

March 22, 1960

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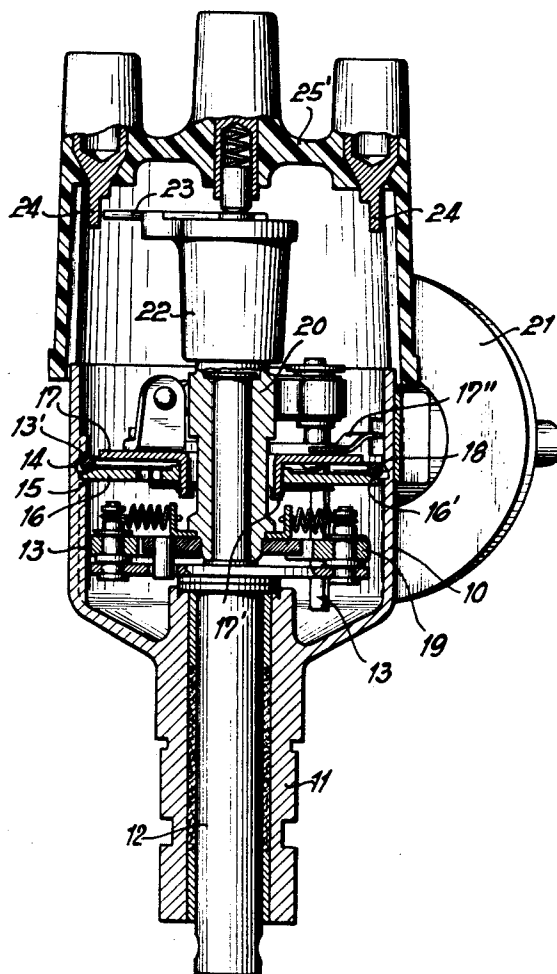
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MOUNTING PLATE FOR IGNITION DISTRIBUTORS AND HOUSING THEREFOR

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2 Sheets-Sheet 1

FIG. 1



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2 Sheets-Sheet 2

FIG. 2

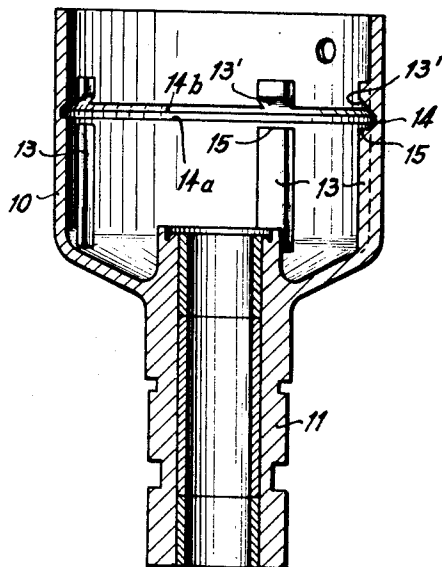


FIG. 3

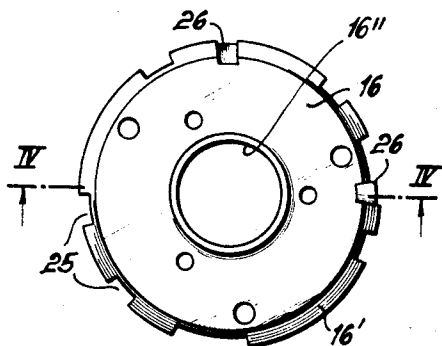


FIG. 5

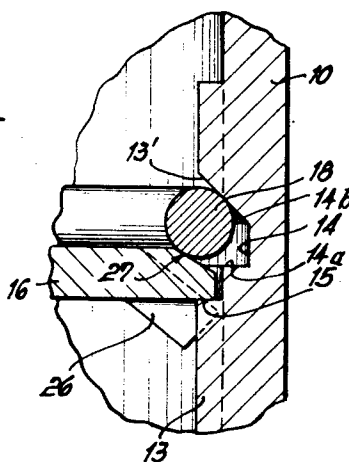


FIG. 4



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1

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## MOUNTING PLATE FOR IGNITION DISTRIBUTORS AND HOUSING THEREFOR

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13 Claims. (Cl. 200—30)

The present invention relates to distributors for battery ignition systems in internal combustion engines, and more particularly to improved mounting plates and housing means for such apparatus.

