Nov. 6, 1928. 1,690,353

C. E. WILSON ET AL

IGNITION COIL MOUNTING

Filed Jan. 18, 1922 2 Sheets-Sheet 1

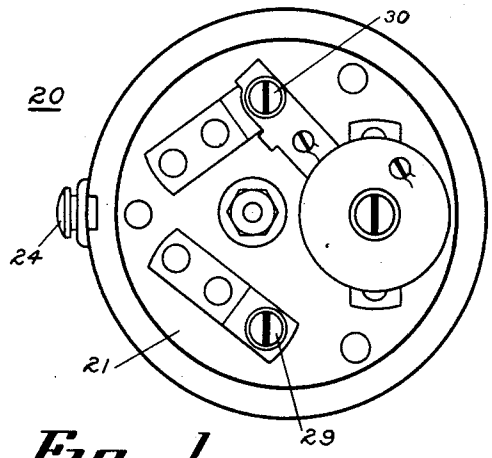

Fig. 1

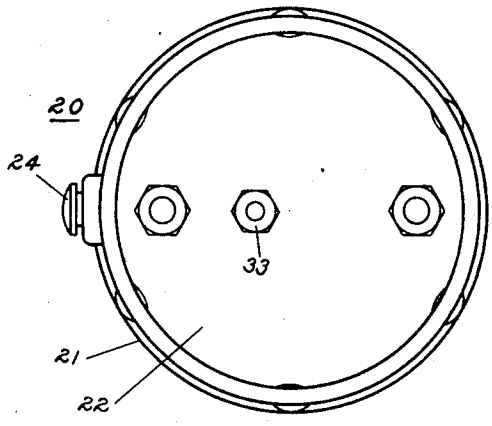

Fig. 2

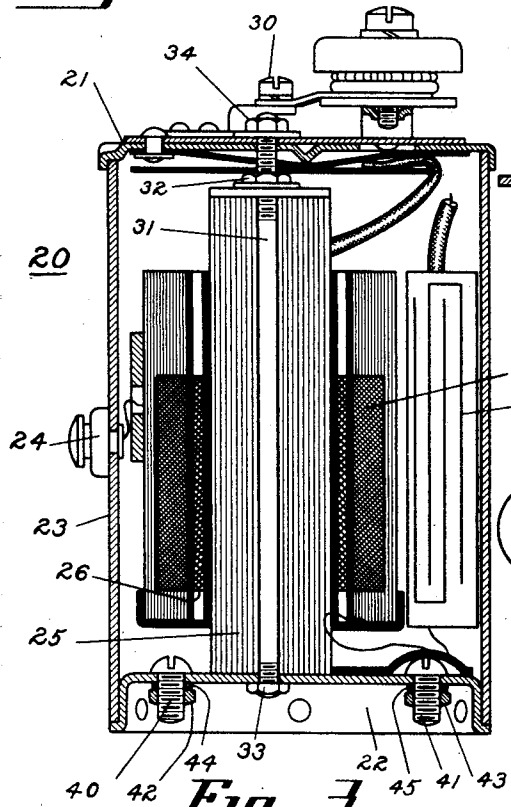

Fig. 3

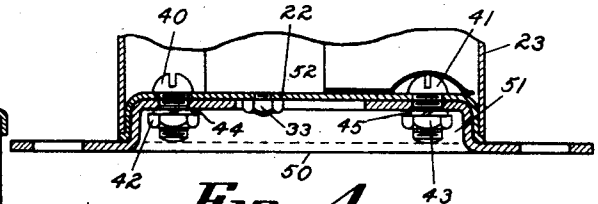

Fig. 4

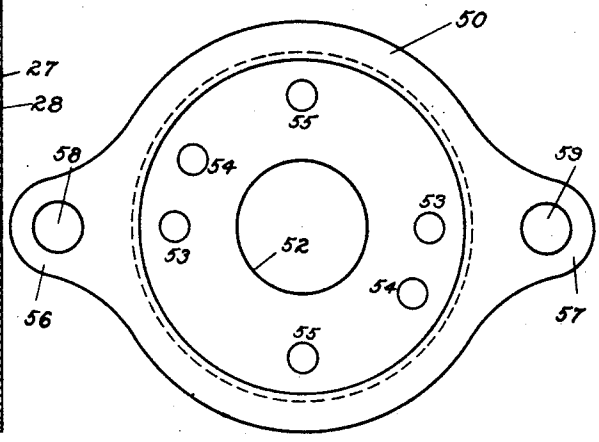

Fig. 5

Witnesses
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IGNITION COIL MOUNTING

