March 29, 1927. 1,622,592

A. B. KRATZ

RUBBING MACHINE

Filed Nov. 13, 1922

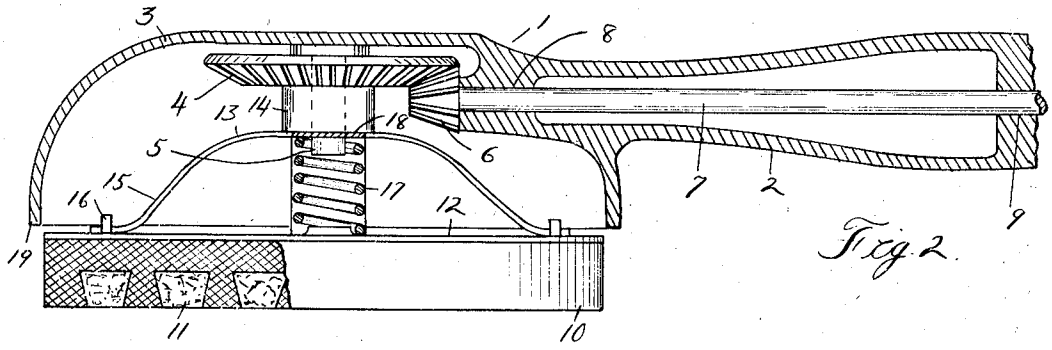
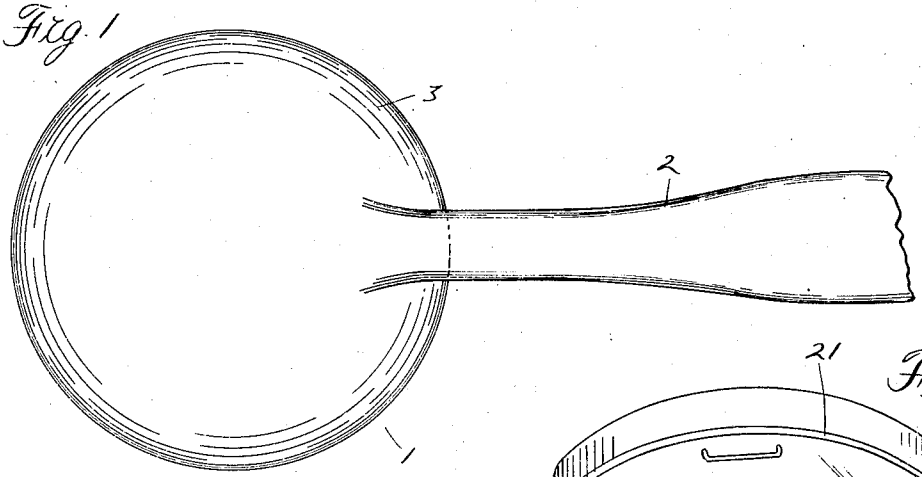


Fig. 2.

Fig. 1



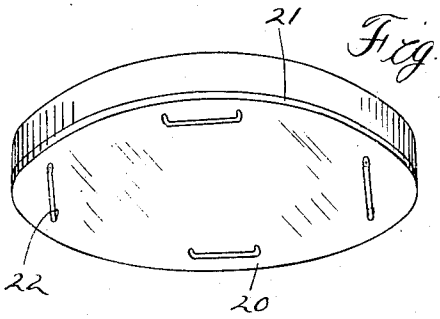
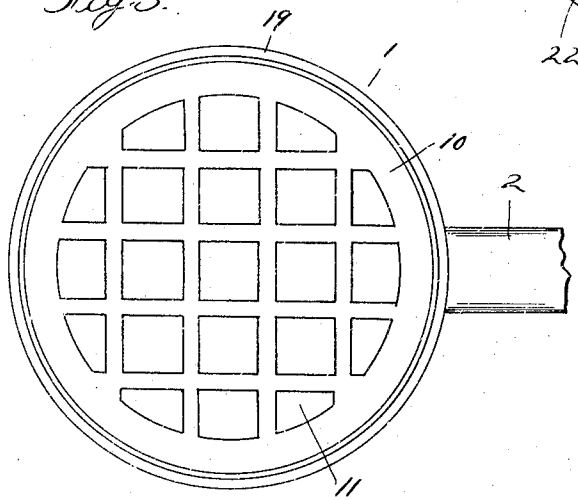


Fig. 4.

