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MEANS FOR CALIBRATING AMMETERS.
APPLICATION FILED JUNE 7, 1920.

1,398,595.

Patented Nov. 29, 1921.

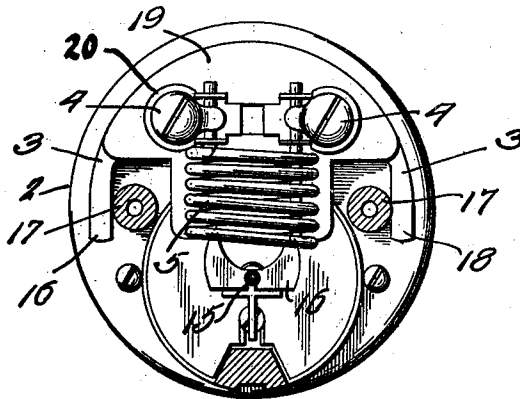


Fig. 1.

Fig. 2.

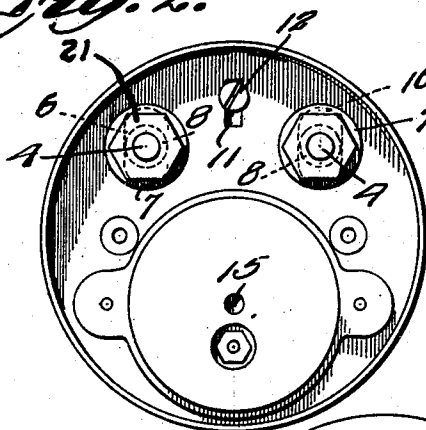
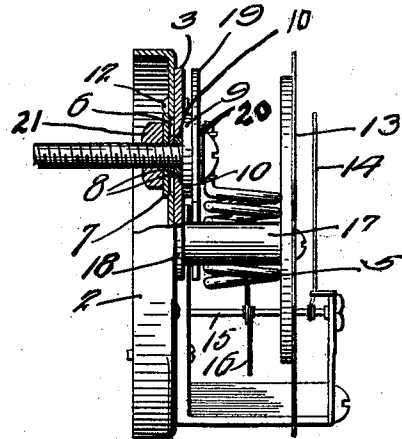


Fig. 4.

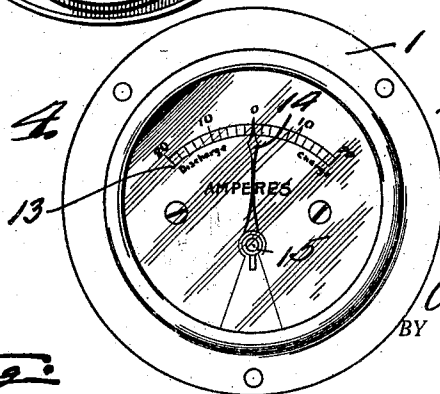


Fig. 3.

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MEANS FOR CALIBRATING AMMETERS.

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Specification of Letters Patent.

Patented Nov. 29, 1921.

Application filed June 7, 1920. Serial No. 387,075.

To all whom it may concern:

Be it known that I, ADRIAN H. HOYT, a citizen of the United States, and resident of Penacook, in the county of Merrimack and State of New Hampshire, have invented a new and useful Means for Calibrating Ammeters, of which the following is a specification.

The object of my invention is to provide a novel construction of an instrument of the class described which will permit of its being adjusted or calibrated merely by loosening screws and nuts and slightly tilting a plate that holds the magnet without requiring the disassembling of the instrument as has heretofore been necessary to calibrate it. I attain the object of my invention by the device disclosed in the accompanying drawings, in which,—

Figure 1 is a section of the instrument on a line immediately back of the dial, with most of the parts shown in front elevation;

Fig. 2 is a rear elevation;

Fig. 3 is a side elevation, with a portion of the instrument broken away and shown in vertical section; and

Fig. 4 is a front elevation with the dial in place.

Like numerals designate like parts in each of the several views.

