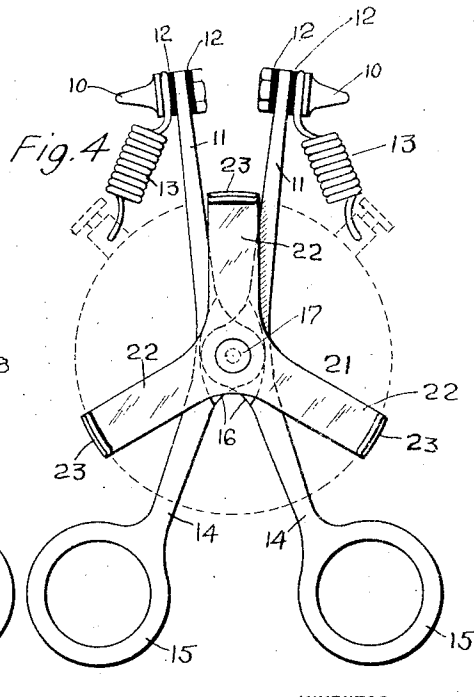
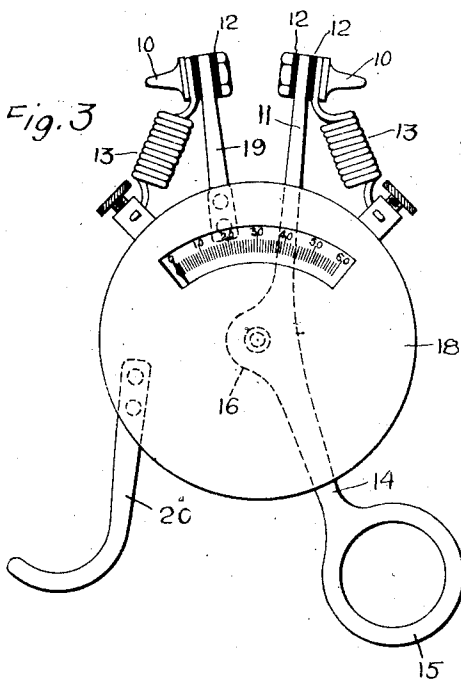
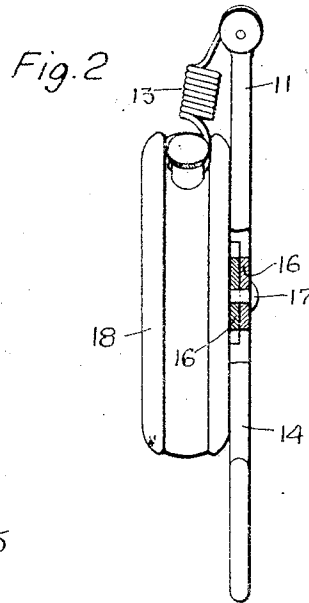
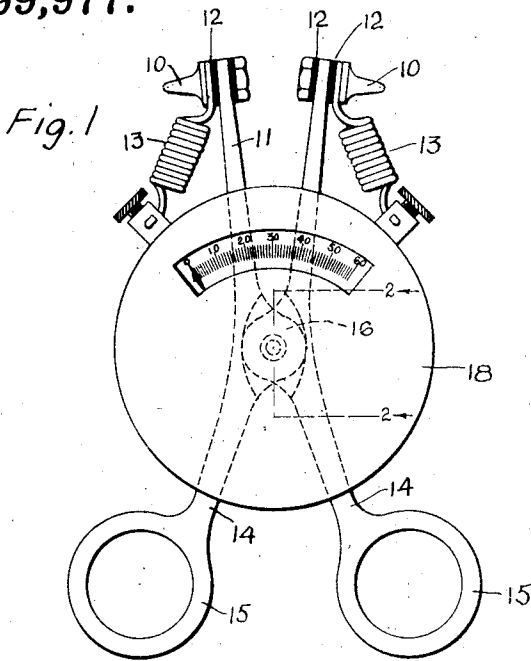


H. FISH.  
VOLT AND AMMETER.  
APPLICATION FILED SEPT. 6, 1910.

999,977.

Patented Aug. 8, 1911.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HAROLD FISH, OF STRATFORD, CONNECTICUT.

VOLT AND AMMETER.

999,977.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed September 6, 1910. Serial No. 580,648.

