

(No Model.)

F. G. BOLLES.

THREADING ROD FOR UNDERGROUND CONDUITS.

No. 462,648.

Patented Nov. 3, 1891.

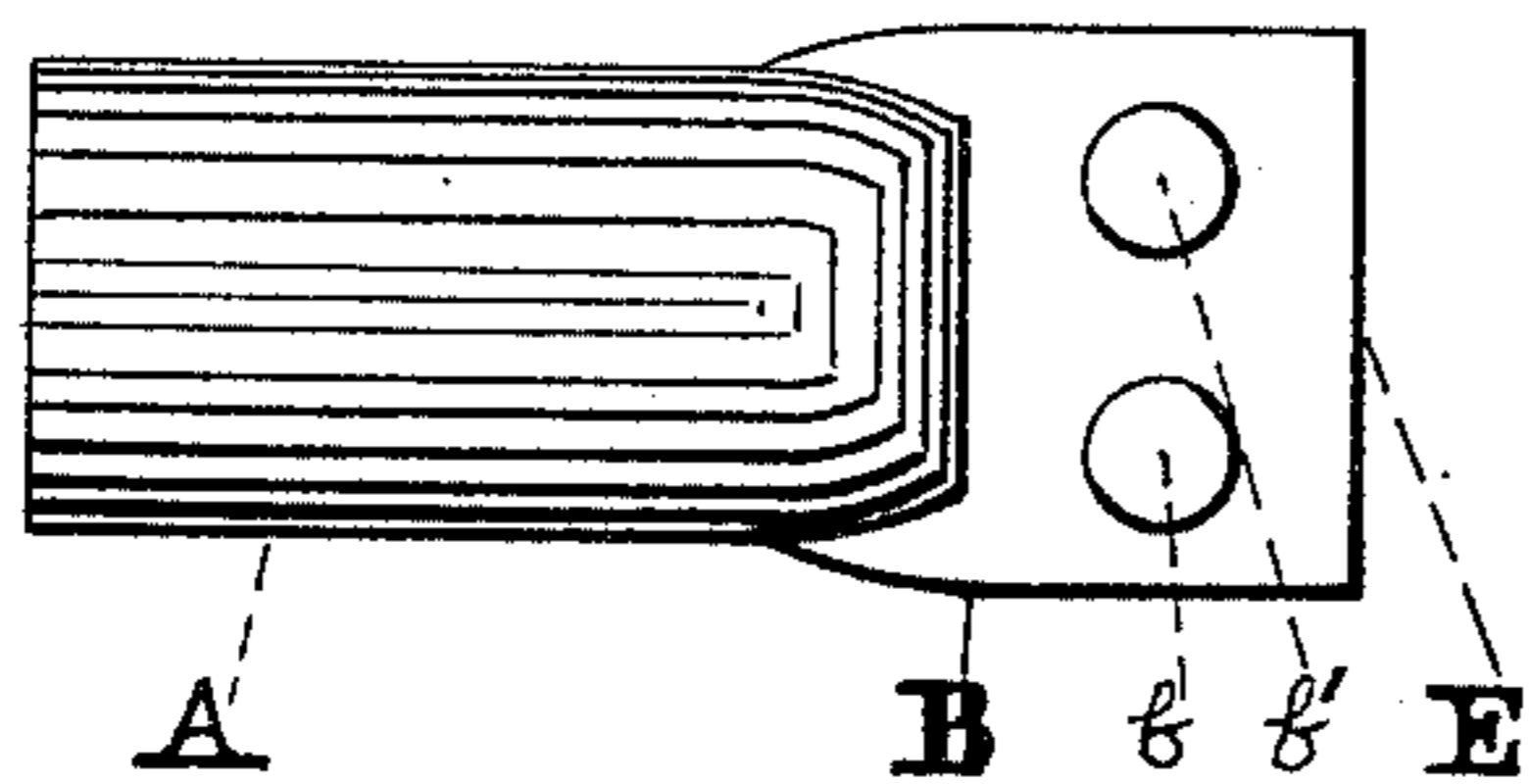


FIG. 1.

