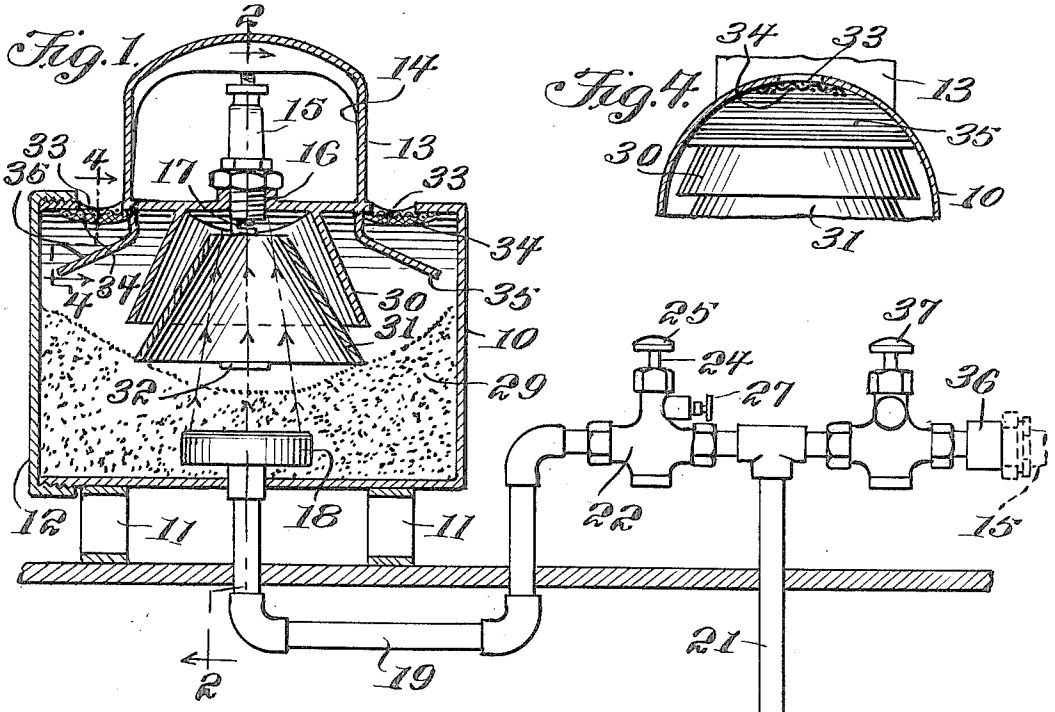
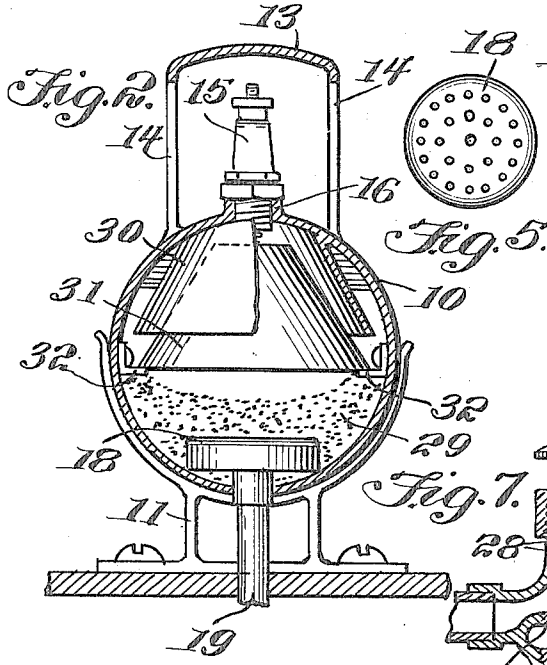
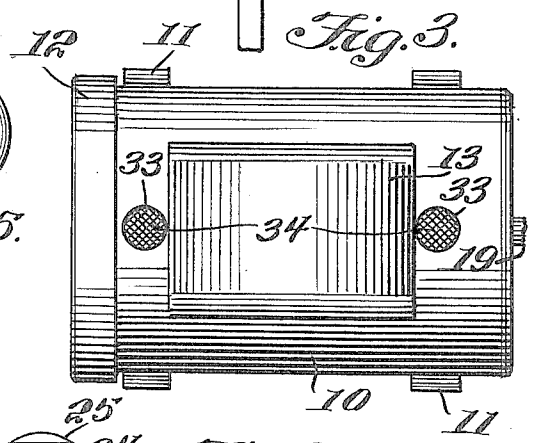
July 9, 1935. S. G. BALIKO 2,007,844

