(No Model.) 2 Sheets—Sheet 1.

H. B. NICHOLS & F. H. LINCOLN.

SECTION INSULATOR.

No. 521,124. Patented June 5, 1894.

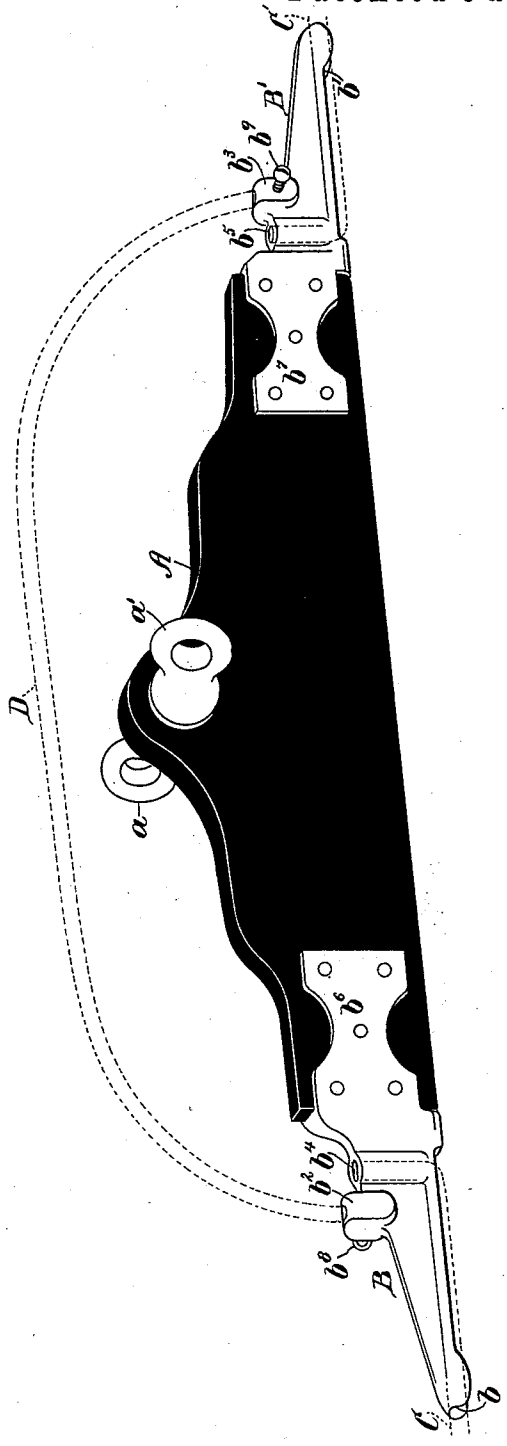

Fig. 1.

Witnesses:
Thomas M. Smith.
Richard C. Maxwell.