Fig. 3.



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Patented Mar. 29, 1927. 1,622,592

UNITED STATES PATENT OFFICE.

ARTHUR B. KRATZ, OF DETROIT, MICHIGAN.

RUBBING MACHINE.

Application filed November 13, 1922. Serial No. 600,676.

This invention relates to abrading and polishing machines and particularly to machines of the mechanically operated hand-manipulated type.

An object of the invention is to provide a simple and efficient machine for rubbing down painted or varnished surfaces and other work either after the foundation or preliminary coating for the paint or varnish has been applied or after the varnish has been applied.

Another object is to provide a strong and durable machine having a rubbing element which may be resiliently pressed against the surface to be rubbed and which is flexible to conform to a curved surface.

With the above and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Figure 1 is a top plan view of a machine embodying my invention;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a bottom plan view of the machine illustrated in Figure 1;

Figure 4 is a perspective view of a slightly different form of rubbing element.

Referring now to the drawing in which like characters of reference designate corresponding parts throughout the several views, the numeral 1 designates a frame having a hollow handle portion 2 and a head portion 3. A bevel gear 4 is rotatably mounted upon a stub shaft 5 rigidly secured at one end to the head portion 3 of the frame and is driven by a bevel gear 6 on a shaft 7 which is journaled in spaced bearings 8 and 9 respectively in the handle portion of the frame and which is connected by a flexible shaft (not shown) to a suitable source of power.

The rubbing element preferably comprises a block 10 of felt having a plurality of inserts 11 of abrasive material and is also provided with a flexible backing 12. A spider 13, preferably, constructed of spring metal, is rigidly connected at its center to the hub 14 of the bevel gear 4, while the arms 15 of the spider are preferably curved as shown and are loosely connected at their outer ends to loops 16 on the backing 12 of the block. A coil spring 17 is preferably disposed between the backing 12 and spider center 18 and is retained in position by means of the lower end of the stub shaft 5. The frame 1 is preferably provided with a circular extension 19 which preferably surrounds the block and forms a guard for protecting the operator from flying particles thrown from the block.

By means of the handle portion 2 of the frame, the machine can be easily and readily moved around and the rotating block 10 can be yieldingly pressed against the surface to be rubbed under the pressure of the spring 17 and spider arms 15. The block is also sufficiently flexible to conform to the curves of the surface to be rubbed.

Should it be desired to polish a varnished surface, the block 10 may be detached entirely from the spider arms 15 and a solid felt block 20 having a flexible backing 21 provided with loops 22, may then be substituted.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be resorted to as fall within the scope of what is claimed.

What I claim as my invention is:

1. In a device of the class described, the combination with a frame, of a rubbing element, loops secured to said rubbing element, a metallic spider having arms detachably connected to said loops, and actuating means for said rubbing element mounted within said frame and rigidly secured to said spider.

2. In a device of the class described, the combination with a frame, of a rubbing element, loops secured to said rubbing element, a metallic spider having arms detachably connected to said loops, actuating means for said rubbing element mounted within said frame and rigidly secured to said spider, and spring means between said spider and rubbing element for yieldingly pressing the latter against the surface to be rubbed, a stub shaft forming a part of said actuating means and secured to said frame for retaining said spring means in position.

3. In a device of the class described, the combination with a frame having a head portion and a handle portion, a rubbing element having loops secured thereto, means housed in said frame for actuating said rub-

bing element comprising a stub shaft secured to the head portion of said frame, a bevel gear rotatably mounted on said shaft, a metallic spider rigidly secured to said bevel gear and having arms loosely engaging said loops, means mounted in the handle portion of said frame for rotating said gear, and spring means between said spider and element for yieldably pressing the latter against the surface to be rubbed.

4. In a device of the class described, a frame, a rubbing element, loops secured to said element adjacent its outer edge, actuating means housed within and carried by the frame, and means for connecting said actuating means to said rubbing element comprising a member rigidly secured to said actuating means having a plurality of resilient arms engaging said loops.

In testimony whereof I affix my signature.

ARTHUR B. KRATZ.