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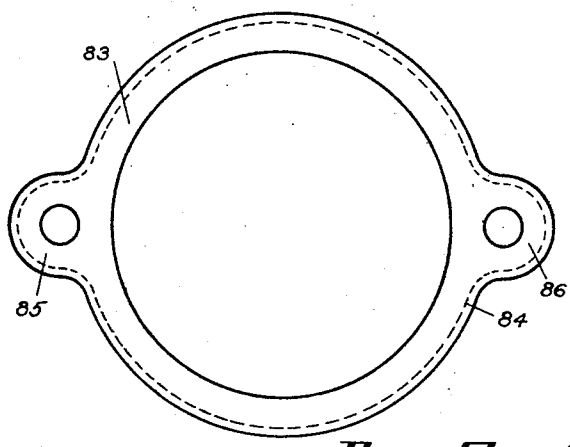

Fig. 9

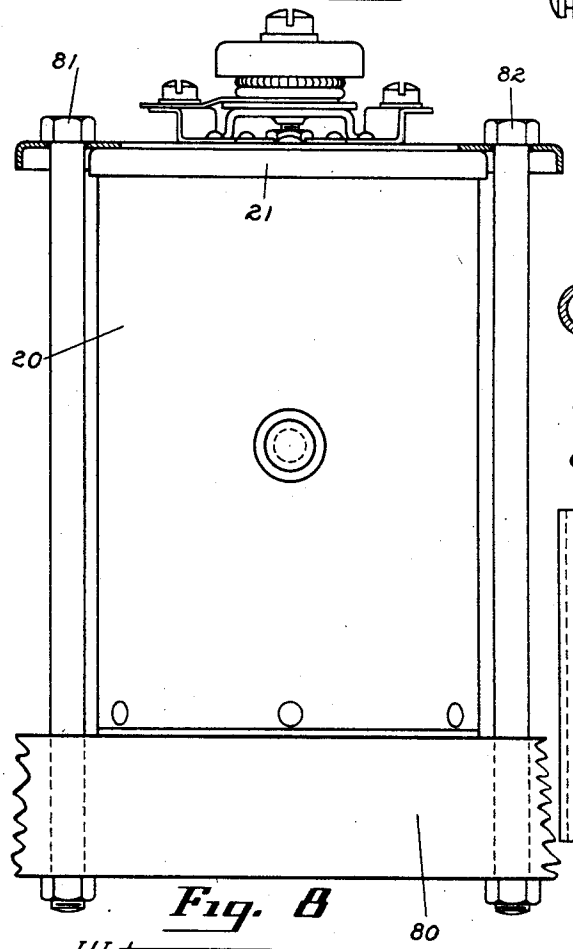

Fig. 8

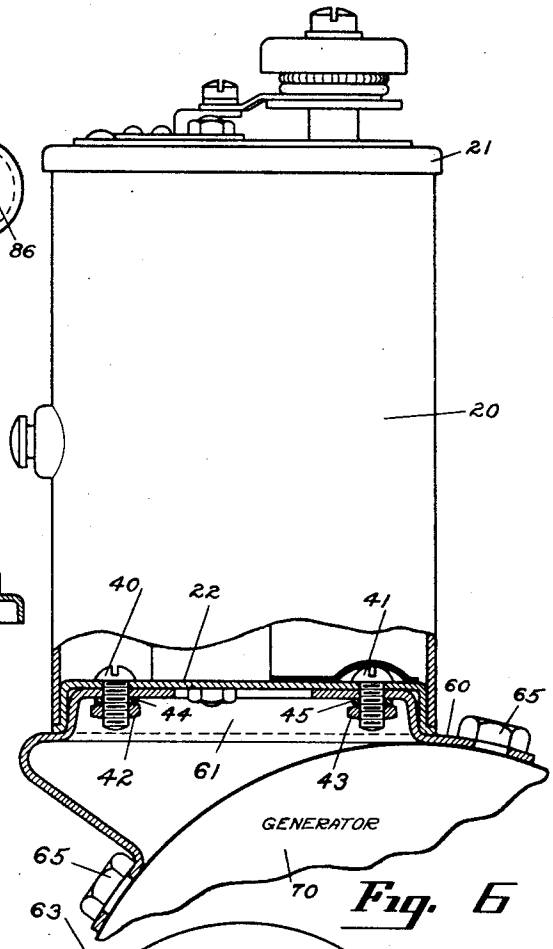

Fig. 6

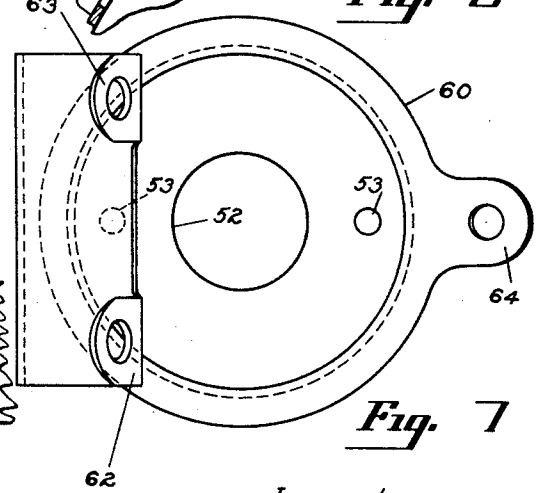

Fig. 7

Witnesses
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Patented Nov. 6, 1928. 1,690,353

UNITED STATES PATENT OFFICE.

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IGNITION-COIL MOUNTING.

Application filed January 18, 1922. Serial No. 530,150.

This invention relates to electrical ignition apparatus for automobiles and particularly to the mounting of ignition coils on different parts of the automobile. Generally speaking, engines having the same number of cylinders would require the same ignition coil in so far as its electrical and magnetic capacity is concerned. That is, a coil which would be sufficient for one six cylinder engine would ordinarily be satisfactory for most any other six cylinder engine where the ignition requirements are the same. However, the manner of mounting coils in different automobiles varies thus requiring a different style of mounting for each make of car.

It is among the objects of the present invention to provide a plurality of mounting devices each adapted to receive the same coil but adapted to mount the coil on a stationary part in a different manner.

While the present invention is not limited to a coil having any particular electrical dimension or arrangment of operative parts, the invention is shown in connection with a coil having its operative parts constructed and arranged somewhat in accordance with the coil disclosed in the patent to James B. Replogle, No. 1,367,988, issued February 8, 1921.

Other and further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein preferred embodiments of the present invention are clearly shown.

In the drawings:

Figs. 1, 2 and 3 are top, bottom and sectional views, respectively, of a coil adapted to be used in connection with the present invention;

Figs. 4 and 5 are sectional and bottom plan views respectively of an adapter mounting adapted to be used with said coil;

Fig. 6 is a side elevation partly in section of the coil shown in Figs. 1, 2 and 3, together with a different type of adapter mounting which is shown in section;

Fig. 7 is a bottom plan view of the adapter mounting shown in Fig. 6;

Fig. 8 is a side elevation of the coil shown in Figs. 1, 2 and 3 together with a different style of mounting; and

