

C. D. PLATT.
 BINDING BLOCK FOR TERMINAL WIRES.
 APPLICATION FILED MAY 7, 1910.

999,521.

Patented Aug. 1, 1911.

Fig. 2.

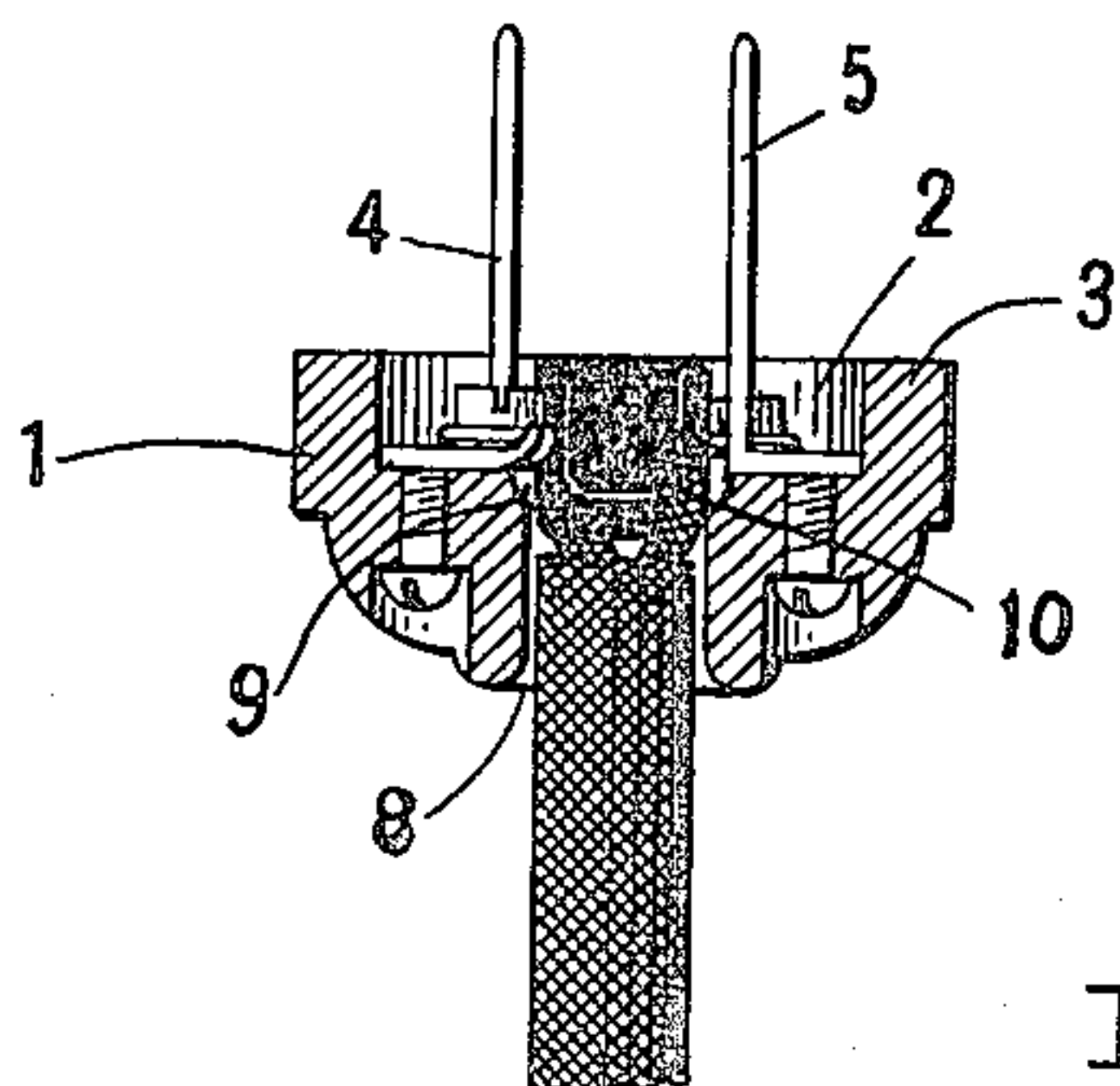


Fig. 1.

