

E. L. UPSON & F. J. DOLE.
CONDUIT ROD.
APPLICATION FILED JAN. 11, 1907.

911,854.

Patented Feb. 9, 1909.

Fig. 1.

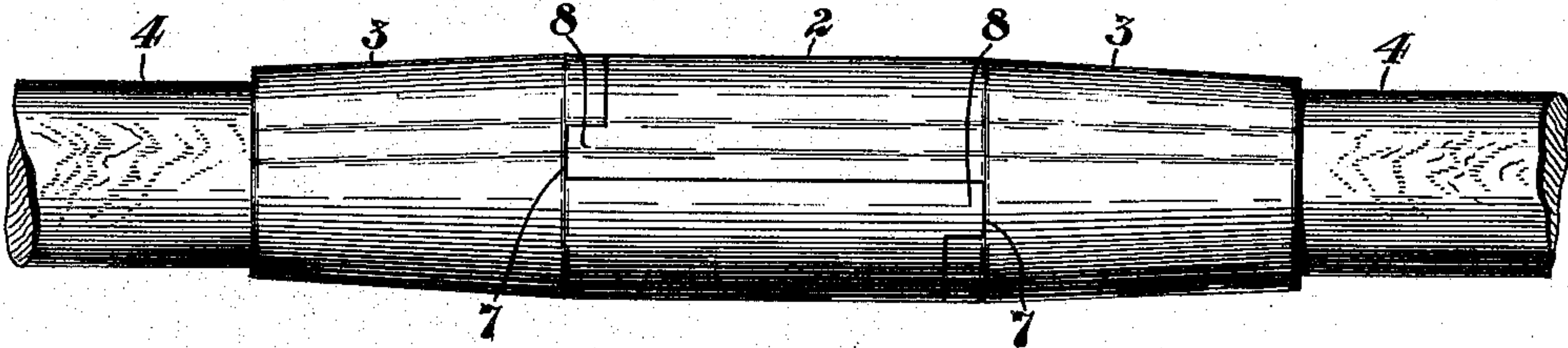


Fig. 2.

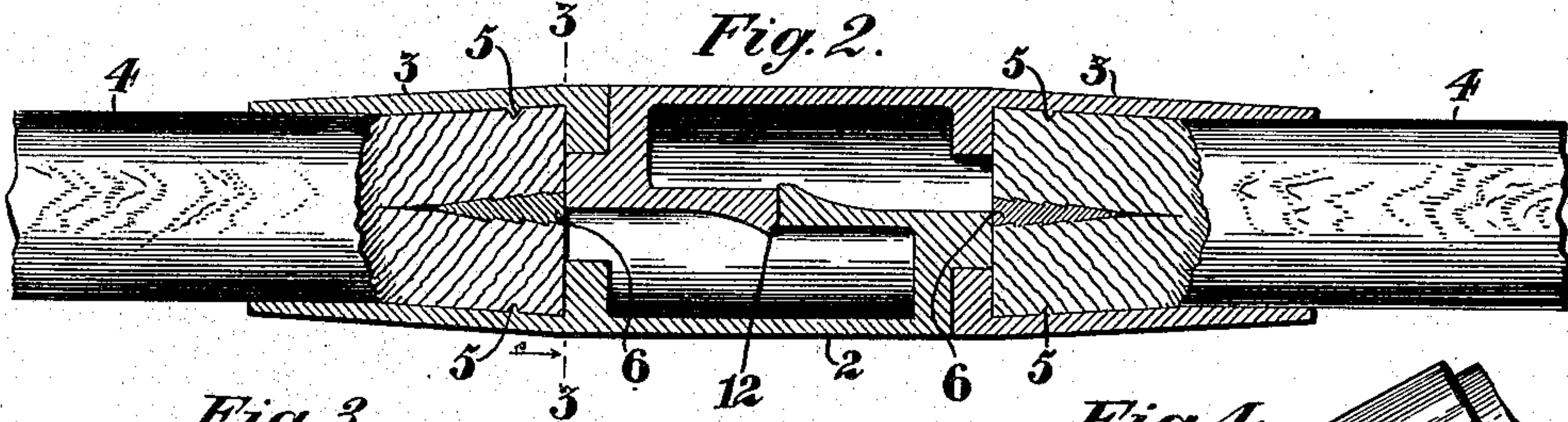


Fig. 3.

