

No. 711,150.

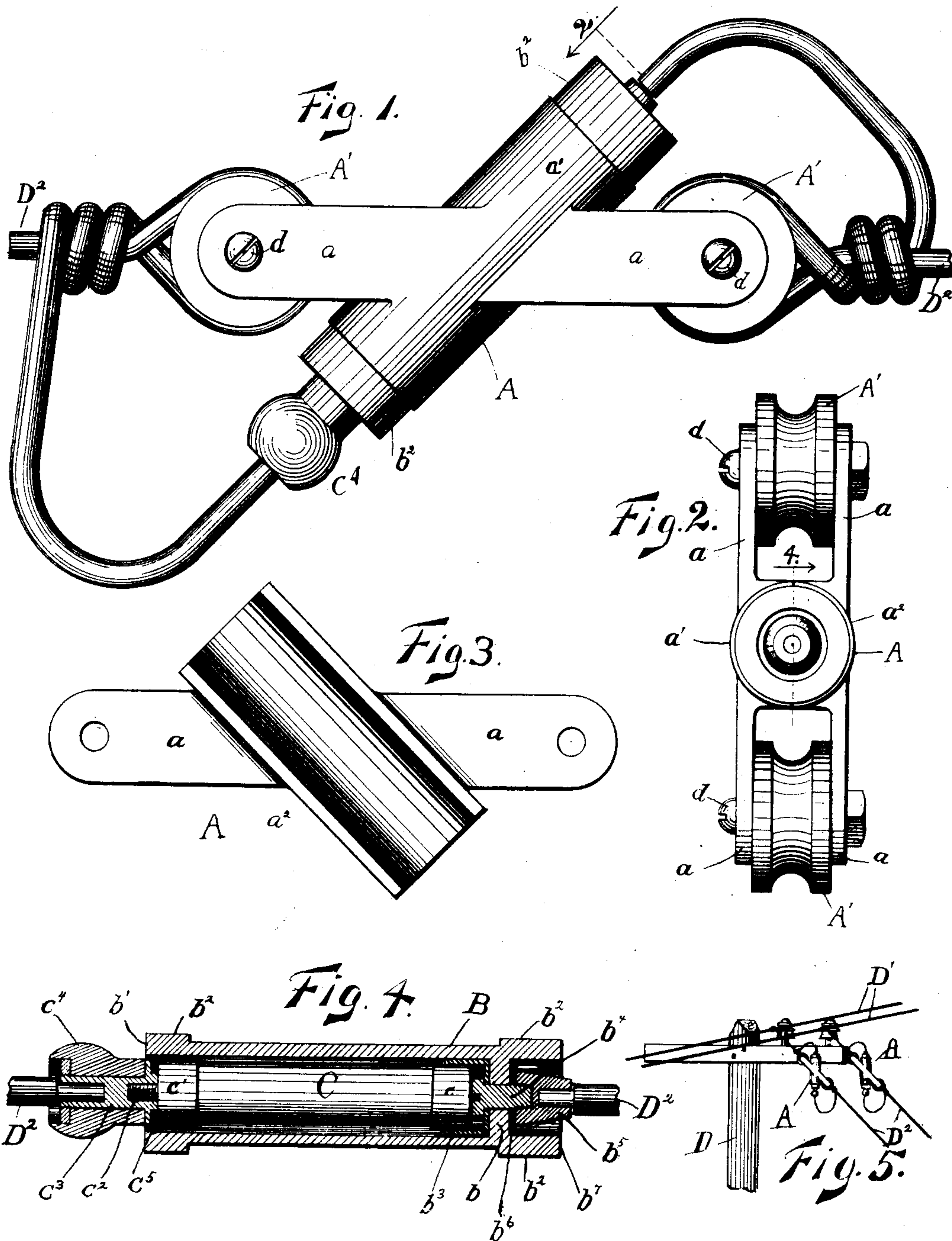
Patented Oct. 14, 1902.

