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C. N. BERGSTROM
BURNPROOF DISTRIBUTOR HEAD

2,086,522

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Fig. 1.

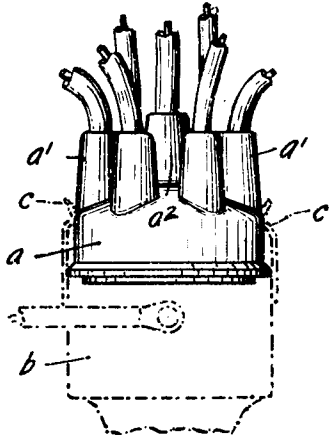


Fig. 2.

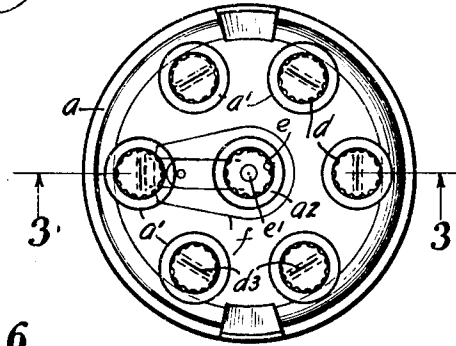


Fig. 6.

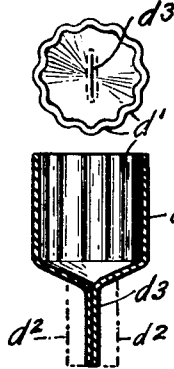


Fig. 5.

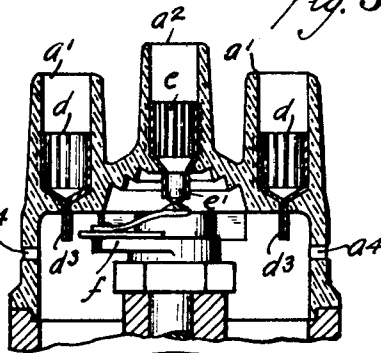


Fig. 3.

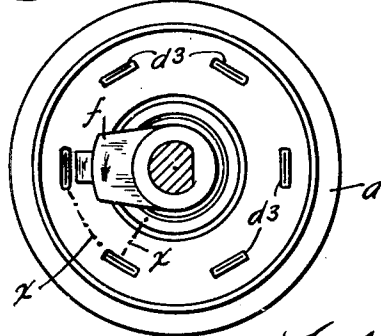


Fig. 4.

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BURNPROOF DISTRIBUTOR HEAD

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1 Claim. (Cl. 200—19)

The object of my invention is to prevent short circuiting paths from being formed within the distributor head, also eliminate deterioration or breaking down of the structure of the head due to high voltage sparks which occur in the distributor during the operation of the same.

When moisture is present on the inner surface of the distributor head, short circuiting will take place between the terminals or between the center contact and said terminals due to high voltage.

Being that the heads of the present type are constructed of carbonaceous material, such short circuiting invariably forms a carbon path which becomes a permanent circuit. When this has taken place the timing is disrupted and a mixed ignition follows. The head is thus faulty and must be replaced.

My improved head is composed of noncarbonaceous material, preferably glass, so that when said short circuiting occurs, due to moisture, the same will cease as soon as the inner surface of the head is dry and no path is formed and thus the ignition system again functions as desired.

Another object is to provide a head similar to those now in use and thus adapted to the present ignition system but not subject to the effect of arcing due to moisture or effected by the ozone or corona prevalent around the lead wires.

Another object is to provide such a head that is transparent for the purpose of viewing the rotor and the arcing occurring within the head.

A still further object is to provide a distributor head of glass or the like in which is cast terminals of such character that will allow for the variation of contraction of the head and said terminals in process of cooling.

In the accompanying drawing:

Fig. 1 illustrates my improved non-carbonaceous distributor head as mounted to a breaker plate assembly housing;

Fig. 2 is a plan view illustrating the visibility of the rotor;

Fig. 3 is a vertical section taken on line 3—3 of Fig. 2 showing details of construction of my distributor head in which the terminals are inserted when the head is cast;

Fig. 4 is a bottom view of the rotor and the terminals and the carbon paths as formed in a head composed of carbonaceous material;

Figs. 5 and 6 are details of construction of the terminal inserts which are of a light metal and corrugated to compensate for the contraction during the cooling of the head after the casting thereof.

There are numerous ways in which moisture collects on the inner surface of the head. This forms a short circuit between the terminals. When the head is constructed of a carbonaceous material this short circuit carbonizes the surface and thus forms a permanent carbon path between said terminals. A great portion of the trouble in the ignition system is due to this action. The damaged head must be replaced to again obtain the proper timing.

As illustrated in Fig. 4 x denotes the path formed on the inner surface of a head constructed of carbonaceous material between the terminals or between any terminal and the center contact; also the corona radiating from the wires inserted into the necks of the head often breaks down the structure within said necks allowing the terminals to become loose and thereby inefficient. In time the circuit shorts directly between the ends of the lead wires and disrupts the proper timing.

There are quite a number of other defects that take place in the present type of a head constructed of carbonaceous material due to the action of moisture and electricity. Thus it can be readily understood that it will be to a great advantage to construct the head of a material that will not be affected as mentioned.

To this end I intend to offer a head constructed of a material such as glass that will obliterate the beforementioned defects.

In common practice metal clips are provided on the ends of the terminal wires to form contact and hold said wires securely in the necks of the distributor head. These necks are of such a depth as to conceal the ends of the wire in such a manner that a spark cannot jump from the end of one wire to the other.

In the construction of a distributor head it is imperative that the metal contact fitting situated in the bottom of each of the necks lie held firmly in place and prevented from becoming loose.

My device is constructed to meet these requirements and also to feature the objects before mentioned.

I accomplish this by casting a metal contact insert in the bottom of each neck together with the distributor head. The head when cast of the material as mentioned will shrink to quite a degree when cooling and thus the metal insert must be so constructed as to adjust itself to this shrinkage without breaking the head. Said inserts must also firmly secure the ends of the terminal wire.

As seen in Fig. 1 my improved distributor head a is mounted on the plate housing b and

held by the clamps *c*. The head *a* is constructed of any suitable non-carbonaceous material such as glass for the purpose hereinafter described.

5 The metal inserts *d* in the necks *a'* are made of thin material and corrugated as at *d'* as shown in Fig. 6 to compensate for the contraction of the head when the same is cooling in the process of manufacture. The inserts being tubular are drawn to a narrower diameter as indicated by the broken lines *d2* and then flattened to form terminals as *d3*. The insert *e* in the central neck *a2* is drawn to a smaller diameter but provided with a center contact carbon plug *e'*. The rotor *f* is of the usual construction as is also the base *b*.

10 Where the terminal wires *a2* are inserted into the contacts *d* within the necks *a1* the corruga-

tions *d'* will firmly grip the metal clips on the ends of said wires *a2* and thus hold the same firmly in place.

The metal inserts *d* are simple and cheap of construction as the same are readily formed of a tube by a die. Having been cast together with the head the same will always remain in position and function properly with the rotor.

I claim:

In a distributor head for high voltage comprising a shell cast of noncarbonaceous material, such as glass, terminal units consisting of thin metal tubes corrugated to coact with the contraction of the shell during the cooling thereof, and the lower end of the said tubes narrowed and flattened to form contact terminals.

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