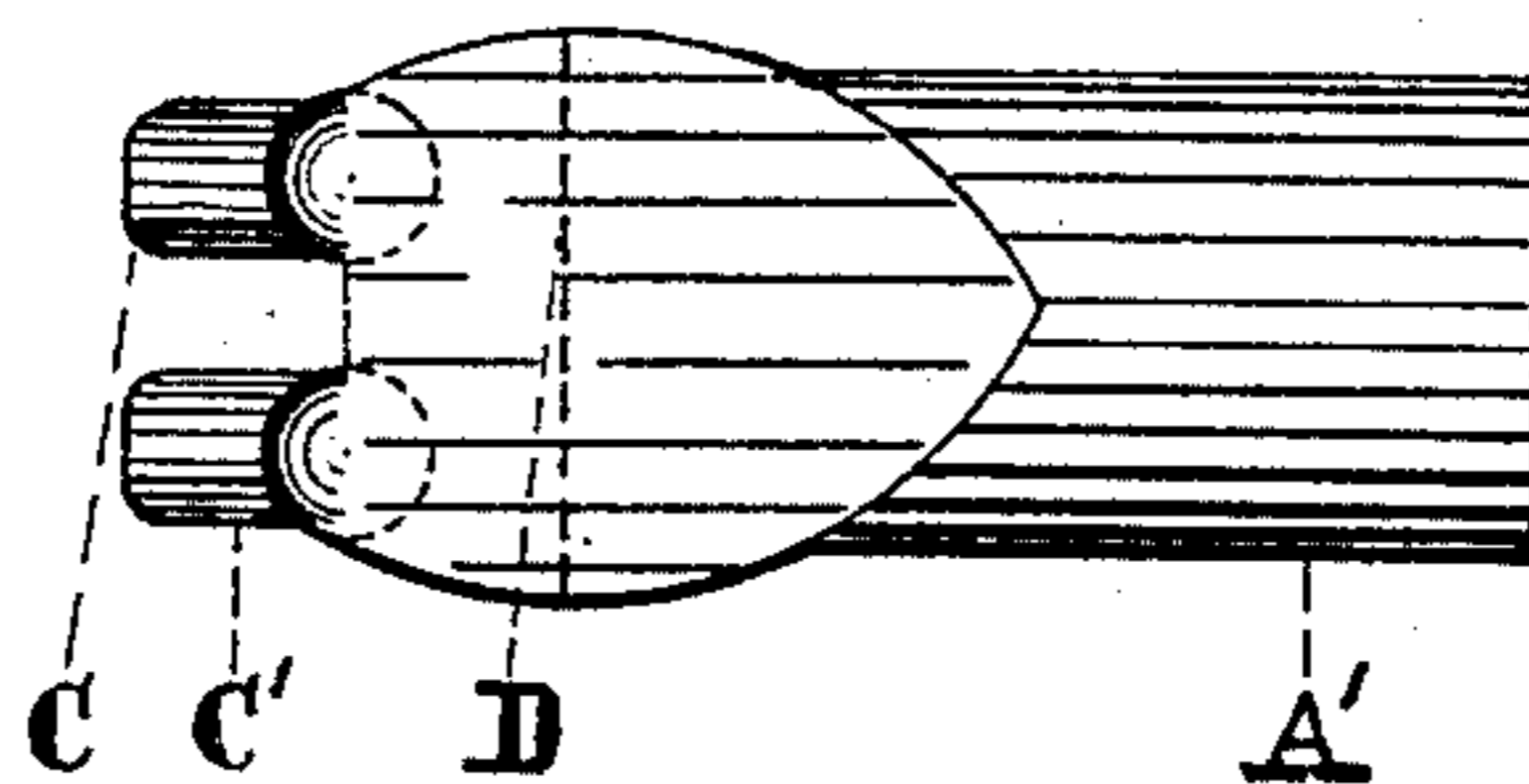


FIG. 2.



FIG. 4.

