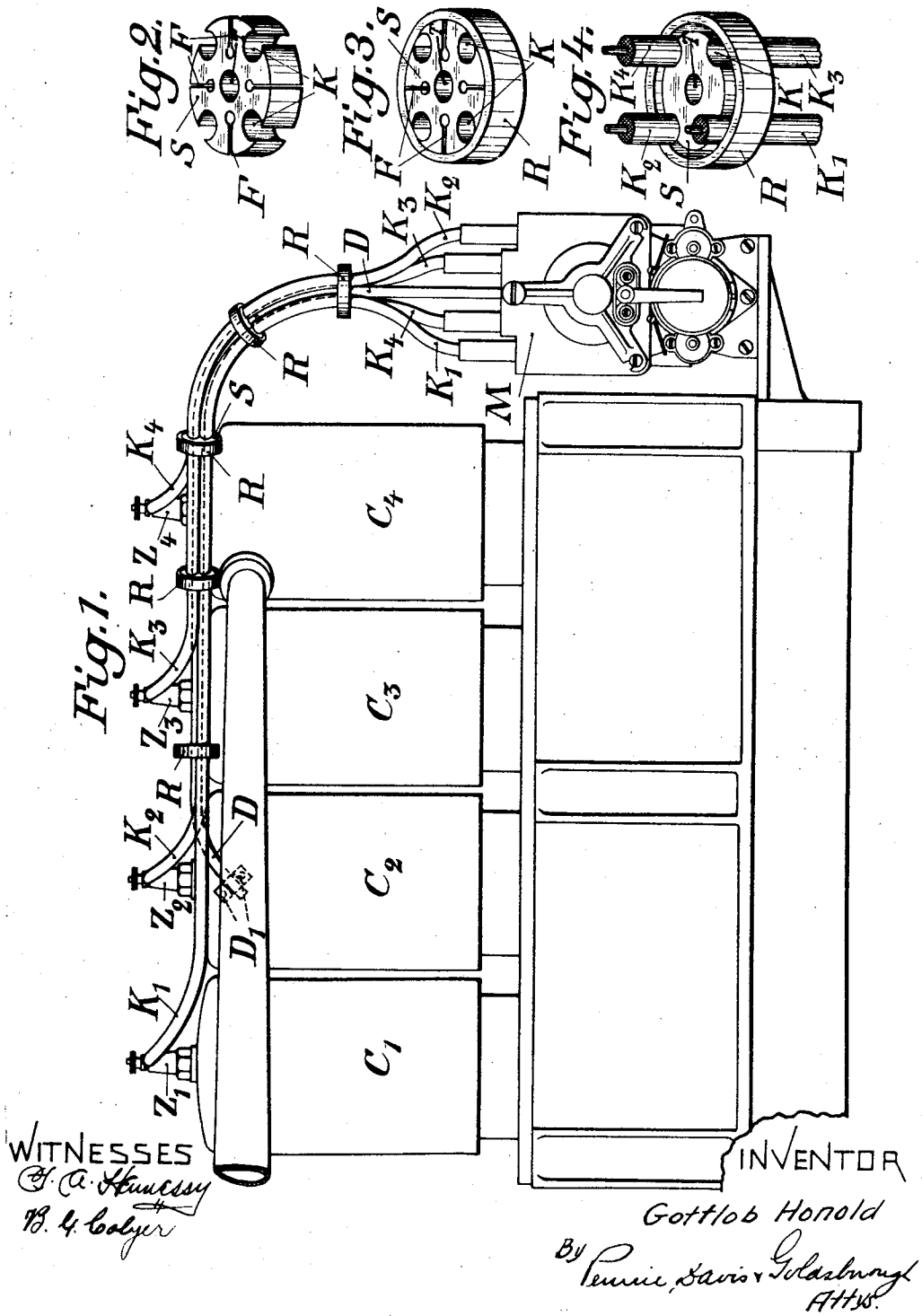
G. HONOLD.

SUPPORT FOR ELECTRIC CONDUCTORS.

APPLICATION FILED SEPT. 21, 1911.

1,089,642. Patented Mar. 10, 1914.



UNITED STATES PATENT OFFICE.

GOTTLOB HONOLD, OF STUTTGART, GERMANY, ASSIGNOR TO THE FIRM OF ROBERT BOSCH, OF STUTTGART, GERMANY.

SUPPORT FOR ELECTRIC CONDUCTORS.

