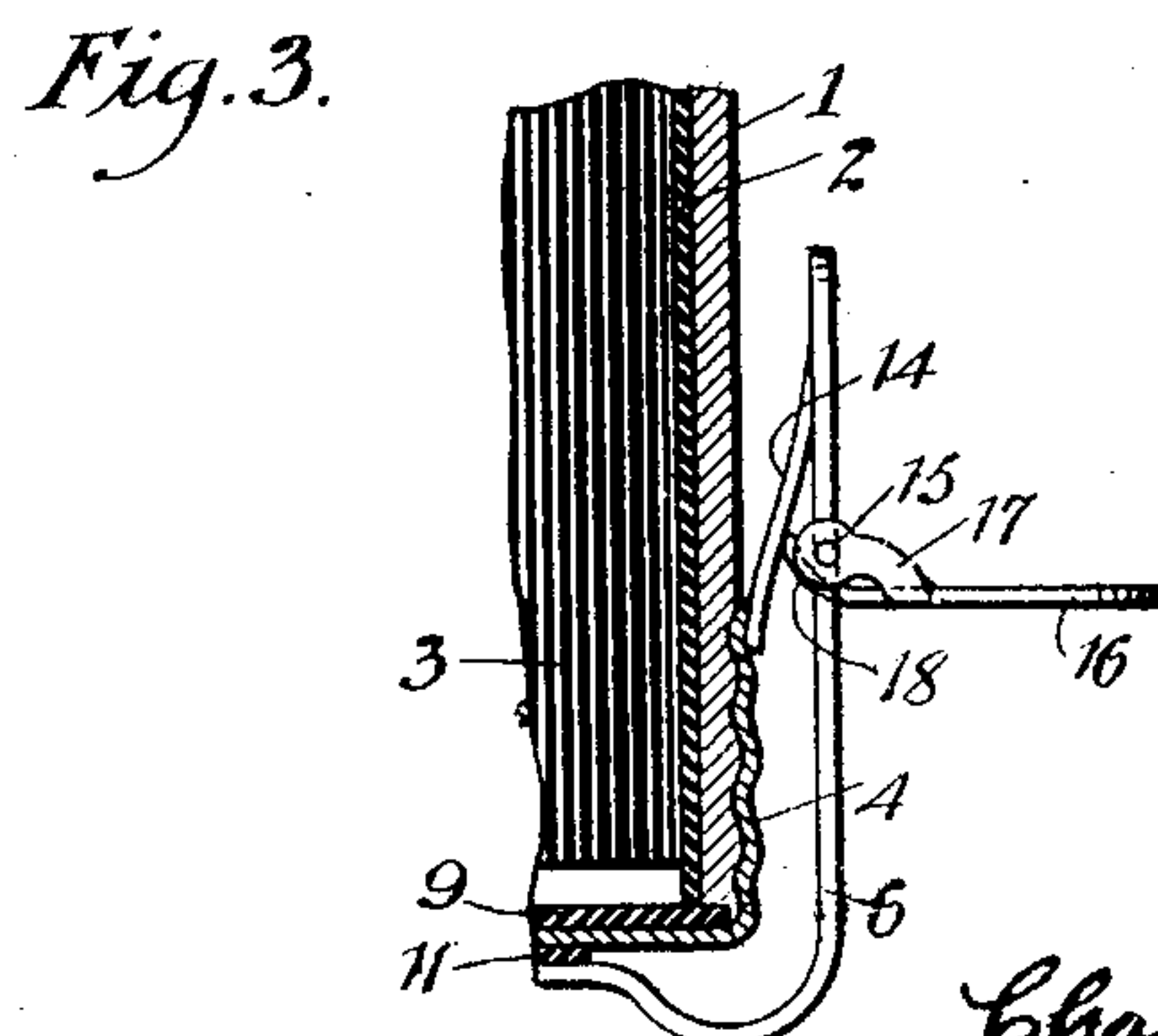