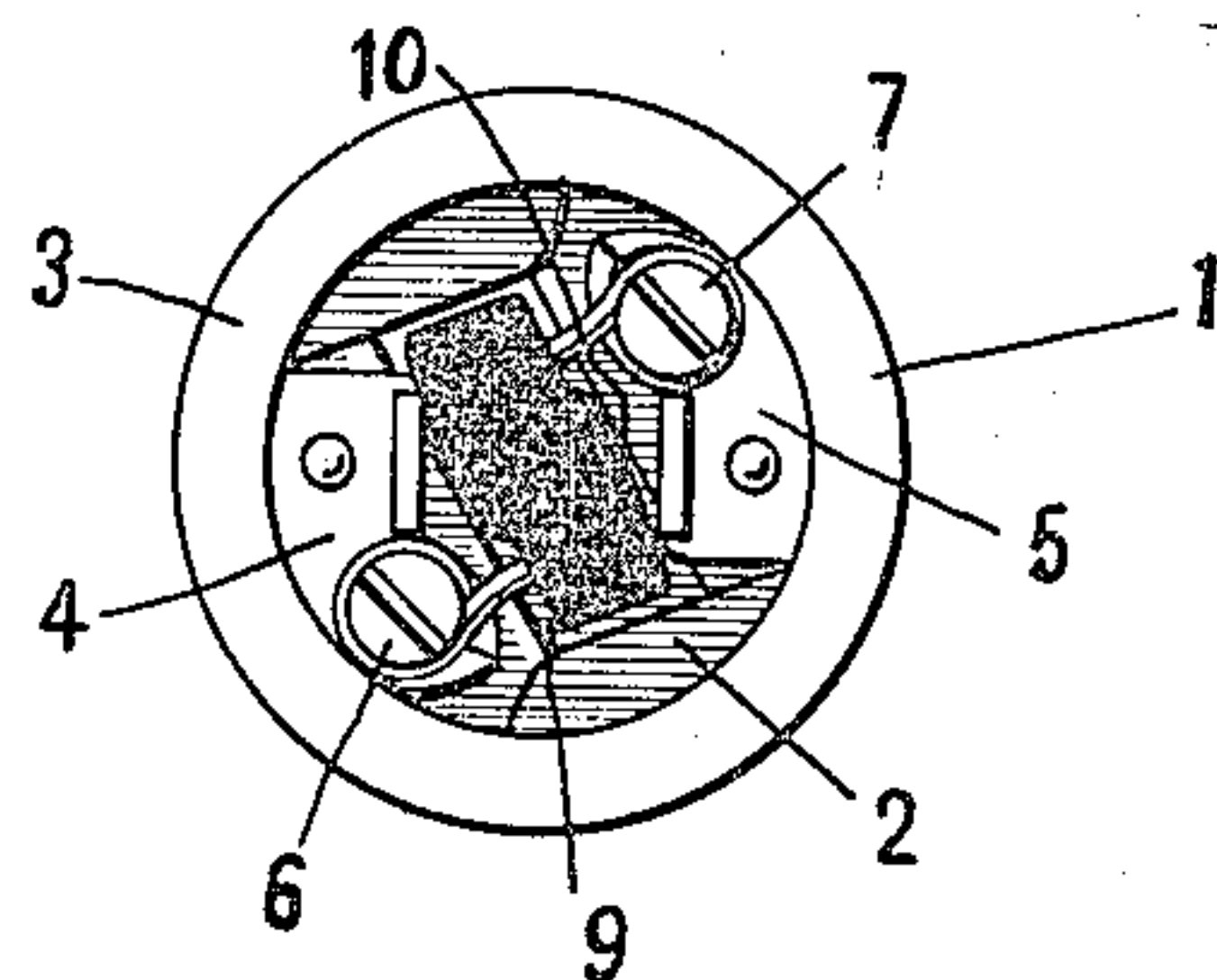


Fig. 3.

