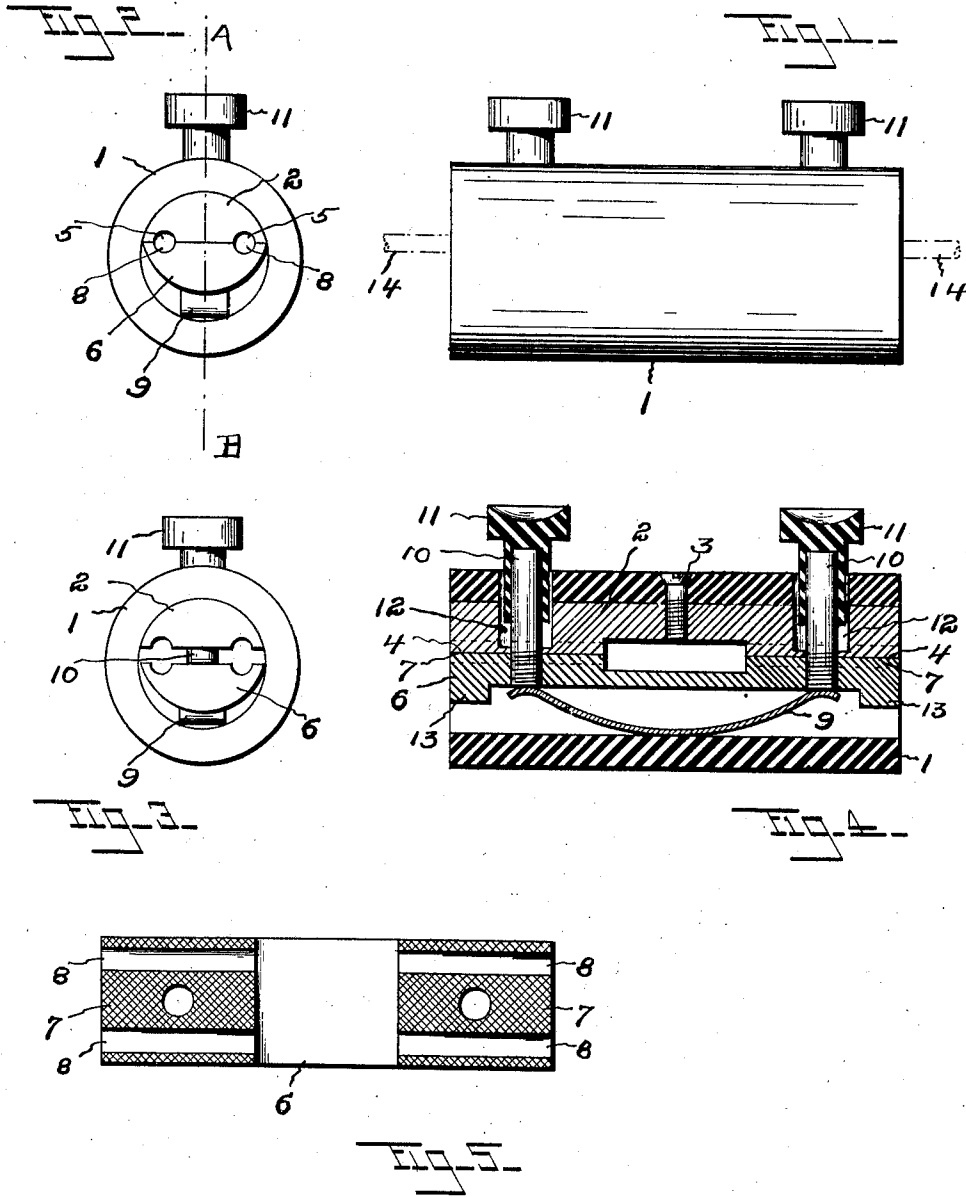


W. G. CADY.
WIRE CONNECTOR.
APPLICATION FILED JULY 11, 1913.

1,093,972.

Patented Apr. 21, 1914.



WITNESSES:

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WALTER G. CADY, OF MIDDLETOWN, CONNECTICUT.

WIRE-CONNECTOR.

1,093,972.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER G. CADY, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Wire-Connectors, of which the following is a specification, reference being had, therein to the accompanying drawings.

My invention relates to new and improved wire-connectors, having particular reference to means for mechanically and electrically connecting two or more wires through which electricity is transmitted.

It is the object of my invention, among other things, to provide such a device that will quickly and securely connect two or more wires and allow of their being instantly disconnected, and to accomplish this result with mechanism that is simple in its operation, may be economically constructed and will be so safe-guarded by non-conducting material as to prevent short circuiting and danger of injury to either person or property that might be brought into contact therewith.

To these, and other ends, my invention consists in the wire-connector, having certain details of construction, and combinations of parts, as will be hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals of reference designate like parts in the several figures, Figure 1 is a side elevation of my improved device complete; Fig. 2 is an end view thereof; Fig. 3 is a similar view with the clamp plates separated; Fig. 4 is a sectional view upon line A—B of Fig. 2; and Fig. 5 is a plan view of the movable clamp plate.

