

No. 746,628.

PATENTED DEC. 8, 1903.

C. J. FIELD & L. J. DOOLITTLE.
DOWEL PIN FOR CONDUIT SECTIONS.

APPLICATION FILED JULY 24, 1903.

NO MODEL.

Fig. 1

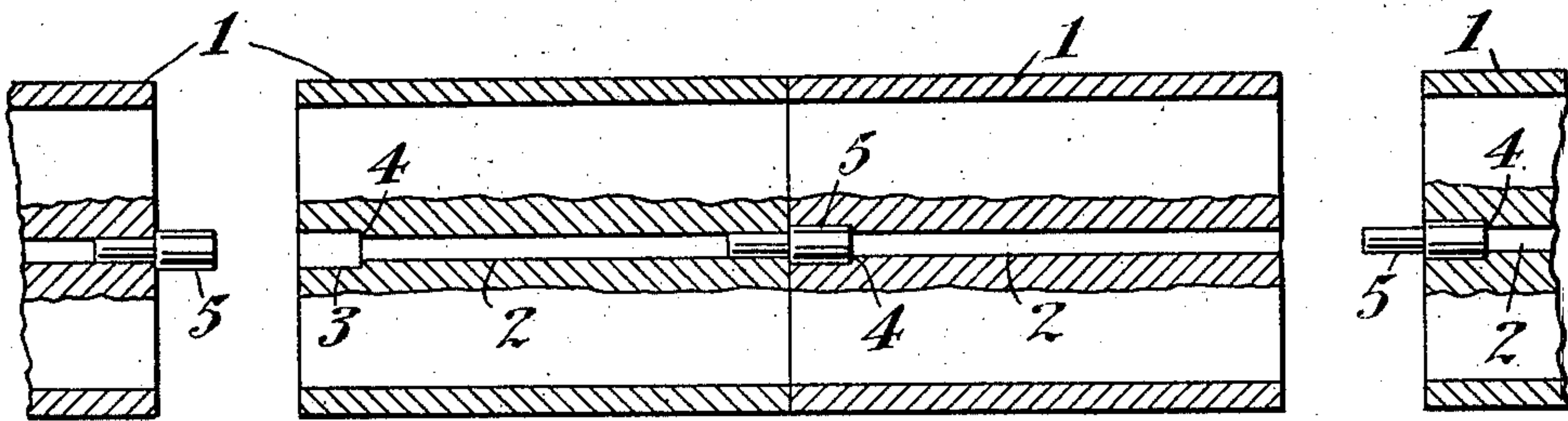


Fig. 2

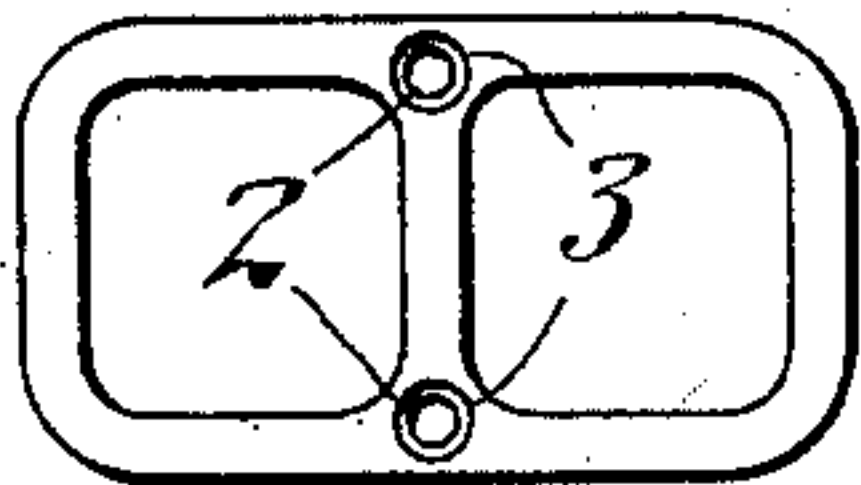


Fig. 3

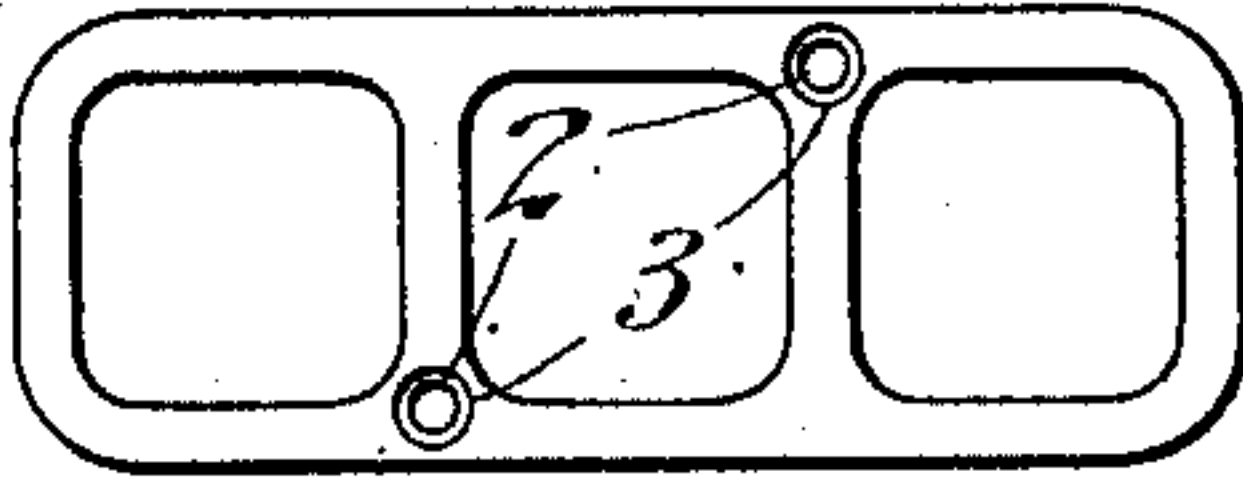


Fig. 4

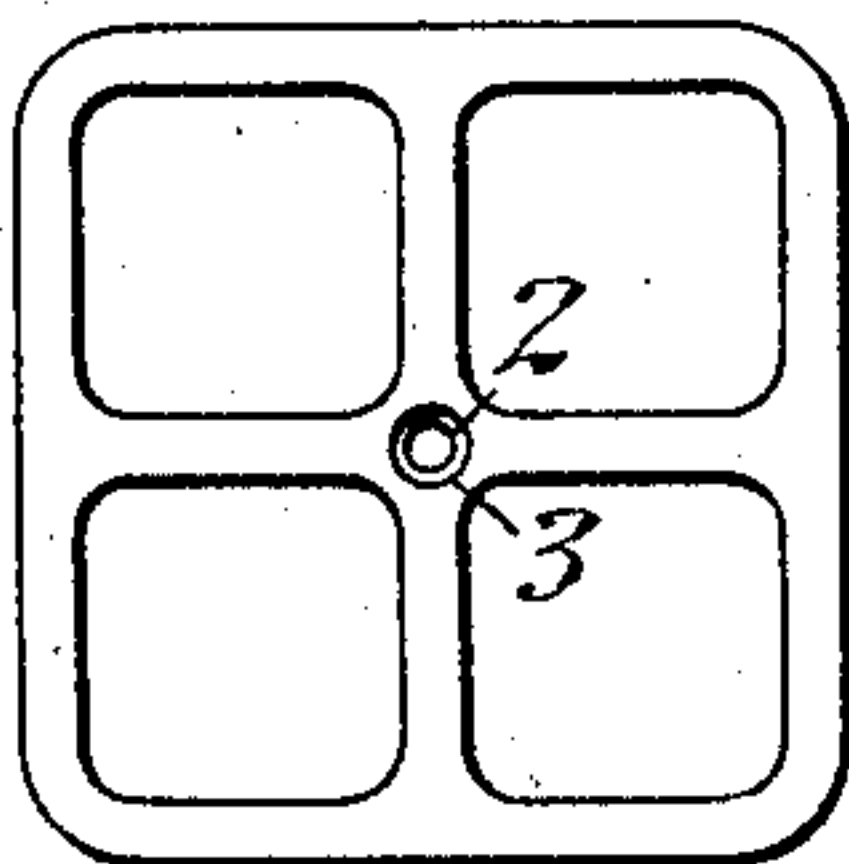