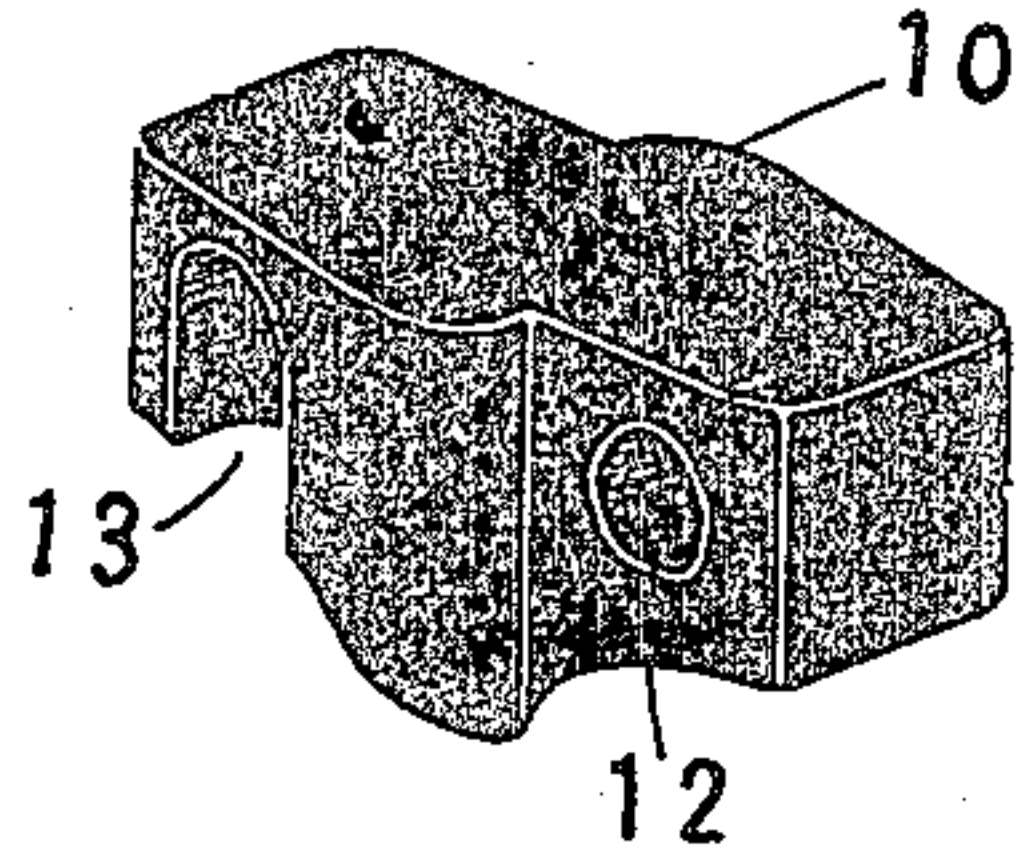


Fig. 7.