1,089,642. Specification of Letters Patent. Patented Mar. 10, 1914.

Application filed September 21, 1911. Serial No. 650,605.

To all whom it may concern:

Be it known that I, GOTTLOB HONOLD, a subject of the Emperor of Germany, residing at Stuttgart, Germany, have invented certain new and useful Improvements in Supports for Electric Conductors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for guiding and supporting electric conductors for internal combustion engines having electrical ignition, adapted on the one hand to facilitate connection of the conductors and supervision of the connection while increasing the accessibility of the several conductors, and on the other hand to maintain the most favorable conditions for avoiding injurious capacity effects when high tension currents are used.

The invention consists in threading on a guide rod or carrying rod a number of carrying disks, the edges of which have notches for the reception of the conductors. The several conductors are pressed into the notches and over the periphery of the carrying disk there is then drawn a ring of metal or any other suitable material such as fiber. The notches in the edges of the carrying disks are advantageously so cut that they widen somewhat inward and that their opening is somewhat narrower than the diameter of the insulation of the conductor. When the conductors are pressed into the notches they are held firmly therein owing to the elasticity of the insulation. When the rings are shifted sidewise sufficiently to expose the edge of the corresponding disk, which may be done by hand without any special tool, each conductor can be removed, and, if necessary, replaced without disturbing the rest.

In the accompanying drawings, Figure 1 shows somewhat diagrammatically a four cylinder motor to which the mode of guiding and supporting the conductors according to this invention is applied; Fig. 2 is a perspective view of a carrying disk from which the surrounding ring has been removed; Fig. 3 is a like view with the said ring in place; and Fig. 4 is a perspective view of a form of the carrying disk in which the conductors are not held in the notches by their own elasticity but by a surrounding ring.

On the covers of the four cylinders C^1, C^2, C^3, C^4, there are mounted in the usual manner the four ignition plugs Z^1, Z^2, Z^3, Z^4; these are connected by four conductors K^1, K^2, K^3, K^4 with the corresponding terminals of the distributer on the ignition machine M. From a point D^1 on the cylinder C^2, or in any other suitable position, to the casing of the ignition machine, there extends a rod D which may be of stiff metal wire. On this rod are threaded the carrying disks S which are preferably made of fiber or like material.

In the edges of each disk S are four notches K, corresponding to the four conductors. The opening of each notch is somewhat narrower and the diameter of the notch is somewhat smaller than the diameter of the insulation of the conductor and the four conductors are pressed into the notches respectively. In this construction of the carrying disks S the conductors are held in the notches merely by their own elasticity. For securing the position of the conductors there is drawn over each carrying disk S a ring R which fits the disk accurately and keeps the conductor in its position so that it cannot shift of itself; the ring is, however, capable of being removed by hand without the use of a special tool when it is required to remove or to replace the conductor. It will be seen that in this construction of the disk S the ring R is not absolutely essential.

In order to aid the elasticity of the insulation of the conductor in keeping the conductor in place the disks S may be provided with radial slots F.

In the construction shown in Fig. 4 the ring R is necessary for retaining the conductors in place since the notches K are not so deep and are not of such a form that the conductors will be held in the notch by their own elasticity. The conductors are merely laid in the notches and the ring R which has a larger internal diameter than the diameter of the disk S serves to keep the conductors in place. The nature of the material of which the rings R and the disks S are made is of no importance to the invention.

Having thus described my invention, what I claim is:

1. The combination with a plurality of

electrical conductors, of a guide rod, a plurality of spaced disks of rigid material threaded on said rod and having a plurality of holes for the reception of the conductors in freely suspended position in space, said holes opening to the periphery of the disks so as to permit the insertion and removal of the conductors, and a removable band for each disk adapted to be slipped over the outer periphery thereof to hold the conductors in the holes in spaced relation to each other; substantially as described.

2. The combination with a plurality of electrical conductors, of a guide rod, a plurality of spaced disks of rigid material threaded on said rod and having a plurality of inwardly widening peripheral notches for the reception of individual conductors in freely suspended position in space, and also having radial grooves between the notches to afford elasticity to the disks in placing the conductors within and removing them from the notches, and a removable band for each disk adapted to be slipped over the outer periphery thereof to hold the conductors in the notches in spaced relation to each other; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

GOTTLOB HONOLD.

Witnesses:
MAX ANSCHÜTZ,
REINHOLD ELWERT.