H. SCHADE.

ELECTRIC TESTING INSTRUMENT.

APPLICATION FILED MAY 21, 1914.

1,144,255.

Patented June 22, 1915.

3 SHEETS—SHEET 1.

Fig. 2.

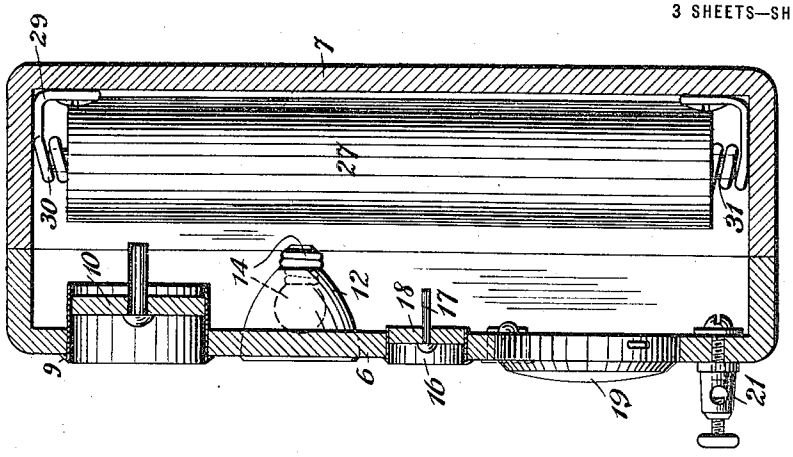
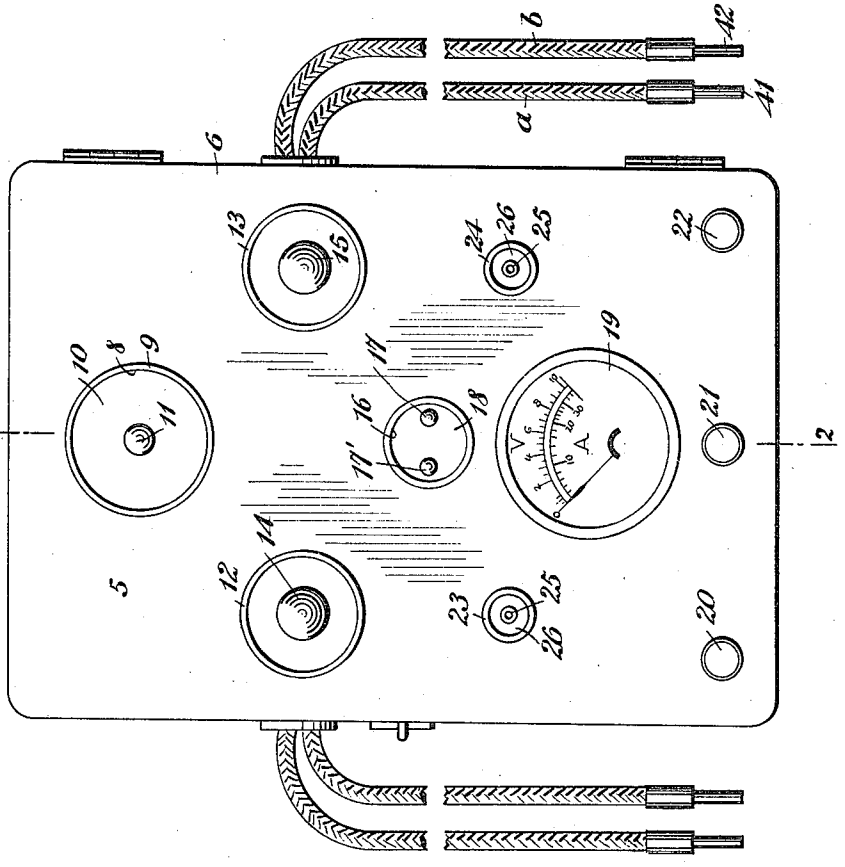


Fig. 1.