Fig. 5

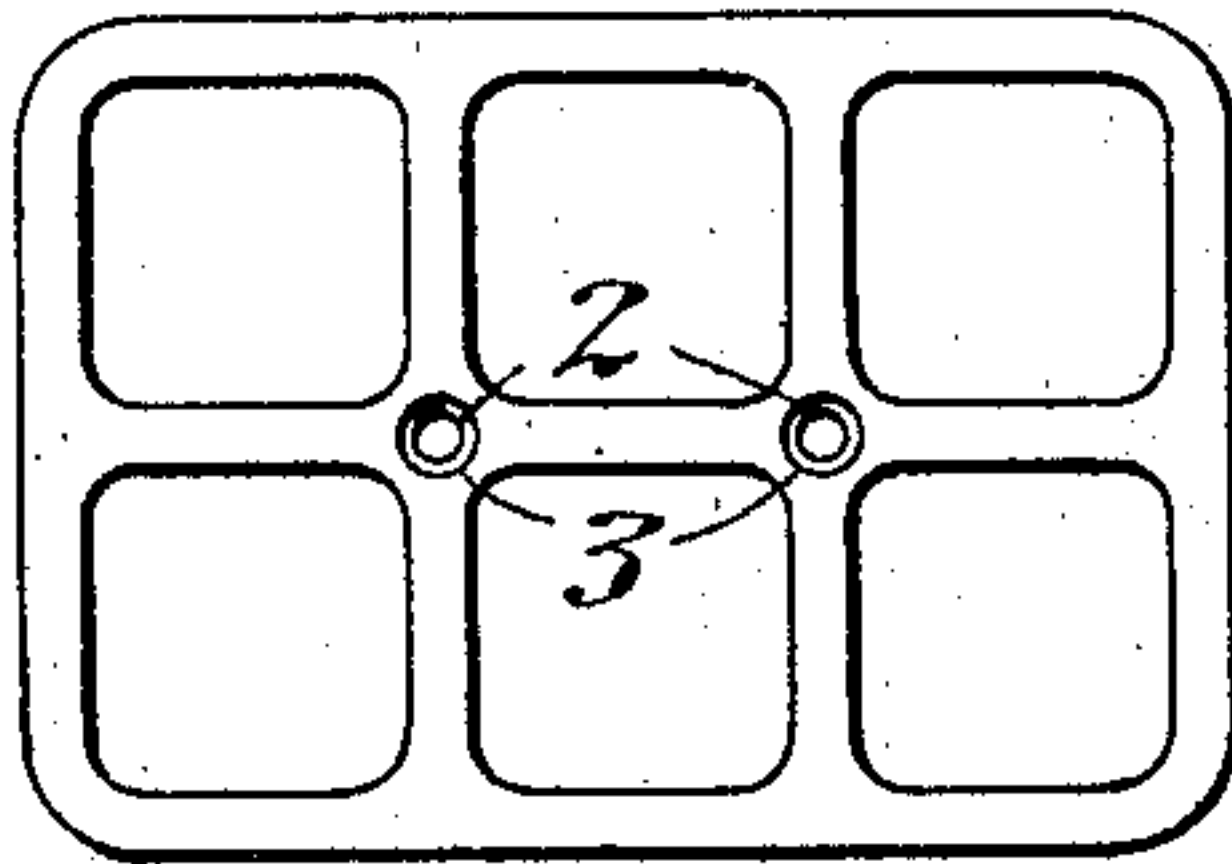


Fig. 6

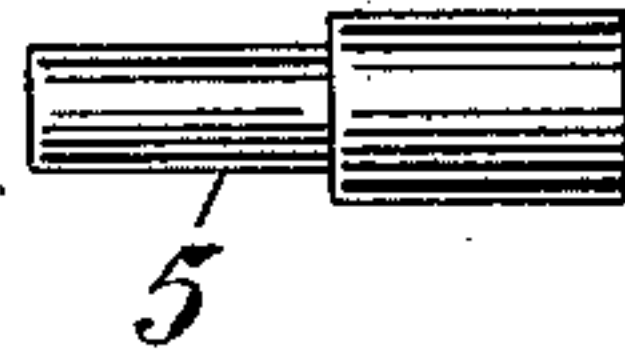
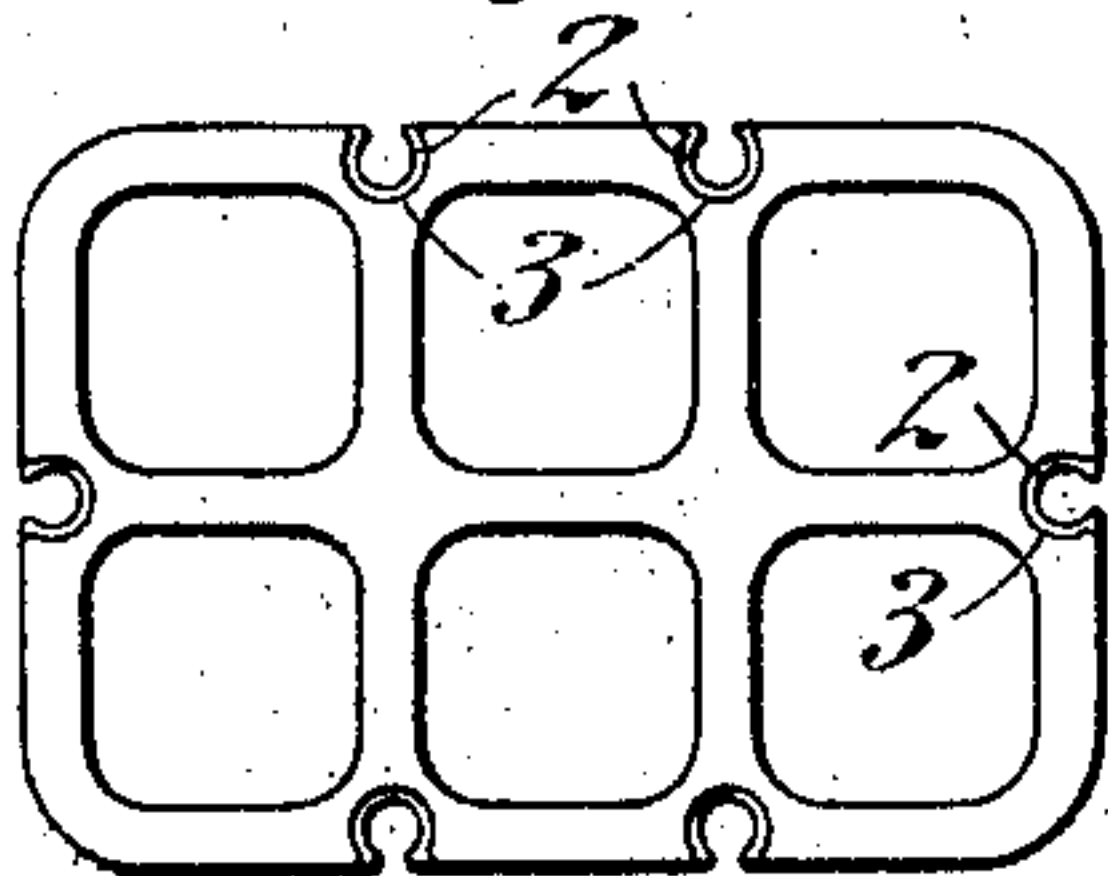


Fig. 7



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UNITED STATES PATENT OFFICE.

CORNELIUS J. FIELD AND LEWIS J. DOOLITTLE, OF BROOKLYN, NEW YORK;
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DOWEL-PIN FOR CONDUIT-SECTIONS.

SPECIFICATION forming part of Letters Patent No. 746,628, dated December 8, 1903.

Application filed July 24, 1903. Serial No. 166,902. (No model.)

To all whom it may concern:

Be it known that we, CORNELIUS J. FIELD and LEWIS J. DOOLITTLE, citizens of the United States, and residents of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Dowel-Pins for Conduit-Sections, of which the following is a specification.

This invention relates to an improved form of dowel-pin and dowel-pin opening for conduit-pipes for the purpose of securing an exact register and a perfect alinement of the adjoining sections when laying the conduit.