F. BRUEGGEMAN.
ELECTRIC FUSE.

(Application filed Jan. 11, 1902.)

(No Model.)

-2 Sheets—Sheet 1.



Witnesses

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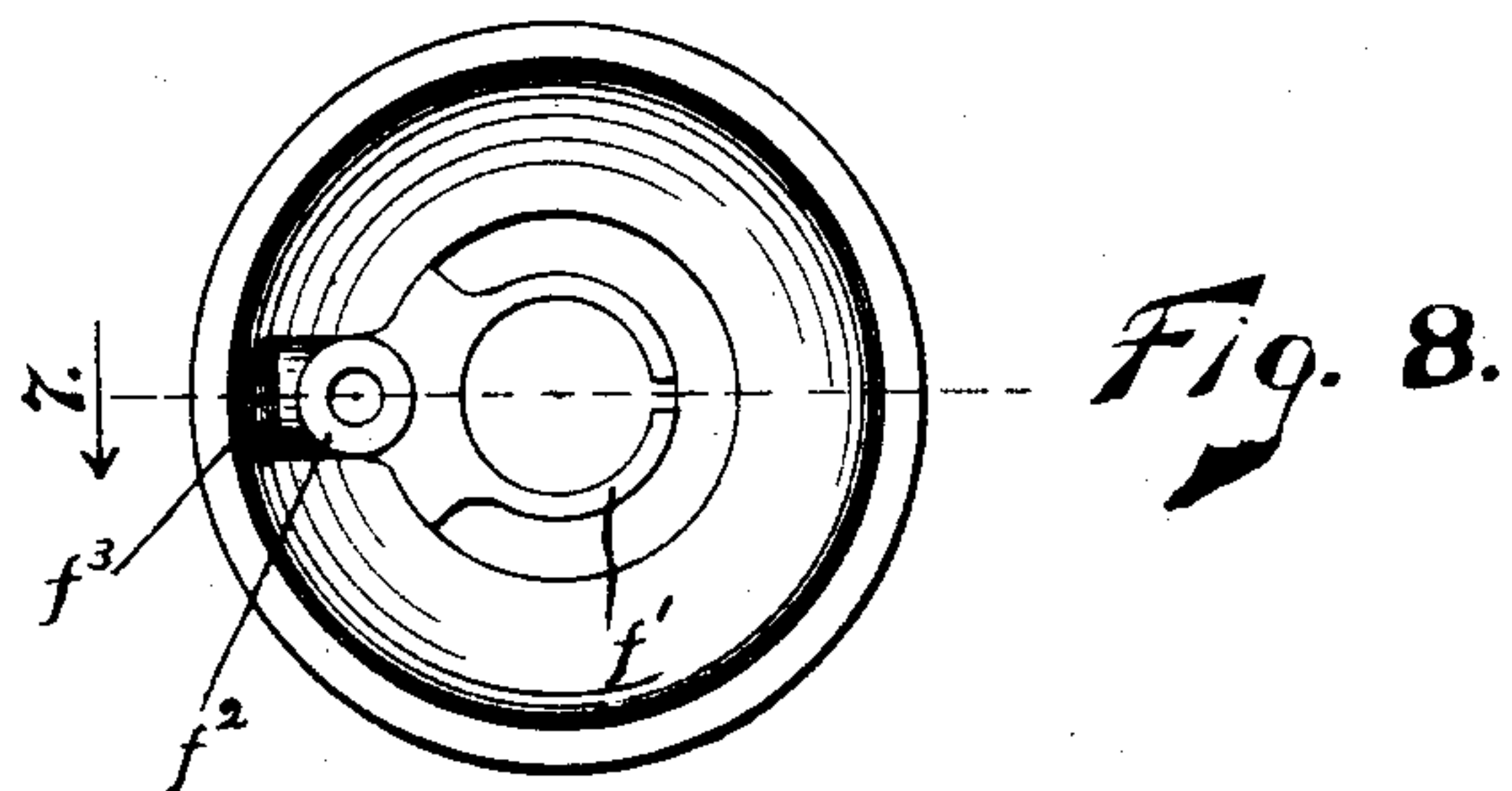
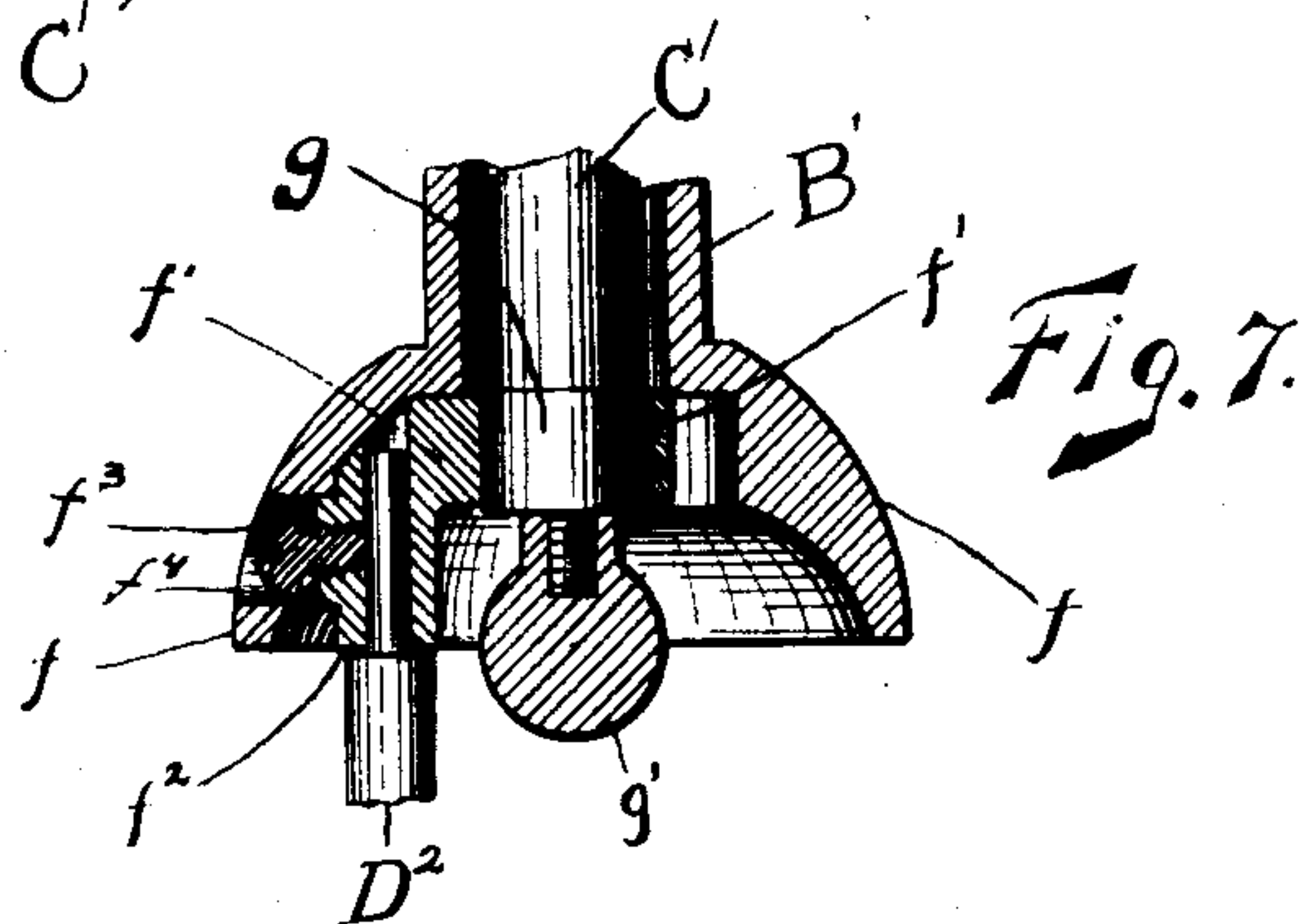
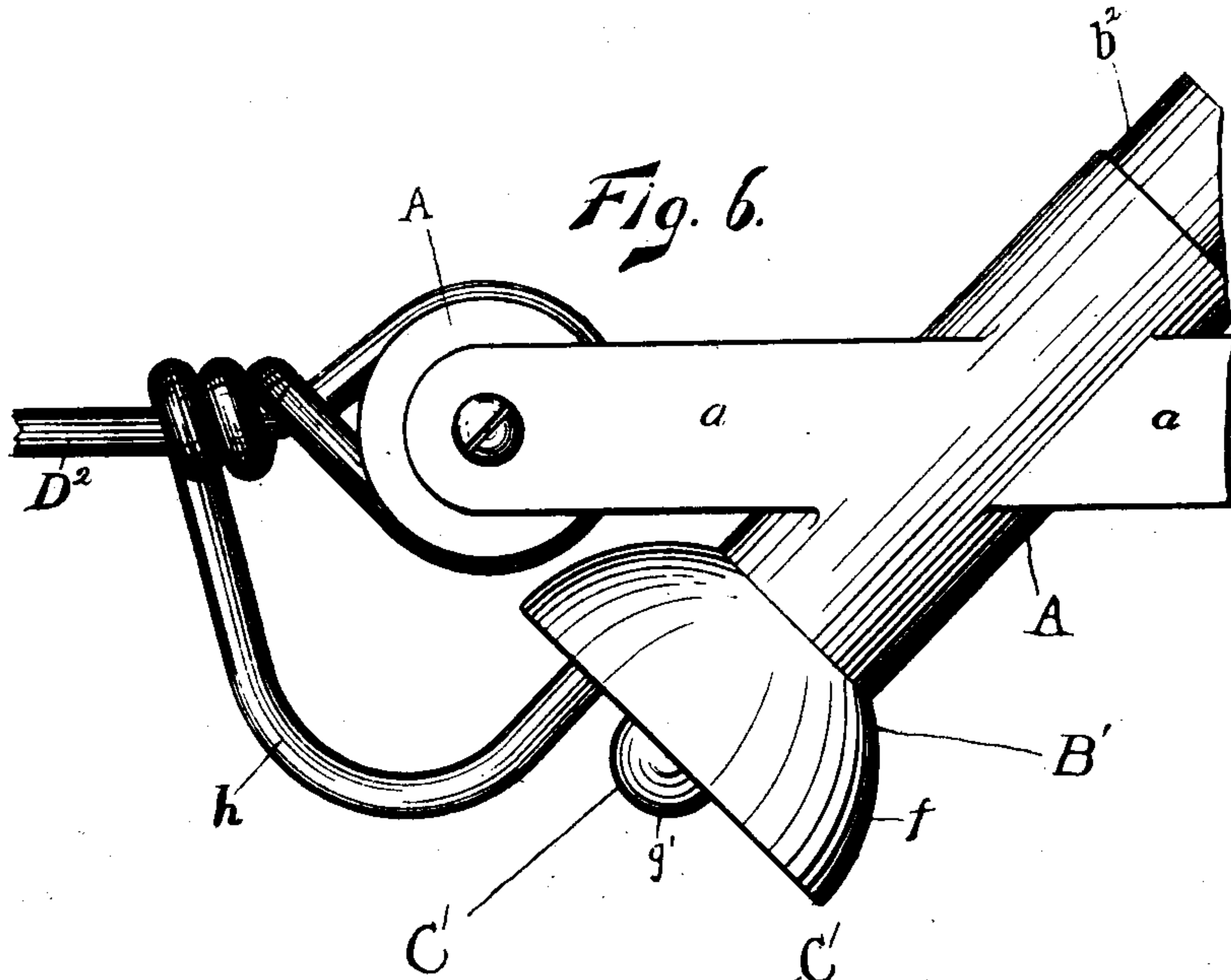
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2 Sheets—Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK BRUEGGEMAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF
TO JOHN A. RADFORD, OF CHICAGO, ILLINOIS.

