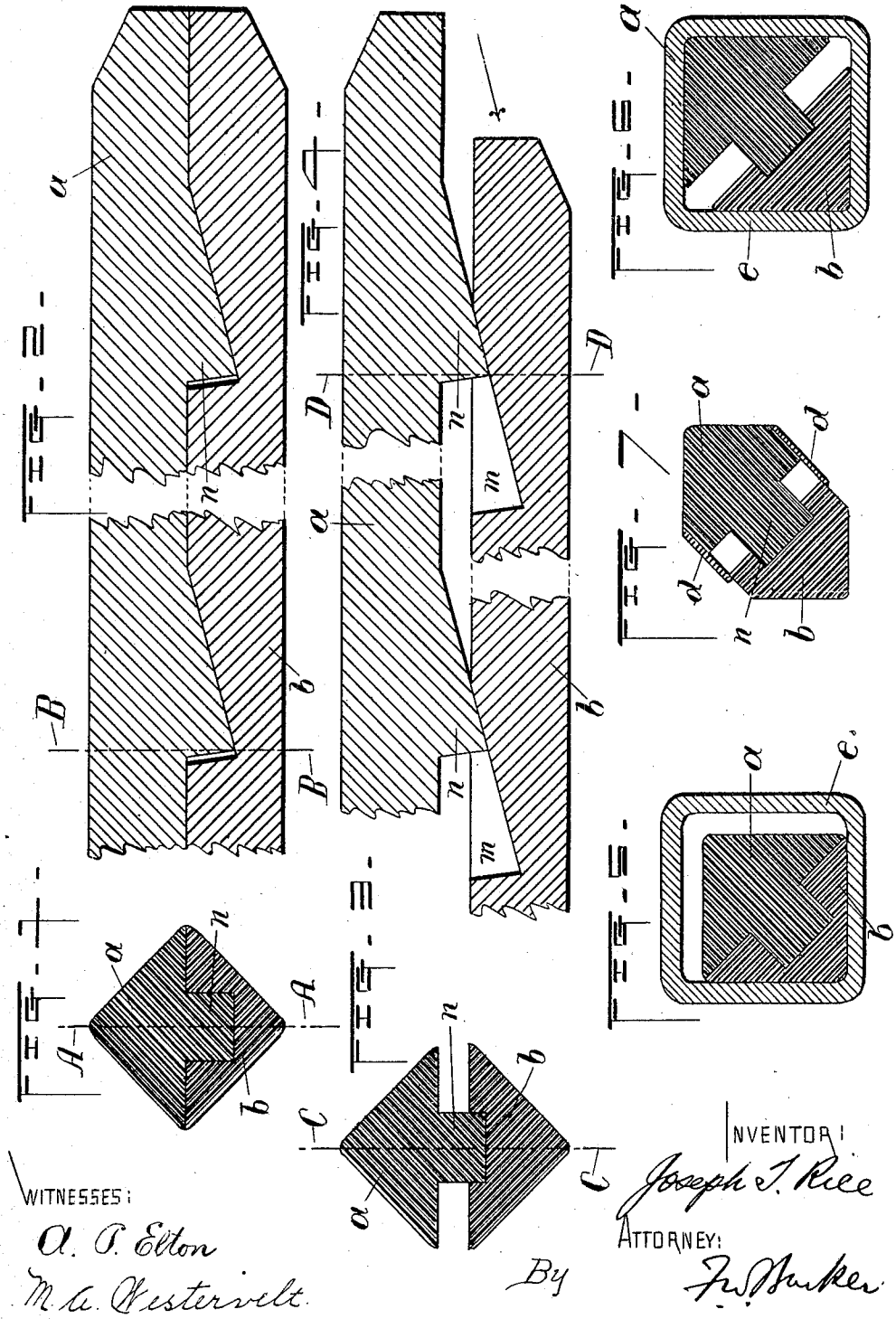
No. 871,067. PATENTED NOV. 12, 1907.

J. T. RICE.

APPARATUS FOR ALINING CONDUIT SECTIONS.

APPLICATION FILED MAR. 11, 1907.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 8.

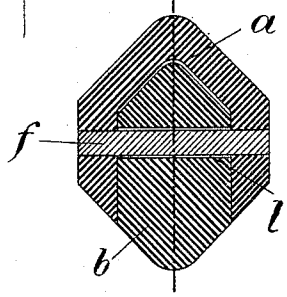


FIG. 9.

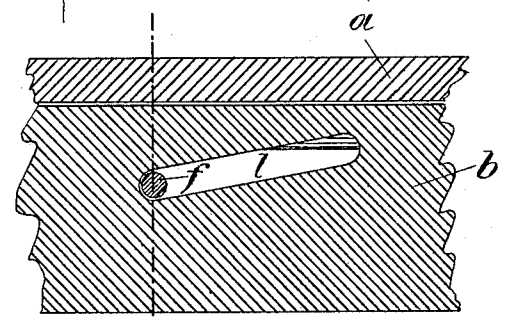


FIG. 10.

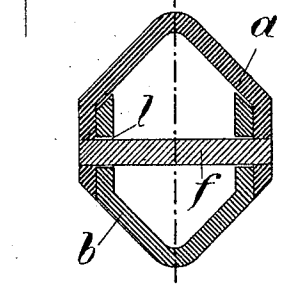


FIG. 11.

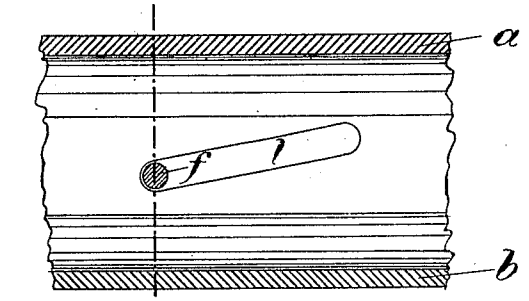


FIG. 12.