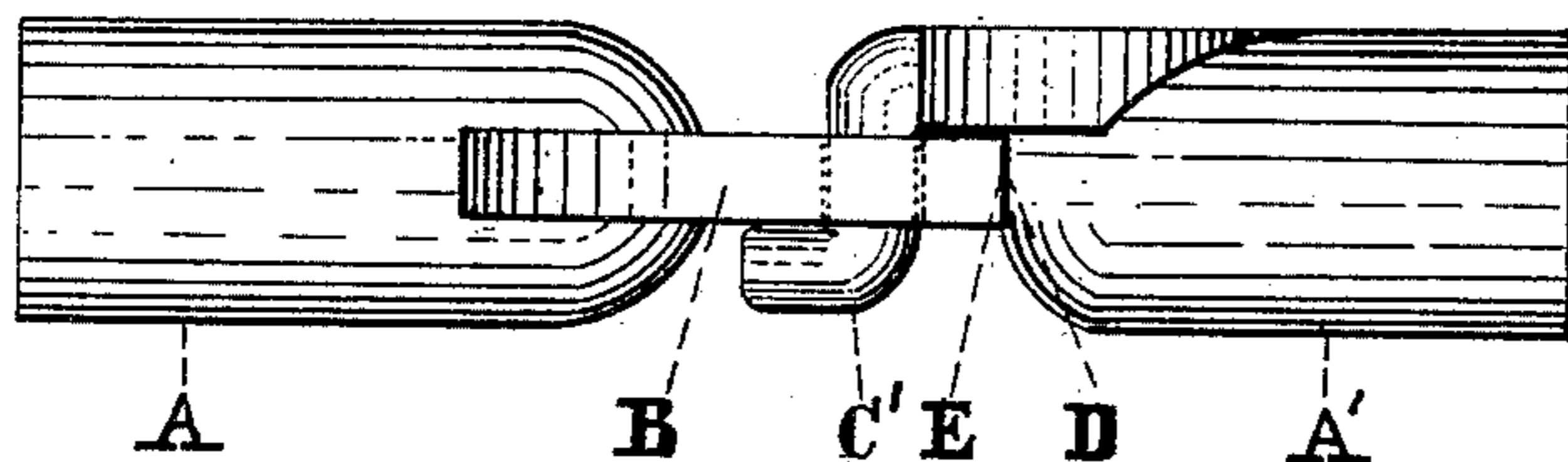


FIG. 3.

WITNESSES,
J. J. Jones
E. M. Dawson

Frank G. Bolles
INVENTOR,

UNITED STATES PATENT OFFICE.

FRANK G. BOLLES, OF WASHINGTON, DISTRICT OF COLUMBIA.

THREADING-ROD FOR UNDERGROUND CONDUITS.

SPECIFICATION forming part of Letters Patent No. 462,648, dated November 3, 1891.

Application filed September 3, 1891. Serial No. 404,672. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. BOLLES, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Joint for a Conduit-Needle or Threading-Rod, of which the following is a specification.

My invention relates to an improvement in the manner of joining the several sections of a rod to be used in connection with the work of drawing electric or other cables through an underground conduit system. It being required that the rod enter the conduit through a man-hole, the length of the sections are necessarily limited to three or four feet, and as the work has heretofore been accomplished by means of gas-pipe in small sections with screw-joints, much valuable time has been consumed in screwing together and taking apart said pipe. The usual distance between man-holes is about four hundred and fifty feet, and to thread a section of conduit of this length requires from one and one-half to three hours, whereas, by means of my invention the same work can easily be accomplished in fifteen or twenty minutes. I attain this by means of the device herein described and illustrated in the accompanying drawings, in which—

Figure 1 represents a full-sized plan view of that portion of the coupling usually termed the "female." Fig. 2 is a like view of the male portion of the coupling; Fig. 3, a full-sized side elevation of the complete coupling, and Fig. 4 a rod in broken sections fitted with a cartridge-point on head and first joint, and having the wire intended to be drawn through the conduit attached to the female portion of the last section.

A and A', Figs. 1, 2, and 3, are ferrules, whose cross-section is circular, in which wood or metal rods are permanently fixed.

B, Figs. 1 and 3, is a flat projection of suitable width and thickness, having two holes *b* and *b'*, Fig. 1, passing through it.

C and C', Figs. 2 and 3, are projections having a bend at an angle to the length of the coupling, and again at an angle to the first bend, the angles being alternate. These prongs or hook-shaped projections fit into the holes of the flat portion, the connection being made by inserting the projections while the two parts of the coupling are at an angle to each other, and then allowing them to fall to substantially the same plane, when

the coupling will be securely and rigidly locked together. The shoulder *D* is so formed as to fit snugly against the edge *E*, which gives to the joint a lateral stiffness and relieves the strain upon the two prongs of the male portion of the coupling.

I do not wish to limit myself to the exact form in which I have illustrated and described my invention, as it may be easily varied without departing from the principle of my invention. For instance, the hooks and openings may be of any shape or form, and the shoulder described may be omitted; but I have described and shown my device in that form which I have considered most suitable to secure the result at which I have aimed.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a conduit-needle or threading-rod, of a joint or coupling consisting of two ferrules having projections, the projection of one portion having one or more holes, and the opposite projection having one or more hooks, substantially as described.

2. The combination, in a conduit-needle or threading-rod, of a joint or coupling consisting of two ferrules having projections, the projection of one portion having one or more holes, and the projection of opposite portion having one or more hooks which fit into said holes, and a shoulder intended to abut against the edge of the portion containing said holes, substantially as described.

3. The combination, in a conduit-needle or threading-rod, of a coupling consisting of a flattened portion containing one or more openings, and another portion being provided with one or more hooks having two bends, the angles of the hook or hooks being alternate, and a shoulder against which the flattened portion abuts, substantially as described.

4. A rod for inserting wires in conduits composed of sections, each section having a portion at one end provided with one or more openings, and at the other end a portion provided with one or more hooks having two bends, and the angles of the hook or hooks being alternate.

FRANK G. BOLLES.

Witnesses:

R. G. DANIELS,
GEO. F. O'HAIR.