Referring to the accompanying drawings, I provide a suitable outer frame 1; back plate 2, as in former instruments, and a novel movable plate 3, and spaced fiber plate 19 to which is suitably secured or soldered the magnet coil 5, the ends of the coil 5 being attached to the ears of washer members 20 which are soldered to binding posts 4, and clamped to fiber plate 19. Plate 2 is provided with vertically disposed elongated slots 6 through which binding posts 4 extend, thereby admitting of either of them being shifted vertically on loosening nuts 21. I also provide an elongated slot 11, centrally positioned in plate 2 as shown, and through which extends the set screw 12 which engages movable plate 3 to securely fasten same in adjusted position. I provide suitable large insulating washers 7 on the rear of plate 2, smaller insulating washers 8 which fit in the slot 6 in plate 2 and in the corresponding smaller slots 10 in movable plate 3, and inner large insulating washers 9 disposed between plate 3 and fiber plate 19. Suitably

mounted on dial 13 and back plate 2 (or a suitable element carried by said plate) is a shaft 15 carrying the magnetized pendulum member 16, and also carrying the dial pointer 14. I provide suitable screw posts 17 mounted on back plate 2, and to which posts the dial 13 is secured as shown in Fig. 3. The movable plate 3 is provided with suitable outer guide arms or extensions 16 which extend past the screw posts 17 to assist in holding the plate substantially in the correct position while it is being adjusted.

As the plate 19 and binding posts 4, to which the magnet coil is affixed can be slid up and down because of the provision of elongated slots 6 in plate 2, it is possible to calibrate the instrument by merely loosening the small screw 12, and the nuts 8 that engage binding posts 4 and move one or the other of the binding posts up or down as required, thus shifting the position of the magnet coil 5, and consequently moving to a corresponding extent its position relative to the magnetized pendulum member 16, which is rigidly affixed to shaft 15 which shaft carries the dial pointer 14. Heretofore to calibrate instruments of this kind it has been necessary to unsolder the binding posts, and go to considerable trouble in disassembling the instrument and reassembling it, while with the improved construction disclosed in the accompanying drawings it is not necessary to unsolder the terminals but simply to loosen the set screw 12 and binding posts 4 and move fiber plate 19 and magnet coil 5 the necessary amount.

What I claim is:

1. In an electrical measuring instrument, the combination with a magnetically controlled pointer, of a magnetic coil, spaced binding posts to which the magnetic coil is attached, a back plate having a plurality of vertical slots through which the aforesaid binding posts extend, means for insulating the posts from the aforesaid back plate, and means for securing the posts in adjusted position.

2. In an instrument of the class described, means for calibrating the instrument, comprising a pointer, a magnetizing coil controlling the pointer, a slotted back plate, means extending through the slotted portion of said plate to which the magnetic coil is affixed, said means being adjustable with-

out disassembling the instrument, and fastening means for securing said magnetic supporting means in adjusted position.

3. In combination with the mechanism described in claim 2, posts, a guide plate member having arms engaging said posts of the instrument and adapted to facilitate adjustment of the magnetized coil, substantially as described.

4. In an instrument of the class described a back plate having a plurality of vertically disposed slots, spaced threaded binding posts extending through the slots, a guide plate carried by the posts and freely movable relative to the back plate, a solenoid affixed to the binding posts and adjustable by their movement vertically in the slots of the back plate, nuts securing the binding posts in adjusted position, and means insulating the binding posts from the back plate, substantially as set forth.

5. In combination with the mechanism described in claim 4 an auxiliary centrally positioned fastening screw extending

through a slot in the back plate and releasably securing the adjustable mechanism to the back plate.

6. In an instrument of the class described calibrating means comprising a back plate having spaced elongated slots, insulated binding posts extending through the slots and adjustable relative to the back plate, a solenoid having its terminals affixed to the respective binding posts, a main post, a guide plate carried by the posts and having opposite arms engaging around the main post of the instrument, said terminals releasably securing the binding posts in adjusted position relative to the back plate, and a pointer magnetically controlled by the magnet, whereby the adjustment of the binding posts will shift the position of the magnet and of the pointer controlled thereby, permitting of the instrument being calibrated without disassembling same, substantially as described.

ADRIAN H. HOYT.