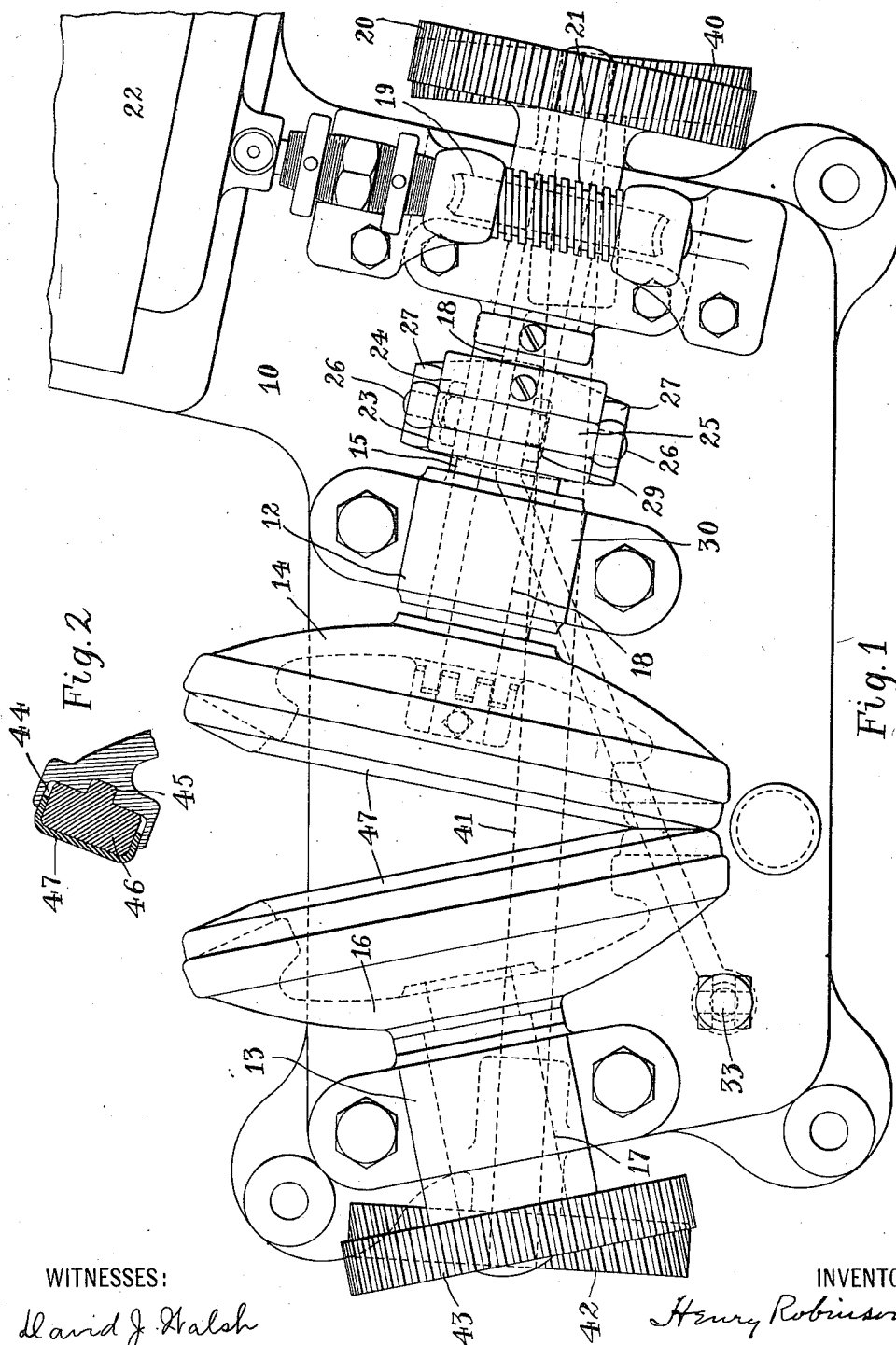


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POLISHING MACHINE.  
APPLICATION FILED JAN. 23, 1911.

1,036,719.

Patented Aug. 27, 1912.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

HENRY ROBINSON, OF NEWARK, NEW JERSEY.

## POLISHING-MACHINE.

1,036,719.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed January 23, 1911. Serial No. 604,091.

*To all whom it may concern:*

Be it known that I, HENRY ROBINSON, a citizen of the United States, residing in Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Polishing-Machines, of which the following is a specification.

My present invention relates to a machine capable of being driven either by hand or power whereby knives and the like may be rapidly and easily cleaned, scoured or polished.

