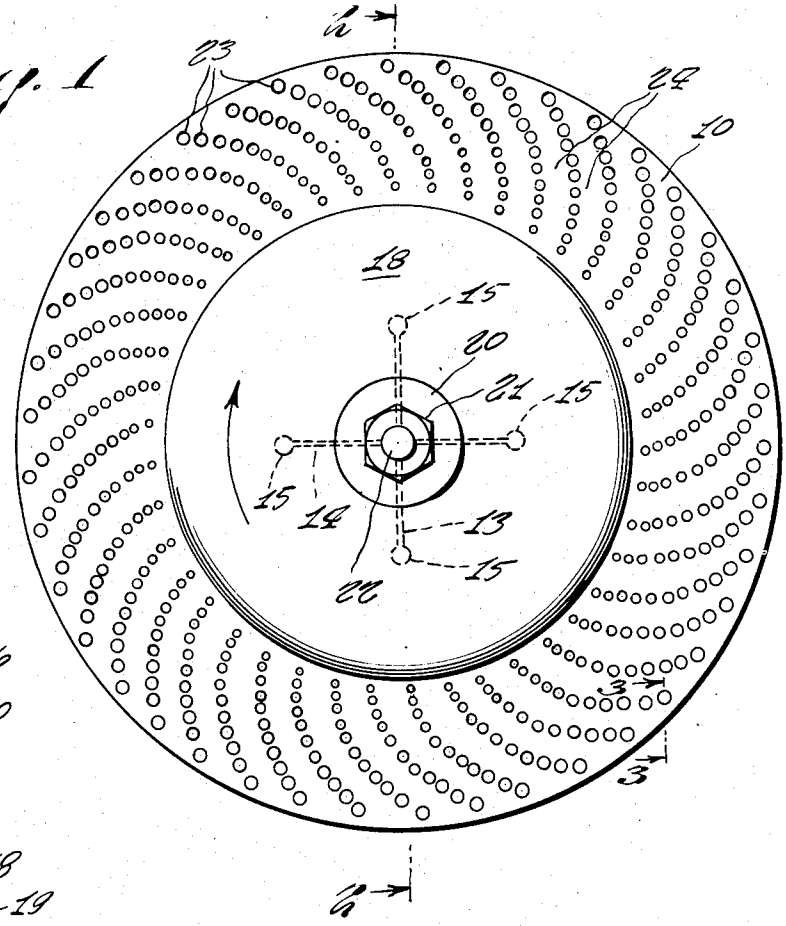
March 1, 1955 R. R. PULLEN 2,703,119

MOTOR OPERATED SURFACING TOOL

Filed March 5, 1954

Fig. 1



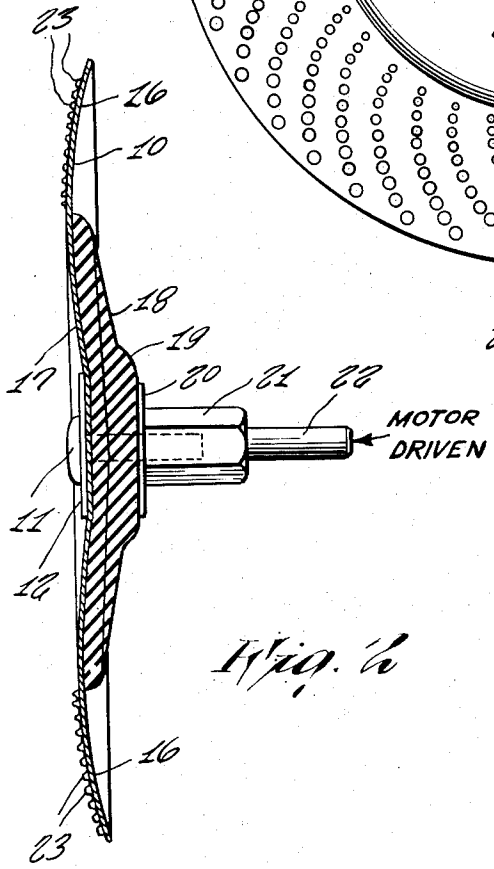


Fig. 2



Fig. 3

INVENTOR.
RAYMOND R. PULLEN
BY
Carl Miller
ATTORNEY

United States Patent Office

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MOTOR OPERATED SURFACING TOOL

Raymond R. Pullen, Rumson, N. J.

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5 Claims. (Cl. 144—115)

This invention relates to a motor operated surfacing tool.

It is an object of the present invention to provide a scraping disc adapted to smooth rough woods, remove paint or varnish therefrom and to smooth soft metals such as lead or aluminum.

It is another object of the present invention to provide a scraping disc of the above type which is air cooled and which is self-sharpening in operation.