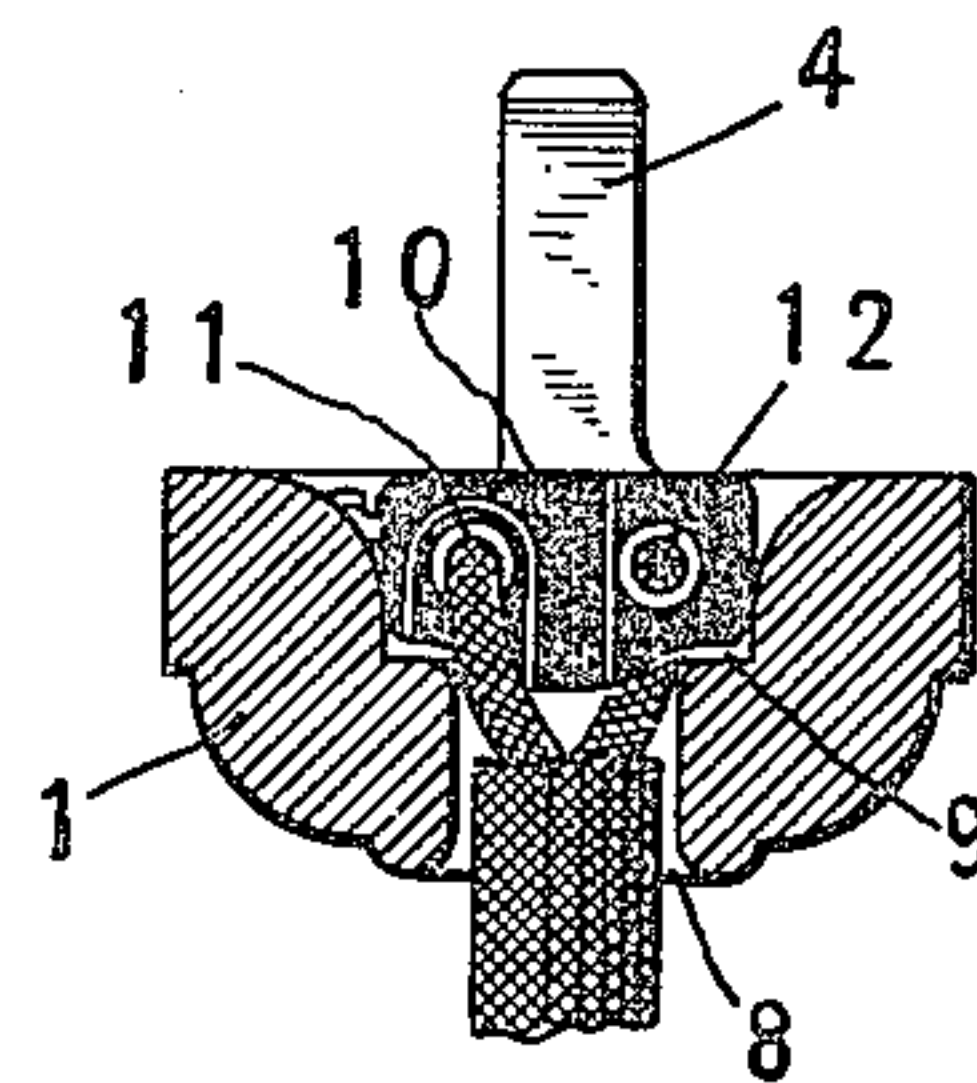


Fig. 4.

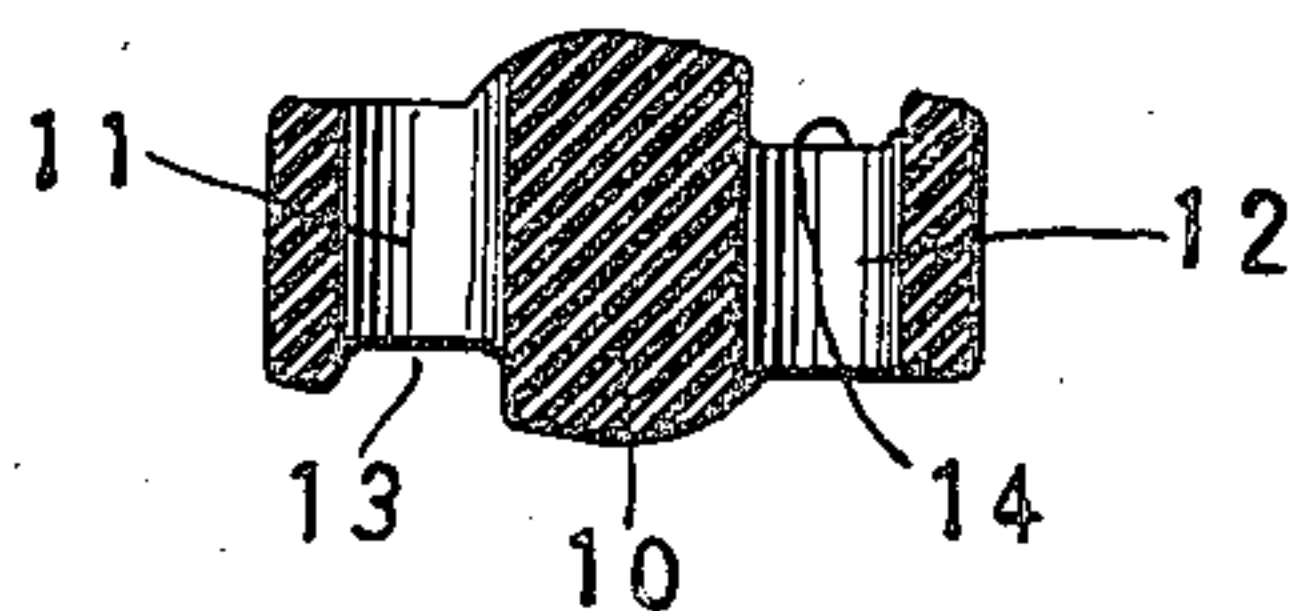


Fig. 6.