The object of the invention is the provision of an improved contact pad to be applied to the polishing or cleaning wheels, which pad can be removed with comparative ease and at the same time provides an improved cushion and surface for contact with the articles to be treated.

Another object of the invention is the provision of a machine of the class described which is composed of relatively few parts so contrived and arranged as to be easily assembled or taken apart.

A preferred embodiment of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the machine as arranged to be driven by a motor (not shown), and Fig. 2 is a sectional detail of a preferred contact pad.

Upon the base or platform 10 are supported three standards, 11, 12, and 13, preferably placed as shown in Fig. 1. One polishing wheel 14 is carried on the end of a hollow sleeve 15 which has a bearing in the standard 12, while the opposite polishing wheel 16 is carried by a shaft 17 having its bearing in the standard 13. Each polishing wheel consists of a cast iron body hollowed on its outer face as indicated by the dotted lines in Fig. 1, and supplied around its rim with a suitable contact pad whose preferred construction is hereinafter described.

Through the center of the sleeve 15 extends the shaft 18, carrying a worm wheel 19 and a gear wheel 20 at its end. The worm wheel 19 is driven by the worm 21, on the shaft of an electric motor, one end of which is shown at 22. Any driving means may be used for the shaft 18.

The sleeve 15, which is made capable of sliding longitudinally on the shaft 18 carries collars 23, 24 between which turns the loose collar 25, carrying pins 26 engaged by forks 27 on the shorter arms 28 of a lever

pivoted beneath the base 10 at 29. The longer arm 30 of the lever extends under the base 10 to where a bolt 31 passes through its extremity and upward through the base, above which said bolt is pivoted to a cam 32 having a handle 33. A nut 34 at the bottom of the bolt supports the end of the arm 30, which is pressed downward by the spring 35.

Various means well known to those skilled in the art may be used to cause the sleeve 15 and disk 14 to turn with the driving shaft 18, and, as these form no part of my present invention, they are not herein shown and described.

The two polishing wheels 14 and 16 are caused to rotate together in the same direction by the preferred means shown, wherein the gear 20 drives a spiral toothed gear 40 on the cross shaft 41. This shaft drives a second spiral toothed gear 42 which drives the gear wheel 43 on the shaft 17 of the wheel 16.

The rims of the two wheels 14 and 16 are faced with polishing pads, and the shafts 15 and 17 of these wheels are set at such a mutual angle that these pads may be brought into contact at points in front of these wheels, as shown in Figs. 1 and 2. One of the features of my invention has relation to a preferred improved form of pad used in this connection. This is best shown in Figs. 1 and 2. The rim of each wheel is provided with an annular hollow or cavity 44 opening toward the front or face of the wheel at the bottom of which is a groove 45 extending entirely around the wheel rim. The cavity 44 is occupied by an annular cushion 46 having an extension which enters the groove 45. This cushion is preferably made of live rubber or equivalent material. Over the cushion 46 is stretched a leather covering 47 extending all the way around the wheel, the edges of which are tucked in tightly above and below the cushion, and between it and the sides of the hollow 44. By using a live elastic inner cushion 46 projecting above the edges of the cavity 44, and covering the same in the manner above described, I am able to produce a polishing pad which readily accommodates itself to the different positions and stresses incident to changes in the positions of the polishing wheels, without bringing undue strains either upon the cushion proper or its covering.

When in operation, the wheels 14 and 16 occupy approximately the position shown in the drawings, when the knife to be polished is introduced edge up between the revolving pads at the front of the machine, the friction of which presses the back of the knife down upon the rest 48 placed just in front of the point of contact of the pads. By pushing the knife in and out between the pads, all parts of the blade may be brought in contact with them for cleaning or polishing.

The degree of compression exerted by one pad on the other may be regulated and the wheels may be adjusted for articles of different sizes by turning the handle 33 to different positions. In the vertical position shown the spring 35 is allowed to depress the outer end of the arm 30 to a maximum extent, thus bringing the pads into firm contact. By tilting the handle 33 more and more out of the vertical position, the wheels

can be gradually separated, and the cam 32 is so shaped that any position thus given to the wheel 14 will be preserved without the necessity of further attention. When the machine is not in use, the wheels, are thus kept out of contact, which will lessen wear and tear.

What I claim is—

In a machine of the class described, a polishing wheel having an annular cavity on its face near its rim, a live rubber cushion within said cavity projecting above the edges of said cavity, and an annular covering strip of suitable material placed over the face of said cushion and tucked down between the sides thereof and the sides of said cavity so as to wedge said cushion tightly in place, substantially as described.

HENRY ROBINSON.

Witnesses:

CHAS. OTT,  
H. S. MACKEY.