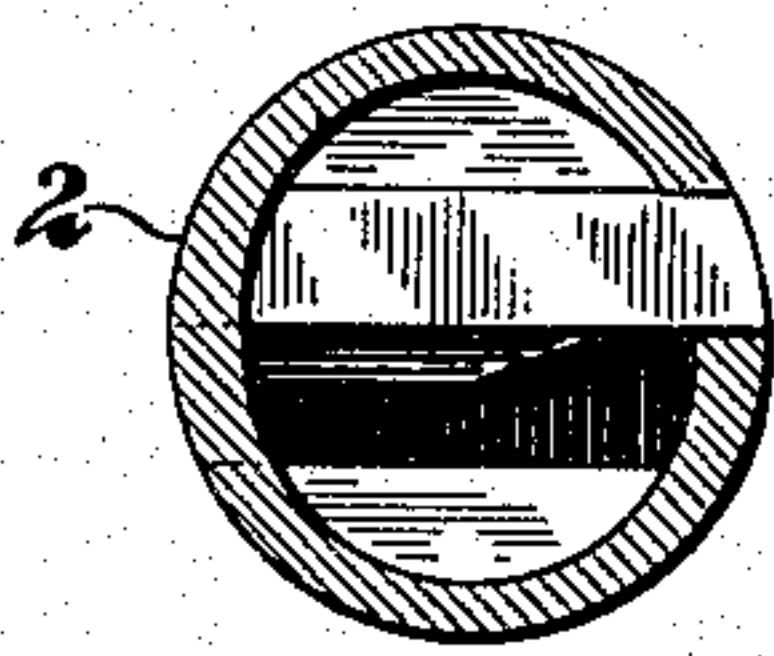


Fig. 4.

