

No. 671,763.

Patented Apr. 9, 1901.

E. T. GREENFIELD.  
JUNCTION BOX.

(Application filed Mar. 2, 1901.)

(No Model.)

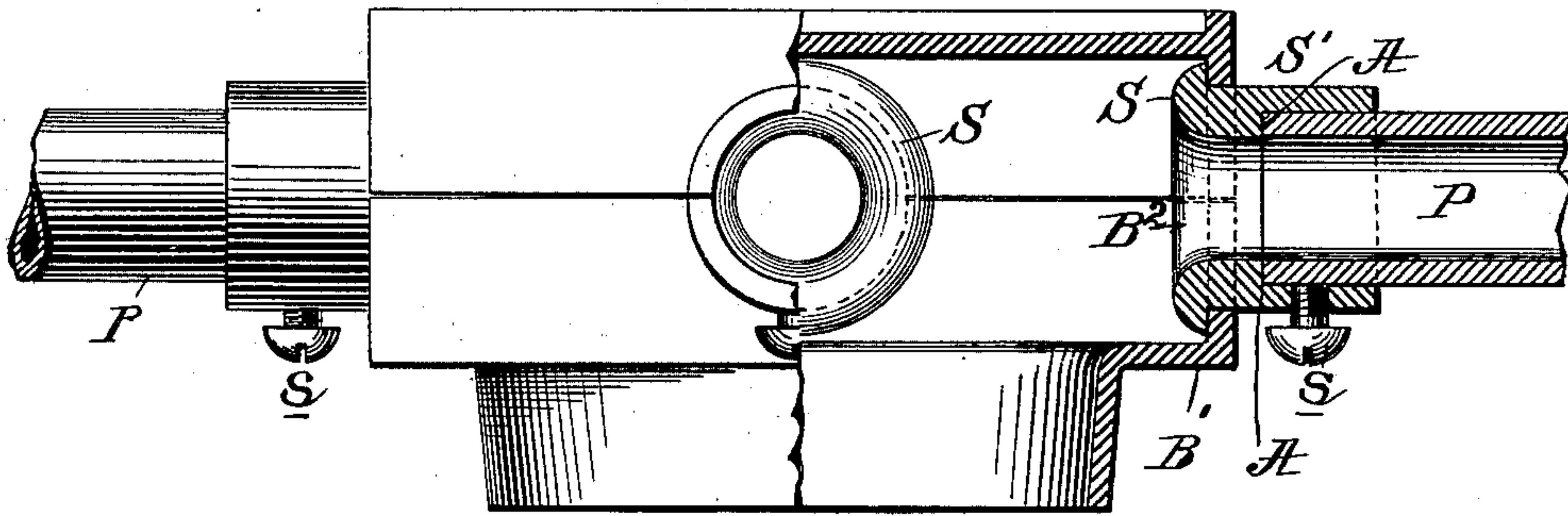


Fig. 1.

