No. 886,225. PATENTED APR. 28, 1908.

H. DE LA VALETTE.

CURRENT DISTRIBUTING DEVICE FOR IGNITING EXPLOSIVE ENGINES.

APPLICATION FILED MAY 8, 1906.

Fig. 1.

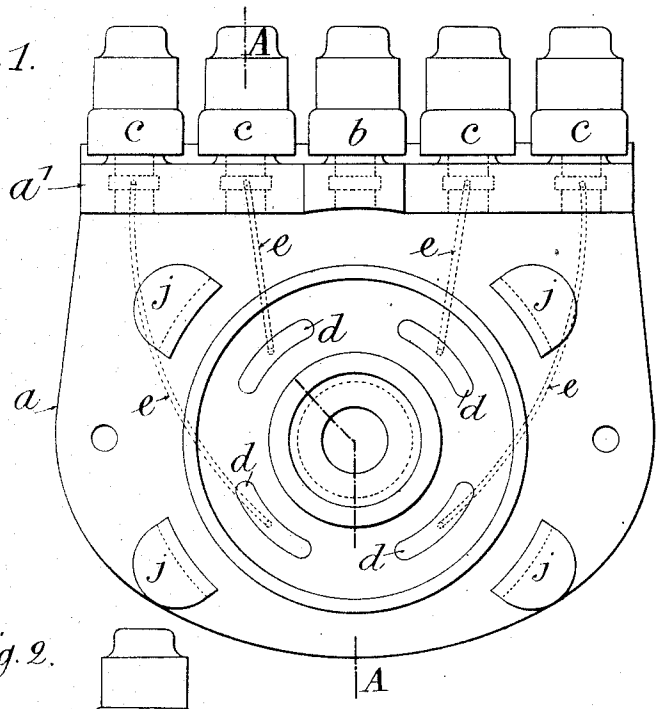


Fig. 2.

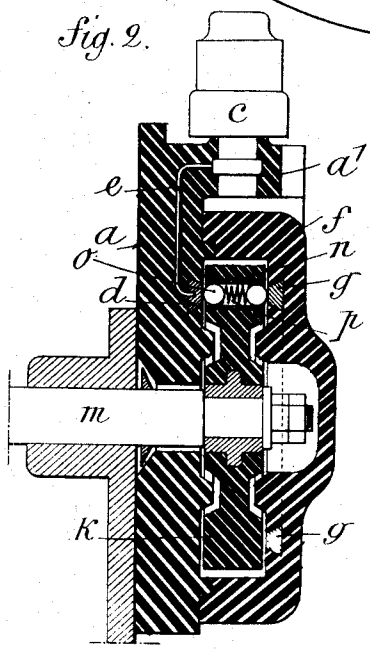
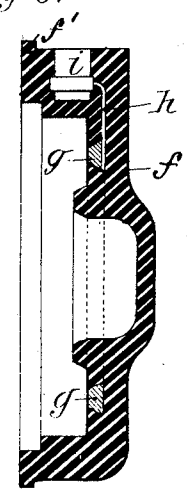


Fig. 3.



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CURRENT-DISTRIBUTING DEVICE FOR IGNITING EXPLOSIVE-ENGINES.

No. 886,225. Specification of Letters Patent. Patented April 28, 1908.

Application filed May 8, 1906. Serial No. 315,769.

To all whom it may concern:

Be it known that I, HENRI DE LA VALETTE, a citizen of the Republic of France, residing at Paris, 111bis Boulevard de Menilmontant, in the Republic of France, engineer, have invented certain new and useful Improvements in Current-Distributing Devices for Igniting Explosive-Engines, of which the following is a specification.

This invention relates to improvements in current distributing devices for igniting explosive engines having a plurality of cylinders, and for similar purposes. Distributing devices of this kind are now used with high tension currents, produced by means of a magneto or of a coil having a trembling part, or the like. Such apparatuses generally comprise a metal ring connected to the source of current, a series of metal keys insulated one from another and connected to the igniting parts of the cylinders, and a brush which puts the said ring in communication with the different keys successively. It often happens that the sparks move off and to a distance between the different metal pieces and thus give rise to untimely ignitions in the cylinders.

The object of this invention is to avoid this serious drawback, and the said invention consists in a particular fitting of the insulating parts separating the several metal pieces used for the in-coming, and out-going currents.