Ignition distributors of known construction comprise a housing receiving a mounting plate which supports the interrupter means, the purpose of the latter being to interrupt the primary current of the ignition unit. The assembly further comprises means for automatically varying the so-called sparking instant or ignition point.

Conventional mounting plates are formed with bent peripheral zones provided with tapped bores to receive a series of screws which pass through the housing and secure the plate to the latter. The manufacture of such plates with tapped bores is rather costly and their mounting in the housing a time consuming procedure. In addition, if one or more screws are drawn tighter than the others, tensions generated in the plate may cause slight or even considerable displacement or distortion thereof resulting in improper operation of the interrupter means mounted thereon, for example, by influencing the sparking instant due to improper centering of said plate.

An object of the present invention is to provide a greatly simplified mounting plate for interrupters in internal combustion engines and simplified housing therefor.

Another object of the invention is to provide a mounting plate of the above described character which may be inserted into its housing in such a way as to eliminate any and all tensions which would tend to displace the plate from its desired position.

A further object of the invention is to provide an improved mounting plate and housing therefor which may be assembled without requiring internal or external screw threads thereon.

An additional object of the invention is to provide a mounting plate for interrupters in internal combustion engines and a housing therefor which may be locked against axial displacements with respect to each other by a single and removable element.

A concomitant object of the invention is to provide a housing for mounting plates of the above described characteristics which may be pressed from a single piece of metallic material.

The above and other objects of the instant invention are attained by the provision of a housing having a cylindrical bore and a plurality of projections therein which define spaced shoulders; of a mounting plate of generally discoidal contour insertable into the bore of the housing to rest on the shoulders of the projections therein; and of means for preventing angular as well as axial displacements of the plate in said housing.

More particularly, the housing comprises an enlarged cylindrical portion and an axle journal for the timing shaft of the interrupter means. The enlarged cylindrical portion is formed with a plurality of axially parallel ribs interrupted by an annular groove or recess. The lower parts of so interrupted ribs serve as supports for the mounting plate and have their upper ends bounded by

2

horizontal surfaces against which selected peripheral portions of the lower surface of mounting plate abut. The lower end surfaces of the upper portions of said ribs are preferably inclined so as to more firmly engage the locking means which holds the mounting plate against axial displacements in the housing.

The mounting plate is of discoidal contour and is provided with peripheral cutouts which allow its insertion along the upper parts of ribs to the level of the annular recess in cylindrical housing portion. The plate is then slightly turned and placed on the lower portions of the ribs in such position that one or more downwardly extending lips or projections integral therewith abut against the adjacent ribs and thus prevent its angular displacements with respect to the housing.

The locking means against axial displacements of the plate preferably consists of a snap ring made of steel wire of circular cross sectional contour and at least partially received in the annular recess or groove in the cylindrical housing portion. In order to increase the locking action of the snap ring, selected peripheral portions of the mounting plate may be formed with outwardly and downwardly inclined upper surfaces. In this manner, the snap ring is received between two inclined surfaces of preferably different inclinations which adds to the wedging action between the three parts as well as to safety against any undesired displacements of the mounting plate which could lead to improper ignition timing or other malfunctions of the interrupter assembly mounted thereon.

The housing with projections or ribs therein may be preferably made (by casting, pressure casting, cold forming etc.) from any suitable metal or alloy, and the annular recess or groove is machined therein, as by turning, in any convenient manner. Since the mounting plate and the snap ring, too, are of extremely simple construction, the improved assembly of these elements is considerably cheaper in manufacture and may be properly assembled within an incomparably shorter time period than similar devices of known construction.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of a specific embodiment when read in connection with the accompanying drawings, in which:

Fig. 1 is a longitudinal section through the completely assembled ignition distributor embodying our invention;

Fig. 2 is an axial section through the novel housing;

Fig. 3 is a top plan view of the novel mounting plate for the interrupter assembly;

Fig. 4 is a central section through the mounting plate taken along line IV—IV of Fig. 3; and

Fig. 5 is greatly enlarged detail view showing in section portions of the housing, of the mounting plate and of a snap ring for locking the plate in the housing.