WITNESSES

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3 SHEETS—SHEET 2.

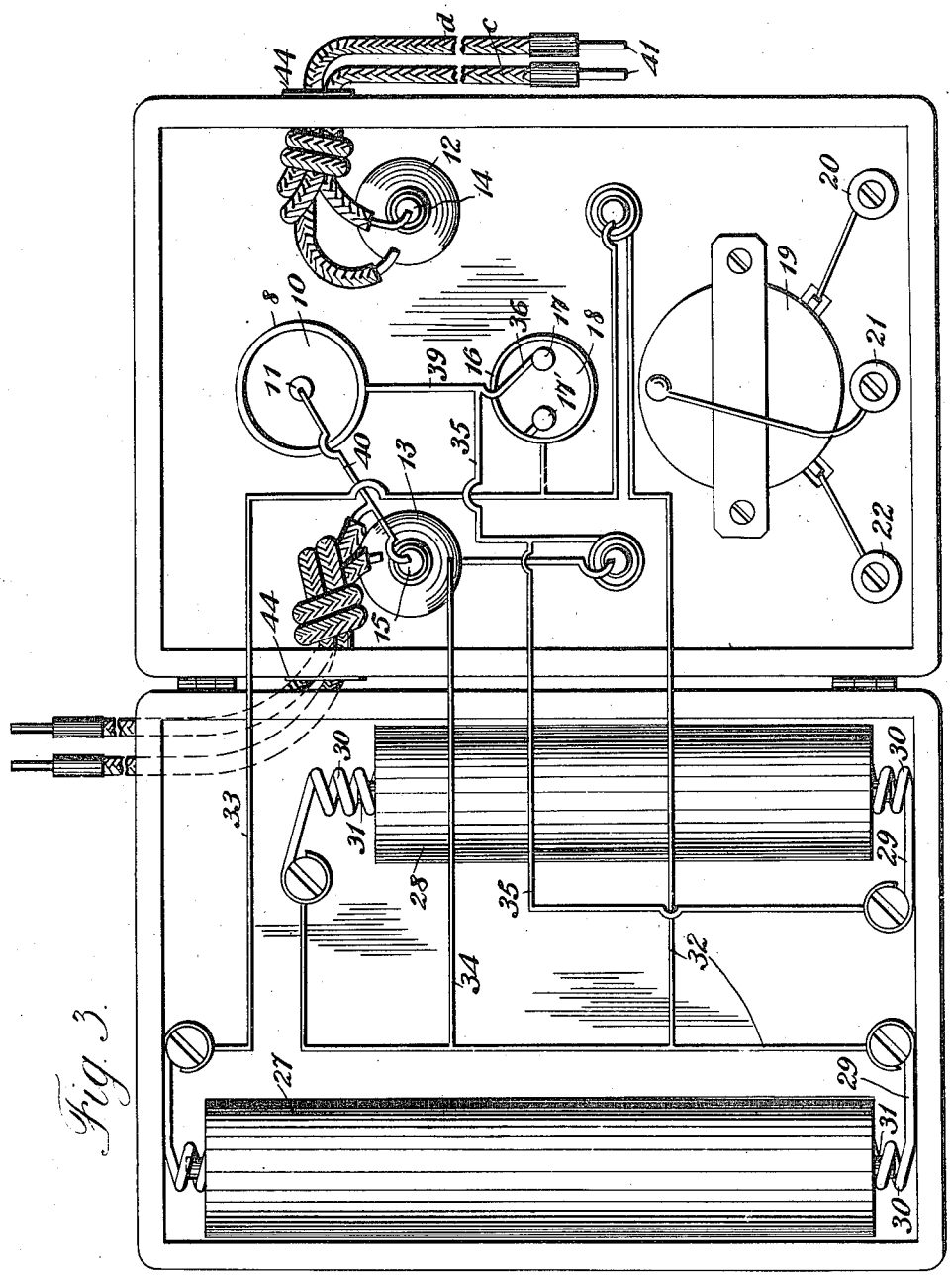


Fig. 3.