Inventors.
H. Burt Nichols and Frederick H. Lincoln.
By J. Walter Douglass.
Attorneys.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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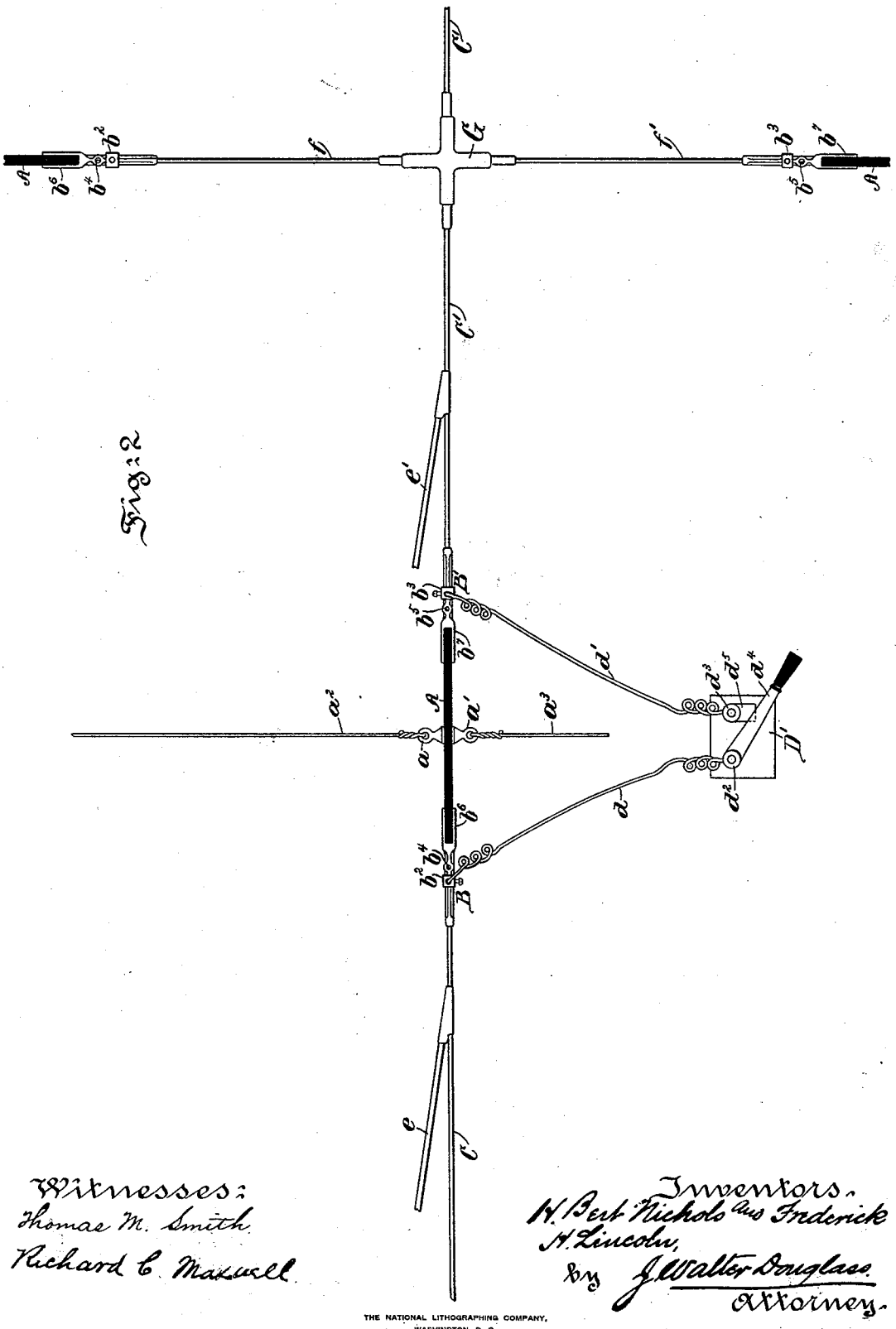

Fig: 2

Witnesses:
Thomas M. Smith
Richard C. Maxwell

Inventors.
H. Burt Nichols and Frederick H. Lincoln,
by J. Walter Douglass
Attorney.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY BERT NICHOLS AND FREDERICK H. LINCOLN, OF PHILADELPHIA, PENNSYLVANIA.

SECTION-INSULATOR.

SPECIFICATION forming part of Letters Patent No. 521,124, dated June 5, 1894.

Application filed January 25, 1894. Serial No. 498,005. (No model.)

To all whom it may concern:

Be it known that we, HENRY BERT NICHOLS and FREDERICK H. LINCOLN, citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have jointly invented certain new and useful Improvements in Section-Insulators for Electric Trolley Systems, of which the following is a specification.

Our invention has relation to devices for interrupting the circuit of the main conductor of an electric trolley system and having means to readily permit of the establishing of a circuit by the bridging of a break in the conductor; and it relates more particularly to the construction and arrangement of such a device for said purposes.

