Aug. 8, 1950 G. J. KRENIK 2,517,888

LIQUID INSULATED ELECTRIC CONDENSER

Filed Dec. 23, 1946

Fig. 1.

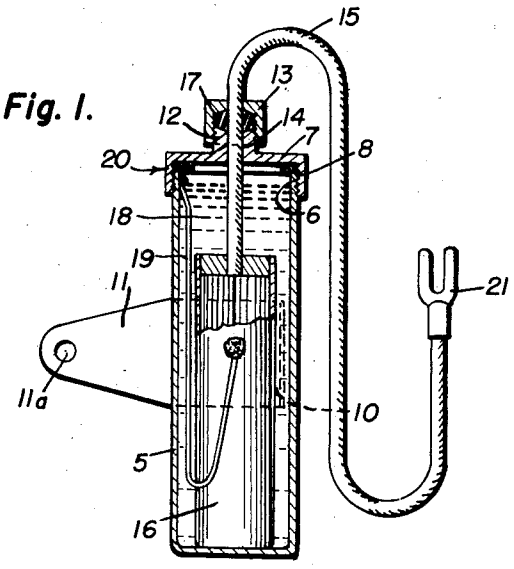



Fig. 2.

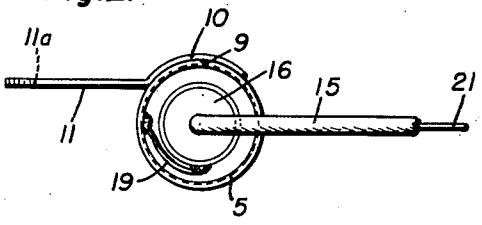
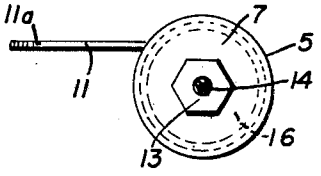



Fig. 3.




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## LIQUID INSULATED ELECTRIC CONDENSER

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2 Claims. (Cl. 174—18)

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This invention relates to new and useful improvements in electric condensers and more particularly to a liquid insulated condenser for battery or magneto ignition.

Present day condensers are being constructed in such a manner that regardless of how well insulated internally, said insulation is insufficient to keep out moisture which is detrimental to all condensers. Furthermore, all condensers expel air when engine heat warms said unit, and take in air, most of which contains moisture, when engine is stopped and allowed to cool.

It is the primary feature of this invention to provide a condenser that will prevent air from entering within the condenser walls by being submerged in insulating liquid carried by a cylinder in which the condenser is held.

Another important feature of this invention is to provide a cylinder holding said condenser and a non-conductive insulating liquid within the cylinder.

A further feature of the present invention is to provide a condenser of the character referred to that is particularly well adapted for use in motor vehicles.

A still further feature of the present invention is to provide a condenser that is strong and durable in construction, efficient and reliable in operation, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a vertical sectional view of the improved condenser with parts broken away and shown in section;

Figure 2 is a top plan view thereof the cover removed therefrom, and

Figure 3 is a top plan view of Figure 1 the lead wire removed therefrom.

Referring now to the drawings in detail, wherein for the purpose of illustration, I have disclosed a preferred embodiment of the present invention, the numeral 5 designates an outer metallic tubular casing open at its top and externally threaded at its upper edge 6 to receive a cover 7 having internal threads 8 adapted to engage the thread at the upper edge 6.

Suitably secured at 9 to one side of casing 5 is the curved inner end 10 of a horizontally positioned bracket 11 having an opening 11a in its outer end adapted to receive fastening means for securing the cylinder to a supporting surface in a vertical position.

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Forming an integral part of cover 7 and projecting upwardly from the center of said cover is an externally threaded boss 12 adapted to receive an internally threaded preferably hexagonal packing nut 13.

A vertical bore 14 extends through nut 13, boss 12 and into the casing, said bore adapted to receive the lead wires 15 from a condenser 16 loosely carried within the casing.

Packing material 17 is compressed by nut 13 around the insulating lead wires 15 thereby preventing leakage of the non-conductive insulating liquid 18 within casing 5 in which condenser 16 is submerged.

A ground wire 19 is removably connected at one end to the inner face of casing 5 adiacent its top and the opposite end of said wire is connected to the condenser.

A gasket 20 is preferably carried by the upper edge of casing 5 by cover 7.

In this manner the casing 5 is air and leak proof and conveniently holds the insulating liquid.

The condenser 16 being completely submerbed in said liquid no moisture can enter the condenser thereby greatly adding to the life and efficiency of the condenser.

For the purpose of connecting the condenser to a battery or the like (not shown) lead wire 15 is provided at its outer end with a substantially U-shaped connector clip 21.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

I claim:

1. In an electrical apparatus, a casing provided with a removable cover at its upper end, a sealing member interposed between the casing upper end and said cover, a boss integral with said cover and having an aperture therein, a sloping upper surface on said boss, a usual condenser held within said casing and submerged

in a non-conductive insulating liquid carried by the casing, a lead wire connected at one end to the condenser, the opposite end of said lead wire extending through said boss, means carried by said boss around the lead wire adapted to prevent leakage of the insulating liquid from said casing, said means including a cap having a gasket therein, said gasket being seated on said sloping surface, a ground wire connecting said casing to said condenser, and means secured to said casing for securing the casing to a support surface in a vertical position.

2. The combination of claim 1 and sloping surfaces in said cap for constantly urging said gasket against said lead wire.

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