

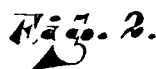
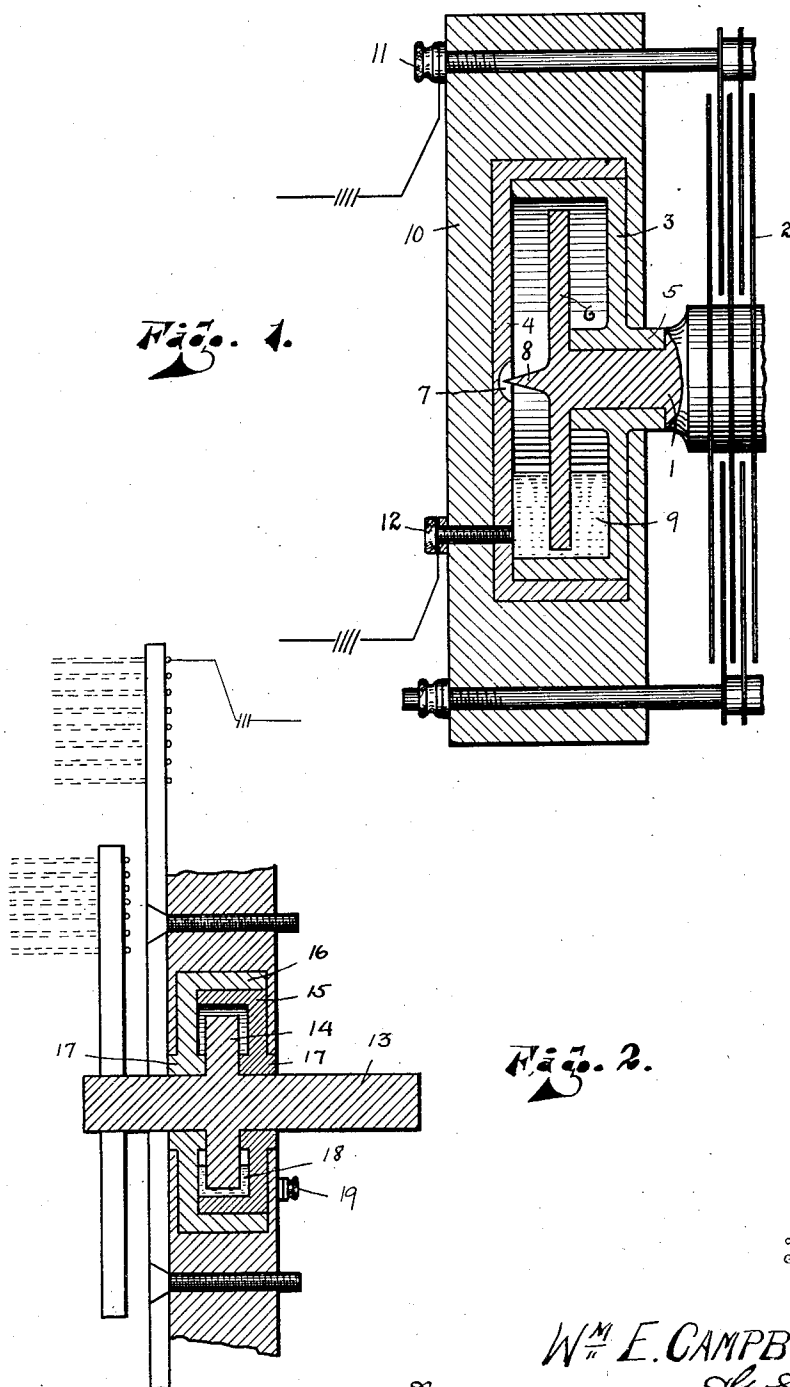
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ELÉCTRIC CONTACT

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UNITED STATES PATENT OFFICE.

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ELECTRIC CONTACT.

Application filed November 13, 1925. Serial No. 68,777.

This invention relates to electric contacts and has special reference to one having a rotary element therein whereby a constant, uniform, and positive contact is assured.

