March 27, 1928. 1,663,627

H. DOBSON

APPLIANCE ADAPTED TO REVOLVE BRUSHES, GRIND-IN VALVES, AND OTHER PURPOSES

Filed Feb. 9. 1927

Fig. 1.

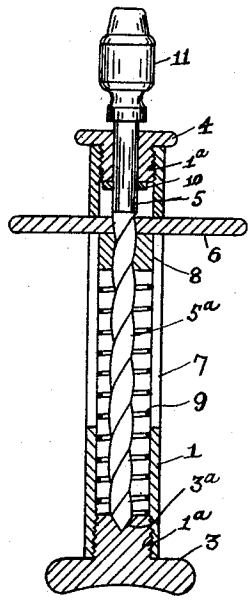


Fig. 2.

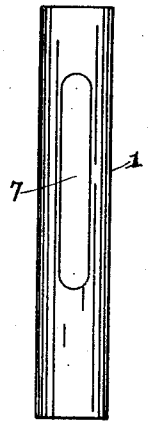


Fig. 3.

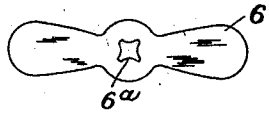
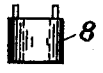


Fig. 4.



Witnesses.
J. Hyett.
[illegible]

Inventor.
Herbert Dobson
By William C. P. Bagley
Attorney

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UNITED STATES PATENT OFFICE.

HERBERT DOBSON, OF PORTSMOUTH, ENGLAND.

APPLIANCE ADAPTED TO REVOLVE BRUSHES, GRIND IN VALVES, AND OTHER PURPOSES.

Application filed February 9, 1927, Serial No. 167,054, and in Great Britain February 11, 1926.

This invention relates to an apparatus adapted for revolving brushes, grinding in valves of internal combustion engines and divers other uses, and has for its object to provide a device capable of being operated by one hand.

A further object of this invention is to provide an apparatus for the purpose referred to, which has few working parts, very robust, being a small and neat article.

A still further object of this invention is to provide an apparatus for securing a shaving brush, a tooth brush, a lady's rouge puff, a mop for cleaning pans or jugs, a bottle brush, a screw driver end piece for grinding in valves and numerous other uses wherein a rotary motion is required.

In the accompanying drawing:—

Fig. 1, is a sectional elevation of the apparatus;

Fig. 2, is an elevation of the hollow casing;

Fig. 3, is a plan view of the propellant, and

Fig. 4, is a detail of the guide piece.

According to this invention I provide a hollow tubular casing 1 with a female thread 1^a at each end, the lower end of said hollow casing 1, adapted to receive a removable screw plug 3, and the upper end of said casing 1 receives a removable screw plug 4, which latter, has a central aperture through which passes a spindle 5. A part of the spindle 5 within the hollow casing 1, is of a spiral shape as shown at 5^a in Fig. 1, or may be provided with a spiral groove, said spindle 5 is rotatable along the vertical axis of said hollow casing 1, being supported at the base by means of a central recess 3^a formed in the plug 3.

Inserted over the spiral portion 5^a of the spindle 5 is a propellant 6 with an aperture 6^a shaped to move along the spiral 5^a the outer end of which projects radially outwards through elongated slots 7 cut in the casing 1 wherein the propellant 6 is held against rotation, but will move laterally so that rotary motion is imparted to the spindle 5. Said propellant 6 has integral therewith, a steadying guide 8 adapted to slide within the hollow casing 1, and said propellant 6 is normally held at the upper end of the spiral 5^a, of the spindle 5 by means of a helical spring 9, interposed between the plug 3 and steadying guide 8 within the hollow casing 1 as shewn in Fig. 1.

A collar 10, is inserted over the spindle 5, to take up end thrust and to prevent the spindle 5, being ejected from the hollow casing 1.

A jaw chuck 11 is secured to the outer end of the spindle 5 for the purpose of attaching any one of the hereinbefore mentioned articles.

The apparatus is operated as follows:—

The article to be rotated is secured to the jaw chuck 10 in a well known manner, and the device can be operated by one hand, by means of the fingers of a person's hand passing around the wings of the propellant 6, on closing of the fingers moves along the slots 7, imparting a rotary motion to the spindle 5 in one direction, and on opening the fingers the propellant 6 will again move back to its normal position by the action of the spring 9 and simultaneously impart a rotary motion to the spindle 5 in a reverse direction and so on, thereby applying a continuous rotary movement first in one direction and then in the reverse to the spindle 5.

I claim,

1. An apparatus for imparting a rotary motion comprising a hollow casing, a removable plug at the base, a second removable plug at the upper end, a central orifice in the latter, a spindle passing through said orifice, a recess provided in the said lower removable plug, the lower end of said spindle adapted to fit therein, a spiral groove formed on the greater part of the spindle within said casing, a propellant engaging with said spiral groove, elongated apertures in said casing, the wings of said propellant projecting therethrough being held against rotation, said propellant moving axially imparting rotary motion to said spindle in one direction, a helical spring interposed between said propellant and lower plug respectively within said casing imparting rotary motion to the spindle in a reverse direction, and a thrust collar being provided to prevent said spindle being ejected from the casing.

2. An apparatus for imparting rotary motion comprising a hollow casing, radially disposed elongated apertures therein, a removable screw plug at the base and upper end of said casing, a central orifice in said upper

plug, a spindle passing through said upper plug, a spiral groove on said spindle, a recess on said lower screw plug adapted to support the base of said spindle along the axis of said casing, a propellant inserted over said spiral groove, the outer ends of said propellant projecting through said elongated apertures, a steadying guide integral with said propellant, a helical spring interposed between the steadying guide and lower screw plug respectively, and a thrust collar carried by said spindle holding the latter from being ejected from said casing, said apparatus operated by one hand.

In testimony whereof I have hereunto set my hand.

HERBERT DOBSON.