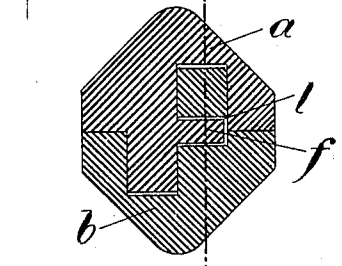


FIG. 13.

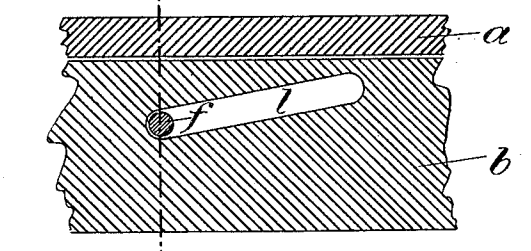
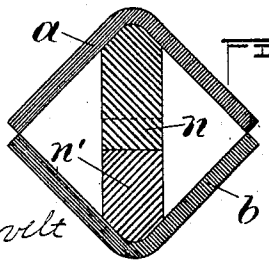


FIG. 14.



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APPARATUS FOR ALINING CONDUIT-SECTIONS.

No. 871,067. Specification of Letters Patent. Patented Nov. 12, 1907.

Application filed March 11, 1907. Serial No. 361,859.

To all whom it may concern:

Be it known that I, JOSEPH T. RICE, a citizen of the United States of America, and a resident of West Hoboken, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Alining Conduit-Sections, of which the following is a specification.

This invention relates to devices for alining conduit sections when laying the latter underground to contain electric wires or to serve as ducts generally, and the object of my improvements is to provide an appliance which has as few parts as possible and may conveniently be inserted into a number of adjacent conduit sections, and which, preferably, is arranged to prevent any mortar or cement from getting in between the parts of such an appliance.

In the drawings accompanying this application, Figure 1 is a cross section and Fig. 2 a longitudinal section of my expansible alining bar when closed, while Fig. 3 is a cross section and Fig. 4 a longitudinal section of the same when open or expanded. Figs. 5 and 6 show cross sections of a conduit containing alining bars, closed and expanded, respectively. Fig. 7 is a cross section of such a bar with protecting strips attached to it. In the following figures modifications are shown, of which Figs. 8, 10, 12 and 14 represent cross sections and Figs. 9, 11 and 13 are longitudinal sections of my improved alining and guide bars when closed and ready to be inserted into the conduit sections.

In carrying out my invention, I arrange my alining bar to comprise two longitudinal strips, as *a b*, each of which is a right angle triangle in cross section, with their hypotenuse surfaces meeting when closed, as shown in Figs. 1 and 5. For the purpose of expanding the alining bar to the positions shown in Figs. 3 and 6, I provide one of the two strips forming such a bar with a number of projections or teeth as *n* and the other with corresponding recesses as *m*, all on their respective hypotenuse surfaces and affording suitably inclined ride-ways thereby. If then one of the strips is moved longitudinally while the other strip remains stationary, as indicated by the arrow in Fig. 4, the inclined surfaces of the meeting ride-ways engaging, and operating against each other, will cause the strips to separate from each other, thus expanding the bar or mandrel until engaging with diagonally and opposite parts (Fig. 6) of all the rectangular conduit sections into which the bar had been projected, to true and aline the latter previous to their being embedded or otherwise held and secured in place. The expanding motion is, thus, at right angles to the plane of the meeting or hypotenuse surfaces, or their equivalents. The number of inclined projections and recesses which provide meeting ride-ways for a given length of such an alining bar depends on the rigidity or stiffness of the material of which the strips are made.

To prevent any substances from entering between the two strips when expanded, see Fig. 3, I may attach plates, as *d*, to one of the strips as shown in Fig. 7, or to both of them, in which case the respective corners have to be taken off to provide sliding surfaces.

The alining bar shown in Figs. 8 and 9 consists of two strips *a* and *b* of which the latter is arranged to slide within the former, the expanding or separating being caused by a pin or bolt *f* secured to strip *a* which projects through an inclined slot *l* and engages the surfaces of the same, in a manner as is well understood, whenever one of the strips is moved longitudinally.

Figs. 10 and 11 show a modification, consisting of two channeled strips *a* and *b*, all arranged substantially as the bar shown in Figs. 8 and 9. In these two bars all the openings at their side are avoided.

Figs. 12 and 13 show a bar consisting of two strips *a* and *b* which are of the same cross section except in that one of the strips is provided with a pin or bolt *f* which engages with the inclined surfaces of a slot *l* of the other strip, in a manner identical to the corresponding arrangement shown in Figs. 8 to 11, inclusive.

Fig. 14 shows a bar comprising two strips, as *a* and *b*, formed of angle iron and each provided with projections *n* and *n'* which afford inclined meeting ride-ways, operating against each other, for the purpose of expanding the bar whenever one of the strips is moved longitudinally.

Figs. 5 and 6 show in what manner my alining bar may be expanded in a conduit *c*, or a number of the same, to true and aline the same laterally and perpendicularly while being secured in position. To withdraw the bar from the conduit sections, one of the strips is moved longitudinally until the bar is closed, that is, when their meeting or hypotenuse surfaces are in contact.

I claim:—

An improved device for alining conduit sections comprising two strips each forming approximately a right-angle triangle, said strips being in opposed relation to afford a unified rectangular form, and said strips having opposed inclined meeting ride-ways which co-act in the movement of said strips in opposite directions and at right-angles to the planes of the hypotenuse or meeting surfaces of the strips.

Signed at New York this 4 day of March 1907.

JOSEPH T. RICE.

Witnesses:
F. W. BARKER,
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