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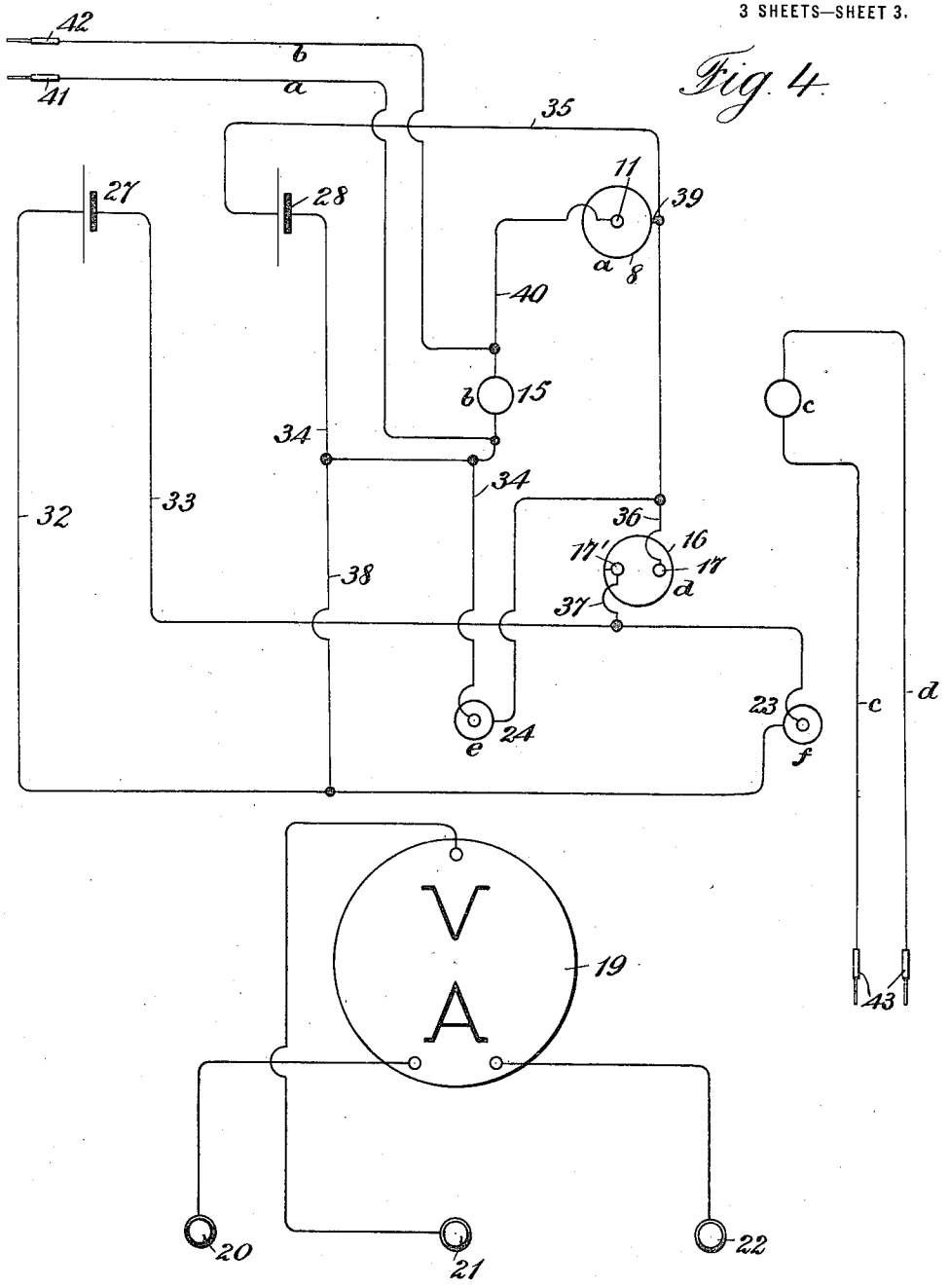
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3 SHEETS—SHEET 3.

