement, and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawing, in which drawing:

Figure 1 is an end elevation of my improved sanding drum, showing the sandpaper tightly secured in place thereon.

Figure 2 is an enlarged section through the sanding drum, taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a fragmentary, detail sectional view taken on the line 3—3 of Figure 1, looking in the direction of the arrows, illustrating the means for adjusting the sections of the drum relative to one another.

Figure 4 is a view similar to Figure 1, with parts thereof broken away, the view illustrating the position of the sandpaper prior to the gripping of the free ends thereof.

Figure 5 is a fragmentary plan view of the drum, with the sandpaper removed therefrom, the view showing the adjacent edges of the drum section which are remote from the gripping edges of the drum sections.

Referring to the drawing in detail, wherein similar reference characters designate corre-

sponding parts throughout the several views, the letter D generally indicates my improved sanding drum, which comprises a pair of companion substantially semicylindrical sections 10 and 11.

Each one of the sections is preferably formed from a single casting, and each includes a substantially semicylindrical, outer peripheral wall or rim 12. The rims 12 carry inwardly directed, substantially semicircular hub plates 13, and these hub plates have formed thereon longitudinally aligned bearing hubs 14. These bearing hubs are adapted to receive a bearing sleeve 15, and the hub sections are rockably mounted upon said sleeve. The sleeve forms means for permitting the easy placing of the assembled drum on an arbor (not shown), but, obviously, the hub bearings 14 can be placed directly on an arbor without the use of a bearing sleeve.

One hub plate 13 of the drum section 11 carries a radially extending arm 16, and the outer end of this arm has formed thereon an internally threaded socket 17 for the reception of an adjusting screw 18. The inner end of the adjusting screw has a pointed terminal 19, the purpose of which will be later set forth. The outer end of the adjusting screw can be formed to permit the association of an implement therefor for facilitating the turning thereof.

The hub plate 13 of the drum section 10, which is adjacent the arm 16, has attached thereto or formed thereon a wedge 20, against which the pointed terminal of the screw engages, the last mentioned hub plate being provided with an opening or recess 21 through which the screw 18 can extend.

The rim portions 12 of the hub sections 10 and 11 have secured thereto by suitable adhesive or the like relatively thick pads of sponge rubber 22 or other resilient cushioning material, or all-metal drums without cushions may be used. The sandpaper 23 is adapted to be placed over the outer surface of the sponge rubber pads, and the ends of the sandpaper are inserted between adjacent edges of the drum sections 10 and 11. One of these edges is provided with a flat abutting edge 24, and the other edge facing said rib carries a tube 25 or other shaped resilient cushion formed from resilient rubber. A groove can be formed in this drum section edge for receiving the resilient cushion, or, as shown, a removable attaching plate 26 can be provided for engaging and holding the tube in position. The edge 24 and the tube 25 preferably extend diagonally across the drum at an angle to the axis of the drum sections. The other two adjacent edges

of the drum sections are of a sinuous form, as indicated by the reference character 27 and clearly shown in Figure 5 of the drawing.

In applying sandpaper to the drum, the adjusting screw 18 is threaded out of its socket until its pointed end 19 rides past the wedge 20, at which time the sinuous edges 27 of the hub sections can be moved into relatively close engagement, and the edge 24 and the resilient tube 25 can be moved away from one another. The paper is now placed about the sponge rubber pads, and the ends of the paper are inserted between the edge 24 and the tube 25, as is clearly shown in Figure 4 of the drawing. If preferred, thumb tacks 28 can be utilized for holding the ends of the paper temporarily in position.

The adjusting screw 18 is now threaded into its socket, with the pointed end 19 thereof riding against the inclined face of the wedge 20. This will move the drum section 10 and 11 on the sleeve 15 relative to one another, and bring the edge 24 and the tube 25 into tight and intimate contact with the ends of the sandpaper. The rubber tubing 25 will be compressed, and this rubber tubing will exert considerable frictional contact on the sandpaper. The thumb tacks can now be removed, and the sandpaper will be tightly held in place.

The sinuous edges 27 of the drum form an ideal means for supporting the sandpaper.

While I have stated that the sanding drum is particularly adapted for use on floor-finishing machines, it is to be understood that the drum can be used for other purposes.

Changes in details may be made without departing from the spirit or the scope of my invention, but what I claim as new is:

1. A sanding drum comprising, a pair of companion substantially semicylindrical sections, each of said sections having a semicylindrical rim and inwardly directed substantially semicircular hub plates, longitudinally alined hub bearings on said plates, means rockably connecting the bearings together, a radially extending arm formed on a hub plate of one section extending over a hub plate of the other section, a wedge carried by the last mentioned hub plate, an adjusting screw having a pointed terminal threaded in said arm for engaging the inclined surface of the wedge, gripping members carried by adjacent edges of the hub sections, and a sandpaper or other finishing material strip placed about the periphery of the drum having its ends inserted between said gripping members.

2. A sanding drum comprising, a pair of companion substantially semicylindrical sections, each of said sections having a semicylindrical rim and inwardly directed substantially semicircular hub plates, longitudinally alined hub bearings on said plates, means rockably connecting the bearings together, a radially extending arm formed on a hub plate of one section extending over a hub plate of the other section, a wedge carried by the last mentioned hub plate, and adjusting screw having a pointed terminal threaded in said arm for engaging the inclined surface of the wedge, gripping members carried by adjacent edges of the hub sections, a sandpaper strip placed about the periphery of the drum having its ends inserted between said gripping members, and resilient pads carried by the rims of the sections to form a packing for the sandpaper strip.

CHARLES H. DRIVER.