One embodiment of this invention is shown in the accompanying drawings, in which:—

Figure 1 is a front elevation of the improved apparatus, the cover and the brush disk being removed. Fig. 2 is a sectional view on the line A—A of Fig. 1; and Fig. 3 is a vertical section of the cover or lid.

In the drawings, *a* designates a supporting plate of insulating material, the upper part of which is provided with a flange *a'*, to receive the terminal *b* for the in-coming current and the terminals *c* for the out-going current, designed to be connected to the ignition parts of a four-cylinder engine. In one face of the said supporting plate are embedded four metal keys *d*, separately connected with the terminals *c* by wires *e*, passing through the said plate.

On the supporting plate *a* is applied a lid *f* also of insulating material, in the bottom of which is embedded a metal ring *g*. The latter is connected by a wire *h* with a contact piece *i* located at the periphery of the lid, so as to be put in communication with the terminal *b*, on the lid being secured to the supporting plate, which can be done by a sort of bayonet joint, by means of projections *f'* formed around the lid and which are engaged with corresponding parts *j* integral with the plate.

Between the plate *a* and the lid *f* is located a disk *k* of insulating material, fixedly secured to the shaft *m*, which passes through the plate and revolves at a speed equal to half that of the engine shaft, such engine being assumed to be a four-cycle one. Through the said disk and at a certain distance from its periphery, is located a small tube *n* inclosing two steel balls *o* and a spiral spring *p*, which presses the two said balls outwardly. These conducting members constitute a yielding brush which constantly rides on one side on the metal ring *g* and successively on the other side on the keys or contact pieces *d*. When the disk is revolving, the current brought to the terminal *b* passes in succession through *i*, *h*, *g* the brush *p*, *n*, *o*, each of the keys or contact pieces *d* successively, and the corresponding pieces *e*, *c*, and thence to the ignition parts of the cylinders. The essential advantage of this arrangement is that it prevents the production of sparks between the in-coming-current pieces and the out-going current pieces; and, in fact, it will be understood that the insulating disk *k* offers everywhere practically an insurmountable obstacle between the metal ring *g* and the keys or contact pieces *d*, save where the brush lies. Furthermore, the sparks cannot shoot out between the conducting wires stowed away in the insulating mass of the plate *a*, or from the lid *f*, or between the terminals *b*, *c*, the metal parts of which are surrounded, in a well known manner, by insulating material. Again, the surface of the insulating disk is not liable to be rendered conducting by the metal dust coming from the contact pieces, as happens in some similar apparatuses.

It will be understood, of course, that I may vary the shape of the supporting plate and lid, the manner in which they are secured together, the number of the contact pieces and terminals, and the minor details of the construction of the several parts, without departing from the present invention, the essential point of which consists in the interposition of the insulating disk,

within which is carried the brush, between the contact ring *g*, located on one side of the disk, and the keys or contact pieces *d*, located on the opposite side of the said disk.

Claims—

1. A high tension current distributing device, comprising a plate of insulating material, a lid of insulating material on the plate, a revolving disk of insulating material located between the plate and the lid, contact pieces arranged in a circle in the plate, a contact ring located in the lid, and a brush located within the revolving disk, adapted to ride on one side on the said contact pieces and on the other side on the said contact ring.

2. In a high tension current distributing device, the combination of a plate of insulating material, a flange extending forwardly of the said plate, terminals on the said flange, contact pieces arranged in a circle in the plate, wires stowed away within the plate and connecting the contact pieces to the terminals, a lid on the plate, a metal ring in the lid, a contact piece in the periphery of the lid adapted to touch the middle terminal on the flange of the plate, a wire stowed away in the lid and connecting the contact ring with the last named contact piece, and a revolving brush to put the contact ring successively in communication with the contact pieces of the plate.

3. In a device of the character described, the combination of a revoluble member provided with an aperture extending therethrough, a pair of contact balls located within said aperture, a spring mounted within said aperture and pressing said balls in opposite directions, a stationary member provided with a contact ring disposed adjacent to the path of one of said balls so that the ball in question is pressed thereagainst, and contact members disposed adjacent to the path of the other ball and intermittently engaged by said ball as said revoluble member rotates.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

HENRI DE LA VALETTE.

Witnesses:

CAMILLE BLÉTRY,

MAURICE ROUX.