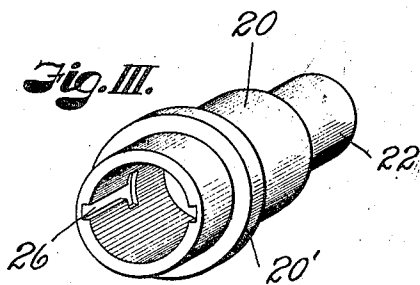
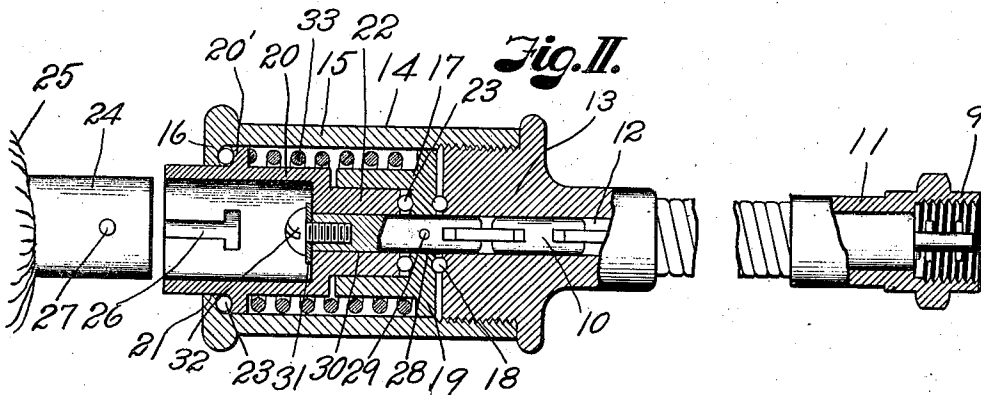
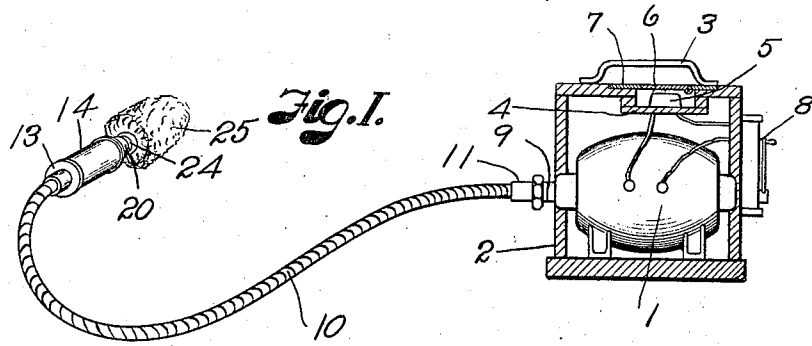


W. J. BERNETT.
FRICTIONAL COUPLING.
APPLICATION FILED JAN. 6, 1913.

1,138,926.

Patented May 11, 1915.



WITNESSES:

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FRictional COUPLING.

1,138,926.

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To all whom it may concern:

Be it known that I, WILLIS J. BERNETT, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Frictional Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to polishers and has for its object to provide a portable device, which may be used for a variety of purposes but is especially adapted for cleaning brass or other metal trimmings on or in buildings.

In accomplishing this object I have provided the improved details of structure hereinafter described and pointed out in the claims, reference being had to the accompanying drawings, wherein:

Figure I is a perspective view of a portable polisher constructed according to my invention, the motor case being in section. Fig. II is an enlarged detail view of the tool head and driving mechanism showing parts in section and a tool about to be seated in the head. Fig. III is a detail perspective of the tool head socket.

Referring more in detail to the parts:— 1 designates a motor of any ordinary type, but preferably electrical, and 2 a case which incloses the motor and has a handle 3 by which it may be carried.

Supported on a shelf 4 in the upper portion of the case 2 is a plug socket 5 for connecting the motor with a source of energy through an ordinary plug and cord (not shown), the socket being adapted for exposure through an opening 6 in the case, and for protection (when the polisher is not in use) by a cover 7 which is adapted to close the opening 6.

The motor is controlled by a switch 8 which is connected with the motor and plug socket in the ordinary manner.

The motor shaft 9 projects through the end of the case and has a flexible shaft 10 connected therewith by a coupling 11. The free end of the flexible shaft extends freely through a bore 12 in the base 13 of a tool head 14, comprising the apertured base and

a barrel 15, which latter is threaded onto the base and has a closed outer end 16.

Located in the bottom of the head 14 is a cup 17, having a ball race in its lower face within which the balls 18 are adapted to bear to provide an antifriction bearing of the cup on the base of the head, and having a flange 19 extending to the inner face of the barrel 15.

Revolubly mounted in the barrel 15 is a socket member 20, the outer end of which projects through an aperture 21 in the outer end of the barrel and has a flange 20' located within the barrel and projected to the inner face thereof, and the inner end of which has a shank 22 projected into the cup 17, both the flange 20' and shank 22 having antifriction members 23 interposed between same and the barrel end 16 and cup bottom respectively to facilitate the revolution of the socket member. The socket member is adapted to receive the shank 24 of a tool 25, such as a brush or burnisher, and has T shaped grooves 26 therein adapted for receiving the studs 27 on the sides of the tool shank, so that when the shank is projected into the socket and the latter is turned (as will presently be described), the studs will lock in the head of the groove and hold the tool in place.

The shaft 10 projects through an aperture 28 in the base of the cup 17 and is fixed thereto by a pin 29 so that the cup is revolved with the shaft, and extends through an aperture 30 in the socket shank 22. The end of the shaft is revoluble in the shank aperture but is frictionally connected therewith through a washer 31 which is fixed to the shaft end by a screw 32 and overlies the base of the socket member, the frictional connection being maintained by a spring 33 which surrounds the socket and cup members and bears against the collar and cup flanges 20' and 19 respectively. The spring 33 is sufficiently stiff to maintain driving connection between the shaft and socket member under ordinary conditions but allows the washer to slip on the base of the socket member should more than the ordinary load be placed on the tool, to obviate overloading the motor.

When the parts are constructed and assembled as described, should it be desired to use the device for any purpose for which it may be adapted, it is carried to a convenient

spot and the motor connected with a circuit line by running the cord to a socket on the line. Circuit is then switched into the motor and the tool operated by means of the flexible shaft, the spring holding the frictional connection between the shaft and the socket within which the tool shank is carried. Should too great a load be placed on the tool, the load will overcome the tension of the spring and allow the washer to slip on the socket base, thereby obviating overloading of the motor.

It is an easy matter to transfer the motor from place to place so that metal ware in different parts of or around a building, within the reach of the connecting wires, may be polished with tools operated by the motor, and it is also an easy matter to replace one tool with another when the use of the device is to be varied.

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

1. In a frictional coupling, the combination with a drive shaft, of a cup fixed to said shaft, a socket member revolubly mounted on said shaft and within said cup, a screw

and washer for holding said socket member to said shaft, a spring for yieldingly tensioning said socket member against said screw and washer and adapted for frictionally connecting said cup and socket member, and anti-friction mountings for said socket and cup members.

2. In a frictional coupling, the combination with a drive shaft, of a cup fixed to said shaft, a socket member revolubly mounted on said shaft and within said cup, means for holding said socket member to said shaft against longitudinal movement in one direction, a spring for yieldingly tensioning said socket member toward said holding means and adapted for frictionally connecting said cup and socket member, and an anti-friction bearing for taking up the thrust of said socket member in the opposite direction.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIS J. BERNETT.

Witnesses:

ARTHUR C. BROWN,
LETA E. COATS.