July 1, 1958 M. E. AUTREY 2,841,629

SPARK INTENSIFYING DEVICE

Filed Nov. 4, 1955

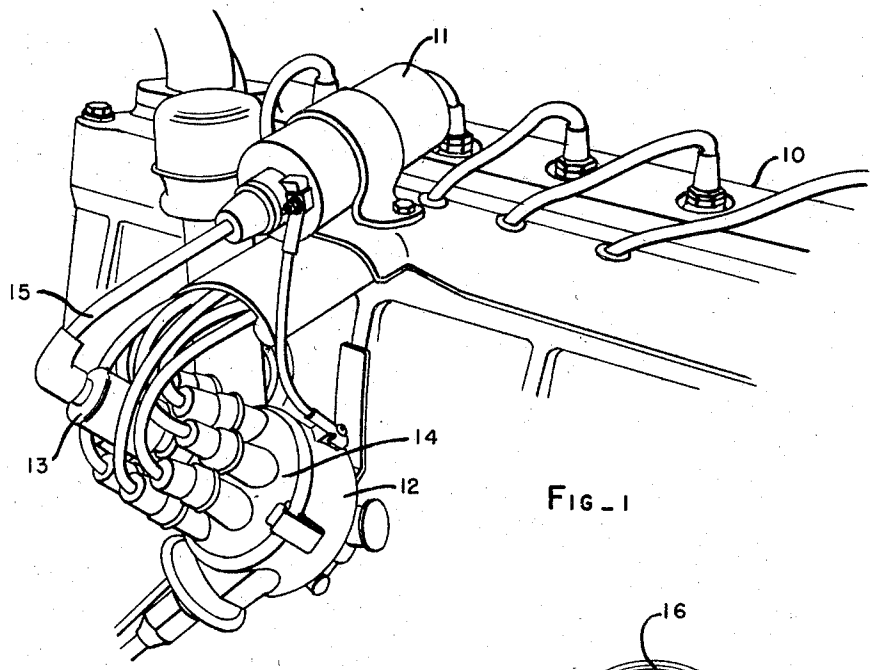


FIG_1

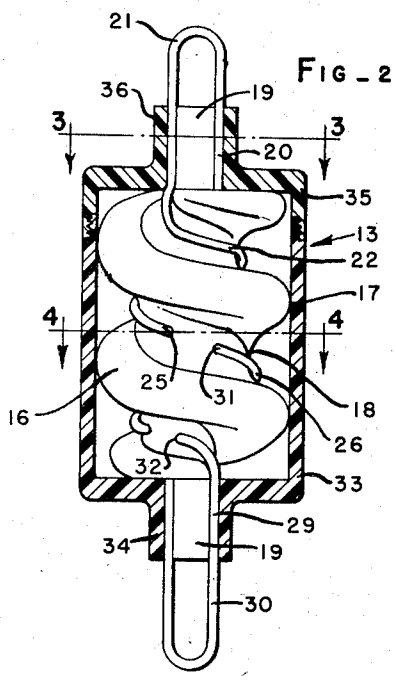


FIG_2

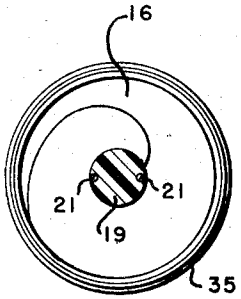


FIG_3

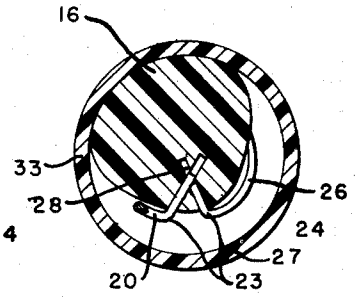


FIG_4

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SPARK INTENSIFYING DEVICE

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1 Claim. (Cl. 123—148)

This invention relates to devices for intensifying the spark in an internal combustion engine.

An object of this invention is to provide a device of this character that will provide a hotter spark, increase the ease of starting the engine in cold weather and prevent the engine from drowning out in rain and wet weather.

A further object of the invention is to provide a device of this character that will greatly increase the efficiency of the engine.

With the above and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawing in which:

Fig. 1 shows a portion of an internal combustion engine with a device embodying the invention installed between the coil and distributor of the invention;

Fig. 2 is a vertical sectional view of the device embodying the invention;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2 with the cap removed; and

Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2.

Referring more in detail to the drawing, wherein like parts are designated by like reference numerals, the reference numeral **10** is used to designate an internal combustion engine.

The internal combustion engine **10** may be of any size or design and is equipped in the usual manner with a coil **11** and a distributor **12**. The spark intensifying device embodying the invention is generally designated by the reference numeral **13** and when in use is connected at one end to the distributor cap **14** and at the other end to a cable **15** that is connected to the coil **11**.

The spark intensifying device **13** embodies a helically coiled body **16** that is provided with a spirally extending ridge **17** that is in alternate relation with a spirally extending groove **18**.

A cylindrical projection **19** extends from each end of the body **16** and the body is interchangeable for best results in connecting the same to the internal combustion engine **10**.

A strand of wire **20** is provided with a loop **21** that is positioned on a projection **19** and a portion **22** of the wire **20** extends from one end of the loop **21** to follow the groove **18** for a portion thereof. The end of the wire is bent at right angles as at **23**, Fig. 3, and the

extreme end **24** of the portion **22** beyond the bend **23** is inserted into an opening **25** in the body **16**.

Another short strand of wire **26** is positioned in the groove **18** and the ends of the wire **26** are bent at right angles as at **27** in Fig. 3. One extreme end **28** of the wire **26** is inserted into an opening **31** into the body **16** so that it is in contact with the extreme end **24** of the portion **22** as shown in Fig. 3, thus current will pass between the wires **20** and **26**.

A second strand of wire **29** similar to the strand **20** is provided with a loop **30**, and the loop **30** is positioned on the projection **19** on the opposite end of the body **16**, as shown in Fig. 2. The extreme end of the strand **29** is bent at right angles and inserted into an opening **32** in the body **16** so that it is in contact with the opposite extreme end of the strand of wire **26**.

The ends are in contact with each other as shown in Fig. 3 and as previously described.

A housing or cover **33** of non-conductible material is provided to house the body **16** as shown in Fig. 2. One end of the body is provided with a tubular projection **34** to engage the loop **30** and projection **19**. The opposite end of the housing **33** is provided with a removable cover **35** that also has a tubular projection **36** to engage the loop **21** and the opposite projection **19**.

The spark intensifying device is mounted as in Fig. 1 with one end connected to the distributor and the other end connected to the coil of an internal combustion engine. In this position it intensifies the spark to increase the efficiency of the engine.

It is believed that the construction and manner of use of the invention will be apparent to those skilled in the art and it is to be understood that changes may be made in the minor details of construction, arrangement and combination of parts without departing from the spirit of the invention and the scope of the appended claim.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A device of the character described comprising a cylindrical body of insulating material having a spiral groove formed in the sides thereof, a cylindrical casing of insulating material closely encompassing the sides and ends of said body and having a hollow tubular projection centrally formed at each end thereof, a cylindrical projection formed at each end of said body and each closely encompassed by its associated tubular projection, a pair of U-shaped loops each having its legs extending inwardly at diametrically opposed points between the inner walls of one tubular projection and its associated cylindrical projection whereby to hold said loops in position, one of the legs of each of said loops terminating at the adjacent end of the body, and a wire interconnecting the remaining legs and extending through said spiral groove, said groove being of a length to permit two complete convolutions of said wire.

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