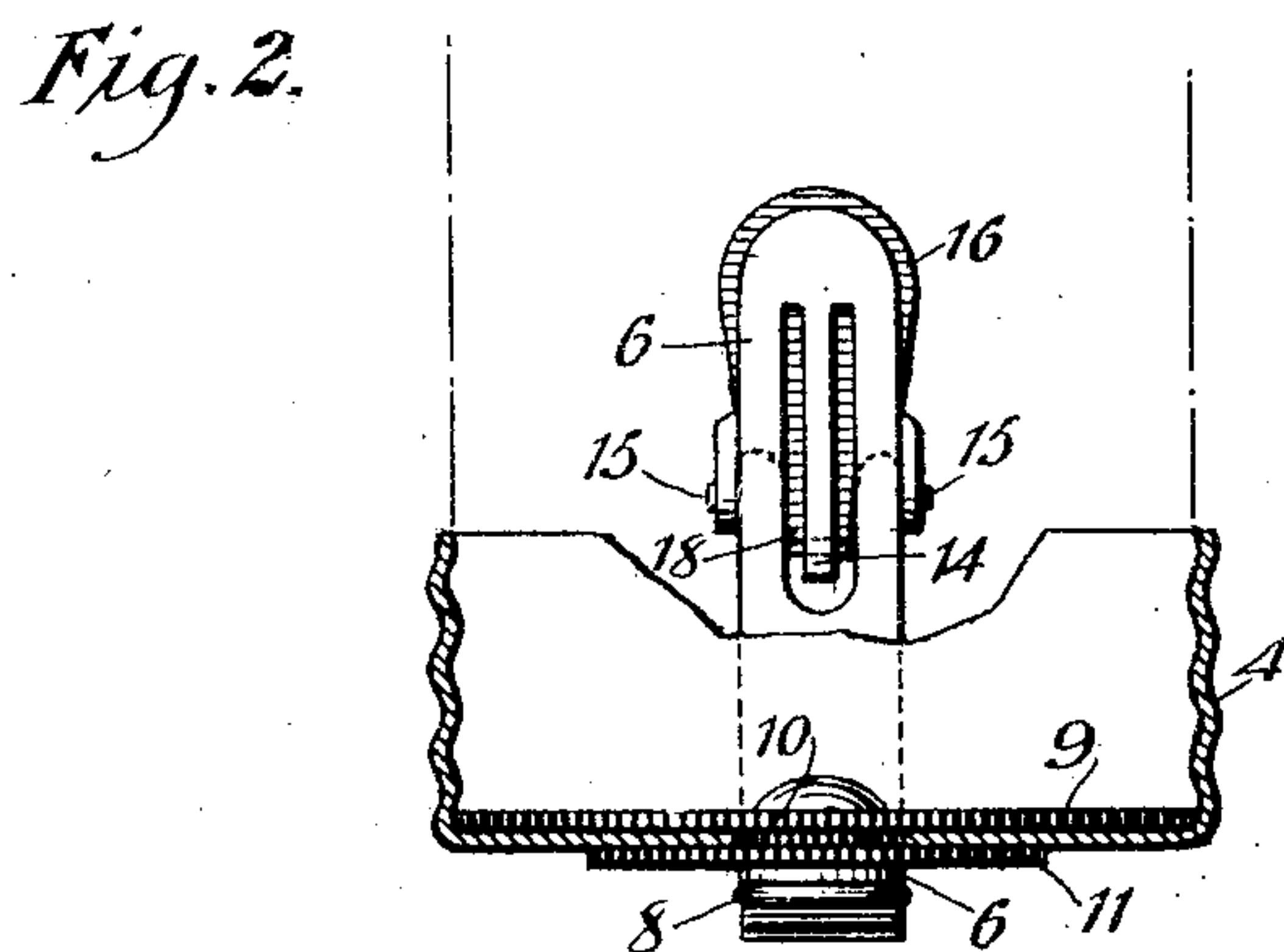
