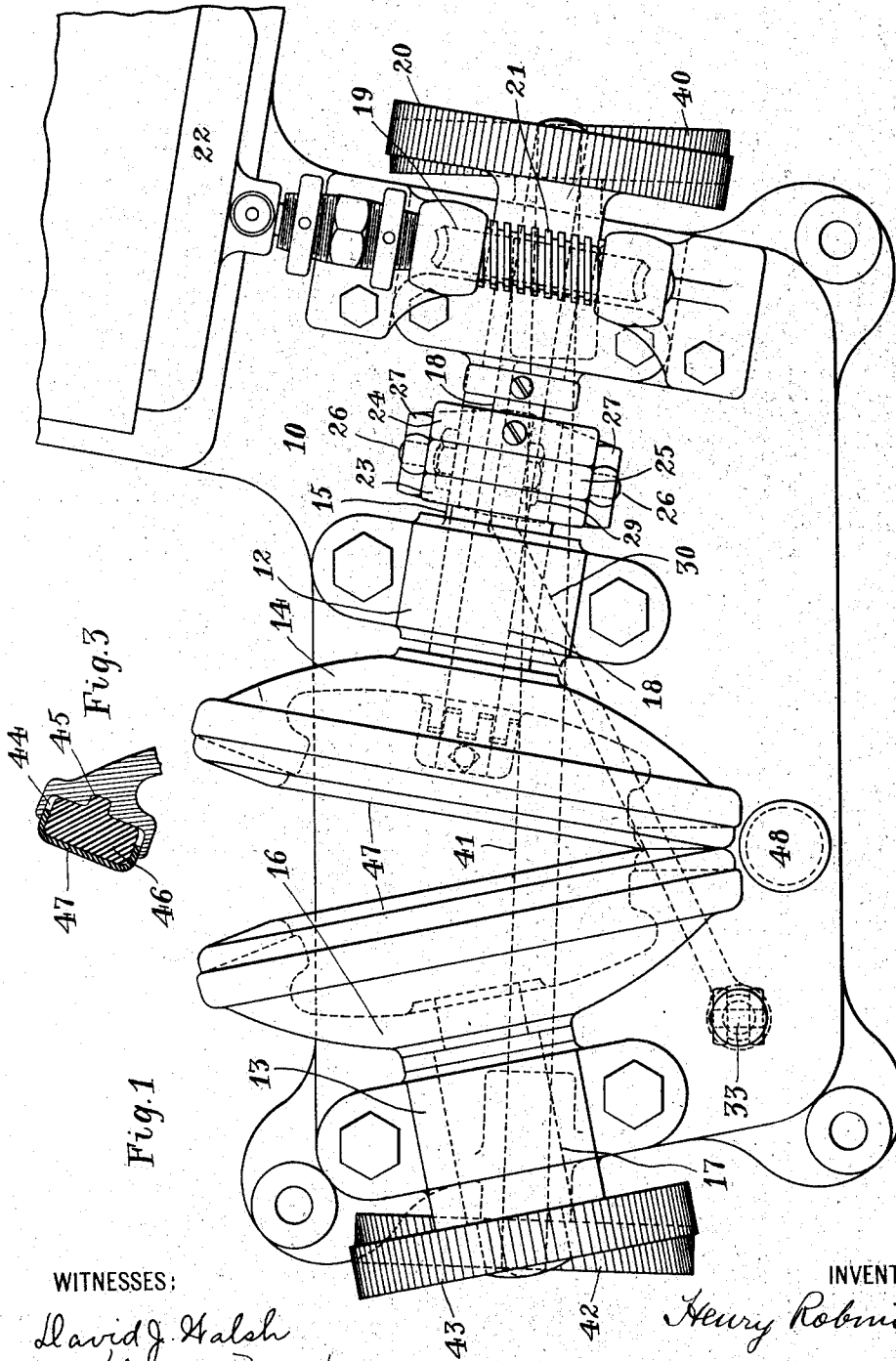


1,015,249.



WITNESSES:

David J. Walsh
Natharine Mead

INVENTOR

Henry Robinson

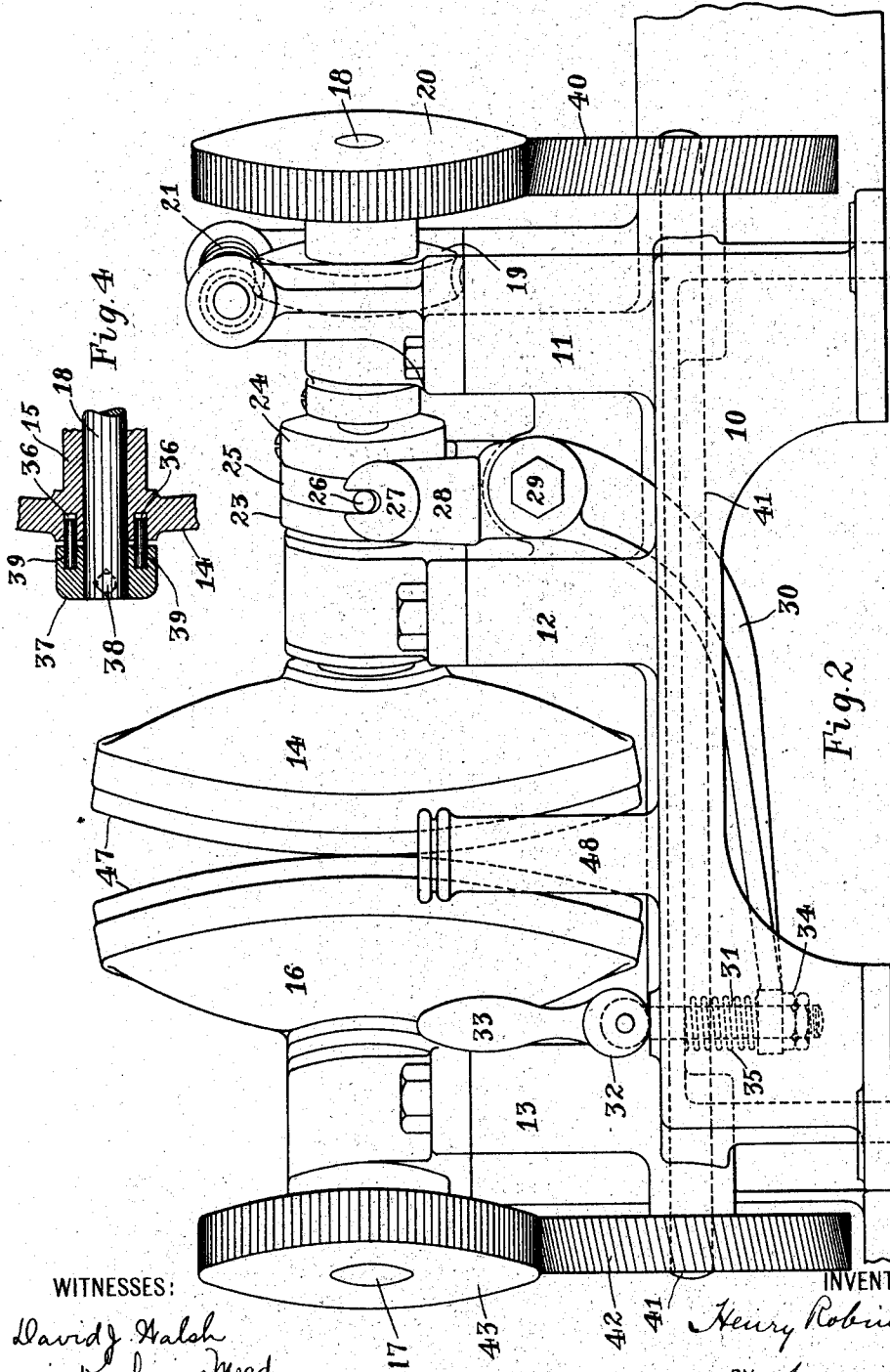
BY *Hamack & Co.*
ATTORNEY

H. ROBINSON.
POLISHING MACHINE.
APPLICATION FILED OCT. 20, 1910.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 2.

1,015,249.



WITNESSES:

David J. Walsh
Katherine Mead

INVENTOR

Henry Robinson

BY

Wm. MacKay

ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY ROBINSON, OF SOUTH ORANGE, NEW JERSEY.

POLISHING-MACHINE.

1,015,249.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed October 20, 1910. Serial No. 588,079.

To all whom it may concern:

Be it known that I, HENRY ROBINSON, a citizen of the United States, residing in South Orange, 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.

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.

Another object of the invention is the provision of means for regulating the distance between the polishing wheels and the pressure of one upon the other in a manner and to such an extent as is required by the particular work in hand, and whereby this regulation is made independent of the action of the wheels themselves.

Further objects and advantages of this invention will appear hereinafter.

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), Fig. 2 is a side elevation of the same, Fig. 3 is a sectional detail of a preferred contact pad, and Fig. 4 is a sectional detail of a preferred clutch.

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 preferably 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 may be used to cause the sleeve 15 and disk 14 to turn with the driving shaft 18, but I prefer the means shown in two modified forms in Figs. 1 and 4, since this means contributes greatly to ease of assembling the parts. In Fig. 4, the bottom of the hollow portion of the wheel 14 is shown at 14, and is provided with a number of sockets 36 bored around the shaft 18. A clutch member 37 fixed to the end of the shaft 18 by the set screw 38, is provided with pins 39 entering the sockets 36. These pins are made long enough to permit the sleeve 15 to slide upon the shaft 18 the required distance without causing rotative engagement between the two to be interrupted. 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 3. 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 rub-

ber 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. I do not herein claim this special pad arrangement, as the same is claimed in another application forming a division hereof.

10 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—

40 1. A polishing machine comprising in combination, two polishing wheels mounted

upon axes at a suitable angle to each other and so placed as to be adapted to have the edge portion of their faces brought in contact and one of said wheels being movably mounted on its axis, a bent lever pivoted upon and extending under said base, a shifting fork at one end of said lever, adapted to produce movement of one of said wheels toward and away from the other, a stem rising from the opposite end of said lever through an opening in the base and a pivoted handle provided with a cam adapted to move said stem up and down for the purpose of controlling the movable wheels, substantially as described.

2. A polishing machine comprising in combination two polishing wheels mounted upon a suitable base, one of said wheels being movably mounted on its axis to permit of contact or separation of said wheels at will, a bent lever pivoted on and extending under said base, a shifting fork on one end of said lever, a stem rising from the opposite end of said lever through an opening in said base and a cam above said base pivoted to said stem, substantially as described.

3. A polishing machine comprising in combination a driving shaft, a sleeve thereon, a polishing wheel fixed to one end of said sleeve and having a hollow face provided with socket holes, a clutch member on the end of said shaft carrying pins adapted to enter and slide within said socket holes, a second wheel, and means for causing revolution of said two wheels in the same direction, substantially as described.

HENRY ROBINSON.

Witnesses:

H. S. MACKAYE,
KATHARINE MEAD.