Referring now in greater detail to the illustrated embodiment, Fig. 1 shows an assembled ignition distributor comprising a housing consisting of a cylindrical portion 10 and a tubular extension or axle journal 11, the latter receiving a distributor or timing shaft 12. Housing 10, 11 may be made by cold forming from a single cylindrical piece of aluminum together with spaced ribs 13 disposed in the bore of cylindrical portion 10. An annular groove 14, best shown in Fig. 2, is machined into the inner wall of housing portion 10 and thus interrupts each of the ribs 13 adjacent to the upper ends of the latter. A shoulder or platform 15 is formed at the upper end of the lower portion of each rib 13 beneath the groove 14, these shoulders supporting a mounting plate 16, shown in greater detail in Figs. 3

3

and 4, which in turn mounts a swingable plate 17. Plate 17 supports an interrupter for the primary current of an ignition coil (not shown).

Mounting plate 16 is held against axial displacements in housing portion 10 by a snap ring 18 which is wedged into the space between the inclined surfaces 13' of the ribs 13 and peripheral portions 16' of plate 16, respectively.

The interrupter is controlled by a cam 20 which is mounted on timing shaft 12 and is swingable under the influence of a flyweight governor 19 in dependency on rotational speed of the engine. Plate 17, whose purpose is to support the distributor assembly, has an annular extension or collar 17' rotatably received in the circular opening 16'' of mounting plate 16. A vacuum shifter or regulator is fixed externally to the cylindrical housing portion 10; it comprises a diaphragm casing 21 and an actuating member 17''. One end of member 17'' is connected to the diaphragm (not shown) in casing 21 while its other end engages the swingable plate 17. Any movements imparted by the diaphragm to member 17'' are conveyed to plate 17 which swings in its own plane and causes displacements of the interrupter assembly mounted thereon. The so displaced interrupter causes corresponding changes in the sparking instant.

The upper end of timing shaft 12 supports a traveler 22 carrying an electrode 23 which latter, during its travel about shaft 12, makes contact with and conveys high voltage impulses to distributor electrodes 24, mounted in plateau 25, and thence to the spark plugs (not shown) of the internal combustion engine with which the just described distributor assembly is associated.

It will be noted in Figs. 3 and 4 that the main body of plate 16, as well as its peripheral zones 16', save for small downwardly bent lips 26, extend in a single plane. The novel mounting plate thus overcomes the above mentioned disadvantages of known constructions caused by uneven distribution of tensions therein and by more complicated and lengthier assembly with the housing. The mounting plate may be introduced through the open end of housing portion 10 down to the level of shoulders 15 and is then retained in such position by snap ring 18.

Housing 10, 11 is best shown in Fig. 2. It will be noted here that the annular groove 14 extends into the material of housing part 10 and is limited therein by a lower horizontal surface 14a as well as by an upper inclined surface 14b continuing into surfaces 13' on parts of ribs 13 above the groove 14. The inclination of surfaces 14b and 13' is approximately 45 degrees. Shoulders 15 are preferably somewhat below the level of surface 14a, as is best shown in Fig. 5. Mounting plate 16, shown in detail in Figs. 3 and 4, has a series of peripheral cut-outs 25 for the passage of upper portions of ribs 13 when the plate is inserted into the open end of housing part 10 and caused to descend in downward direction. Upon reaching the level of annular groove 14, plate 16 is turned through a small angle in a horizontal plane and thereupon placed onto the shoulders 15 in such position that the two downwardly extending lips or projections 26 abut against a pair of adjacent ribs 13. These projections 26 thus positively prevent rotation of the plate. As will be noted in Figs. 4 and 5, peripheral zones 16' of plate 16 between cutouts 25 are formed with downwardly and outwardly inclined upper surfaces 27 against which the snap ring 18 abuts.

The section of Fig. 5 is taken through a longitudinal rib 13. This illustration shows that the plate 16 is supported merely by shoulders 15, and further shows a projection 26 in abutting relationship with the radial surface of rib 13.

Snap ring 18 is made of steel wire. The inclination of surface 27 on plate 16 is about 25 degrees and that of surfaces 14b, 13' about 45 degrees. Such different inclinations of surfaces in contact with the snap ring 18 cause the latter to be wedged in firm contact with the

4

housing part 10 and ribs 13 on the one hand, and with the mounting plate 16 on the other hand. Member 18 thus maintains the plate in desired central position in the bore of housing part 10 in addition to preventing axial displacements between parts 10 and 16.

