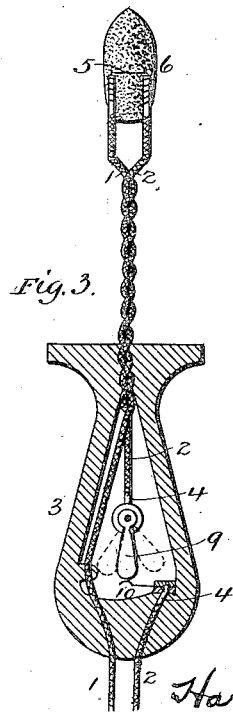
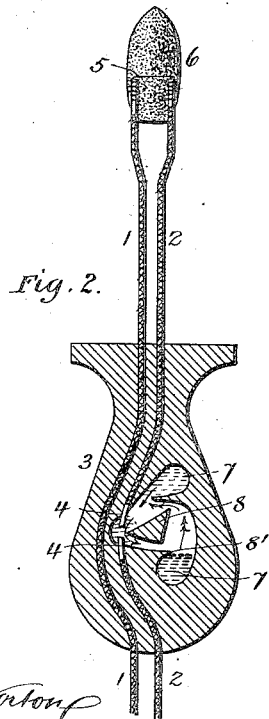
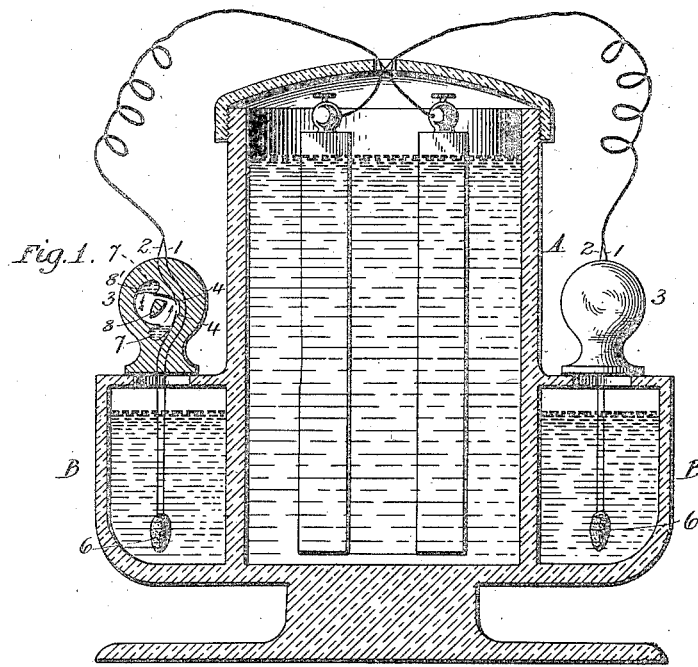


(No Model.)

H. B. BROWN.
ELECTRIC CIGAR LIGHTER.

No. 453,618.

Patented June 9, 1891.



Witnesses.
W. E. Norton
M. C. Mundage

Inventor:
Harrison B. Brown

UNITED STATES PATENT OFFICE.

HARRISON B. BROWN, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
OF ONE-HALF TO WILLIAM W. DUDLEY AND FRANK L. BROWNE, BOTH
OF SAME PLACE.

ELECTRIC CIGAR-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 453,618, dated June 9, 1891.

Application filed December 5, 1890. Serial No. 373,722. (No model.)

To all whom it may concern:

Be it known that I, HARRISON B. BROWN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Electric Cigar-Lighters; and I do hereby declare the following to be full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an electrical incandescent lighter or igniting device, particularly adapted for lighting cigars, and it is therefore for such use that I shall hereinafter describe it, although it is applicable to some others.

The distinguishing feature of the invention is a non-conducting portable or movable handle, to which battery-circuit wires and a mobile contact-maker or circuit-closer are so applied that when the said handle is inverted the contact-maker momentarily completes the circuit, whereby a portion of the external loop of the circuit-wires is rendered incandescent, and may then be utilized for cigar-lighting. The preferred contact-maker is mercury, a small quantity of which is confined in a chamber of said handle and traverses it whenever the handle is inverted, at which time it makes the required mechanical contact and completes the electrical circuit.

In the accompanying drawings, Figure 1 is a sectional elevation of a complete cigar-lighting apparatus of which my invention forms a part. Fig. 2 is a central longitudinal section of the device which embodies my invention, the same being shown enlarged and inverted. Fig. 3 is a similar view of a modification.

The vessel shown in Fig. 1 has a relatively large central chamber A, which contains the common battery elements—to wit, zinc and carbon plates and an acidulated liquid. The small lateral receptacles B are for containing a readily-inflammable liquid, such as alcohol, which is commonly used in cigar-lighting.

