A. V. PELLET.

DEVICE FOR CLEANING SPARK PLUGS.

APPLICATION FILED MAR. 18, 1920.

1,399,225. Patented Dec. 6, 1921.

Fig. 1.

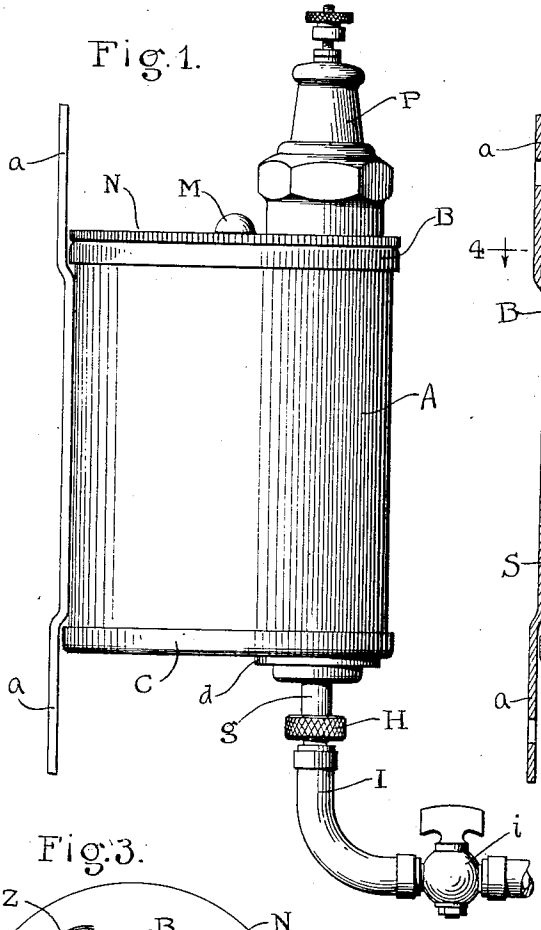


Fig. 2.

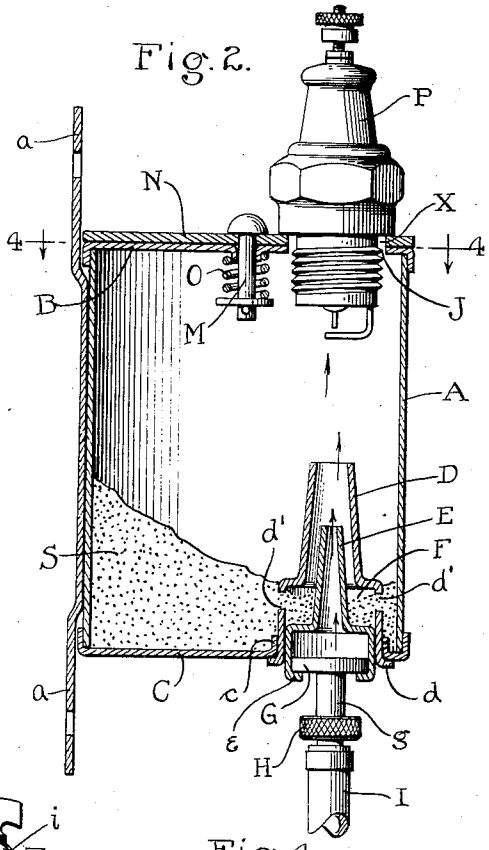


Fig. 3.

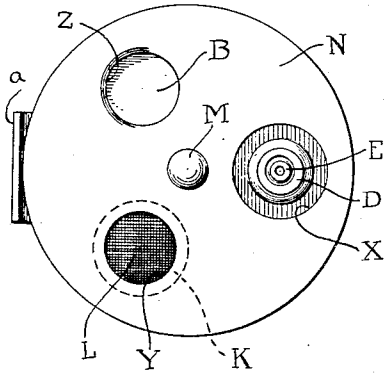


Fig. 5.