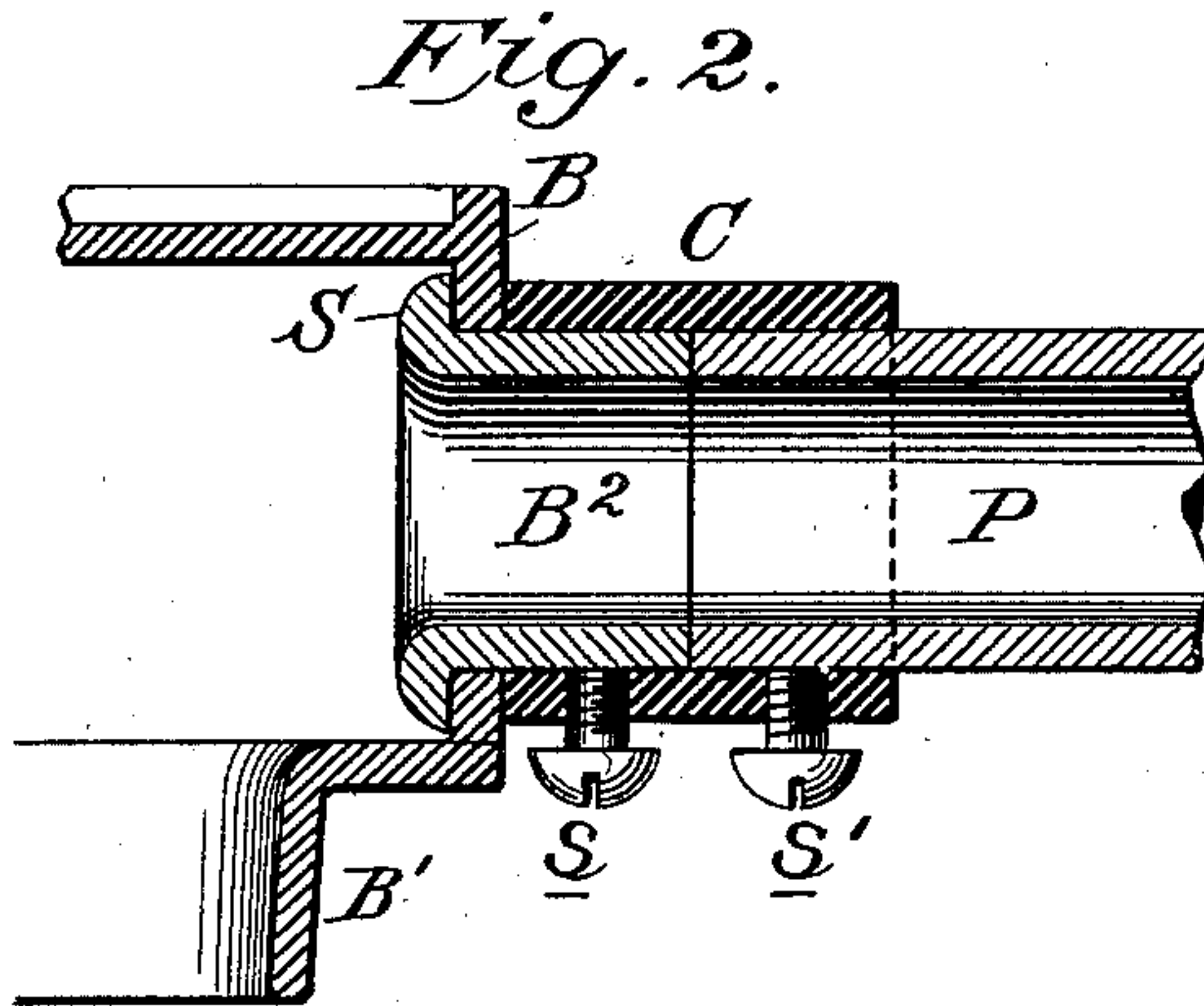


Fig. 2.