ELECTRIC FUSE.

SPECIFICATION forming part of Letters Patent No. 711,150, dated October 14, 1902.

Application filed January 11, 1902. Serial No. 89,322. (No model.)

To all whom it may concern:

Be it known that I, FRANK BRUEGGEMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Electric Fuses, of which the following is a specification.

My invention relates particularly to electric fuses for use in outdoor places, such as at the connections between electric mains and buildings; and my primary object is to provide a fuse of this character which can be suspended in the course of a wire, thereby obviating the necessity of the present form of box and fuse employed for this purpose and providing a simple, handy, efficient, and inexpensive substitute for said box and fuse.

My invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved device; Fig. 2, a view in end elevation, taken as indicated at line 2 of Fig. 1; Fig. 3, an inner view of one-half of the outer casing employed; Fig. 4, a longitudinal sectional view of an inner casing of insulating material employed, said sectional view being taken as indicated at line 4 of Fig. 2; Fig. 5, a view indicating the manner of connecting the device with the wires; Fig. 6, a broken view, in side elevation, illustrating a modification; Fig. 7, a broken sectional view of said modification, taken as indicated at line 7 of Fig. 8; and Fig. 8 an end view of the inner casing of insulating material.

A represents an outer tubular casing, which may be of cast metal or any other suitable material, the same being provided with supporting arms or lugs a , forming acute angles with the axis of the casing; A' , rollers, preferably of insulating material, connected with the arms a ; B, an inner tubular member having a closed end b and an open end b' ; C, a fuse block or tube of common construction, and D a pole carrying electric mains D' , from which supply-wires D^2 are taken, each of the wires D^2 being provided with my improved device.

The casing A preferably comprises two half-tubular members a' a^2 , each of which bears two of the lugs a , so that brackets are formed

on each side of the tubular member A for receiving the rollers A' .

The member B has external end collars b^3 , spaced so as to receive the member A between them. Within the member B is a metallic cup or contact b^3 , which is secured in place by a screw b^4 , which passes through a central perforation in the end wall b and screws into a union b^5 , the latter having a socket for receiving the end of a wire. A rubber washer b^6 , confined between the member b^5 and the end b , serves to make a water-tight joint, and said washer and the member b^5 are practically sheathed within a projecting annular flange b^7 .

The fuse-block C is of a well-known structure and has at one end a metallic collar c , which serves as a contact received by the cup-shaped contact b^3 . At the opposite end the fuse-block has a metal cap c' , provided with an outwardly-projecting threaded stud c^2 , to which is joined a coupling c^3 , socketed to receive the end of a wire. The fuse-block is provided with a handle c^4 , of insulating material, and a rubber washer c^5 fits snugly within the adjacent end of the tubular member B, affording a water-tight connection. As is well understood, a fuse-block of this form ordinarily comprises a tube of insulating material, suitable end contacts, and a coaxial fuse-wire joining said end contacts, said tube ordinarily being filled with mineral wool surrounding said fuse-wire.

As appears from Figs. 1 and 5, the manner of employing the device is to sever the supply-wire leading from the main, wrap one of the ends about one of the rollers A' , coiling the wire upon itself, and secure said end in the socket with which the fuse-block C is provided, and then wrap the other end about the other roller A' , coiling the wire upon itself and securing said end to the union b^5 , with which the member B is provided. Thus it appears that the outer casing A and its lugs form an insulating connection for the severed ends of the wire and that the electric connection is made through the fuse-block C.

The manner of assembling the parts will be readily understood. The member B fits between the two half-tubular members a' a^2 and is secured against longitudinal move-

ment by the collars b^2 . The two sections of the outer casing are secured together by bolts d , which connect the securing-lugs a and secure the rollers A' in place.

