This invention relates to an ignition distributor for igniting plants of internal combustion engines operating with a battery source of current.

So far, the casings of such ignition distributors were made substantially or entirely of metal and the interrupter plate and other parts pertaining to the interrupter were fitted in the casing in the form of separate parts. As a result, the production of the distributors was relatively difficult and expensive, the more so, as a separate distributor plate of insulating material carrying the distributor segments had to be provided.

It is the object of the present invention to provide a construction of an ignition distributor permitting easy and cheap manufacture.

With this and further objects in view, as may become apparent from the following disclosure, the invention consists not only in the structures herein pointed out and illustrated by the drawing, but includes further structures coming within the scope of what hereinafter may be claimed.

The character of the invention, however, may be best understood by reference to certain of its structural forms, as illustrated by the accompanying drawing in which:

Fig. 1 is an elevation of a distributor casing having the invention applied thereto.

Fig. 2 is an axial section through the casing, on line A—B—C of Fig. 3 and

Fig. 3 is a plan view from the top of the casing, with the cover and rotor of the distributor removed.

Similar reference numerals denote similar parts in the different views.

According to the present invention the distributor casing together with the members to be fixedly secured thereto, such as, the interrupter plate and the cam screen consist of a single integral part pressed of insulating material in which the distributor segments and the stationary metal parts of the interrupter are embedded. Said integral part is secured to a flanged extension of the distributor base or shank so as to enclose all parts belonging to the distributor.

Owing to the fact that the distributor casing itself consists of insulating material, it is possible to fit the distributor segments directly to the casing, thus saving a separate insulating distributor plate of complicated shape. Instead of this plate, a simple cover is provided for closing the distributor casing. If desired, a connecting piece for the high tension conductor leading from the ignitor coil to the distributor may be comprised in this cover.

Referring now to the drawing in greater detail, it will be seen that a distributor casing a of pressed insulating material, such as, phenol formaldehyde condensation products, is secured to a flange b of the shank or base c of the distributor, by means of studs d which are embedded in the lower rim of the casing a in the moulding or pressing operation, and extend through holes or bores in the flange b, engagement with washers e and nuts f. On the right hand side, the casing a is formed with a bulged portion g forming a downwardly open pocket for reception of a condenser h, Fig. 2, connected across an interrupter which is arranged inside the casing a and not shown in the drawing. The condenser thus closes the pocket g.

The top of the casing a is closed by a cover i formed with an outlet for the passage of high tension cables k and k' leading from the distributor to the spark plugs and from the ignitor coil to the distributor, respectively, said outlet being roofed over by a projection i' of the cover. The cover i is centered on the casing by engagement with a recess a' on the top edge of the casing and held in position by means of two springs l, Fig. 1, spaced apart by 180° and engaging with their upper hook-shaped ends over two projections i'' on the cover i while their lower ends are articulated to the casing a, at l'.

Integrally formed with the casing a, inside the same, are a base plate m for the interrupter, Fig. 2, and a cam screen member n. A bearing pin o for an interrupter lever p, Fig. 3 is embedded in the plate m in the moulding and hardening operation, said pin o serving at the same time as a guide member for a plate q supporting the stationary interrupter contact q' which is swingably mounted, for adjustment of the distance between the interrupter contacts. After adjustment of the distance between the contact points by an eccentric screw r the carrier plate q is clamped in position by a screw r' which at the same time secures a bent contact bar s establishing a well conducting electrical connection between the condenser h and the body and also clamping the condenser h in the pocket g. The lower end of bar s is secured to the shank c by a screw c'. Distributor segments t are embedded in the upper thickened rim of the casing a, for connection of high tension cables t leading to the spark plugs, by means of terminal screws t'. The high tension impulses are fed to the distributor segments t from an ignitor coil (not shown) through a connecting piece u embedded in the cover i in the moulding operation and a
sliding contact w engaging the same and being fixedly connected to a distributor finger v. The distributor finger v is secured on a rotor v' rigidly mounted on a distributor shaft z which also carries a centrifugal governor z' and a cam p for operation of the interrupter lever p. The high tension cables k and k' are laterally held by means of ledges or ribs z and z' formed integral with the casing a and with the cover t, respectively, and extending at the top of the casing from the distributor segments t, Fig. 3, and from the contact piece u in the cover, Fig. 2, towards the cable outlets.

The apparatus of the present invention has been described in detail with reference to specific embodiments. It is to be understood, however, that the invention is not limited by such specific reference but is broader in scope and capable of other embodiments than those specifically described and illustrated in the drawing.

I claim:

1. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, an interrupter plate, a cam screen member, distributor segments and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being secured to a flanged extension of the distributor shank for enclosing all parts of the distributor.

2. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, an interrupter plate, a cam screen member, distributor segments, a condenser and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being provided with a laterally-extending integral bulged portion providing a pocket to one side only of said distributor shank and which is open at its bottom for reception of said condenser by which the opening of the pocket is closed, said casing being secured to a flanged extension of the distributor shank for enclosing all parts of the distributor.

3. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, an interrupter plate including a contact bar, a cam screen member, distributor segments, a condenser and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being provided with a laterally-extending integral bulged portion providing a pocket to one side only of said distributor shank and which is open at its bottom for reception of said condenser by which the opening of the pocket is closed and which is secured in position by the clamping action of said contact bar, said casing being secured to a flanged extension of the distributor shank for enclosing all parts of the distributor.

4. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, an interrupter plate, a cam screen member, distributor segments and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being formed with guide ledges for the high tension cables arranged at the top rim of the casing and going out from the distributor segments, and secured to a flanged extension of the distributor shank for enclosing all parts of the distributor.

5. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, a cover of insulating material for said casing, an interrupter plate, a cam screen member, distributor segments and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being secured to a flanged extension of the distributor shank for enclosing all parts of the distributor and said cover having embedded therein, in the moulding operation, a connecting piece for the high tension cable from the ignition coil to the ignition distributor.

6. An ignition distributor for battery ignition plants comprising a distributor shank, a distributor casing, a cover of insulating material for said casing, an interrupter plate, a cam screen member, distributor segments and stationary metal parts for the interrupter, said distributor casing consisting of a single pressed insulating part formed integral with said interrupter plate and cam screen member and having said distributor segments and said stationary metal parts embedded therein, said casing being secured to a flanged extension of the distributor shank for enclosing all parts of the distributor and said cover having embedded therein, in the moulding operation, a connecting piece for the high tension cable from the ignition coil to the ignition distributor and being formed with a roofed-over lateral outlet for said high tension cable.

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