Fig. 4.



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ELECTRIC TESTING INSTRUMENT.

1,144,255. Specification of Letters Patent. Patented June 22, 1915.

Application filed May 21, 1914. Serial No. 839,979.

To all whom it may concern:

Be it known that I, HENRY SCHADE, a citizen of the United States, and a resident of Albany, in the county of Albany and State of New York, have invented a new and Improved Electric Testing Instrument, of which the following is a full, clear, and exact description.

My invention relates to a testing box, primarily intended for use on automobiles, whereby electric fuses, lamps and batteries can be conveniently tested for their amperage and voltage, and also if they are damaged.

The object of the invention is to provide a simple, convenient, and inexpensive testing box, neat in appearance, and which is portable so that the same can be used in any convenient place.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings, forming part of the application, similar characters of reference indicate corresponding parts in all the views, and Figure 1 is a front elevation of a testing box embodying my invention; Fig. 2 is a vertical section on line 2—2, Fig. 1; Fig. 3 is a plan view of the open box showing the details of construction; and Fig. 4 is an electrical diagram of the connection.

Referring to the drawings, 5 represents a closed box formed of two longitudinally hinged sections 6 and 7, of which 6 forms the top in which the indicators are set. A metallic socket 8 is set into the top adjacent the upper edge. Said socket is preferably provided with a flange 9 resting at the exterior surface of the top, whereby said socket is prevented from being forced into the box 5. The bottom 10 of said socket is preferably made of fiber or any other insulating material, and carried centrally of said bottom of the socket is a metallic member 11, that is, the member 11 is insulated from the socket 8 by the bottom 10. Positioned below said socket 8 and to each side thereof is a pair of lamp sockets 12 and 13, the socket 12 being provided with a lamp 14 and the socket 13 with a lamp 15. The two lamps 14 and 15 differ in voltage, the lamp 14 being preferably 3½ volt and lamp 15, 2½ volt. Positioned in the top 6 below the lamp sockets 12 and 13, preferably in alinement with the socket 8, is a socket 16 similar to the socket 8 but smaller in size. Said socket is provided with two metallic members 17 and 17′, of which 17 is insulated from the socket and from the member 17′ by a bottom 18 of any suitable fibrous material, the member 17′ being in connection with the socket by any suitable means. The socket 16 is for testing automobile electric lamps of six volts, whether their filaments are intact or not. The cover 6 is also provided with a volt and ampere meter 19 positioned below the socket 16 and preferably in alinement therewith, which meter is connected to the binding posts 20, 21 and 22, best shown in the lower part of Fig. 4, of which the posts 20 and 21 will indicate volts, and posts 21 and 22 will indicate amperes. To each side of the ampere volt meter, and slightly above, two metallic sockets 23 and 24 are provided in which the points 25 are insulated from the socket by the bottom 26 provided therein. The socket 23 is intended for testing 3½-volt lamps, while the socket 24 is for testing 2½-volt lamps.

Positioned within the section 7 of the box 5 is a pair of dry cells or batteries 27 and 28 each being supported by brackets 29 having a resilient socket 30 engaging studs 31 provided at the end of the cells, said brackets, which are carried by the sections 7 of the box, resiliently support the batteries in the box. The battery 27 is connected with the socket 23 by wires 32 and 33; and due to the fact that the battery 27 is a 3½-volt battery, the current supply to the socket has the same potential. The battery 28, which is of 2½ volts, is connected by wires 34 and 35 to the socket 24, and, therefore, the potential of the socket 24 is of 2½ volts, as previously stated. The socket 16 has one of its members 17 connected to the wire 35 by a wire 36, the member 17′ being connected by a wire 37 to the wire 33 leading to the battery 27. The wire 34 of the battery 28 is connected by a wire 38 to the wire 32 of the battery 27, from where, it will be noted, the socket 16 is connected to the batteries 27 and 28, which are in series with each other, as can be easily seen from Fig. 4. Thus, the potential at the socket 16 is equal to six volts, as previously stated.