It is desirable that a wire-connector for coupling the ends of wires, through which electricity is conducted, should primarily be of such design and structure as to be safely used in all places, and under all conditions, and should therefore be so safe-guarded by non-conducting material as to permit the electrical current to pass through the wires and connection without leakage or danger to contacting objects. It should also be possible to apply it quickly by an unskilled person without the aid of tools, and should, in addition thereto, always maintain a suffi-

ciently rigid and constant connection between the wire ends without liability of separation.

In my invention, as herein set forth, I have attempted to accomplish these, and other desirable results, and in doing so have produced a device; wherein there is a clamp comprising a fixed plate and a movable plate, the whole being inclosed within an outer case of non-conducting material, the movable plate being operated from the exterior of the case through plugs of non-conducting material.

Referring to the drawings, the numeral 1 designates a cylinder of fiber, hard rubber, or similar non-conducting material, and within which is a fixed plate 2 of conducting material, secured by a screw 3, said plate having contact faces 4—4 at each end thereof, within which are the semi-cylindrical recesses 5—5. Also mounted within said case is the movable plate 6 of conducting material, having contact faces 7—7 at opposite ends thereof, within which are the recesses 8—8 corresponding in position and number with the said recesses 5—5. These recesses may, and in practice generally do, vary in size to accommodate wires of different diameters. The movable plate 6 is held normally in contact with the fixed plate 2 by a spring 9, and is held against endwise movement, and moved away from the plate 2, through the plugs 10, which are screwed into the plate 6, and are surrounded by buttons 11—11 of fiber, hard rubber, or similar non-conducting material, which buttons and plugs operate loosely within openings 12 in the plate 2 and a corresponding opening through the case 1, all as substantially shown in Fig. 4. A loose fitting of the plugs is conducive to ease of operation and permits a limited tilting of the plate 2 when only one plug is pressed. To prevent dislodgment of the spring 9, lips 13, which project below the ends of the spring, are provided on each end of the plate 6.

In operation, the wires, designated by the broken lines 14, in Fig. 1, are held either in the opening formed by the registering of the recesses 5 and 8 in plates 2 and 6, or between the roughened contact faces 4 and 7 if too small for said recesses, their admission therein being facilitated by moving the plate 6 away from plate 2 by pressure upon the but-

tons 11—11. The relative position of the plates 2 and 6, when the plate 6 is moved through the buttons 11, is shown in Fig. 3.

The wire-connector, as above described is made of very few parts, and these are arranged so as to be produced at the minimum cost, and can be assembled by unskilled labor and operated by any person of ordinary intelligence, and without the aid of a screw driver, or other tool, and when the ends of the wires are held between the plates, as above indicated, they are secured against accidental dislodgment, and the inclosing case of non-conducting material, prevents a leakage of the current and a consequent short circuit, as well as eliminates all possibility of danger to any object that should come into contact with the connector.

I have shown in the drawings the case 1 as cylindrical in form, and with accommodations for two wires at each end of the device, but the shape of the case may be very materially altered or changed, and the number of openings for the wires in the ends thereof may be increased if desired, and therefore, for these and other reasons, do not limit myself to the exact construction shown and described, but claim all that falls fairly within the spirit and scope of my invention and the appended claims.

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

1. In a wire connector, the combination of a case of non-conducting material; companion plates within said case provided with oppositely disposed recesses in the meeting faces thereof; means for moving one of said plates toward the other and plugs connected with one of said plates and projecting through said case.

2. In a wire-connector, the combination of an outer case of non-conducting material; a fixed plate; a movable plate, both of said

plates being within said case; a spring for normally moving said movable plate toward said fixed plate; and plugs connected with said movable plate and projecting through said case, the portion thereof exposed upon the outside of said case being covered with non-conducting material.

3. In a wire connector, the combination of a hollow case of non-conducting material; companion plates within said case, the ends of which are accessible through the ends of said case, and are provided with wire receiving means; a plug connected with one of said plates and passing through the case, being operatively exposed upon the outside; and a spring contacting with one of said plates and the case for normally moving one of said plates toward the other.

4. In a wire-connector, the combination with a case of non-conducting material; companion plates within said case provided with oppositely disposed recesses in the meeting faces thereof; a spring for normally moving one of said plates toward the other; and plugs connected with one of said plates and projecting through said case, the portion thereof exposed outside of the case being covered with non-conducting material.

5. In a wire-connector, the combination with a case of non-conducting material; companion plates within said case, each having one flat face provided at both ends with wire receiving means; a spring for normally moving one of said plates toward the other; and plugs connected with one of said plates and projecting through said case, the portion thereof exposed outside of the case being covered with non-conducting material.

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

WALTER G. CADY.

Witnesses:

THOMAS HOOPS, Jr.,
LLOYD F. HOOPS.