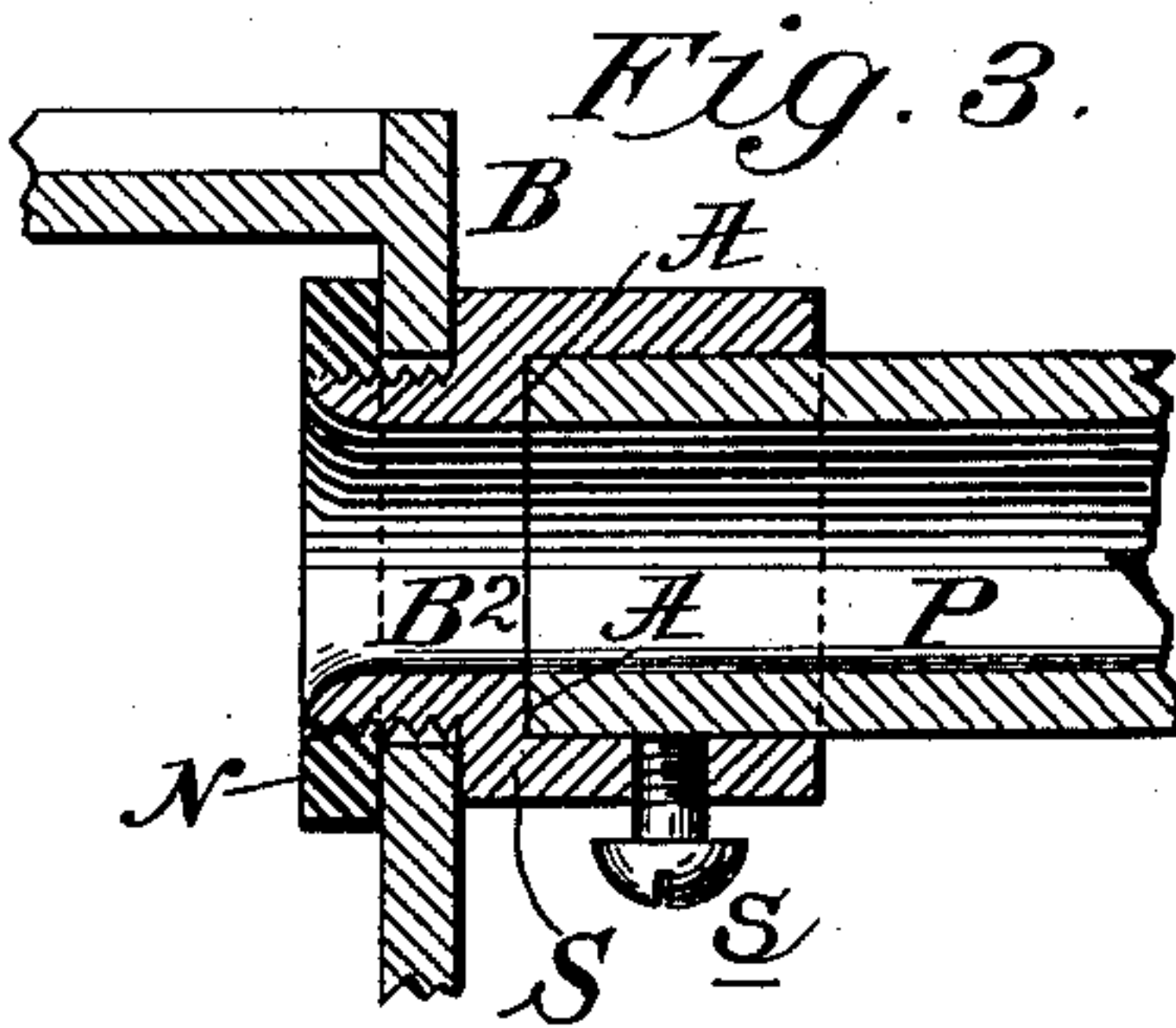


Fig. 3.

Witnesses  
Edward Dowland  
M. F. Keating

Inventor  
Edwin T. Greenfield  
By his Attorney  
Charles J. Kintner



# UNITED STATES PATENT OFFICE.

EDWIN T. GREENFIELD, OF NEW YORK, N. Y.

## JUNCTION-BOX.

SPECIFICATION forming part of Letters Patent No. 671,763, dated April 9, 1901.

Application filed March 2, 1901. Serial No. 49,565. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN T. GREENFIELD, a citizen of the United States, residing at New York, in the borough of Manhattan, county and State of New York, have made a new and useful Invention in Junction-Boxes, of which the following is a specification.

My invention has for its objects, first, to provide a junction-box with metallic bushings for uniting the box to the ends of adjacent conduit pipes or tubes and in such manner that little or no abrading or damaging effect will be offered to the insulation of the wires or conductors when drawn therein, and, second, to provide a junction-box with metallic bushings for uniting the box to the ends of adjacent conduit pipes or tubes and in such manner that the constructor will not be required to screw-thread the ends of the pipes or tubes when wiring a building.

