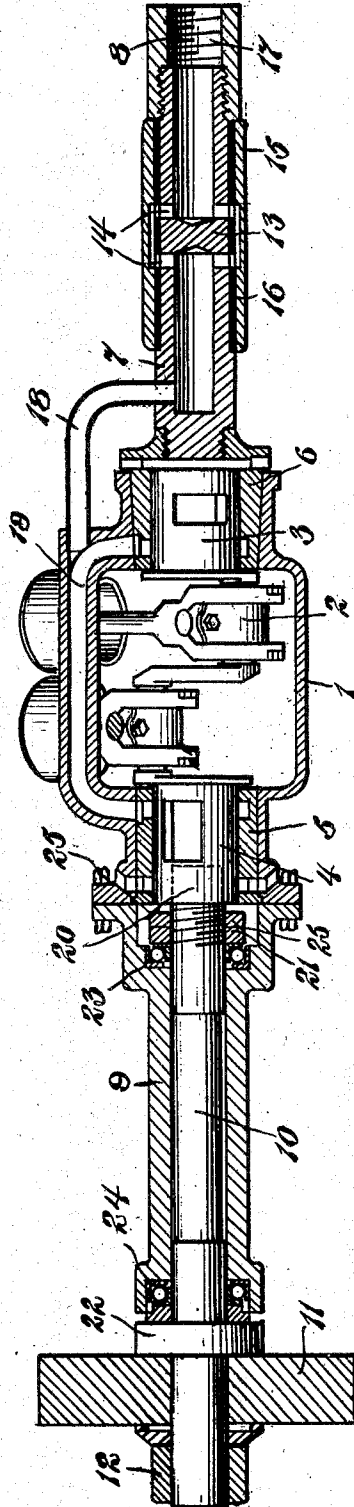


A. SCOTT.
 PORTABLE GRINDER.
 APPLICATION FILED DEC. 22, 1909.

981,013.

Patented Jan. 10, 1911.



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR SCOTT, OF CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND PNEUMATIC TOOL COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

PORTABLE GRINDER.

981,013.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed December 22, 1909. Serial No. 534,436.

To all whom it may concern:

Be it known that I, ARTHUR SCOTT, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Portable Grinders, of which the following is a specification.

The invention relates to portable grinders, and has for its principal objects; the provision of a portable, power operated tool which is properly balanced and can be conveniently handled; the provision of a fluid operated tool of the character specified having improved means for controlling the admission of fluid; and the provision of a tool of the character specified in which the axes of the operating parts are arranged in substantial alinement, and a compact and efficient arrangement is secured.

One embodiment of the invention is illustrated in the accompanying drawings, wherein:—the figure is a longitudinal section through the improved grinder.

Briefly stated the grinder comprises a fluid operated motor provided with oppositely extending handles, one of which is provided with a rotary sleeve for controlling the admission of fluid to the motor; and the other of which carries the drive shaft, on the outer end of which is mounted the grinder which may be of emery or any desired material. Referring to the drawing, the principal parts may be enumerated as follows. 1 is the motor casing provided with a fluid operated motor, which may be of any approved type; 2 is the crank shaft of the motor having the bearing portions 3 and 4 mounted in bushings 5 and 6 secured in the casing; 7 is one of the handles, and is provided with a passage 8 for the admission of fluid to the motor; 9 is the other handle which is detachably secured to the other side of the motor casing in alinement with the handle 7; 10 is the drive shaft; 11 is the grinding disk; and 12 is the nut for holding the grinding disk in position.

The handle 7 is provided with a central portion 13 on either side of which are perforations 14, and the admission of fluid past the part 13 is controlled by means of the rotary sleeve 15. This sleeve is provided with a bushing 16 upon its interior, which bushing is provided with perforations registering with the perforations 14 in the handle.

When the sleeve 15 is in the position illustrated, a free flow of fluid is permitted from the right hand side of the member 13 to the left hand side thereof. When it is desired to cut off the flow the sleeve is rotated slightly moving the perforations in the bushing 16 out of registry with the openings 14, and thus cutting off the supply of fluid. The sleeve 15 is held against outward movement upon the handle by means of the coupling 17, which coupling is interiorly threaded to receive the end of the usual flexible connection through which fluid is supplied to apparatus of this character. A passage 18 leads from the end of the passage 8 to the passage 19 in the motor casing from which the operating cylinders of the motor are supplied. The type of motor employed is immaterial in so far as the present invention is concerned, the form shown in Patent No. 769,247 of Sept. 6th, 1904, being suitable for this purpose.

The portion 4 of the crank shaft is provided with a squared socket 20, which socket receives the correspondingly shaped end of the drive shaft 10, such drive shaft being held against longitudinal movement in the handle 9 by means of the nut 21 and the collar 22. Anti-friction bearings 23 and 24 are preferably employed as illustrated, the parts being held in adjusted position by means of the lock nuts 23.

It will be seen from the foregoing that the apparatus is well balanced and may be very conveniently operated. The operator grips the handles 7 and 9 with his hands, and the operation of the motor is controlled by a slight rotation of the sleeve 15, the hand of the operator serving to support the apparatus at this side, and regulate the flow at one and the same time. The shaft and bearings carried by the handle 9 can be very readily adjusted before the handle is applied to the motor casing, and after such adjustment there is no difficulty in applying the handle to the casing and connecting the shaft 10 with the crank end 4 as the squared end of the shaft fits in the socket 20 and the opposing flanges of the handle and casing may be bolted together in the manner illustrated. Other advantages incident to the construction will be apparent to those skilled in the art.

Having thus described my invention and

illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. In combination, a motor casing, a motor therein, a hollow handle secured rigidly to one side of the casing; a drive shaft from the motor extending through the said handle and having a bearing at its outer end in such handle and adapted to carry a tool at such outer end; and a second handle projecting from the said casing opposite to the said hollow handle and provided with means for controlling the supply of power to the motor.

2. In combination; a fluid operated motor provided with oppositely extending handles, one of which is rotative and constructed to control the supply of fluid to the motor, and the other of which is non-rotative with respect to the motor; a drive shaft from the motor extending through the fixed handle; and a grinding wheel carried thereby.

3. In combination; a motor casing 1; a fluid operated motor mounted therein having a crank shaft 2; a pair of bushings 5 and

6 in which the crank shaft is mounted; a handle 9 secured detachably to one side of the casing; a drive shaft 10 mounted therein and detachably secured to the crank shaft; a grinding wheel 11 carried by the drive shaft; a hollow handle 7 for admitting fluid to the motor detachably secured to the bushing 6; and a rotary sleeve 15 for controlling the flow of fluid through the handle.

4. The combination with an operating motor having a crank shaft 2 provided with a receiving socket 20; of a handle 9 detachably secured to the motor; a shaft 10 extending through the handle and adapted to engage the said socket; and a collar 22 and a nut 21 for maintaining the shaft against longitudinal movement in the handle.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

ARTHUR SCOTT.

Witnesses:

F. W. GREVE,

J. F. CONNELLY.