

E. W. WHELOCK.
 COUPLING FOR ROTARY TOOLS.
 APPLICATION FILED JUNE 28, 1911.

1,039,342.

Patented Sept. 24, 1912.

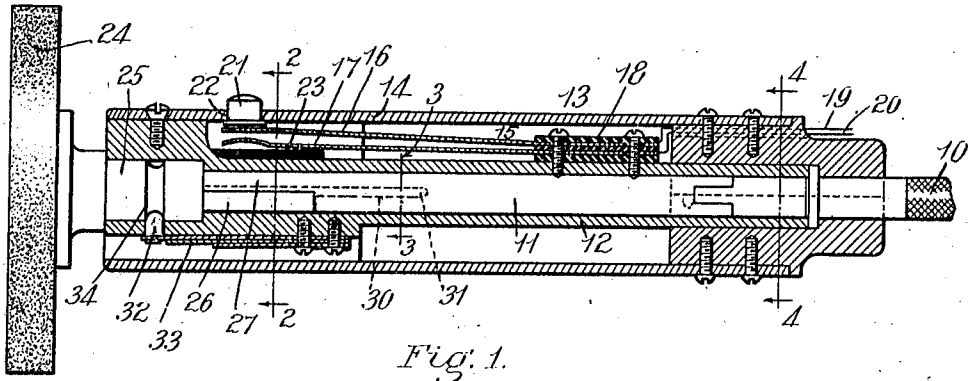


Fig. 1.

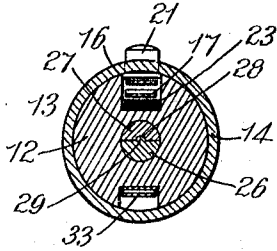


Fig. 2.

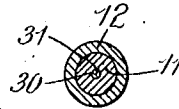


Fig. 3.

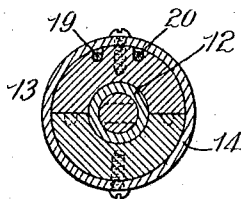


Fig. 4.

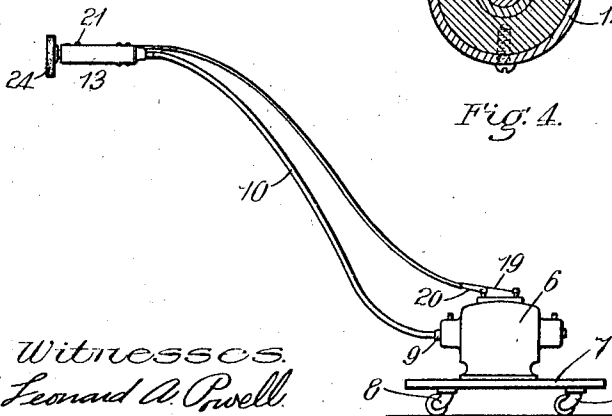


Fig. 5.

Witnesses
 Leonard A. Powell
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Inventor:
 E. W. Whelock,
 By his attorney,
 Charles S. Gooding.

UNITED STATES PATENT OFFICE.

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COUPLING FOR ROTARY TOOLS.

1,039,342.

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To all whom it may concern:

Be it known that I, ETTA W. WHELOCK, a citizen of the United States, residing at Arlington, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Couplings for Rotary Tools, of which the following is a specification.

This invention relates to improvements in couplings for rotary tools and has for its object to provide a tool having a holder or handle by means of which the tool may be conveniently manipulated and moved about over the work while being driven by a stationary motor and having a controller for the motor carried by the handle whereby the motor may be conveniently controlled by the hand which carries the tool over the work and whereby when the handle is released from the hand the motor will be instantly stopped.

Another object is to provide improved means for detachably attaching the tool to the holder so that it may be attached thereto or detached therefrom with great facility whereby different styles of tools may be quickly and conveniently attached to the holder successively.

To these ends, my invention consists in the novel features of construction and in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claim.