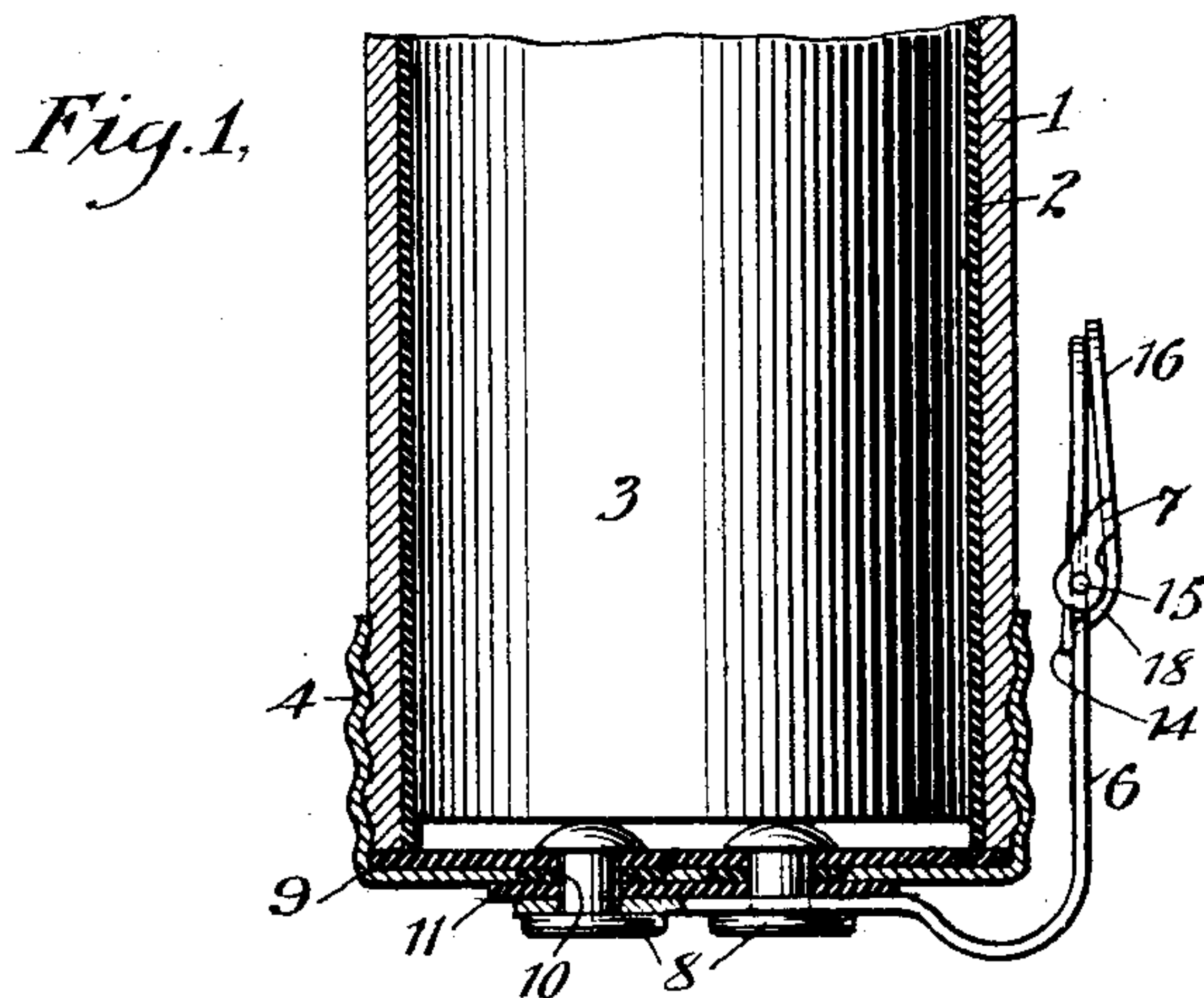