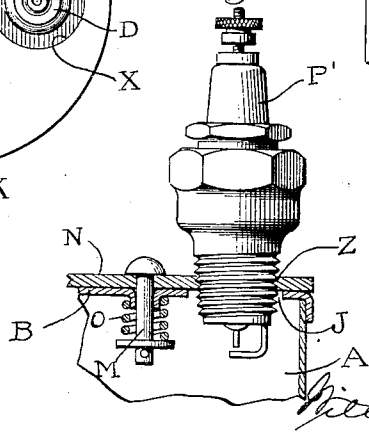
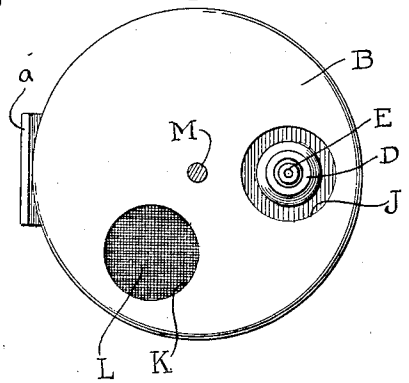


Fig. 4.



Inventor
Auguste V. Pellet.

William, Bradbury & See
Attorneys

UNITED STATES PATENT OFFICE.

AUGUSTE V. PELLET, OF CHICAGO, ILLINOIS, ASSIGNOR TO PELLET MAGNETO CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DEVICE FOR CLEANING SPARK-PLUGS.

1,399,225. Specification of Letters Patent. Patented Dec. 6, 1921.

Application filed March 18, 1920. Serial No. 366,880.

To all whom it may concern:

Be it known that I, AUGUSTE V. PELLET, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Devices for Cleaning Spark-Plugs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention contemplates the provision of a device for cleaning spark plugs. The object of the invention is to provide a device of this character that is of simple and rugged construction, operated by air under pressure, and capable of being used for the purpose of cleaning spark plugs of all of the standard makes and sizes.

One embodiment of the spark plug cleaner of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevational view of the spark plug cleaner, this view illustrating a spark plug is position to be cleaned;

Fig. 2 is an axial sectional view of the same;

Fig. 3 is a top plan view of the same;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 2; and

Fig. 5 is a fragmentary sectional view similar to Fig. 2, illustrating a different type of spark plug in position to be cleaned.

Similar characters of reference refer to similar parts throughout the several views.

In the drawings I have illustrated a receptacle or container comprising cylinder A and upper and lower end closures designated B and C respectively. These last mentioned parts are secured to cylinder A in any suitable manner. Means which may be in the form of a bracket *a*, welded, riveted or otherwise secured to cylinder A, is provided so that the cleaner may be mounted upon a wall or other suitable support.

It will be noted that the metal of the receptacle bottom B is conformed to provide a hollow upwardly projecting boss *c*, into which is tightly pressed an upwardly discharging drawn metal blast nozzle D, provided at its lower end with an annular flange *d*, which fits snugly against the under surface of the receptacle bottom C. Intermediate its ends the blast nozzle D is provided with a plurality of apertures *d' d'*, the purpose of which will presently appear. Pressed tightly into the lower end of the said blast nozzle D is the air nozzle E, the shoulder of which is spaced a substantial distance from the shoulder of the blast nozzle D to provide an annular space F, as shown. Pressed into the lower end of the air nozzle E is a disk G provided with an integral nipple G, arranged to coöperate with a suitable coupling H, with which a suitable conduit I, leading to any suitable source of air under pressure, is provided. Conduit I has been illustrated as provided with a valve *i*, for controlling the supply of air under pressure to nozzle E. Nozzle E is conveniently provided with an inturned annular flange *e*, which overlies the disk G, as shown.

It will be understood that while I have illustrated the nozzle elements as being formed of drawn metal, and being retained properly assembled by being pressed into position, these parts may be constructed of any suitable material and may be held in their assembled operative positions in any convenient manner.

Formed in the container top B and being located directly above the common axis of nozzles D and E is an aperture J, which is large enough to accommodate the lower end of the largest size spark plug with which the cleaner is intended to be used.

I prefer that the aperture J shall have a diameter of $\frac{15}{16}$ of an inch or one inch, in order that the conventional $\frac{7}{8}$ inch plug P may be placed therein as shown. A second aperture K is also formed in receptacle top B, said aperture K being intended to permit the escape of air from the receptacle, but being provided with a screen L, to prevent the escape of any substantial quantity of abrasive material. In the embodiment of the invention here shown, the center of aperture K is disposed 120 degrees from the center of aperture J. The purpose of this arrangement will presently appear.