Existing rules of the National Board of Fire Underwriters in the United States require that in the wiring of buildings in which the wires are protected by interior or house conduits and metallic junction-boxes there shall be offered no abrading or tearing surfaces to the insulating-surfaces of conductors when drawn therethrough when placing the same in position. For the purpose of complying with these rules it has heretofore been customary to insert bushings or sleeves in the necks or inlets of junction-boxes, the inner ends of which bushings are flared or of bell-mouth shape, said bushings being usually secured in place by screw-threads in the inlets of the junction-boxes or else provided with screw-threads at their exterior ends to which the conduit pipes or tubes are attached by corresponding screw-threads. My invention is designed to accomplish these results, in so far as possible, without the use of screw-threads or at least to avoid, in so far as possible, the necessity of screw-threading the ends of the conduit pipes or tubes at the time a building is being wired, thereby materially saving in expense and labor.

Referring now to the drawings, Figure 1 represents a part-sectional and part side elevational view of a junction-box embodying my improvement. Figs. 2 and 3 are sectional views illustrating modified forms of the invention.

Referring now to the drawings in detail for

a full and clear understanding of the invention, such as will enable others skilled in the art to construct and use the same, B B' represent a junction-box made, preferably, in two parts, as illustrated in Fig. 1, and provided with semicircular openings for the inlets, the arrangement being such that when the two parts are secured together they constitute a complete two-part junction-box, generally like that disclosed in my Patent No. 665,676, granted January 8, 1901.

My improvement consists in providing a tubular metal bushing B<sup>2</sup>, flared or bell-mouthed at its inner end and having a shoulder S, adapted to bear against the inner surface of the junction-box when put in place, so that the outer portion thereof constitutes a neck for sustaining the adjoining end of a conduit pipe or tube P, the exterior inner surface of the bushing being of greater bore, as shown at A, said bore being such that when the conduit pipe or tube P is put in place the continuous inner surface offers no roughened or abrading surface.

s represents a set-screw for securing the bushing and the end of the conduit pipe or tube together, thereby avoiding the necessity of screw-threading the inner ends of the conduit pipe or tube P and the corresponding inner surface of the bushing.

In Fig. 2 I have illustrated a modified form of the invention, in which the entire interior diameter of the bushing B<sup>2</sup> is the same as that of the conduit pipe or tube P, C being a metal collar adapted to be slipped over the adjoining ends of the bushing and the conduit pipe or tube, and s s' set-screws for firmly securing all of the parts together.

In Fig. 3 I have illustrated a still further modified form of the invention, in which the bushing B<sup>2</sup> is screw-threaded at its inner end and is provided with a nut N, adapted to be secured in place after the screw-threaded end of the bushing is inserted in the opening in the junction-box, the other parts of the bushing and the set-screw s for uniting the conduit pipe or tube P thereto being substantially like those disclosed in Fig. 1.

I do not limit my invention to the details of construction hereinbefore described, as I believe I am broadly entitled to claim a bushing for joining a junction-box with a conduit pipe or tube in which the interior diameter of the



bushing and conduit-pipe when joined together constitutes one continuous surface, the bushing and the conduit-pipe being joined together by set-screws, substantially as shown and described, and my claims are generic as to this feature.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

- 10 1. A flared or bell-mouthed bushing for a junction-box provided with an interior shoulder for securing it within the junction-box; in combination with means for uniting a conduit pipe or tube and the bushing together  
15 by pressure, substantially as described.

2. A flared or bell-mouthed bushing for a junction-box, the outer interior diameter of which is greater than the diameter of the bushing proper; in combination with a conduit pipe or tube and one or more set-screws 20 for securing the same together, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN T. GREENFIELD.

Witnesses:

C. J. KINTNER,  
M. F. KEATING.