The principal objects of our invention are first, to provide a simple, durable and effective section insulator for the conductor of an electric trolley system; second to provide a section insulator with means adapted to readily permit of the establishing of a circuit by the formation of a bridge over the device; and third, to provide a section insulator in which the construction and arrangement is such, that the momentum acquired by the motor car in its travel will carry the same over the break in the line established through said insulator by the interposition of the same in the main conductor.

Our invention consists of the improvements hereinafter described and claimed.

The nature and scope of our invention will be more fully understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a perspective view of a section insulator for an electric trolley system, embodying the characteristic features of our invention; and Fig. 2, is a diagrammatic view, showing an application of our invention to an overhead trolley system by the interposition of said device in the line conductor thereof.

Referring to the drawings A, is a triangular shaped ornamental block or strip of fiber, hard rubber or other suitable material provided at the apex portion on both sides thereof with staples or hooks a and a', for the reception of guys, cords or wires a^2 and a^3, for supporting the device in its suspended state in use to required position.

The block or strip A, is coated with a suitable insulating substance so as to thoroughly protect the fiber or other material entering into the composition of and forming the body of the structure and in order to obtain absolute security in use thereof.

B and B′, are castings, comprising slanting fingers or arms having semicircular or channeled bottoms b and b', and with sockets b^2 and b^3, vertical openings b^4 and b^5, and divided ends b^6 and b^7, embracing the respective end portions of the block or strip A, and which are preferably riveted thereto.

The castings B and B′, are preferably formed of gun metal, brass or the like, and the former metal in practice has given excellent results.

C and C′, are the two end sections of the line or main conductor held to position in the channeled bottoms b and b', and openings b^4 and b^5, of the device.

D, is a wire forming a bridge and engaging the sockets b^2 and b^3, of the castings B and B′, and held to position by means of the tightening screws b^8 and b^9, so that in case of an emergency a temporary circuit connection by means of the bridge may be established with the sections C and C′, of the line or main conductor, as illustrated in Fig. 1.

With special reference to Fig. 2, illustrating an application of our invention, the sockets b^2 and b^3, of the device have secured thereto wires d and d', connected at their opposite ends with a cut-out switch D′, having binding posts d^2 and d^3, an operating lever d^4, and a metallic contact d^5.

e and e', are the electrical feeder wires located on opposite sides of the insulating circuit breaker and suitably coupled to or connected with the sections C and C′, of the line or main conductor.

f and f', are the sections of a cross line or

main conductor and at the points of intersection of one line with another is interposed a bridge G, of any suitable construction and arrangement and with which are suitably connected electrically and properly insulated from one another, the wires C and C′ and f and f', for the safe operation of the system.

In use, the section insulator device included in the line or main conductor as illustrated in Fig. 2, in the event of any disturbance in the sections C and C′, of the conduetor may be cut out by connecting the wires leading to the switch D, with the sockets b^2 and b^3, of the device and then manipulating the operating handle d^4, of the switch D′, to the left to disengage the same from the metallic contact d^5, when the particular section of the line will thereby become dead without affecting other sections of the line adjacent thereto or remote therefrom. It is especially required in case of fire or other casualties for the protection of life to be able to render dead certain portions of the line and in such manner as not to affect in the least the other portions thereof; and moreover, without any interference with the running of the cars on both sides of the break in the line of the system.

Having thus described the nature and objects of our invention, what we claim as new, and desire to secure by Letters Patent, is—

A section insulator for an electric trolley system, comprising an insulating block or strip of fiber, hard rubber or the like with end slanting fingers or arms with divided ends engaging said block or strip and each having a channel in the lower edge thereof and a socket, said channel of each finger or arm merging with a vertical opening, tightening means connected with each socket, a bridge wire adapted to be detachably connected with the sockets of said fingers or arms and staples or hooks connected with said block or strip for the reception of guys adapted to support the device, substantially as and for the purposes set forth.

In testimony whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

H. BERT NICHOLS.
FREDERICK H. LINCOLN.

Witnesses:
THOMAS M. SMITH,
RICHARD C. MAXWELL.