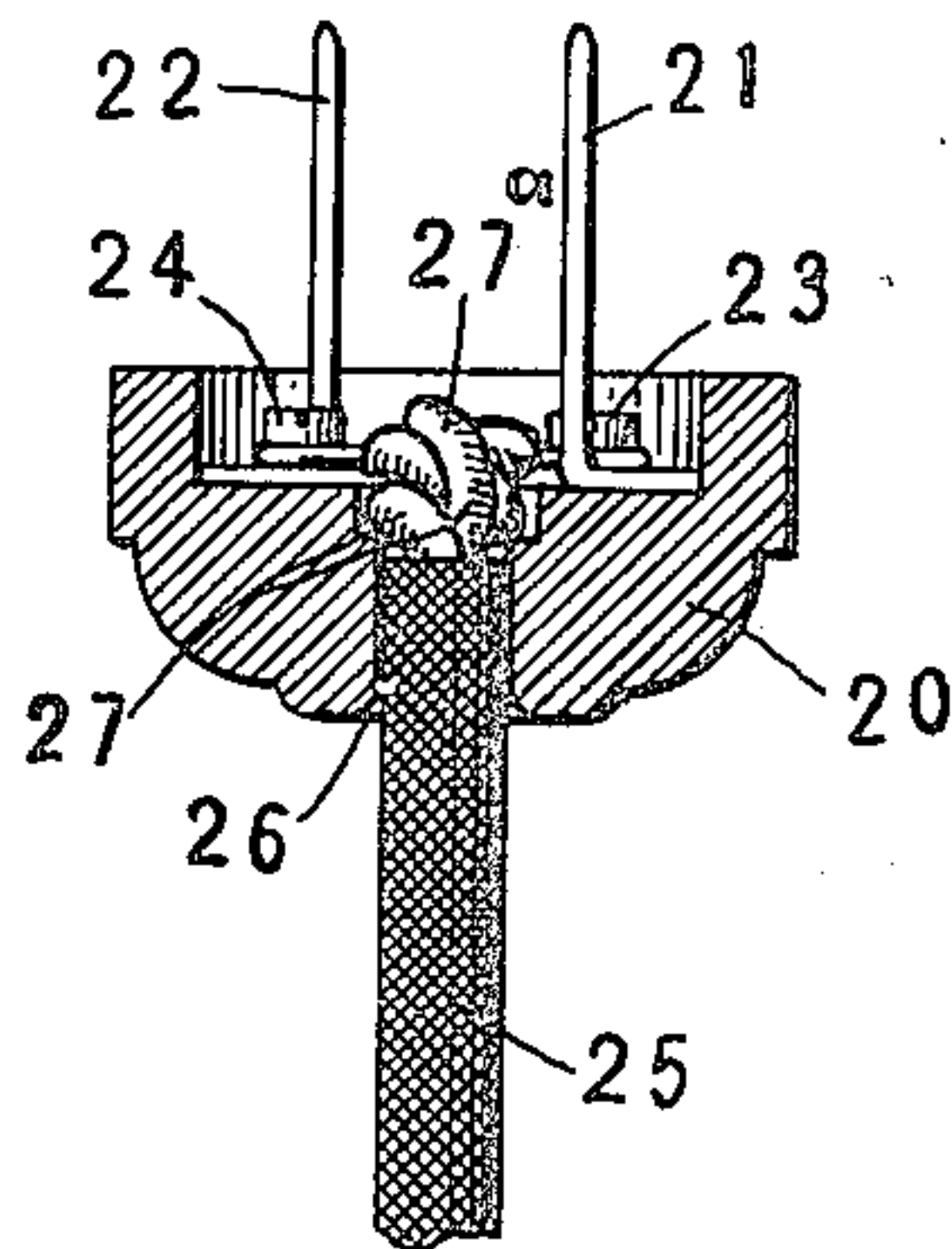
