June 12, 1923.

1,458,612

C. R. BERKSHIRE

CLEANING TOOL

Filed Feb. 15, 1922

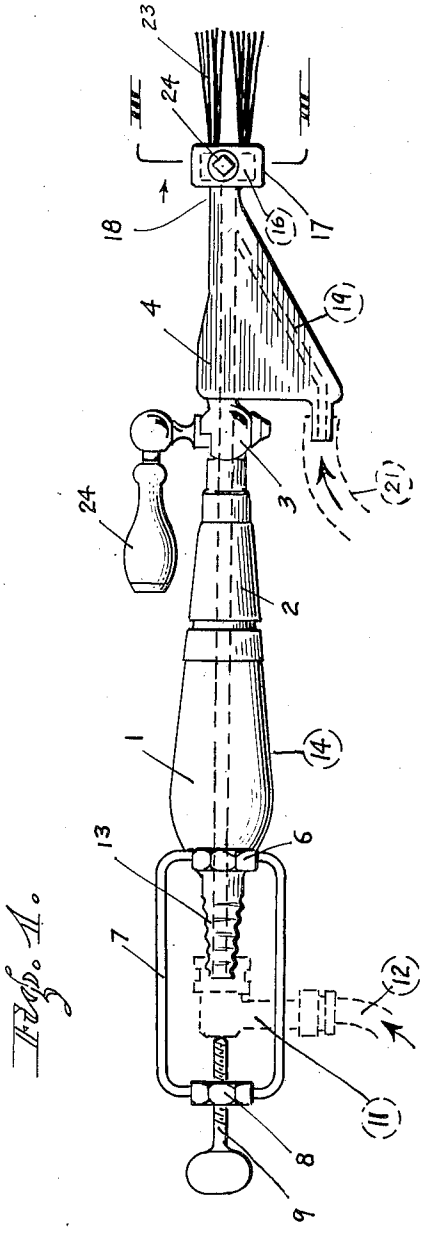


Fig. 1.

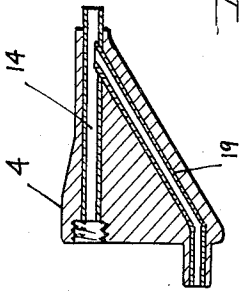


Fig. 2.

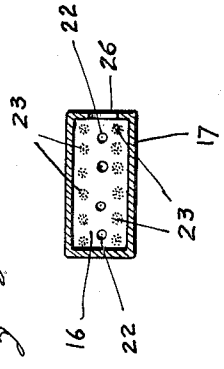


Fig. 3.

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UNITED STATES PATENT OFFICE.

CLARENCE R. BERKSHIRE, OF SAN FRANCISCO, CALIFORNIA.

CLEANING TOOL.

Application filed February 15, 1922. Serial No. 536,610.

To all whom it may concern:

Be it known that I, CLARENCE R. BERKSHIRE, a citizen of the United States of America, residing at 425 Franklin Street, San Francisco, California, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Cleaning Tools, of which the following is a specification.

The present invention is an improved cleaning tool, and relates to means for cleaning an engine or piece of machinery which is apt to become foul with grease and dirt which makes the removal thereof a difficult and dirty job.

The objects of the invention include;

(1) The provision of a handled brush, provided with stiff wire bristles capable of securing a casting or metal part without injury to the brush, and provided with means whereby a blast of compressed air may be applied through said handle to atomize or introduce a cleaning fluid, such as kerosene, distillate or the like, through said bristles.

(2) The provision of a handled tool of the character described which may be used alone as a scrub brush, and which is also provided with means for engaging the tool with a conventional nozzle of an air line such as is commonly found in garages, and which is also provided with a control valve, easily accessible to the thumb, when the tool is used in one hand, to regulate or discontinue the flow of the cleansing liquid.

While the invention is here shown in the form that is considered to be the best, it is not limited to such form as it may be embodied in other forms, and it is to be understood that in the following specification and in the annexed claims it is desired to cover the invention in whatever form it is embodied.

In the accompanying one sheet of drawing,

Fig. 1 is a side elevation of my cleaning tool,

Fig. 2 is a section of one of the parts thereof, and

Fig. 3 is a section taken on the line III—III of Fig. 1.

Referring to the drawing, the numeral 1 indicates a handle, provided with a ferrule 2 into which is threaded one end of a valve 3, the opposite end of which is removably secured to a casting 4.

The end of handle 1, remote from valve 3 is provided with a nut 6 to which is pivotally secured one end of a yoke 7, the opposite end of which is provided with a nut 8 into which is threaded a thumb nut 9. The purpose of this nut, bolt and yoke is to provide means for connecting the brush with the terminal or nozzle 11 (shown in dotted lines) of an air hose 12. The nozzle 11 engages a nipple 13 secured to nut 6.

Air, when introduced through nozzle 11, passes through a central conduit or bore 14 extending through the brush and terminating in a chamber 16 in a hollow brush member 17 removably secured to the nose 18 of the casting 4.

In order to introduce a cleaning fluid with the current of air, I provide a passage 19, which communicates with passage 14, and which I prefer to form as follows; that portion of passage 14 which extends through casting 4 is formed of a piece of copper tubing. A similar piece of tubing is used for the passage 19 and extends into said passage. Both tubes are cast or embedded in the substance comprising the member 4. This method insures unobstructed passages and also passages which will resist the corrosive action of various fluids.

A flexible conduit (shown in dotted lines at 21) introduces liquid when a partial vacuum is produced by the rush of air through passage 14. This liquid passes into chamber 16 of brush member 17 and is forced out of said chamber through ports 22 interspersed between the bristles 23.

In operation the brush is assembled as shown in Fig. 1 and connected with air line 12 and liquid line 21. If the machine to be cleaned requires a cutting agent or a solvent to facilitate the cleaning operation, the handle 24 controlling valve 23 is rotated, whereupon compressed air rushes through passage 14 and draws liquid through passage 19 and this liquid is sprayed through the bristles 23.

As the valve control is placed conveniently to the thumb it will be seen that the flow of liquid may be discontinued and re-established at will as the brush is manipulated by one hand.

At 24, I show a plug for the closure of a

passage 26 communicating with the chamber 16. This affords means for either end or side connection with the casting 4.

I claim:

1. A cleaning tool comprising a handle provided with a passage therethrough, a valve controlling said passage, a nozzle member provided with a passage registering with that of said handle and with another passage communicating with said registering passage, and a brush member carried by said nozzle member provided with a chamber in communication with the passages of said nozzle, with ports for discharging fluid through said brush.

2. A cleaning tool for hand manipulation, comprising a wire brush member, a conduit for air terminating in said brush, a valve controlling said conduit, a passage communicating laterally with said conduit and adapted to introduce fluid thereinto, said fluid being drawn in by the suction of the air current.

In testimony whereof I affix my signature.

CLARENCE R. BERKSHIRE.