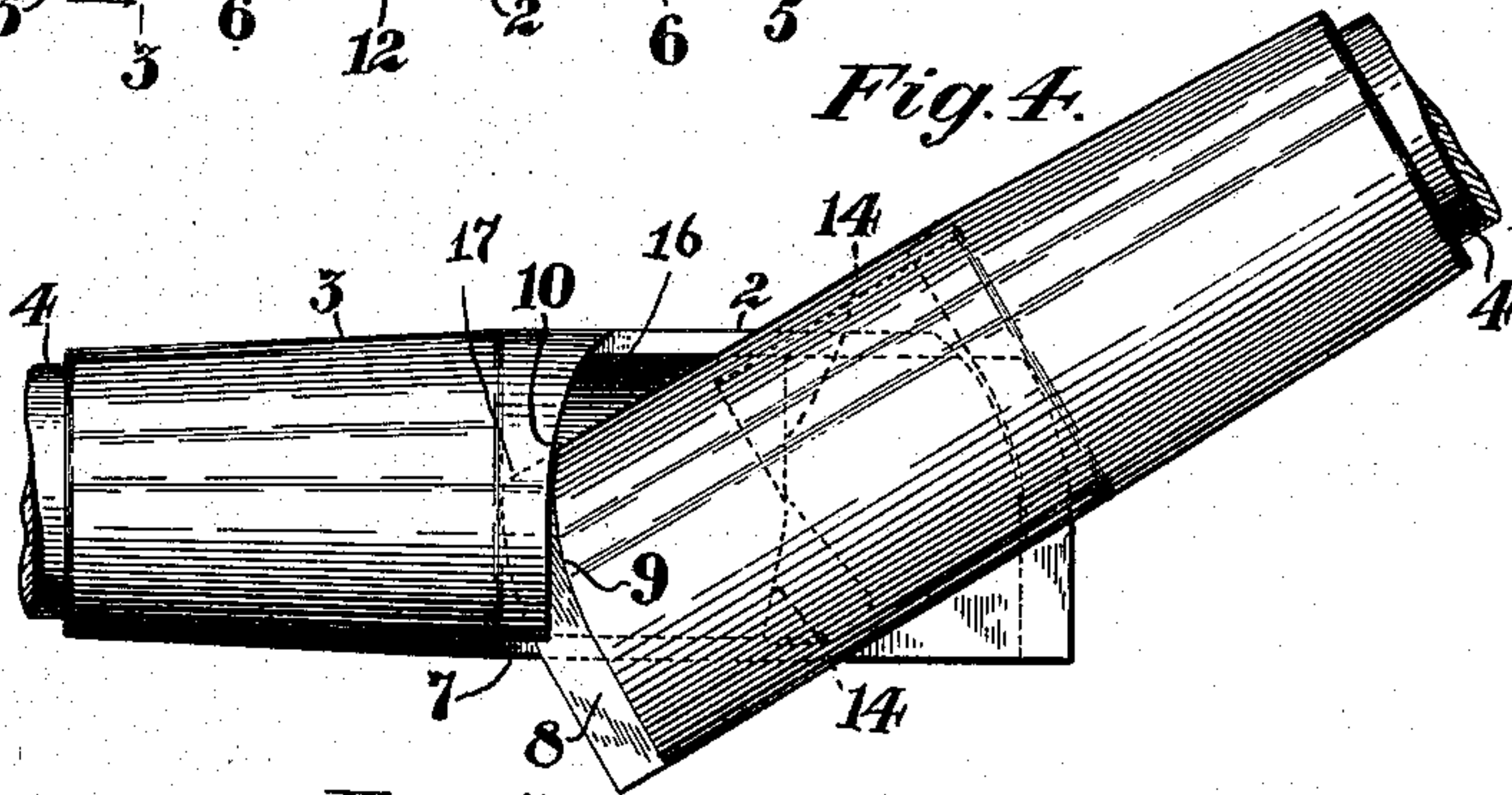


Fig. 5.