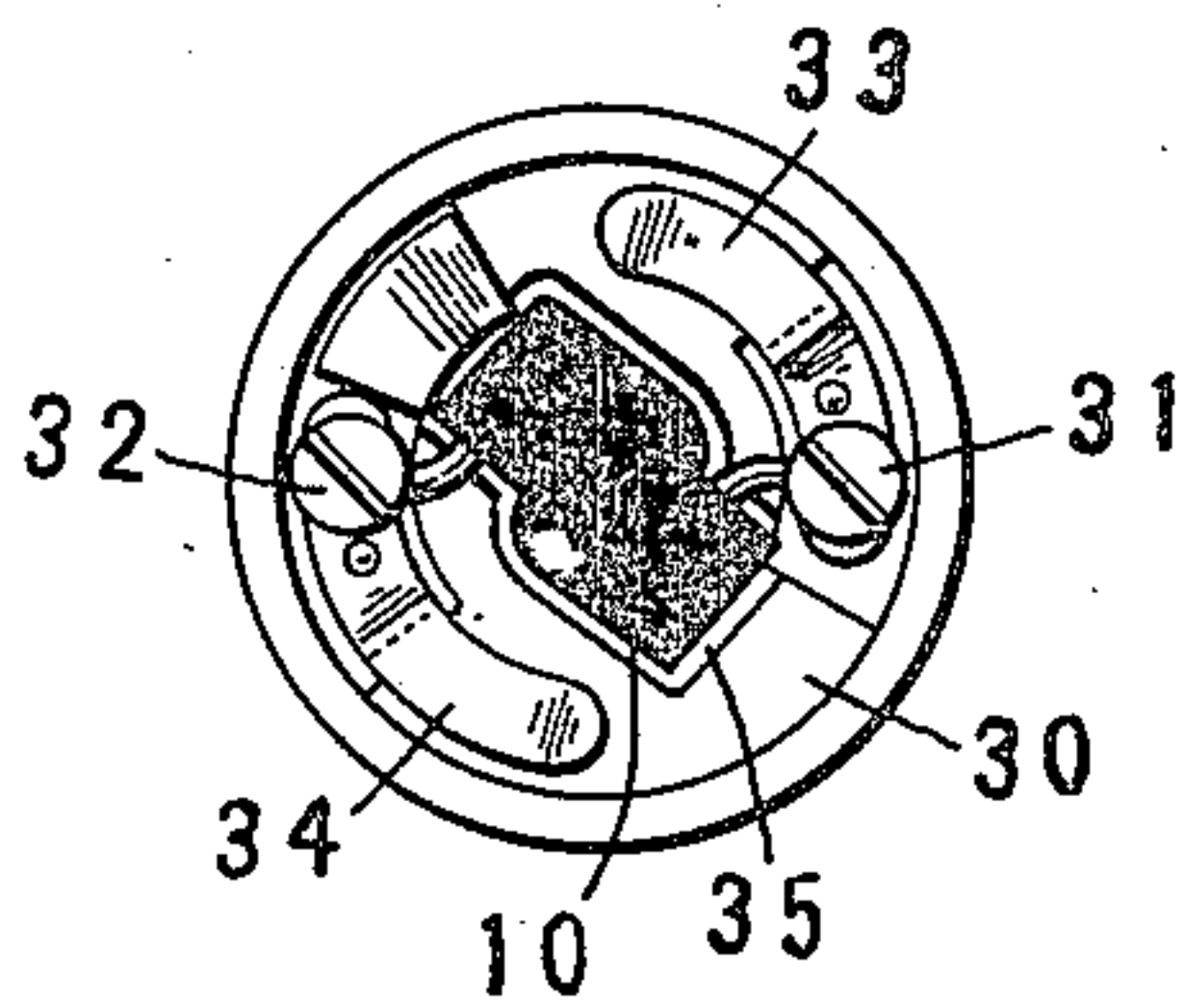