Fig. 9 is a plan view of the adapter mounting shown in Fig. 8.

The coil which is illustrated in connection with the present invention is designated by the numeral 20 and includes a coil top end cover member 21 and a bottom end cover member 22 between which is clamped a tubular coil housing 23 which carries a high tensional terminal 24. Within the enclosure formed by members 21, 22 and 23 are supported the core 25, primary winding 26 and secondary winding 27, and condenser 28. The cover 21 carries the low tension terminals 29 and 30.

The core 25 is held in position by means of rod 32 and nuts 32 and 33 having threaded engagement therewith and the cover 21 is held in position by means of nut 34 having threaded engagement with the rod 31. Before the cover 21 is secured in position the interior of the shell 23 is filled with wax or pitch to provide a good mechanical support for the parts contained within the coil and to assist in absorbing vibrations to which the coil is subjected in service.

In the present invention the housing bottom 22 is provided with diametrically opposite holes through which screws 40 and 41 are placed and these screws are attached to the bottom 22 in a suitable manner as by soldering. Nuts 42 and 43 and lock washers 44 and 45, respectively, cooperate with screws 40 and 41. One type of adapter mounting shown in Figs. 4 and 5 consists of a plate 50 having a somewhat cup shaped portion 51 stuck out therefrom adapting the same to be located within the cup shaped base portion 22 of the coil 20. This extension is apertured at 52 to clear the nut 33 in any of the positions of the housing upon the adapter mounting 50 and pairs of diametrically opposite holes 53—53, 54—54 and 55—55 are provided for the purpose of attaching the adapter mounting 50 to the base 22 by means of the screws 40 and 41 and the nuts and lock washers cooperating therewith. The adapter mounting 50 is provided with oppositely extending ears 56 and 57 which are apertured at 58 and 59 to receive bolts or screws by means of which the mounting 50 may be attached to a support. It will be seen that the adapter mounting 50 may be attached to the coil 20 in six different

positions providing six different locations of the coil terminals with respect to the wiring of the automobile to which the coil is to be connected. That is, the coil may be located advantageously to suit the particular wiring conditions of the automobile. Obviously additional pairs of holes could be added to the adapter mounting 50 if desired.