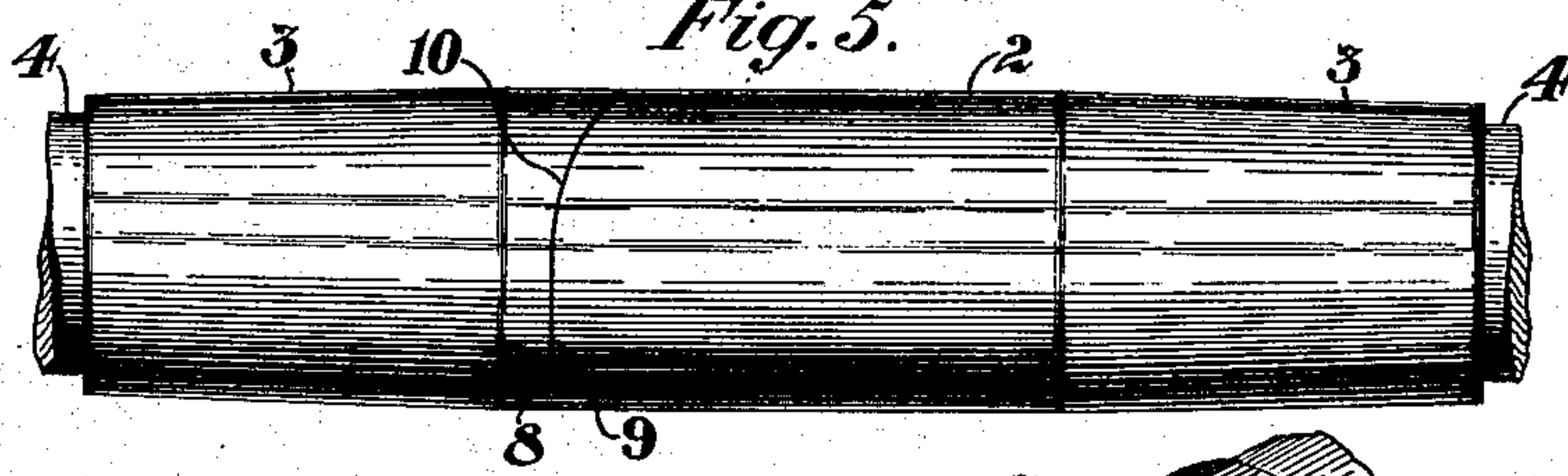
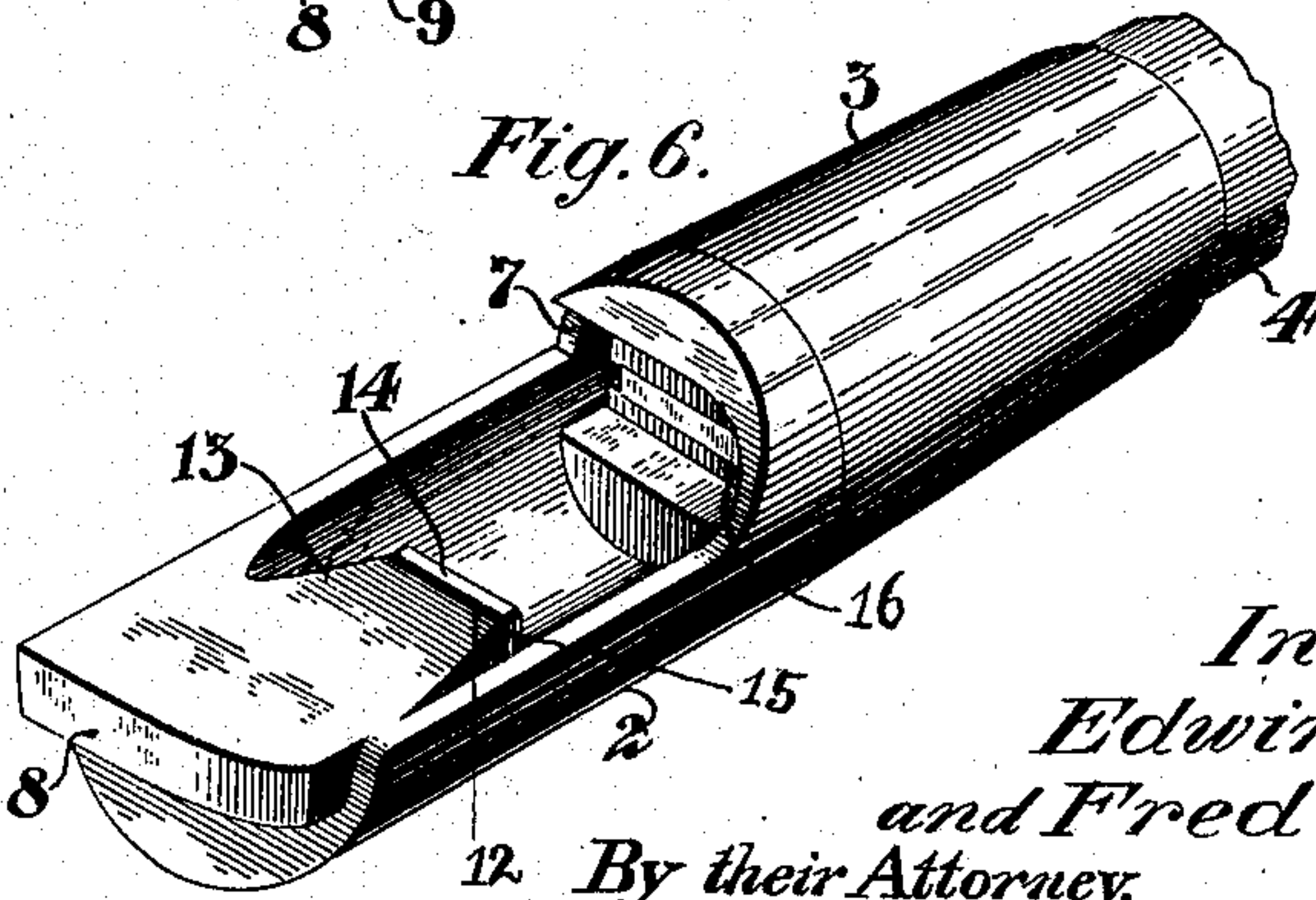


Fig. 6.