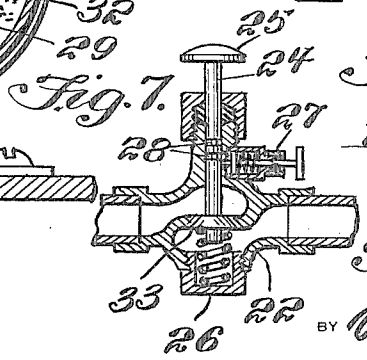
SPARK PLUG CLEANER

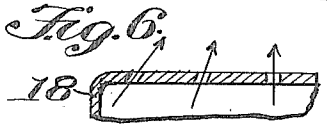
Filed Aug. 6, 1934











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UNITED STATES PATENT OFFICE

2,007,844

SPARK PLUG CLEANER

Steve G. Baliko, Flint, Mich.

Application August 6, 1934, Serial No. 738,712

1 Claim. (Cl. 51—8)

The invention relates to a spark plug cleaner and more especially to a sand blast cleaning appliance for spark plugs.

The primary object of the invention is the provision of an appliance of this character, wherein the same in its construction is usable at automobile service stations for the purpose of cleaning spark plugs, in that a blast of air, the volume of which is controllable, acts upon loose sand contained within a receptacle and such sand, under the air blast, is directed to the spark plugs as fitted in this receptacle, so that all foreign matter, carbon and other adhering particles can be readily and easily removed under the action of the sand.

Another object of the invention is the provision of an appliance of this character, wherein the receptacle for containing the loose sand is of novel form so as to permit the fitting of a spark plug therewith, so that the same when attacked by a blast of air will operate to thoroughly clean the spark plugs for the proper conditioning thereof for use in an internal combustion engine.

A further object of the invention is the provision of an appliance of this character, wherein a spark plug can be cleaned thoroughly and with dispatch without the necessity of the manual handling of the plug and without possibility of damage thereto during the cleaning period.

A still further object of the invention is the provision of an appliance of this character which is simple in construction, thoroughly reliable and effective in its operation, convenient for easy handling, automatic in action, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawing:

Figure 1 is a side elevation partly in section of an appliance constructed in accordance with the invention.

Figure 2 is a sectional view on the line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a top plan view.

Figure 4 is a fragmentary sectional view on the line 4—4 of Figure 1 looking in the direction of the arrows.

Figure 5 is a plan view of the air blast nozzle.

Figure 6 is an enlarged fragmentary vertical sectional view thereof.

Figure 7 is a fragmentary vertical sectional view through the control valve for the air feed pipe.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the appliance comprises a horizontally disposed cylindrical receptacle 10 supported upon a stand 11, it being made fast to a floor or foundation in any suitable manner, the receptacle 10 at one end having a removable head 12, so that access may be had to the interior thereof, and this head is detachably threaded on the receptacle.

Rising from the top of the receptacle 10 is a hood 13 which is open, at 14, at opposite sides thereof and constitutes a roof for a spark plug 15 which is detachably threaded in a receiving hole 16 provided in the top of the receptacle 10 so that the base of the plug 15 with the sparking point 17 will project into said receptacle for the purpose of the cleaning of the plug in a manner presently described.

