May 12, 1925. 1,537,902

K. F. TRIGGS

SPARK PLUG CLEANER

Filed March 3, 1924

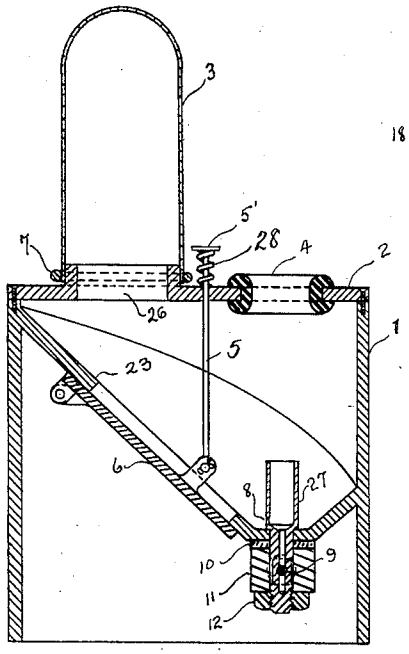


FIG. 2.

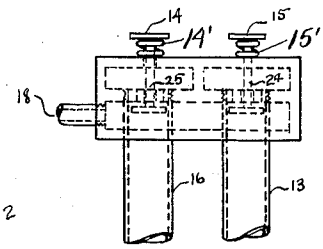


FIG. 4.

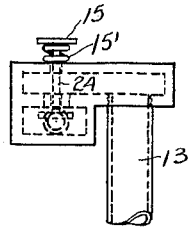


FIG. 5.

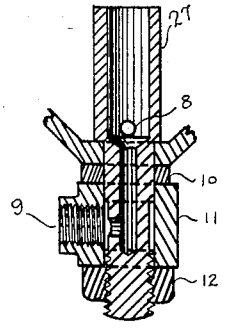


FIG. 3.

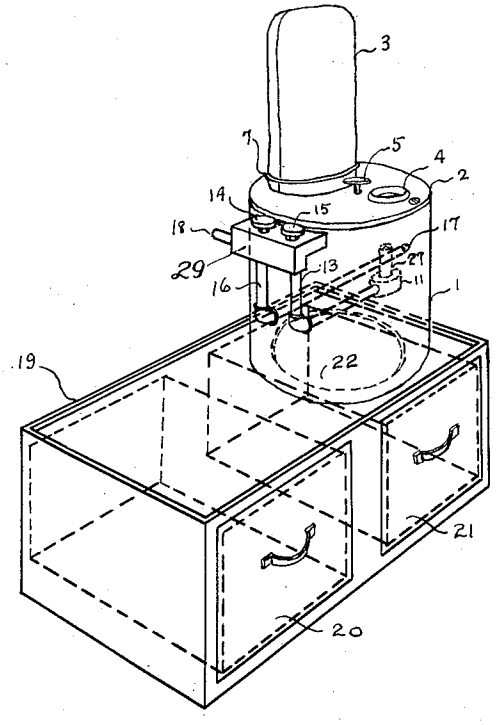


FIG. 1.

INVENTOR.

Kenneth F. Triggs,

BY

ATTORNEY.

Patented May 12, 1925. 1,537,902

UNITED STATES PATENT OFFICE.

KENNETH F. TRIGGS, OF HUNTINGTON, INDIANA.

SPARK-PLUG CLEANER.

Application filed March 3, 1924. Serial No. 696,622.

To all whom it may concern:

Be it known that I, KENNETH F. TRIGGS, a citizen of the United States, residing at Huntington, in the county of Huntington and State of Indiana, have invented certain new and useful Improvements in Spark-Plug Cleaners, of which the following is a specification.

My said invention relates to a cleaner for spark plugs and it is an object of the same to provide a device of this character which will effectively clean spark plugs at a minimum cost.

A further object of the invention is to provide means for drying an oil soaked plug and for remvoing sand or dust from the plug after the carbon has been taken off.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a perspective of my invention,

Figure 2, is a vertical section of the upper part thereof,

Figure 3, a detail of a part shown in Figure 2,

Figure 4, an enlarged detail of a part shown in Figure 1, and

Figure 5 an elevation at right angles to Figure 4.

In the drawings reference character 1 indicates a cylindrical casing which rests on a box 19 here shown as containing drawers 20 and 21, the drawer 20 containing clean sand and the drawer 21 sand which has become foul and dusty with use. As hereinafter explained an aperture in the top of the box connects the drawer 21 with the interior of the casing 1.