Witnesses:
J. L. Edwards.
H. D. Penney

Inventors,
Edwin L. Upson,
and Fred J. Dole.

By their Attorney,

F. A. Richards

UNITED STATES PATENT OFFICE.

EDWIN L. UPSON AND FREDERICK J. DOLE, OF BROOKLYN, NEW YORK.

CONDUIT-ROD.

No. 911,854.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed January 11, 1907. Serial No. 351,799.

To all whom it may concern:

Be it known that we, EDWIN L. UPSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, and FREDERICK J. DOLE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Conduit-Rods, of which the following is a specification.

This invention relates to conduit rods, and more particularly to the means connecting the several sections forming such rod, the object of the invention being to provide an improved conduit rod in which the several sections may be quickly connected without requiring the matching of one end of one section with the opposite end of another, and the separation of which sections when connected will not be possible except by manually reversing the mode of connection so that there will be no liability or danger of the sections becoming prematurely separated in use.

A further object of the invention is the provision of an improved conduit rod in which the couplings thereof will comprise each a pair of members one a duplicate of the other, and in which each section of the rod may be effectively secured to its coupling member after such coupling member and section are completely positioned one relatively to the other.

In the drawings accompanying and forming part of this specification, Figure 1 is a side view of a pair of conduit rod sections coupled together by this improved coupling; Fig. 2 is a vertical cross sectional view partly in elevation of Fig. 1; Fig. 3 is a cross section taken on line 3—3 Fig. 2, looking toward the right; Fig. 4 is a view illustrating the mode of attaching and detaching a pair of conduit rod sections; Fig. 5 is a view somewhat similar to Fig. 1, looking at another side of the parts; and Fig. 6 is a perspective view of one of these coupling members, the other being exactly like it.

We are aware that various kinds of couplings have been devised for connecting the rod sections of conduit rods, but so far as we are aware none have their members one an exact duplicate of the other, whereby in connecting up the several rod sections the necessity of particularly matching one end of a rod section with the opposite end of another rod section is avoided; none have

this duplicate construction with the members interlocked by a swinging movement from a crosswise position; none have a construction in which the members are interlocked by a swinging movement which tends to further interlock and maintain the members from separation under lengthwise strain; and none have a construction in which the wedging of the rod sections in the sleeves of the coupling members subsequent to the complete insertion or positioning of such rods in such sleeves can be accomplished.

Conduit rods are made up of a series of sections, each about three or four feet long, and each section has secured at each end thereof a coupling member, and by making these members in the present invention one a duplicate of the other two sections of the rod can be quickly mated and coupled, whereas when the coupling members are different in construction it is obvious that only that end of a rod section can be mated with an adjoining end of another section where they happen to fit, and consequently when they do not one of the sections must be turned around to bring the other end into position, and this may be difficult, especially when the sections are connected below ground where the turning of the sections cannot readily be accomplished. Each of these coupling members 2 comprises a sleeve or tubular portion 3 for the reception of the end of a rod section 4, which may be of any suitable form or material. Under the present practice it is usually formed of wood. This sleeve 3 is preferably tapered toward the outer end thereof and is provided with projections shown herein in the form of prongs 5 on the interior thereof for penetrating the rod sections, which are straight and of substantially the diameter of the outer end of the tapered sleeve, so that when inserted there is sufficient room for the spreading of the rod section and the wedging thereof into engagement with the sleeve. This is accomplished in the present instance by means of a wedge 6, which may be inserted after the sleeve and the rod section have been properly assembled, this being one of the advantages of the present construction. The insertion of this wedge 6 not only forces the material of the rod section into engagement with the sleeve, thereby wedging it into position, but the prongs projecting in the wood materially assist in prevent-