No. 776,638.

PATENTED DEC. 6, 1904.

C. E. AVERY.
PORTABLE ELECTRIC DEVICE.
APPLICATION FILED APR. 18, 1904.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES E. AVERY, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO MANHATTAN ELECTRICAL SUPPLY COMPANY, A CORPORATION OF NEW JERSEY.

PORTABLE ELECTRIC DEVICE.

SPECIFICATION forming part of Letters Patent No. 776,638, dated December 6, 1904.

Application filed April 18, 1904. Serial No. 203,715. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. AVERY, a citizen of the United States, and a resident of the city of Jersey City, Hudson county, New Jersey, have invented certain new and useful Improvements in Portable Electric Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide an improved circuit-controlling device for portable electric devices—such, for instance, as flash-lamps—which shall be responsive to slight pressure to close the circuit while the device is held by the user and shall also embody a member movable relatively to the pressure-controlled member for maintaining a fixed contact positively held in either open or closed contact relation and so arranged that its position will show at a glance without close inspection whether the circuit is open or closed.

In the accompanying drawings, in which my invention is shown as it is employed in a flash-lamp, Figure 1 is a partial longitudinal section showing the contact open. Fig. 2 is a section of the cap and circuit-closing devices at right angles to Fig. 1, and Fig. 3 is a sectional detail showing the fixed contact held in closed-circuit relation.

Similar reference characters are employed to designate corresponding parts in all the views.

The casing 1 of the type of lamp illustrated is formed of conducting metal lined with a suitable non-conducting substance 2, which insulates it from the casing of the dry battery 3. The cap 4, also formed of conducting metal, is screwed or otherwise suitably fitted on the end of the casing 1. A spring contact-arm 6 is secured rigidly to the cap by the contact-studs 8, washers 9, 10, and 11, of non-conducting material, being interposed between the contact-arm and the cap and between the studs and the cap, so that they are insulated from the cap. When the cap is in position, the ends of the studs 8 are pressed firmly against the bottom of the casing, which

forms one pole of the battery-cell 3. The opposite pole of the battery is in contact with one terminal of the lamp and the other lamp-terminal is in contact with the casing 1, as is well understood by those skilled in the art. The spring-arm 6 is bent over the end of the cap 4 and extends along the side thereof. It is formed with an integral spring-tongue 14 and trunnions 15. A lever 16 is pivotally supported on the arm 6, being formed with integral projections 17, which are journaled on the trunnions 15. The lever 16 is also formed with an extension 18, which is bent so as to project into the slot in the arm 6, which surrounds the tongue 14. The extension 18 engages the tongue 14 near its free end. With the parts in the position shown in Fig. 1 the tongue 14 will exert sufficient pressure on the extension 18 to hold the lever against the arm 6. If with the parts in this position it be desired to momentarily close the circuit to flash the lamp, the arm 6, responding to gentle pressure thereon, will bring the slightly-protruding end of the tongue 14 into contact with side surface of the cap, and the circuit will remain closed until such pressure is released. If, however, it be desired to close the circuit permanently or for a more prolonged period, the lever 16 is swung out at right angles to the arm 6 and the extension 18, bearing against the tongue 14, will carry it into contact with the cap 4 and will hold it there until the lever 16 is returned to its original position, when the elasticity of the tongue 14 will retract it from engagement with the cap, breaking the circuit.

When the lever 16 is in its open-contact relation, Fig. 1, the tongue 14 presses against the end of the extension 18 and holds the lever against the arm 6, and when the lever is moved into its closed-contact relation, Fig. 3, the end of the extension 18 is carried slightly past the pivotal center of the lever, and the pressure of the tongue 14 then holds the lever firmly in its open position. The open and closed contact positions of the lever are distinguishable at a glance, so that not only is there but slight possibility of the circuit be-

coming accidentally closed, but if it should accidentally occur the position of the lever 16 will indicate it at once without necessitating a close examination of the device at the point of contact.

5 Having thus shown and described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A circuit-closer for flash-lamps and the like, comprising a spring conducting-arm arranged to establish an electrical connection with one pole of the battery, a resilient tongue carried by said arm and a lever pivotally secured to said arm for moving said tongue into
15 electrical connection with the opposite pole of the battery.

20 2. A circuit-closer for flash-lamps and the like, comprising a spring-arm carrying a tongue which forms one terminal of the circuit and a lever pivotally mounted on the arm

for moving said tongue into contact with the other terminal of the circuit.

3. A circuit-closer for flash-lamps and the like, comprising a cap, a spring-arm secured thereto, a battery-contact device connected to
25 the arm, a resilient tongue carried by the arm and a lever pivotally movable on the arm to engage said tongue and close the circuit.

4. A circuit-closer for flash-lamps and the like, comprising a cap for closing the end of
30 the battery-case, a battery-contact and a spring-arm fixed to the cap but insulated therefrom, a resilient tongue carried by the arm and a lever pivotally mounted on the arm for moving said tongue to engage the cap.

CHARLES E. AVERY.

Witnesses:

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