Fig. 5.



WITNESSES:

J. P. Dwyer
Max Brenner

INVENTOR

Clarence D. Platt.

BY

C. D. Baker
 ATTORNEY

UNITED STATES PATENT OFFICE.

CLARENCE D. PLATT, OF BRIDGEPORT, CONNECTICUT.

BINDING-BLOCK FOR TERMINAL WIRES.

999,521.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed May 7, 1910. Serial No. 559,909.

To all whom it may concern:

Be it known that I, CLARENCE D. PLATT, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Binding-Blocks for Terminal Wires, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

As indicated by the title, the invention relates to a device for binding the terminal wires of an electrical device, which also has the function of providing for the insulation of said terminals and the insurance of a firm connection which cannot be disturbed by manipulating the terminal wire or parts to which it is connected.

The objects of the invention are to provide an insulating and binding block by means of which the terminals of an electric line may be secured in place and connected to their respective binding posts insuring insulation between the terminals and providing a lock to prevent disturbance of the connections.

A still further object is to provide such a binding block which will completely separate and insulate the line-wire terminals in any electrical apparatus with which it is used.

Referring to the drawings: Figure 1 is a top plan view of the cap of a plug cut-out to which my invention is applied. Fig. 2 is a sectional view therethrough. Fig. 3 is a perspective view of the locking block. Fig. 4 is a detail sectional view through the block on a horizontal plane. Fig. 5 is a plan view of the cap of a rosette illustrating the application of the invention. Fig. 6 is a sectional view of the cap of a plug cut-out illustrating a method of knotting the wire to provide a lock. Fig. 7 is a detail sectional view illustrating the cramping action of the locking block against the wires and cap.

It has been common practice, to pass the terminal wire of a circuit through an orifice in more or less fragile insulating materials to secure connections with the pole-pieces or contacts carried by such a device. For instance, in lamp sockets, plug cut-outs and rosettes, all of which are well-known in the art, it has been a common practice to pass the wires through the cap-part, separate the respective wires where a cord or duplex wire is used, and then knot the wire just within

the cap to prevent its being pulled out of the cap-piece. The ends of the wire are, of course, secured to the respective binding posts or terminal contacts. In such a method it often occurs that the insulation is broken down and the nut being of irregular form causes uneven strains upon the portions of the cap which cause breakage, to say nothing of the breaking down of insulation with the consequent results of short circuits.

It is the object of the present invention to provide a simple device through which the ends of the wire may be passed before being secured to the binding posts or terminal blocks and so arranging this device that it will thoroughly insulate the two wires one from the other and act as an insulator between the terminal contacts to which the ends of the wires are to be secured.

Obviously, the device may be used in many forms of electrical apparatus. In fact, in any device where it is desired to firmly secure the terminal wires without throwing undue strain upon the parts carrying the contacts to which the wires are secured. As illustrated in the drawings, the device is shown in conjunction with a cap of a plug cut-out and the cap of a rosette. There is also shown the cap of a plug cut-out with the wires knotted as has been common practice.

Referring to the drawings, the numeral 1, denotes the cap-piece of a plug cut-out which, as illustrated herein, has a depressed portion 2, surrounded by flange 3, and providing a suitable seat for terminal contacts 4, 5. These contacts are provided with binding screws 6, 7, to which the terminal wires are connected.

There is a central perforation 8, through which the wire is led into the cap and as illustrated herein, there is a depressed recess 9, transversely arranged with reference to the perforation 8, and forming a convenient seat for the binding and insulating block 10. This block 10, is preferably formed of an insulating material and of such proportions and shape as will permit it to fit nicely within the cap portion of the device. Extending transversely through it are perforations 11, 12, and in order to give sufficient clearance room, in the device illustrated, is cut away on opposite sides adjacent to the perforations 11, and 12, as at 13, 14. The recesses 13, 14, and the perforations 11,

and 12, are arranged at opposite ends of the block and the wires are therefore separated or spread apart before passing through the recesses 13, 14, and through the perforations 11, 12. As the block is pulled down into its seat in the cap-part, the wires below the block are securely clamped under the shoulders adjacent to the recesses 13, 14. It is apparent that the wire is thus bent at right angles through the perforation and is cramped or bound as it passes under the block and out through the central opening of the cap. Of course, the exact form of the binding block as well as the form of the cap is quite immaterial. It is only sufficient that the transverse openings through the binding block are so arranged that the ends of the wire which are passed therethrough are brought directly in contact with the binding screws 6, and 7.

The block 10, lies between the two terminal contacts 4, and 5, and forms a complete insulation between them as well as an insulation for the wires which are led through it. As illustrated, the two wires are turned through the perforations 11, 12, from opposite sides of the binding block and are bent up sharply at right angles, thus giving a substantial hold upon the wires. The ends of the wire projecting beyond the perforations are then secured to the binding posts and when once locked down by the screws are held firmly in place even against pull upon the wire which projects beyond the cap.

From the above, it is apparent that the block not only serves to insulate the ends of the wire perfectly and separates the two wires so that there is no chance of short circuiting, but forms a binder to take up the strain upon the wire and being arranged within the cap prevents movement of the wire even though great strains are placed upon the wire projecting beyond the cap.