A lid or top 2 covers the casing 1, said top having an aperture surrounded by a rubber bushing 4 and another aperture at 26 about which is an upstanding rim by means of which a bag 3 is supported on top of the casing. The bag is held in place on the rim by a split ring 7 or other convenient clamping means. The interior of the casing is divided into upper and lower compartments by means of a funnel shaped partition 23 preferably extending obliquely from one side nearly to the other, then having a relatively short horizontal portion, and then extending obliquely up to the other side. A trap door is movably mounted underneath the main oblique section preferably by means of a pivot at the upper side of an opening in said oblique section. The door has an upstanding lug to which a rod 5 is pivotally connected, the rod extending through and upward from the lid 2 and having a thumb piece 5′ at its upper end underneath which is the spring 28 which is strong enough to hold the door closed against the weight of sand resting on it.

The horizontal part of the partition supports a vertical nozzle 27 having a lateral entrance 8 through which sand may gain admission to the enlarged upper part of the vertical passage of the nozzle. The lower part of said passage is relatively small and is intersected by a lateral passage 9 communicating with a pipe 13 which communicates with a passage leading from pipe 18, the latter pipe being connected to a source of air under pressure. The nozzle 27 has a shoulder resting on the partition 23 and at its lower end is threaded for engagament with a nut 12 by means of which a gasket 10, a block 11 and the nozzle itself are held in place on the partition. The block 11 as shown in Figure 3 is perforated at 9 to communicate with an air passage leading into and through the nozzle.

A valve 24 having a thumb piece 15 is mounted in a block 29 secured to or formed integral with the casing 1, said block having a chamber with which pipes 13, 16 and 18 communicate, the valve having a stem freely slidable in the block and normally held in closed position by a spring 15′ surrounding said stem. The second valve 25 is similarly located and held by a spring 14′ pressing against a thumb piece 14 at the upper end of the valve, said valve normally closing the entrance to a pipe 16 arranged to communicate with the pipe 18. The pipe 16 has a nozzle 17 projecting upward toward the bushing 4, but which may extend out through the wall of the casing.

In the operation of my device a spark plug is inserted in the rubber bushing 4 and the air blast is turned on by depressing the thumb piece 15. It will be understood that the upper compartment in the casing 1 has previously been supplied with clean sand from the box 20. When the valve 24 is opened compressed air passes through the pipe 13, block 11 and nozzle 27 and drives a blast of sand against the plug above it, the sand being supplied through one or more holes 8 leading into the passage of the nozzle 27. This sand impinges on the plug and

cuts off the carbon after which the sand falls back against the partition 23 while the air passes out through the canvas bag 3 carrying with it the light and fine particles of dust. When the air blast has done its work any sand or dust on the plug may be removed by depressing the valve 14 thus causing the air jet to blow off sand or other material adhering to the plug.

It will be understood that spark plugs should be free from oil or grease before attempting to remove the carbon. This may readily be removed by first being washed in gasoline in known manner and then dried over air jet 17. When the sand in the upper compartment becomes dirty by accumulation of carbon, etc., it may be discarded by merely depressing the button 5′ to open the door 6 whereupon the sand will fall into the drawer 21. Fresh sand may now be supplied from drawer 20 to the upper part of the container by way of the hole at 4.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the scope of my invention and therefore I do not limit myself to what is shown in the drawings and described in the specification but only as indicated in the appended claims. As an example of such modifications the opening of the bushing 4 is preferably large enough so that a length of hose can be slipped through it and over the nozzle whereupon a blast of sand and air may be directed against objects outside the cleaner. In this case of course the sand would have to be collected with a scoop and returned to the cleaner via opening 4.

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

1. A casing comprising means for supporting a spark plug in position to be cleaned, a nozzle beneath such supporting means in which a mixture of air and sand is made and by which said mixture is directed against the spark plug, and an air jet in said casing for removing loose material from the plug and for drying the oily plug previous to cleaning, substantially as set forth.

2. A spark plug cleaner comprising a casing, a hollow block attached to one side thereof, pipes extending from said block to the interior of the casing and communicating with a source of compressed air outside the casing, valves on said block controlling said pipes, means for supporting a spark plug in line with the open ends of said pipes, and means for supplying sand to one of said pipes, substantially as set forth.

3. A spark plug cleaner comprising a casing, a hollow block attached to one side thereof, pipes extending from said block to the interior of the casing and communicating with a source of compressed air outside the casing, valves on said block controlling said pipes. means for supporting a spark plug in line with the open ends of said pipes, means for supplying sand to one of of said pipes, said casing having an opening in its upper portion providing an exit, and means in connection with said exit to permit egress of air and dust while retaining the sand in the casing, substantially as set forth.

4. A casing comprising means for supporting the spark plug in position to be cleaned, a nozzle beneath said supporting means, means for admitting compressed air and sand to the nozzle, and an independent air jet in said casing, substantially as set forth.

In witness whereof, I have hereunto set my hand and seal at Huntington, Indiana, this 28th day of February, A. D. nineteen hundred and twenty-four.

KENNETH F. TRIGGS. [L. S.]

Witnesses:
JAMES M. TRIGGS,
CLARK C. GRIFFITH.