The receptacle top B is provided with a central aperture through which extends a pivot pin M, which also extends freely through a central aperture in a receptacle top plate N, the periphery of which is preferably milled to facilitate adjustment thereof. A spring O, acting between the receptacle top B, and a washer, which is cottered upon pin M, holds the rotatable

plate N snugly against top B and serves to retain the rotatable top plate in any position to which it may be moved.

I prefer to form apertures X, Y and Z in top plate N, whereby to adapt the cleaner for use with the three standard types of spark plug now in general use, namely, the so-called $\frac{7}{8}$ inch plug, the so-called $\frac{1}{2}$ inch plug provided with tapered pipe threads, and the so-called metric plug. Apertures X and Y are conveniently unthreaded, while aperture Z is preferably provided with pipe threads to coöperate with the threaded portion of the conventional $\frac{1}{2}$ inch plug.

The receptacle is provided with a quantity of granular abrasive material indicated at S, the same conveniently consisting of sand.

In cleaning a $\frac{7}{8}$ inch plug, the rotatable top plate N is turned to cause aperture X to register with aperture J. It will be noted that when apertures X and J are in registry apertures Y and K also register with each other. The spark plug P is now passed freely through the registering apertures X and Y, and the spark plug shoulder is held firmly in engagement with the top plate N. Air is now admitted to air nozzle E. The blast of air from nozzle E causes sand to be drawn into annular space F, and this sand, together with the air, is thrown upwardly against the plug, to accomplish cleaning of the same. Air escapes from the receptacle through screened aperture K, but the abrasive material, after impinging upon the plug drops back into the lower portion of the receptacle and is used again.

In cleaning a so-called metric plug, the aperture Y is moved into registry with aperture J, and the plug is held in position and cleaned by the sand blast in the manner hereinbefore described. In cleaning a so-called $\frac{1}{2}$ inch plug, the aperture Z of the rotatable top plate is moved into registry with the aperture J and the spark plug indicated at P′ in Fig. 5 is threaded into the aperture Z. The plug is cleaned by the air blast, as before described. This last mentioned type of plug is ordinarily not provided with a shoulder, or at any rate is not provided with a square shoulder, and for that reason it is desirable to thread the plug into position rather than merely to hold the same in position, as is the case when cleaning plugs of other sizes.

Having thus described one embodiment of my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A spark plug cleaner comprising a receptacle, a granular abrasive material within said receptacle, a blast nozzle in said receptacle, means for introducing air under pressure into said nozzle, to cause a blast of air and abrasive material to be discharged therefrom, said receptacle having an opening disposed in line with the axis of said nozzle, and a movable plate carried by said receptacle, said plate provided with openings of a plurality of sizes adapted to be brought into registry with the aforesaid opening, substantially as described.

2. A spark plug cleaner comprising a receptacle, containing abrasive material having an opening in the top thereof adapted to receive a spark plug to be cleaned, a sand blast nozzle disposed in the lower portion of the receptacle and having a sand inlet aperture therein at a point below the normal level of abrasive material, together with an air blast nozzle located in the sand blast nozzle and disposed substantially co-axial therewith, the discharge orifice of the air nozzle being above the said inlet aperture of the sand blast nozzle.

3. A spark plug cleaner comprising a receptacle for granular abrasive material having an aperture therein to receive and to be closed by a spark plug to be cleaned, a nozzle discharging into the said receptacle opposite said aperture, a plate rotatable upon said receptacle and having a plurality of different sized openings to receive various sized plugs, said plate being disposed opposite said aperture so that the openings therein may be caused to register with said aperture.

4. A spark plug cleaner comprising a receptacle for abrasive material having an aperture therein to receive and to be closed by the electrode end of a spark plug to be cleaned, a blast nozzle discharging into said receptacle opposite said aperture, a screened air vent adjacent said aperture for air escaping from said receptacle, and a movable plate carried by said receptacle, said plate having openings of a plurality of sizes adapted to be brought into registry with said aperture, the openings in said plate being spaced the same distance as the aperture and air vent in said receptacle, so that said air vent registers with one of the other openings in said plate when one opening is moved over the aperture in said receptacle.

In witness whereof, I hereunto subscribe my name this 9th day of March, 1920.

AUGUSTE V. PELLET.

Witnesses:
EDNA S. GUSTAFSON,
ANDREW WINTERCORN.