E. J. GREEN.

MECHANICAL MOVEMENT.

APPLICATION FILED MAR. 20, 1917.

1,263,404.

Patented Apr. 23, 1918.

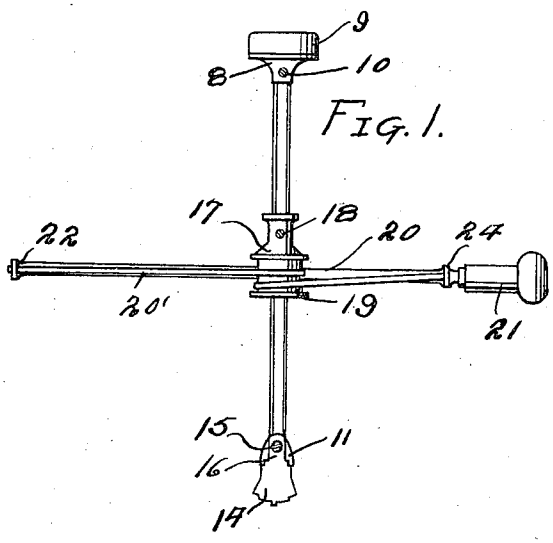


FIG. 1.

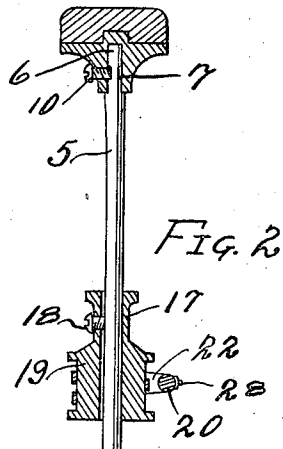


FIG. 2.

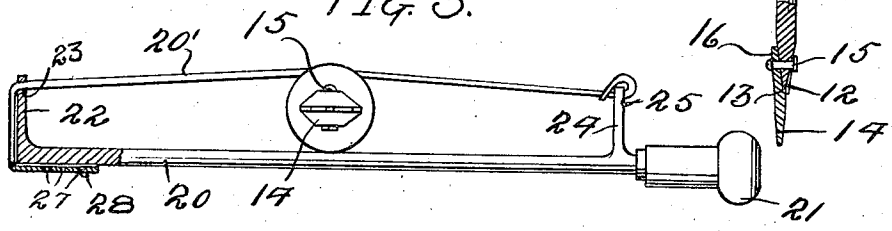


FIG. 3.

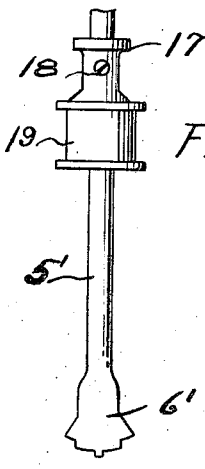


FIG. 4.

Witnesses.

E. J. Schneider.

E. L. Mueller

Inventor

E. J. Green.

By Chandler & Chandler

Attorneys.

BACKETT & WILHELMS CORP. N.Y.

UNITED STATES PATENT OFFICE.

EDWIN J. GREEN, OF KEYSER, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO EDWARD G. KIMMELL, OF KEYSER, WEST VIRGINIA.

MECHANICAL MOVEMENT.

1,263,404. Specification of Letters Patent. Patented Apr. 23, 1918.

Application filed March 20, 1917. Serial No. 156,117.

To all whom it may concern:

Be it known that I, EDWIN J. GREEN, a citizen of the United States, residing at Keyser, in the county of Mineral, State of West Virginia, have invented certain new and useful Improvements in Mechanical Movements; and I do hereby 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.

This invention is an improvement in valve grinding apparatus and has particular reference to a tool for grinding valves of gas engines.

An object of the invention is the provision of a means for oscillating a bit carrying spindle to which said means is detachably connected whereby the same may be removed in order that bits of different sizes may be employed when desired.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which for the purpose of illustrating the present invention, is shown in the accompanying drawing, wherein:

Figure 1 is a side elevation of the apparatus constructed in accordance with the invention.

Fig. 2 is a vertical longitudinal sectional view.

Fig. 3 is a bottom plan view partly in section.

Fig. 4 is a view showing a spindle having the bit formed integrally therewith.

Referring to the drawing and more particularly to Figs. 1 to 3 inclusive, the numeral 5 indicates an oscillatory spindle having at its upper end a reduced portion 6 provided with a groove 7, said reduced portion being adapted to receive a socket 8 of a detachable handle or knob 9. In order to detachably secure the knob to the spindle, the socket 8 has mounted therein a screw 10 the inner end of which engages the groove 7. The lower end of the spindle is provided with a widened portion 11 having a recess 12 for receiving a shoulder 13 of a detachable bit member 14 which is secured to the widened portion by means of a bolt 15 passing through the extension 16 of said bit member. From this description it will be seen that the bit member 14 may be removed and replaced with similar bit members of different sizes.

The mechanism for oscillating a spindle preferably comprises a sleeve member 17 adjustably mounted upon said spindle and secured thereto by means of a screw 18. Upon the lower end of the sleeve 17 there is formed a relatively large pulley 19 for a purpose which will presently appear. An operating rod 20 is associated with the pulley 19 for oscillating the same and is provided at one end with a handle 21 and at its other end with an extension 22 having an opening 23 therein. The rod is further provided adjacent the handle 21 with another extension 24 also having an opening 25 therein. Secured to the extension 24 passing through the opening 25 therein is one end of a flexible element 20′ in the form of a belt which is adapted to be wound about the pulley and then extended to the other end of the rod and passed through the opening 23 and over the end of said rod. The end of the belt 20′ passing through said opening 23 is provided with a series of alined openings 27 therein any one of which is adapted to engage a pin 28 carried by the rod adjacent the end having the extension 22 so that said belt is securely and detachably maintained in operative position. From this description it will be apparent that when the bit 14 is engaged with a valve and the operating rod 20 reciprocated, the spindle 5 and consequently the bit member will be oscillated and thus grind the valve upon its seat. In Fig. 4, the spindle 5′ has formed integrally therewith the bit member 6′ and in this form of the invention, when it is desired to use different sized bits, it is necessary to remove both the spindle and bit and replace the same. It is mainly for this purpose that the knob or handle 9 is detachably secured to the spindle and the sleeve member 17 adjustable thereon and it will be seen that by removing said knob 9 and loosening the screw 18 the sleeve member 17 may be detached from the spindle and another spindle mounted therein after which the knob 9 is again secured to the new spindle.

What is claimed is:—

An apparatus of the character described comprising a spindle, a sleeve member including a pulley mounted upon said spindle, means for oscillating said spindle including a reciprocatory rod having an extension at one end provided with an opening and a han-

dle at its other end, a pin extending from said rod adjacent said extension and in an opposite direction therefrom, and an operating belt having one end secured to said rod adjacent said handle and wound about said pulley, the other end of said belt passing through said opening and then longitudinally of said extension and having its extremity extended along said rod and provided with a plurality of openings therein, any one of which receives the pin on said rod to retain said belt in operative position.

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

EDWIN J. GREEN.

Witnesses:
WM. MACDONALD,
W. A. WILLHIDE.

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