ing the separation of the section and its coupling member or ferrule. The coupling member is formed or cast with a cut-away portion at one side of such member and forward or in front of the sleeve, which cut away portion is in communication, through the medium of a groove 7 hereinafter referred to, with the sleeve thereby to permit the insertion of the wedge into the rod section after the assemblage of the coupling member and such rod section. This groove 7 is formed in the present instance by a stop or stops which partially separate the sleeve from the cut away portion and which act as a positioning or limiting means for the end of the rod section and also as a tongue-receiving portion whereby the tongue of one member is interlocked with the other member against separation except by reversing the operation. Each of the sleeves is provided with a groove 7 and a tongue 8, the groove communicating with the sleeve 3 of the coupling member, and the wedge may be inserted through the groove 7 into the end of the rod section for wedging it into position in the manner just described. The tongue 8 is located at or formed by the end of the coupling member and fits into the groove 7 of its companion member in the manner shown in Fig. 4, the meeting walls 9 and 10 of the coupling being curved to insure a proper joint. Between this tongue and groove is located an abutment or stop 12, it being located in just the position to permit the tongue 8 of the companion coupling member to fit into the groove when the members are swung from a crosswise position into alinement with each other, the assemblage of the parts not being possible in any other way except in the manner described and shown in Fig. 4. This stop face 12 is so formed that the tendency thereof under strain is to keep the coupling members interlocked, that is to say, the metal of which each coupling member is formed or cast is cut away in such a manner as to form an inclined surface 13 and a straight surface 14, the inclined surface 13 forming a clearance or recess between the transversely extending stop face and the opposite wall of the member, and which recess runs in the direction of the length of said member to permit the proper assembling or separation of the members, these surfaces being so formed and located that when brought together they will properly position the members to insure the proper coupling thereof. The straight surface 14 is located at one side of the center of the coupling member and thus tends to maintain the members locked when under lengthwise strain. This plane face thus forms a stop face at one side of the axis of the coupling member in consequence of which the two members can be swung together in the manner shown in Fig. 4 and

also when assembled prevented from being uncoupled except in the same manner in which they were coupled, the tendency under strain of the coupling members being to become further interlocked. The stop faces 12 cooperate with the interlocking tongues and their tongue-receiving portions in effecting a pivotal action of the coupling members during the assemblage thereof, whereby the necessity of using pivot pins to secure this pivotal action is avoided.

In the present construction it will be observed that the side faces 15 of the duplicate stops 12 act to limit the swinging movement of the coupling members when being coupled, while the inner face 16 adjacent the grooves or recess 7 of each coupling member acts in conjunction with the side face 17 of the tongue 8 to also limit such movement; but in addition, these stop faces 16 and 17 also insure the alinement of the members should there be lengthwise play of such members, thus preserving a perfect alinement of the coupling members at all times. The tongue and its tongue receiving portion or groove also act to limit endwise movement of the coupling members and thus hold the stop faces in engagement, thereby insuring a pivotal action of the two coupling members when coupled, and this without the use of pivot pins and holes.

One of the advantages of the present construction is the facility by which the coupling members can be cast each as a one-piece casting, requiring but little machining to properly fit them for use after such casting.

Any suitable fastening which will act in a similar manner to a wedge when inserted into the end of the rod could be used in place thereof, and this expression in the claims is therefore intended to cover such a device.

We claim as our invention:

1. A conduit rod comprising a pair of rigid rod sections having duplicate or interchangeable coupling members each comprising a one-piece casting for attachment to a rod section, and each having a tongue-receiving portion, a tongue interlocking with the tongue-receiving portion of its companion member by swinging said coupling members into alinement from a crosswise position, and means integral with each coupling member and intermediate its tongue and tongue-receiving portion and cooperating with said interlocking tongue connections to effect a pivotal action of the coupling members relatively to each other, said interlocking tongue and receiving portions being constructed to limit endwise movement of the coupling members and to hold said integral means in engagement whereby the use of pivot pin connections is done away with.

2. A conduit rod comprising a pair of rigid rod sections having duplicate or interchangeable coupling members each compris-

ing a one-piece casting having a sleeve, a tongue-receiving portion and a tongue interlocking with the tongue-receiving portion of its companion member by swinging said coupling members into alinement from a crosswise position, said member being cut away between said tongue-receiving portion and tongue to form an integral stop face, said stops cooperating with said interlocking tongue connections to effect a pivotal action of the coupling members relatively to each other, and said interlocking tongue and tongue-receiving portions being constructed to limit endwise movement of the coupling members and to hold said integral stop faces in engagement whereby the use of pivot pin connections is done away with, one part of each tongue and sleeve cooperating to also limit the swinging movement of the coupling members and insure a correct alinement of such members.