The socket 8 is connected by a wire 39 to the wire 35, while a wire 40 connects the

member 11 to the wire 34, therefore the battery 28 supplies the current to the socket 8. The lamp 15 is positioned on the wire 34 and is in series with the socket 8. The lamp 15 may be shunted by means of two wire leaders *a* and *b* having contact points 41 and 42. By means of the socket 8 plug fuses can be tested by placing the same directly into the socket whereby, by the contact of the same with the shell of the socket 8 and the member 11, the lamp 15 will be illuminated, indicating that the fuse is uninjured. To test cartridge fuses, one end of the cartridge is placed on the flange 9 of the socket 8, while the other one is brought against the contact point 42 of the leader *b*, thus completing the circuit from the battery 28 through the lamp 15, which will indicate whether the fuse is intact or not. The leaders *a* and *b*, which shunt the lamp 15, are also used for testing two-cell flash light batteries. The lamp 15 will indicate whether the battery is exhausted or not.

The leaders *c* and *d* from the lamp 12 are, similarly, provided with contact points 43 whereby three-cell flash-light batteries may be tested. The posts 20 and 22 are suitably connected by wires to the volt meter 19. All of the wires are within the box 5 with the exception of the leaders, which project through suitable bushings 44 provided in the sides of the section 6 forming the cover.

From the above description it will be seen that my testing box affords means whereby 6-volt lamps can be tested in the socket 16; 3½-volt lamps, in the socket 23; 2½-volt lamps, in the socket 24. The lamps 14 and 15 serve as indicators for 3- and 2-cell batteries, as described, and the socket 8 for testing plug or cartridge fuses, and the volt ammeter 19 for measuring the current and its potential, all of which tests can be made without opening the box 5 and without making any special connection for obtaining the desired result. It will also be noted that by providing resilient brackets 29 within the box, the dry-cell batteries can be easily and quickly replaced, and, furthermore, they are resiliently maintained within the box and prevented from injury thereby.

From the foregoing description, taken in connection with the accompanying drawings, the advantage of the construction and operation of the device shown will be readily understood by those skilled in the art to which the invention pertains; and while I have described the principle of the operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

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

1. In a device of the class described,—a box; a pair of cells in said box; a fuse-testing socket in circuit with one of said cells; a lamp in said circuit and in series with said socket; a lamp testing socket in a parallel circuit with said fuse testing socket; a second lamp socket in circuit with the other cell; and a third lamp socket in a series circuit with the two cells.

2. In a device of the class described,—a box; a pair of cells in said box; a fuse-testing socket in circuit with one of said cells; a lamp in said circuit in series with said socket; a lamp-testing socket in said circuit in parallel with said fuse-testing socket; means for testing batteries shunting said lamps; a second lamp socket in circuit with the other cell; and a third lamp socket in a series circuit with the two cells.

3. In a device of the class described,—a pair of circuits; a testing socket in one of said circuits; a circuit indicator in series with said socket; a second testing socket in parallel connection with said first testing socket; a third testing socket in the second circuit; and a fourth testing socket in series with the two circuits.

4. In a device of the class described,—a pair of circuits of different strength; a fuse-testing socket in connection with one of said circuits; an electrical current indicator in series with said socket; a lamp-testing socket in parallel connection with said fuse-testing socket; a second lamp socket in connection with the second circuit; and a third lamp socket in series with the two circuits.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY SCHADE.

Witnesses:
OTTO JANTZ,
JOHN H. MCBRIDE.