- 5 In the modification of Figs. 6, 7, and 8 a member B' of modified form affords an inner casing of insulating material. The construction at the right-hand end of said member B' corresponds with the construction shown in
 10 Fig. 4, while the left-hand end is provided with a bell f , equipped interiorly with an annular contact member f' , having a socket f^2 for receiving the wire D^2 , the wire being held against withdrawal by a screw f^3 passing
 15 loosely through a perforation f^4 , with which the bell f is provided, and having screw connection with the socket portion f^2 of the contact f' . In this construction the fuse-block C' is provided at its left-hand end with a metallic collar g , received by the split-ring contact f' , and with a free handle g' , of insulating material. In this construction the fuse-block has no direct connection with either of
 20 the wires, but simply forms a connection through its fuse-wire for the internal contacts with which the ends of member B' are provided.

In both constructions shown the fuse-block is contained within a casing of insulating material having closed lateral walls and one
 30 open end, the block being longitudinally withdrawable through said open end. The construction shown in Fig. 1 is well adapted for use with low-tension currents, while the construction shown in Fig. 6 is adapted for use with high-tension currents. It will be observed that in the construction shown in Fig. 6 the stiffness of the supply-wire forms no
 35 objection to its use for making the loop at h , inasmuch as the wire is firmly fixed to the contact f' and is not moved when the fuse-block C' is removed.

The handiness of the device will be readily apparent to those skilled in the art. If a fuse
 45 is burned out, it is only necessary in the construction shown in Fig. 1 to disconnect the wire from the socket c^3 , remove the injured fuse-block, insert a new fuse-block, and replace the wire. In the construction shown
 50 in Fig. 7 it is only necessary to remove the injured fuse-block and substitute a new one.

Changes in minor details of construction within the spirit of my invention may be made. Hence no undue limitation is to be
 55 understood from the foregoing description.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination of an external casing, comprising longitudinal half-tubular sections, an
 60 interior casing of insulating material fitting therein and provided interiorly at one end with a contact, and a longitudinally-removable fuse-block inserted through the opposite

end of said interior casing and provided with a contact engaging said first-named contact. 65

2. In a device of the character described, the combination of an outer suspended casing equipped with means for securing the ends of wires to it, said means serving as the sole
 70 means of support for the device, a fuse-block fitted within said casing, and means for connecting the ends of wires with said fuse-block, for the purpose set forth.

3. In a device of the character described, the combination of an elongated hollow body provided with supporting-lugs forming acute angles with the axis of said body, means carried by said lugs for receiving the ends of
 75 wires, a fuse-block within said body, and connections for the ends of wires contacting with said fuse-block. 80

4. In a device of the character described, the combination of a tubular body, wire-receiving insulators carried by said body and
 85 serving as supports for the device, a casing of insulating material secured within said body and having one closed end and one open end, the closed end being equipped interiorly with a contact, a fuse-block within said inner casing and equipped adjacent to said
 90 closed end with a contact, and a connection at the opposite end of said fuse-block for receiving a wire.

5. In a device of the character described, the combination of an outer open-ended casing having lugs forming acute angles with the body of the casing, insulating-rollers carried by said lugs, an inner casing of insulating material having one closed end and one open
 95 end and equipped interiorly at said closed end with a contact, a wire connection having electric connection with said contact, and a longitudinally-withdrawable fuse-block within said inner casing and equipped at one end
 100 with a contact engaging said first-named contact and at its opposite end with a contact through which connection is made with another wire. 105

6. In a device of the character described, the combination of an open-ended casing having lugs forming acute angles with the body of the casing, insulations carried by said lugs, an inner casing of insulating material having one open end and one closed end and equipped
 110 interiorly at both ends with contacts, a wire connected with the contact at said open end and passing about the insulation of the adjacent lug, and a longitudinally-withdrawable fuse-block within said inner casing and
 115 equipped at its ends with contacts engaging said first-named contacts, substantially as described. 120

FRANK BRUEGGEMAN.

In presence of—

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