The igniting device embodying my invention is shown applied to each of the alcohol-receptacles B and connected by insulated circuit-wires 1 2 with each of the positive and negative elements. In many instances but one alcohol-receptacle and igniting device

will be required, and it is obviously unnecessary that the battery-cell should be located contiguous to or even near the same, for a like result may be attained if they are separated, as economy of space may sometimes require.

The handle 3 is necessarily made wholly or partly of some non-conducting material, and for this purpose I prefer hardened rubber. It may be made in two parts connected by any suitable means, or constructed in any other manner that judgment and experience may suggest and approve. It will be noted that one of the circuit-wires 1 passes through the handle 3 and is continuous from the battery down to its termination below the handle, while the other parallel wire 2 is divided within the handle, its ends 4 being, however, juxtaposed within the chamber that contains the movable contact-maker. Like the first or continuous wire 1, this divided wire extends down several inches from the handle 3 and forms a loop, their uninsulated ends being connected by a thin platinum wire 5, which constitutes an incandescent arc or bridge when the circuit is complete, as hereinafter described. A material 6, that will absorb or hold alcohol and is of a non-combustible nature—such as spun glass or asbestos—is applied to and covers the terminals of the circuit-wires and their bridge 5, as shown in Figs. 1 and 2. The chamber of the handle 2 has a peculiar form, it being practically a circuitous passage with a mercury-pocket 7 at each upper and lower end, and each pocket being formed in part by a projection or abutment 8 or 8', Fig. 2, that serves as a deflector for guiding the mercury into the right channel when the handle is inverted from its normal position. In the latter case the mercury, Fig. 1, lies in the lower pocket; but when the device is inverted, as shown in Fig. 2, by the effect of gravity, the mercury leaves such pocket, and being directed by the contiguous abutment 7 into the left-hand channel or passage, as indicated by single-headed arrows, it flows over and around the bared end 4 of the circuit-wire 2, as shown by dotted lines, on its way to the opposite pocket, and thus momentarily completes the metallic circuit, so that the bridge-wire 5 immediately becomes incandescent, thus igniting the alcohol held in the absorber.

When the device is returned to the normal position, Fig. 1, the mercury flows back to the lower pocket, as shown by double-headed arrows, it being for this purpose directed by the abutment 8, Fig. 2, into and along the right-hand passage, so that it does not again come in contact with the wire ends 4, and hence no circuit is formed a second time. This operation is repeated as often as the device is raised and inserted and returned to its normal position.

In Fig. 3 I show a mechanical substitute for the mercury body, it being a metallic piece 9, pivoted centrally on one of the bared ends 4 of the divided wire within the enlarged chamber of the handle 3, and so arranged that in swinging from side to side when the handle is inverted, as shown, its free end touches a light metal spring 10, that connects with the other end 4 of said divided wire 2, thus completing the circuit with the same result as before described.

What I claim is—

1. An electrical incandescent igniting device consisting of a non-conducting handle, circuit-wires leading from a battery and attached to said handle, wherein one of them is divided and its uninsulated ends separated, but juxtaposed, a contact-maker for temporarily establishing an electrical connection between such juxtaposed ends, an incandescent bridge-wire which joins the uninsulated terminals of circuit-wires and completes the external loop, and a substance applied to such bridge-wire and which is capable of absorbing or holding an inflammable liquid.

2. In an electrical incandescent igniting device, the combination of the non-conducting

handle having a chamber, battery-circuit wires traversing such handle, and one of them being divided and its separated ends juxtaposed within the chamber, a mercury body contained in the latter, an incandescent bridge for the external terminals of the circuit-wires, and an alcohol-absorber applied thereto, as shown and claimed.

3. In an electrical incandescent igniting device, the combination, with the battery-circuit wires, one of which is divided, the bridge for the outer terminals, and the alcohol-absorber applied thereto, of the non-conducting handle having a mercury-chamber provided with pockets, and abutments for directing the mercury body as required to make or avoid contact with the divided wire ends, as shown.

4. An improved electrical incandescent cigar-lighter formed of the non-conducting handle having the circuitous passage, with pockets and contiguous guiding-abutments, a mercury body contained therein, battery-circuit wires which traverse said handle, and one of them being divided and its ends separated but juxtaposed at one side of said chamber in the path traveled by the mercury, the circuit-wires depending from the handle, a thin platinum wire that connects their terminals, and an alcohol-absorber secured to such terminals, all as shown and claimed to operate as specified.

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

HARRISON B. BROWN.

Witnesses:

WILL T. NORTON,
W. C. BRUNDAGE.