Other objects of the present invention are to provide a scraping disc bearing the above objects in mind which is of simple construction, inexpensive to manufacture, has a minimum number of parts, is easy to use, and efficient in operation.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a rear elevational view of the device;

Fig. 2 is a vertical sectional view taken along the line 2—2 of Fig. 1; and

Fig. 3 is an enlarged vertical sectional view taken along the line 3—3 of Fig. 1.

Referring now more in detail to the drawing, a sheet metal disc **10** is provided with a central opening through which passes a bolt **11** for a purpose which will hereinafter become clear, with the bolt head adjacent the front face of the disc. A plate **12** is provided on the bolt **11** intermediate the head thereof and the front face of the disc **10**. The disc **10** at its center is provided with the intersecting slits **13** and **14** which pass through a central opening therein receivng the bolt **11**, each of the slits **13** and **14** at opposite ends being provided with the openings **15**. On the scraping side of the disc **10**, the outer portion thereof is turned back slightly as shown in Fig. 2 at **16**. The portion of disc **10** surrounding the plate **12** is slightly concave, as at **17** to provide clearance for the bolt head and washer **12**.

A circular rubber flange **18** has a concave face receiving the inner face of disc **10** and is formed with a hub **19** through which passes the bolt **11**, the flange **18** acting as a support and cushion for the disc **10**. A washer **20** is provided on the bolt **11** adjacent the hub **19** while an elongated nut **21** is screwed on to the bolt **11** to hold the parts and assemble them properly. A shaft **22** is connected fixedly to the disc and is adapted to be received within the chuck provided on a portable electric motor whereby to impart rotary motion to the disc.

The turned back portion of the disc **10** has punched outwardly therein a plurality of raised perforations **23**, substantially as illustrated and providing a scraping surface. It will be noted that in the drawing the perforations are provided in sets of eleven, the size of the perforations in each set decreasing towards the center of the disc, there being provided forty-two sets of such raised perforations. Each set of perforations curves slightly from the outer edge towards the center of the disc. The space provided between the adjacent rows of perforations **24** allows air to circulate during operation of the device to

keep the scraping disc cool while rotating in a clockwise direction. Fig. 3 shows a side sectional view of a perforation. It will be noted that the raised perforation provides a scraping edge which is self-sharpening in operation. The perforations are tapered inwardly away from the front face of the disc to prevent waste material from clogging up the openings.

In operation the disc is attached to an electric motor and rotated in a clockwise direction. In removing paint or varnish, the disc is tilted and the large scraping surfaces on the outside of the disc scrape through the hard surface of the paint and varnish and clean it down to the wood. The smaller scrapers then smooth off the wood. The disc is cooled by the passage of air between the surface being scraped and the lanes between the rows of raised perforations. Thus, air also passes through the perforations. The perforations are smaller on the scraping side due to their taper preventing waste materials from collecting and clogging the openings.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

1. A scraping disc comprising a circular plate, means for mounting the center of said plate for powered rotary motion, said plate on the outer scraping portion thereof being turned back slightly, and rows of raised perforations on the scraping surface of said plate, the size of said perforations within each row decreasing from the outside of said disc toward the center thereof, each row of said perforations curving slightly from the outer edge toward the center of the disc, said plate being rotated in a clockwise direction, said plate at the center thereof having a concave portion having a central opening, said means for mounting said plate for powered rotary motion comprising a bolt passing through said central opening with the head thereof received within said concave portion, a circular rubber flange on said bolt and abutting the rear face of said plate, a first washer on said bolt adjacent the bolt head, a second washer on said bolt adjacent the inner end of said flange, a lock nut securing said flange and plate together and a shaft connected to said assembly adapted to be received within the chuck of an electric motor.

2. A scraping disc according to claim 1, said plate at the center thereof having a pair of radial slits intersecting each other at substantially right angles and terminating in enlarged openings.

3. A scraping disc according to claim 1, said raised perforations being tapered inwardly away from the front face of said plate.

4. A scraping disc according to claim 1, said disc being formed of sheet metal.

5. A scraping disc according to claim 1, said rubber flange including a concave face receiving the inner face of said disc and a hub integrally formed therewith through which passes said bolt, said flange acting as a support and cushion for said disc, said nut being elongated.

References Cited in the file of this patent

UNITED STATES PATENTS

760,095	Archdeacon	May 17, 1904
943,046	Schleicher	Dec. 14, 1909
943,102	Schleicher	Dec. 14, 1909
1,387,027	Watrous	Aug. 9, 1921
1,467,430	Hurd	Sept. 11, 1923
1,576,645	Eskew et al.	Mar. 16, 1926
1,829,531	Neilsen	Oct. 27, 1931