3. A conduit rod having a pair of interlocking coupling members, each having a sleeve for the reception of a rod section and a cut away portion at one side of said member communicating with said sleeve for the passage of a wedge, and a wedge for expanding said section in said sleeve and inserted therein through said cut away portion after said section has been inserted into the sleeve.

4. A conduit rod having a pair of duplicate or interchangeable coupling members, each having a sleeve for the reception of a rod section and a cut away portion at one side of said member and opening into said sleeve for the passage of a fastening means, and a fastening in said section and inserted therein through said cut away portion after the parts are assembled.

5. A conduit rod having a pair of coupling members, each having a locking tongue and a sleeve for the reception of a rod section said sleeve having a cut away portion at one side thereof and communicating with said sleeve for the passage of a fastening, and a fastening in said section and inserted therein through such cut away portion after the section has been inserted into said sleeve, said tongues closing the communication between said sleeves and cut away portions.

6. A conduit rod having a pair of duplicate coupling members, each having a sleeve for the reception of a rod section and a cut away portion at one side thereof and communicating with said sleeve for the insertion of a wedge into said section after its insertion into said sleeve, said sleeve having inwardly projecting means for securing the section to the sleeve.

7. A conduit rod having a coupling comprising a pair of members, each consisting of a sleeve for the reception of a rod section said sleeve having a cut away portion

at one side thereof opening into said sleeve for the insertion of a wedge into the end of said section after the insertion of said section into said sleeve, a tongue in the end opposite to said sleeve, and a stop face between said tongue and sleeve.

8. A conduit rod comprising a pair of sections having interlocking coupling members, each member having a sleeve and a cut away portion at one side thereof opening into said sleeve, and means separating said cut away portion from said sleeve and constituting means for positioning the rod section after the insertion thereof into its sleeve.

9. A conduit rod comprising a pair of sections having interlocking duplicate or interchangeable coupling members, each member having a sleeve and a cut away portion at one side thereof opening into said sleeve, and means separating said cut away portions from said sleeves and forming tongue-engaging means, each of said members having a tongue engaging said means and a stop face intermediate said tongue and said engaging means.

10. A coupling member for a conduit rod having a sleeve for the reception of a rod section and a cut away portion at one side of said member and opening into said sleeve to permit the insertion of a wedge into the end of said section subsequent to the insertion of the section into the sleeve, a rod in said sleeve, and a wedge in said rod.

11. A coupling member for a conduit rod having a sleeve tapered on its interior for the reception of a straight rod section and provided with inwardly extending prongs or projections and a cut away portion at one side of said member and communicating with said sleeve for the insertion of a wedge into the end of said rod section after the section is inserted into the sleeve, a rod in said sleeve, and a wedge in said rod.

12. A coupling member for a conduit rod having a tongue at one end, a sleeve at the other end for the reception of a rod section, and terminating in a cut away portion at one side thereof for the insertion of a wedge into the end of the rod section after the insertion of the latter into the sleeve, and also having between said tongue and sleeve a stop face, a rod in said sleeve, and a wedge in said rod.

13. A coupling member for a conduit rod, having means for attachment to a rod section and having a tongue and groove for connection with a companion member, and intermediate thereof a transversely extending stop face connected to the side walls of said member and cut away at one side to form a recess extending in the direction of the length of said member between said stop face and one of the side walls of said member.

14. A coupling member for a conduit rod,

comprising a tubular portion forming a sleeve for the reception of a rod section, a semi-circular portion connected with said sleeve and having a groove communicating
5 with said semi-circular portion and said sleeve and also having a tongue at the end thereof opposite to said sleeve and provided with a stop face intermediate said groove and tongue, said stop face being located at

one side of the longitudinal axis of said 10 coupling and having an inclined face located at the other side of said axis.

EDWIN L. UPSON.
FREDERICK J. DOLE.

Witnesses:

C. A. WEED,
F. E. BOYCE.