Referring to the drawings: Figure 1 is a longitudinal section, partly in elevation, of a rotary tool and its handle and controlling device embodying my invention. Fig. 2 is a sectional view taken on line 2—2 of Fig. 1, looking toward the left. Fig. 3 is a sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a sectional view taken on line 4—4 of Fig. 1, looking toward the left. Fig. 5 is an elevation of the tool, tool holder, motor and connections between the tool holder and motor.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 6 is an electric motor mounted upon a suitable base 7 which may, if desired, be provided with casters 8 by means of which it may be conveniently moved about from place to place. The motor is provided with a shaft 9 which is connected by a flexible shaft 10 to a shaft 11 journaled in a suitable bearing 12 in a

holder designated generally by the numeral 13, said holder having a casing 14 within which is located a suitable motor controller or switch designated generally by the numeral 15. Preferably, this switch or controller comprises two contact members 16 and 17 consisting of suitable metallic springs mounted in a suitable insulating support 18 and connected, respectively, by wires 19 and 20 to the motor 6. The switch is provided with a push button 21 bearing against the contact member 16 and projecting through a hole 22 provided in the casing 14. An insulating block 23 serves to prevent the contact member 17 from being carried into contact with the metallic bearing 12. When the holder 13 is grasped in the hand, the motor may be conveniently started and stopped by manipulating the push button 21 with the thumb or one of the fingers of the hand which holds the holder and since the contact members 16 and 17 are so arranged as to be normally out of contact with each other, the moment the tool holder is released from the hand the motor circuit will be broken, thereby stopping the rotation of the shaft.

Attached to the shaft 11 is a suitable rotary tool 24 which may be of any desired character and which, in this instance, is shown as a buffing wheel having a shaft 25 provided with a semi-cylindrical terminal portion 26, while the shaft 11 is provided with a complementary semi-cylindrical terminal portion 27, whereby the shafts 11 and 25 are held against relative rotation. Preferably, the semi-cylindrical terminal portion 27 of the shaft 11 is provided with a groove 28 and the semi-cylindrical portion 26 of the shaft 25 is provided with a longitudinal tongue 29 fitting said groove, while the shaft 11 is provided with an axial hole 30 which receives a shank 31 constituting a continuation of the tongue 29, said tongue and shank serving to hold the terminal portion 26 against lateral movement with respect to the terminal portion 27. This construction also facilitates the entrance of the tool shaft 25 into its place. The tool shaft 25 is normally held against longitudinal movement and is prevented from being withdrawn from its place by a pin 32 supported on a suitable spring or springs 33 and having a rounded end projecting into a correspondingly rounded cir-

cumferential groove 34. By this arrangement, the tool is normally held attached to the holder, but may be conveniently detached therefrom by giving the tool a quick, sharp outward movement which will cause the pin 32 to be dislodged from the groove 34. The tool may be returned to its place in the same manner, it being evident that by first properly positioning the terminal portions 26 and 27, the tool may be snapped into place by applying sufficient pressure in a longitudinal direction to cause the spring supported pin 32 to yield and allow the shaft 25 to pass into its place; said pin snapping into the groove 34 and retaining the tool in its proper position.

It will thus be seen that tools of various types may be quickly and conveniently used in connection with the holder one after another and the tool may be passed about and over the work and the motor started and stopped from time to time as the exigencies of the work require. The moment the user lets the tool down or accidentally drops the same, the switch 15 will automatically act to break the circuit and stop the motor so

that no damage will be done by the rotary tool 24.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

In a device of the class described, the combination of a bearing, a shaft journaled in said bearing and having a semi-cylindrical terminal portion provided with a longitudinal groove, a tool having a complementary semi-cylindrical terminal portion provided with a longitudinal projection entering said groove, said shaft being provided with an axial hole, and said tool being provided at its inner end with a shank located in said hole, and means for normally preventing withdrawal of said tool from operative connection with said shaft.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ETTA W. WHEELLOCK.

Witnesses:

LOUIS A. JONES,

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."