5 The present embodiment of the invention is particularly designed for association with electric condensers, variometers, or variocouplers, or the like, and, while the same illustrates a specific construction and adaptation, 10 it is to be understood that various modifications within the scope of the appended claims may be resorted to without departing from the spirit of the invention.

The principal object is that of producing 15 a more efficient and dependable contact of the character described than heretofore known.

Another object is to produce as noiseless a contact of this character as possible, especially when used in connection with radio 20 apparatus.

Other objects and advantages of the invention will appear in the further description thereof.

25 Referring now to the accompanying drawing, forming part of this application, and in which like reference characters indicate like parts:

Figure 1 is a vertical sectional view 30 through one of the improved contacts as applied to a variable condenser; and

Figure 2 is a modified form showing the invention as applied to a variocoupler.

In Figure 1, 1 represents the armature 35 shaft of the condenser and 2 the segments that are carried thereupon in such devices. 3 and 4 represent the male and female members respectively of the circular housing about the end of the shaft 1, the male member 3 having formed axially thereof the elongated 40 hub 5 which forms a bearing for the shaft 1, the latter being reduced in diameter at this point, providing shoulders at either end of such reduced portion, the outermost 45 shoulder being the inner wall of the disc 6 which is formed integrally with the shaft. This disc 6 is slightly less in diameter than the inside measurement of the male member 3, and is disposed normally centrally of the 50 housing formed by the members 3 and 4.

Centrally of and in the inner wall of the member 4 is formed a concaved recess 7 into which protrudes the pointed end 8 of the shaft 1, however there being no bearing at 55 such extremity of the shaft, the depression 7 being simply for the reception of suffi-

cient of the fluid 9, in the event the condenser is operated with the shaft 1 in vertical position, to insure a constant contact intermediate of the housing and the shaft, and this 60 depression or pocket 7 may be made larger than illustrated, if so desired.

The liquid 9 is preferably mercury and is contained with the housing formed by the members 3 and 4, so that some portion of the 65 disc is at all times submerged therein.

The entire housing about the shaft is preferably incased within a non-conductor, such as bakelite, or the like, as at 10, through 70 which one terminal 11 is installed while the opposite terminal of the socket is shown at 12, it extending through the bakelite to the female member 4 of the housing, thus insuring a constant and positive contact for the 75 circuit.

In Figure 2 is illustrated a modified form of like contact as applied to a variocoupler, the shaft thereof appearing at 13, it having formed integrally therewith the circular disc 14, occurring within the housing formed by 80 the male and female members 15 and 16 respectively they together forming the bearing for the shaft 13 as it extends wholly through the housing, and in which event both the male and female members 15 and 16 are provided with slightly elongated hub portions 85 17 and 18 respectively forming thrust bearings for the disc 14.

Within the housing thus formed is placed the mercury or other conducting fluid 18, 90 which, as is obvious, establishes a constant contact between the disc and the housing, the terminal of the electric circuit being shown at 19 as occurring in the male member 15 of the housing. 95

From the foregoing it is evident that I have produced an exceedingly simple and constant contact adaptable to many different electrical devices.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. The combination with a circuit conducting rotating shaft movable from a horizontal to a vertical position, of a circular 105 terminal about the shaft and a housing about the terminal, a circuit conducting liquid within the housing normally closing communication intermediate of the housing and shaft when the latter is operated while in a 110 horizontal position, and cooperable means carried by the shaft and housing for main-

taining such closed relation when the shaft is operated while in a vertical position.

2. The combination with a circuit conducting rotary shaft having a circular terminal thereabout, said shaft being movable from a horizontal to a vertical position, a chamber within which the terminal rotates, and a liquid electrolyte within the chamber,

of means projecting from the terminal whereby the electrolyte is in constant contact therewith whether the shaft is disposed vertically or horizontally. 10

In testimony whereof I hereunto affix my signature.

WILLIAM E. CAMPBELL.