Arranged at the bottom of the receptacle 10 and vertically aligned with the hole 16 for accommodating the plug 15 is a perforated air blast nozzle 18, it being connected with an air feed pipe 19 which, through the union 20, has connection with an air supply pipe 21 leading from any suitable source of air supply under pressure. Fitted in the pipe 19 on that side of the union 20 having the run to the nozzle 18 is a valve casing 22 having therein a cut-off valve 23 provided with a push plunger 24 which terminates exteriorly of the casing 22 in a head 25 and this valve 23 is normally held seated or in closing position through the medium of a spring 26 as confined within the casing 22, so as to shut off the air supply under pressure through the pipe 19 to the nozzle 18. The casing has fitted therewith a spring tensioned latch 27 which is engageable selectively in keeper grooves 28 in the stem 24 of the valve 23, so that the said valve 23 can be latched in several opened positions for varying the flow of air under pressure through the pipe 19 to the nozzle 18 for increasing or decreasing the blast within the receptacle 10. This receptacle 10 is adapted to contain a quantity of loose sand 29 and the same in quantity covers the nozzle 18. Upon the flow of air under pressure through the pipe 19 to the nozzle 18 the latter effects a blast of the sand 29, whereby it will act upon the spark plug 15 mounted in the hole 16

for the thorough cleaning of such plug. Arranged above and in vertical alignment with the hole 16 and the nozzle 18 are superposed or spaced substantially conical-shaped baffles 30 and 31, respectively, these directing the sand blast toward the plug 15 to assure a direct blast action thereon. The baffle 30 is hung from the top of the receptacle 10, while the baffle 31 is supported upon brackets 32 suitably arranged within the receptacle 10.

The top of the receptacle 10 outside of the hood 13, preferably beyond opposite ends thereof, has air escape ports 33 having wire mesh coverings 34 so that the sand 29 when under blast cannot escape from the receptacle 10, but the air liberated within the receptacle 10 can have escapement therefrom.

Underlying the ports 33 are shields 35, these relieving blasts of sand against the coverings 34 to avoid choking at the ports 33.

The latch 27 is manually controlled and is operable to lock the valve 23 in selected open position.

The union 20 has joined therewith a valved air outlet nipple 36, the valve 37 being manually controlled and adapted for fitting with this nipple 36 is a spark plug so that a direct air blast thereagainst can be had through the nipple 36 for the cleaning of such plug.

It should be seen that the plug 15 when fitting the hole 16, when the appliance is in operation, with the nipple 36 closed, will be subjected to a sand blast for the cleaning of such plug.

The plug 15 is readily insertable in the hole 16 in the receptacle 10 by introduction through either open side of the hood 13 and is threaded into the hole 16, as will be apparent from Figure 1 of the drawing.

The receptacle 10 can be properly filled or supplied with sand 29 on removing the head 12 from said receptacle, the removability of the head being for this purpose.

Spark plugs can be thoroughly cleaned to remove carbon and other deposits at the sparking points of such plugs with dispatch and automatically in the use of the appliance embodying the present invention.

What is claimed is:

An appliance of the character described comprising a horizontally arranged cylindrical receptacle adapted to contain loose sand and having a spark plug opening centrally located at the uppermost portion thereof, a removable head at one end of the receptacle, a hood rising from the uppermost portion of the receptacle to form a roof for a spark plug when engaged in the spark plug hole and having openings at opposite sides thereof for the free introduction of the spark plugs to the said spark plug hole, a perforated blast nozzle located in vertical alignment with the spark plug hole and within the receptacle close to the lowermost portion thereof, means for supplying air under pressure to the said nozzle for directing the loose sand in a stream toward the spark plug hole, concentrically arranged substantially conical-shaped baffles within the receptacle and disposed in vertically spaced relation to each other in alignment with the nozzle and said spark plug hole, the uppermost baffle being joined with the uppermost portion of the receptacle to depend therefrom elevated with respect to the other baffle, brackets arranged in the receptacle and supporting the lowermost baffle in a lowermost position with relation to the other baffle, the said receptacle at its uppermost portion being provided with air escape ports close to opposite ends thereof, shields depending from the uppermost portion of the receptacle and downwardly diverging beneath the air escape ports, and wire mesh coverings for the said air escape ports.

STEVE G. BALIKO.