Where caps for plugs are used, it is not an uncommon practice to pull the cap away from the body part by taking hold of the wire and the binding block herein referred to, prevents dislodgment of the terminal wires and being of a considerable size prevents breakage of the fragile cap-part. It is apparent that the exact form of the device is quite immaterial and that it may be used in many forms in conjunction with many electrical devices. It is a great aid to the wireman, inasmuch as he can clear the insulation from the ends of his wires, pass them through the block, after insertion to the cap-part and after drawing the wires through the perforations of the block until insulation is reached, may secure the bare ends to the binding screws, then cutting off any extra length.

In the old method of knotting, the knot first must be tied and pulled down into the

cap and then the wires must be very carefully "skinned" just at the point of their juncture with the terminal connections. In Fig. 6 there is shown this old method of knotting the wires to form a device for preventing pulling out of the wire through the cap. In this figure, which illustrates a cap 20, having terminal contacts 21, 22, and connecting binding posts 23, 24, the main wire 25, (of the duplex type) is led through the perforation 26, and the individual wires 27, which run to the binding posts 23, 24, are knotted as at 27^a, forming a sufficient body of material to prevent the duplex wire 25, being pulled out of the opening 26. Obviously, the knotting is of such a form as to throw uneven strains upon the cap and as the knot may slip, there is no certainty that the connections of the individual terminal wires with the terminal contacts 23, 24, will hold without undue strain. In contradistinction to this arrangement, applicant provides a block which is movable with reference to the opening 26, which actually bears upon the out-going wires and clamps them against the cap about the side of the opening. Inasmuch as the wires project through the block any pull tends to hold the block down firmly against the wires and locks them against a slipping movement.

In Fig. 5, there is shown a cap of a rosette with the invention applied thereto. This is of ordinary form consisting of a cap-part 30, having terminal binding posts 31, 32, to which the line-wires are connected after passing through the binding block 10, as clearly illustrated. There are the usual contact fingers 33, 34, which, upon partial rotation, engage with the cooperating contacts of the base-part of the rosette, which parts are not shown herein, a rosette being a well-known structure in the art. As in the case of the cap of the plug cut-out, shown in Figs. 1 and 2, there is a seat or recess formed in the rosette 30, so that the incoming wires will be shortly cramped under the block 10, and will thus ease the strain upon the terminal connections.

What I claim as my invention and desire to secure by Letters Patent is:

1. The combination of a cap having a perforation for the passage of electric wires, contacts to which the wires are attached arranged on opposite sides of the axis of said perforation, and a free block of insulating material having transverse passages for the wires, the block being shaped to rest within the cap between the said contacts, and when therein arranged to clamp the separate wires against the cap when stress is applied to the wires to pull them out from the cap.

2. The combination of a cap having a perforation for the passage of electric wires, contacts to which the wires are attached, carried by the cap and located on opposite

sides of the said perforation, and a free block of insulating material having transverse openings in it through which the wires are passed, the block being shaped to rest within the cap between the said terminal contacts and arranged to clamp the said wires between itself and the cap when stress is applied to the wires to pull them out from the cap.

3. The combination of a cap having a perforation for the passage of electric wires and a recess constituting a seat for an insulating, supporting and clamping block, contacts to which the wires are attached located on opposite sides of the said perforation and recess, and a free block of insulating material having transverse passages for the wires, the block being shaped to rest within the said seat formed therefor in the cap and arranged when so seated to clamp the wires between itself and the cap with a force proportionate to the strain applied to the wires tending to pull them from the cap.

4. The combination of a cap having a perforation for the passage of electric wires, contacts to which the wires are attached, arranged on opposite sides of the axis of the said perforation, and a free-moving

block of insulating material having separate passages through it for the wires, the block being shaped to rest within the cap between the contacts and the wire passages therein opening at its sides whereby when in place within the cap the block clamps the separate wires against the cap when stress is applied to the wires tending to pull them from the cap, thus relieving the wires from strain at the points where they are united with the contacts.

5. The combination of a recessed cap having a central perforation for the passage of electric wires, contacts to which the wires are united arranged in the recess of the cap on opposite sides of the axis of the said perforation therein, and a free-moving block of insulating material having through it separate passages for the wires opening at the sides of the block, the block being recessed adjacent to the said openings, whereby when the block is set within the cap and stress is applied to the wires tending to pull them outward, they lie in said recesses and are clamped between the block and the cap.

CLARENCE D. PLATT.

Witnesses:

T. MERLE SHAW,
GEORGE N. SEARS.