It will be noted in Fig. 5 that the distance between surfaces 13' and shoulders 15 is sufficient to permit angular displacements of plate 16 in a position in which the lips 26 are still above the levels of said shoulders. This allows for so rotating the plate that its lips 26 engage a pair of ribs 13 from opposing sides and thus positively prevent any angular displacements of the plate when the latter rests upon the shoulders 15. In addition, the location of groove 14 with respect to plate 16, when the latter is seated on shoulders 15, is so selected that the snap ring 18 extends into said groove and bears against the inclined peripheral surface 14b in housing portion 10.

It will be understood that one or the other of elements described above may also find a useful application in other types of distributors differing from the type described hereinabove.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. In an ignition device for internal combustion engines having interrupter means, in combination, housing means having an axial bore of cylindrical contour; a plurality of axially parallel ribs in said bore integral with said housing means; said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface inclined with respect to said first surface with said recess disposed between said first and said second surfaces, said first surfaces of said ribs being in a common plane at right angles to the axis of said bore; a mounting plate for said interrupter means, said plate being of discoidal contour, of a diameter approximating that of said bore, and having a first major surface, a second major surface, a peripheral zone bounded at one side by said first major surface and at the other side by a surface contiguous to said second major surface and inclined with respect to said first major surface, a plurality of cutouts in said peripheral zone so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips extending from the general plane of said plate to the side of said first major surface, said plate being inserted into the bore of said housing means in such a way that selected portions of the peripheral zone thereof at the side of said first major surface rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacements in said bore; and a snap ring extending into the recess in said housing means and engaging with the second surfaces of said ribs and the inclined surface of said peripheral zone for holding said plate against axial displacements in said bore.

2. In an ignition device for internal combustion engines, in combination, housing means having an axial bore of cylindrical contour; a plurality of axially parallel ribs in said bore integral with said housing means; said housing means having an annular recess in said bore interrupting each of said ribs; each of said ribs having a first surface and a second surface inclined with respect to said first surface, said recess extending between the first and the second surfaces of said ribs, said first surfaces of said ribs being in a common plane substantially

at right angles to the axis of said bore and said second surfaces being inclined through approximately 45 degrees with respect to said first surfaces; a mounting plate for said interrupter means, said plate being of discoidal contour, of a diameter approximating that of said bore, and having a first major surface, a second major surface, a peripheral zone bounded at one side by said first major surface and at the other side by a surface contiguous with said second major surface and inclined through about 25 degrees with respect to said first major surface, a plurality of cutouts in said peripheral zone so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips extending from the general plane of said plate to the side of said first major surface, said plate being inserted into the bore of said housing means in such a way that selected portions of the peripheral zone at the side of said first major surface rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacements in said bore; and a snap ring partially extending into the recess in said housing means, said ring further engaging with the second surfaces of said ribs and the inclined surface of said peripheral zone for holding the plate against axial displacements in said bore.

3. In an ignition device for internal combustion engines, in combination, housing means having an end and an axial bore extending inwardly from said end; a plurality of axially parallel ribs in said bore integral with said housing means; said housing means having an annular recess in said bore dividing each of said ribs into a first portion and a second portion, the first portion of each of said ribs having an end surface with said end surfaces disposed in a common plane at right angles to the axis of said bore, and the second portion of each of said ribs having an end surface inclined with respect to the end surface of said first portion, said recess extending between the end surfaces of the first and second portions of said ribs; a mounting plate for said interrupter means, said plate being of discoidal contour, of a diameter approximating the diameter of said bore, and having a first major surface, a second major surface, a peripheral zone bounded at one side by said first major surface and at the other side by a surface contiguous with said second major surface and inclined with respect to said first major surface, a plurality of cutouts in said peripheral zone so spaced as to receive and permit passage of the second portions of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips extending from the general plane of said plate to the side of said first major surface, said plate being inserted into the bore from the end of said housing means in such a way that selected portions of the peripheral zone at the side of said first major surface rest upon the end surfaces of the first portions of said ribs and each of said lips engages one of the first portions of said ribs for holding the plate against angular displacements in said bore; and a snap ring partially extending into the recess in said housing means, said ring further engaging with the end surfaces of the second portions of said ribs and with the inclined surface of said peripheral zone for holding the plate against axial displacements in said bore, the inclinations of the end surfaces of the second portions of said ribs being different from the inclination of said inclined surface of the peripheral zone of said plate when the latter is retained by said snap ring in said bore.