Fig. 6 shows a modified form of adapter mounting 60. The adapter mounting 60 is attached to the coil 20 in the same manner as the mounting 50, but the mounting 60 is adapted to support the coil 20 upon a cylindrical support such as the frame of a generator designated by numeral 70. In Fig. 7 one set of holes 53 is shown but it is understood that additional diametrically opposite pairs of holes could be provided if desired. This type of mounting includes a portion 61 similar to 51 of the adapter 50 which extends within the base 22 of the coil. The adapter 60 is provided with ears 62, 63 and 64 apertured to receive mounting screws 65 by means of which the adapter mounting 60 may be mounted upon a cylindrical surface. Preferably these ears 62, 63, and 64 are bent to conform to a cylindrical surface of predetermined curvature.

It will be apparent from Figs. 4 and 6 that the mountings 50 and 60 provide pockets for the nuts of the screws 40 and 41 and the nuts and lock washers cooperating therewith thus concealing from view the means for attaching the coil to the adapter mounting.

A further modified form of mounting is shown in Fig. 8 in which the coil 20 is supported against a stationary part 80 by means of bolts 81 and 82 which clamp the coil 20 between the base 80 and a clamping ring 83 having a flange 84 which is adapted to fit around the edge of the coil cover 21 and which is provided with ears 85 and 86 which are apertured to receive the bolts 81 and 82.

By using a variety of adapter mountings, it will be seen that one coil may be used in connection with a large variety of installations of ignition apparatus. In shipping these coils to service stations, or other persons making a business of repairing ignition apparatus and replacing ignition coils, six coils are preferably packed in one container with an assortment of two each of the styles of adapter mountings shown in the drawings. It has been found that the average requirements are met by such an assortment of mountings.

While the forms of mechanisms herein shown and described constitute preferred forms of embodiments of the invention, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

We claim:

1. In an ignition coil mounting, the combination with a coil having a tubular housing and a housing end cover member including a cylindrical portion; a mounting member having a complementary cylindrical portion, said portions being adapted to fit within each other, said mounting member being one of several different mounting members which may be assembled interchangeably with the coil housing end cover member; and means for securing said members together.

2. In an ignition coil mounting, the combination with a coil having a tubular housing and a housing end cover member which provides a cylindrical recess; a sheet metal mounting member having a complementary cylindrical boss adapted to fit within said recess said boss defining a recess, said mounting member being one of several different mounting members which will interchangeably fit said recess in the housing end cover member; and means located within the last mentioned recess for securing the members together.

3. In an ignition coil mounting, the combination with a coil having a tubular housing and a housing end cover member which provides a cylindrical recess; a sheet metal mounting member having a complementary cylindrical boss adapted to fit within said recess, said boss defining a recess, said mounting member being one of several different mounting members which will interchangeably fit said recess in the housing end cover member; screws extending from the coil housing member through holes in the cylindrical boss of the mounting member and terminating within the second mentioned recess; and nuts for said screws.

4. In an ignition coil mounting the combination with a coil having a tubular housing and a cylindrical cup shaped bottom for the tubular housing; of a pair of diametrically opposite screws arranged concentrically with said bottom; a mounting bracket having a complementary cup shaped portion adapted to extend within said coil housing bottom and provided with pairs of diametrically opposite holes adapted to receive said screws; and nuts for said screws.

5. In an ignition coil mounting, the combination with a coil having a tubular housing and a housing end cover member including a cylindrical portion; of a mounting member having a complementary cylindrical portion, said portions adapted to fit within each other in various positions of adjustment; and means for securing said members together in various positions of adjustment.

6. In an ignition coil mounting, the combination with a coil having a tubular housing and a cylindrical, inverted cup-shaped member providing bottom cover for the housing; screws extending from the bottom cover; a mounting member including a

cylindrical boss portion adapted to fit within the cup-shaped bottom member and including attaching portions for securing the mounting member to a support, said mounting member being one of a plurality of available mounting members having their boss portions similar and their attaching portions variable to adapt the coil for mounting on different supports, each of said mounting members having holes in its cylindrical boss for receiving said studs; and nuts cooperating with the studs for securing the mounting member to the bottom cover.

In testimony whereof we hereto affix our signatures.

CHARLES E. WILSON.
AUGUST TOELLE.