The object of this invention is to provide a dowel-pin of simple and cheap construction which is so formed that it will not be displaced by the laying of the sections of conduit-pipe. To accomplish this result, we provide in the walls of the conduit-pipe a passage of two diameters, the portion of larger diameter being at one end only and extending for a relatively short distance into the pipe, the smaller portion extending through the remaining length. By forming the openings in this manner and by having the larger opening at one end only a very material advantage is gained in the manufacture of the conduit-sections, as the small opening can be made extending from end to end as the clay or other material of which the conduit is made is forced through the die, and then as the section is placed on end to dry the larger opening may be easily made while the clay is wet by simply forcing a rod of larger diameter than the small opening into the small opening for a short distance, thus forming both an opening and a stop-wall for the large end of the dowel-pin. The dowel-pin is also made of two diameters to correspond to the openings in the conduit, as will be more fully explained hereinafter, and shown in the accompanying drawings.

Figure 1 represents a longitudinal vertical sectional view of several sections of conduit-pipe embodying our invention and illustrates two methods of using the dowel-pin. Fig. 2 is an end elevation of a two-duct conduit-pipe, showing a preferred location of the dowel-openings. Fig. 3 is an end elevation of a three-duct conduit-pipe, showing a method of using two dowel-openings. Fig. 4

is an end elevation of a four-duct conduit, using one dowel-pin in the center. Fig. 5 is an end elevation of a six-duct conduit, using two dowels. Fig. 6 is an enlarged detail view of a two-diameter dowel-pin such as is used in our invention. Fig. 7 represents an end view of a six-duct conduit, illustrating a modification of the dowel-opening. In this form of construction the opening is near the outer edge of the wall of the conduit and may break through, forming a slot or groove instead of a closed hole. It is evident that this form is equally applicable to a conduit with any number of ducts.

The particular arrangement and number of dowels used in any one form of conduit may be varied to meet the requirements, and it is understood that the above arrangements are illustrations only and are intended to show how this invention may be applied to conduit-sections with any number of ducts.

At 1 is represented an ordinary clay conduit, which may be either a multiple or single duct. In a wall of this conduit, and preferably intermediary of the ducts and at the intersection of the walls, may be located a dowel-opening, such as 2, terminating at one end in an opening of larger diameter, such as 3, forming between the two portions of said openings a stop-wall 4.

A dowel-pin, as illustrated at 5, may be made from an ordinary iron rod by turning down one end to a diameter slightly less than the diameter of the smaller dowel-opening 2. The larger end of said pin would be slightly smaller in diameter than the larger opening 3. This construction forms a shoulder on the pin, which prevents the pin being pushed back into the opening when the abutting sections of pipe are laid as shown at the left of Fig. 1. The stop-wall 4 in the pipe performs a similar function when the pin is used as shown at the right of Fig. 1.

It is thus shown that the pin may be used at either end of the conduit-section and have a protruding end perfectly adapted to aline the sections, as is shown at the center of Fig. 1. It will also be evident that the sections of pipe may be cut into lengths, as required, and the pin used, as before, in connection with the remaining portion of the pipe.

What we claim is—

1. A conduit-pipe having in a wall thereof a passage of two diameters extending from end to end one end of said passage being of a greater diameter than the other so as to receive the large end of a dowel-pin of two diameters, with a stop-wall between the portions of said passage of different diameters and near one end of said conduit.
2. A multiple-duct conduit-pipe having intermediary openings of two diameters in the walls thereof extending from end to end one end of said openings being of a greater diameter than the other so as to receive the large end of dowel-pins of two diameters, with stop-walls between the portions of said openings of different diameters and near one end of said conduit.
3. The combination with a pair of adjoining conduit-sections, each having in a wall thereof a passage of two diameters extending from end to end with a stop-wall between the portions of said passage of different diameters and near the end thereof, of a dowel-pin of two diameters inserted in the adjoining portions of said conduit-sections and of greater diameter at its large end than the small diameter of said passage.
4. The combination with a pair of multiple-duct conduit-pipes, each having intermediary openings of two diameters in the walls thereof extending from end to end with a stop-wall between the portions of said openings of different diameters, of dowel-pins of two diameters inserted in the adjoining portions of said conduit-sections and of greater diameter at their large end than the small diameter of said openings.

Signed at Brooklyn, in the county of Kings and State of New York, this 30th day of March, A. D. 1903.

CORNELIUS J. FIELD.
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Witnesses:

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