4. In an ignition device for internal combustion engines, in combination, aluminum housing means having an end and an axial bore extending inwardly from said end; a plurality of axially parallel ribs in said bore integral with said housing means; said housing means having an annular recess in said bore dividing each of said ribs into a first portion and a second portion, the first portion

of each of said ribs having an end surface with said end surfaces disposed in a common plane at right angles to the axis of said bore, and the second portion of each of said ribs having an end surface inclined with respect to the end surface of said first portion, said recess extending between the end surfaces of the first and second portions of said ribs; a mounting plate for said interrupter means, said plate being of discoidal contour, of a diameter approximating the diameter of said bore, and having a first major surface, a second major surface, a peripheral zone bounded at one side by said first major surface and at the other side by a surface contiguous with said second major surface and inclined with respect to said first major surface, a plurality of cutouts in said peripheral zone so spaced as to receive and permit passage of the second portions of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips extending from the general plane of said plate to the side of said first major surface, said plate being inserted into the bore from the end of said housing means in such a way that selected portions of the peripheral zone at the side of said first major surface rest upon the end surfaces of the first portions of said ribs and each of said lips engages one of the first portions of said ribs for holding the plate against angular displacements in said bore; and a snap ring partially extending into the recess in said housing means, said ring further engaging with the end surfaces of the second portions of said ribs and with the inclined surface of said peripheral zone for holding the plate against axial displacements in said bore, the inclinations of the end surfaces of the second portions of said ribs being different from the inclination of said inclined surface of the peripheral zone of said plate when the latter is retained by said snap ring in said bore.

5. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recesses disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of the bore, and having a peripheral zone formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

6. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore of cylindrical contour; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, and having a pe-

7

ripheral zone formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

7. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces, said first surfaces of said ribs being in a common plane at right angles to the axis of the bore; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, and having a peripheral zone formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

8. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, said plate having a first major surface, a second major surface, a peripheral zone, bounded at one side by said first major surface and at the other side by a surface contiguous to said second major surface, and formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces

8

and said opposite portions for holding said plate against axial displacement in said bore.

9. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, said plate having a first major surface, a second major surface, a peripheral zone, bounded at one side by said first major surface and at the other side by a surface contiguous to said second major surface and inclined with respect to said first surface, and formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

10. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, said plate having a first major surface, a second major surface, a peripheral zone, bounded at one side by said first major surface and at the other side by a surface contiguous to said second major surface, and formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate to the side of said first major surface, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

11. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending

in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, said plate having a first major surface, a second major surface, a peripheral zone, bounded at one side by said first major surface and at the other side by a surface contiguous to said second major surface, and formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof at the side of said first major surface rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

12. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore, said housing means consisting of a single piece of press-formed metal; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, and having a peripheral zone formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing means in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith

radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

13. In an ignition device for internal combustion engines having interruptor means, in combination, housing means having an axial bore, said housing means consisting of a single piece of press-formed aluminum; a plurality of axially parallel ribs in said bore integral with said housing means, said housing means having an annular recess in said bore interrupting each of said ribs and each of said ribs having a first surface and a second surface, said surfaces extending in a radial direction, with said recess disposed between said first and second surfaces; a mounting plate for said interruptor means, said plate being of discoidal contour and of a size approximating the cross section of said bore, and having a peripheral zone formed with a plurality of cutouts so spaced as to receive and permit passage of said ribs therethrough when said plate is inserted into the bore of said housing means, and at least two lips axially extending from the general plane of said plate, said plate being inserted into the bore of said housing in such a manner that selected portions of the peripheral zone thereof rest upon the first surfaces of said ribs and each of said lips engages one of said ribs for holding the plate against angular displacement in said bore, said second surfaces of said ribs facing opposite portions of said peripheral zone and being inclined with respect to said opposite portions so as to define therewith radially extending recesses tapering in a radially outward direction; and snap ring means in said radially tapering recesses engaging said second surfaces and said opposite portions for holding said plate against axial displacement in said bore.

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