*To all whom it may concern:*

Be it known that I, HAROLD FISH, a citizen of the United States, residing at Stratford, county of Fairfield, State of Connecticut, have invented an Improvement in Volt and Ammeters, of which the following is a specification.

This invention relates to volt and ammeters and has for its object to provide portable meters of this character with convenient means for making a temporary connection with the poles or binding screws of a battery or magneto.

With these and other objects in view I have devised the novel structure of which the following description in connection with the accompanying drawing is a specification, reference characters being used to indicate the several parts.

Figure 1 is an elevation showing a volt or ammeter permanently provided with my novel connecting means; Fig. 2 an edge view partly in section on the line 2—2 in Fig. 1; Fig. 3 a view corresponding with Fig. 1 and illustrating a variant form of the invention; and Fig. 4 is an elevation illustrating a form of the invention which is wholly independent of the meter and is adapted for use in connection with different meters.

My present invention enables me to do away with separate wires and special connections and to make an instant and effectual connection between the poles of a battery or magneto and the poles of a meter, a single movement only being necessary to make or break the connection and the implement being always ready for use.

The invention consists in a pair of terminals indicated by 10 which are carried by arms 11, one or both of which are movable. The terminals are so shaped as to adapt them to make instant and convenient connection with the poles of a battery or magneto and are insulated from the arm, as at 12. Each of the terminals has connected thereto a short coil of wire, indicated by 13, the other end of which is connected or is adapted to be connected with the poles of the meter. In the forms illustrated in Figs. 1, 2 and 3, the arms and terminals are permanently connected with and form a part of the meter. In the form illustrated in Figs. 1 and 2, the arms are provided with handles 14 and finger bows 15. At the intersection of the arms and the handles the

members are provided with overlapping enlargements 16 which are shown as recessed into each other and are pivoted, as at 17, to the case of a meter, which is indicated by 18. As the special form of meter is wholly immaterial so far as the present invention is concerned, no description of the meter is thought to be required and it will simply be considered as a whole. It will be noted that the members, that is the arms and handles, do not cross each other at their point of intersection so that their operation is the reverse of that of a pair of shears. When the finger bows are pressed toward each other the terminals are moved apart and may be readily placed in engagement with the poles of a battery or magneto and retained in engagement while the voltage or amperage is being indicated by the meter.

The form illustrated in Fig. 3 differs only in that one of the arms, indicated specifically by 19, and one of the handles, indicated specifically by 20, are rigidly secured to the case of the meter instead of being pivoted thereto as in the other form, the other member, comprising an arm and handle, being pivoted to the case as before.

The form illustrated in Fig. 4 is not attached to a meter case, but is provided with means for supporting a meter and is adapted to be used with volt and ammeters as ordinarily placed upon the market. The members in this form are made as in Figs. 1 and 2 and are pivoted centrally to a clip indicated as a whole by 21. This clip comprises a plurality of arms 22, three in the present instance, which are provided at their ends with lips 23 which are adapted to spring over the edge of a meter case, as clearly indicated in Fig. 4, and retain the meter therein while in use. The operation is precisely the same as in the first form. The meter may remain in the clip or may be removed therefrom as preferred.

Having thus described my invention I claim:

1. A device of the character described comprising insulated terminals, members consisting of arms and handles by which they are carried, said members being pivoted together without crossing so that moving the handles toward each other will separate the terminals and electrical connections from the terminals adapted to engage the poles of a meter.

2. A device of the character described

comprising insulated terminals, arms by which they are carried and which are provided with handles, overlapping and intersecting enlargements on said members, a  
5 pivotal connection between said members and electrical connections from the terminals which are adapted to engage the poles of a meter.

3. A device of the character described  
10 comprising insulated terminals, movable members by which they are carried and a clip to which said members are pivoted and which is provided with arms having means for engaging the edge of a meter case.

15 4. A device of the character described comprising insulated terminals, movable members consisting of arms and handles by which the terminals are carried and a clip to which said members are pivoted and

which is provided with arms having engaging lips, for the purpose set forth. 20

5. A device of the character described comprising meter supporting means, movable terminals carried thereby and electrical connections from the terminals adapted to  
25 engage the poles of a meter.

6. A device of the character described comprising terminals, members by which they are carried, electrical connections and meter supporting means to which the mem-  
30 bers are pivoted.

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

HAROLD FISH.

Witnesses:

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