W. B. GRAY.
SEPARABLE EARTHEN INSULATING PIPE CONDUIT.
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[Diagram of the separable earthen insulating pipe conduit]

WITNESSES

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by
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To all whom it may concern:

Be it known that I, WILLIAM BEALL GRAY, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Separable Earthen Insulating Pipe-Conduits, of which the following is a specification.

My invention is an improvement in separable earthen insulating pipe conduits, and has for its object the provision of a conduit of the character specified, having oppositely arranged pairs of longitudinal scores or cuts at each side, arranged to permit the upper half of the conduit to be easily and expeditiously separated from the lower half, to permit the insertion of the pipe.

A further object is to arrange the said scores or cuts that they will insure the fracture of the conduit along the line of the said scores or cuts, without injuring the remainder of the conduit.

A further object is to arrange the scores or cuts in such a manner that a water-proofing cement may be laid in the cuts for securing the halves of the conduit together after it has been laid.

A further object is to provide additional supporting means on the outside of the conduit for the cement.

In the drawings:—Figure 1 is a perspective view of a section of conduit constructed in accordance with the improvement, Fig. 2 is an enlarged transverse vertical section of the same, and Fig. 3 is an enlarged detail sectional view of the joint after the parts have been reassembled and secured together.

In the present embodiment of the invention the conduit is shown as circular in cross section, but it is obvious that the principle applies equally as well to conduits of other cross sectional shape, and the sections of the conduit may be of any desired length and diameter in accordance with the conditions to be met.

In the present instance each section 1 of the conduit is provided at one end with an outwardly offset annular flange 2, for receiving the adjacent end of the succeeding joint. Each of the said sections is provided at each side with a pair of inner and outer longitudinal scores or cuts 3 and 4 respectively. Each conduit has two pairs of scores or cuts and the pairs are at angular distances of 180°. The scores or cuts 3 and 4 extend inwards and downwards, each cut being of considerable depth, so that a sufficient portion of the thickness of the conduit is left at each side to hold the sections together, while at the same time the said sections may be easily separated, by breaking the uncut portions.

It will be noted that each of the cuts 3 and 4 is approximately wedge shaped, that is, each of the said cuts is widest at its commencement, and gradually decreases in width inwardly. Each cut is also inclined downwards, and it will be evident that when a tool as for instance, a chisel is inserted in the cut, and pressure is brought to bear on the tool in the proper direction, that portion 5 of the thickness of the conduit between the adjacent edges of the cuts 3 and 4 will be fractured or broken as shown in Fig. 3 to permit the upper half of the conduit to be lifted away from the lower half.

The lower half of the conduit is provided on each side of the center of its bottom with a longitudinally extending rib or ledge 6, the upper face of each rib or ledge being horizontal and the inner face vertical as shown, and the upper faces of the two ledges are in the same plane. The ribs or ledges 6 are strengthening and reinforcing ribs, designed to strengthen and reinforce that particular portion of the conduit which especially needs such strengthening and reinforcing, namely, that portion which receives and supports the direct weight of the matter which is designed to pass through the pipe, either piping or anything else. Each rib or ledge is provided at spaced intervals with two notches 7, the notches of the two ribs being directly opposite each other.

The improved conduit is especially adapted for use with the traveling pipe supports shown in my prior applications, Serial Number 709,262, filed July 13, 1912, and Serial Number 720,324, filed September 16, 1912, and the arrangement of the notches will depend upon which of the said supports is used. If the cradle or base is used, with the conduit, the notches will be arranged in pairs, as shown more particularly in Fig. 1, and each notch will have its bottom wall rounded as shown at 8, in the said figure. If the cradle is omitted, and the roller with projected journal pins used, the notches 7 may be single, that is, each rib will have a single notch for each support, one journal
pin engaging the notch of one rib and the other the notch of the opposite rib.

When the two halves of the conduit are reassembled, it will be evident that the fractured surface of the lower half at each side, and plastic material 9, as for instance, water-proofing cement, is arranged within the scores or cuts 3 and 4, thus effectually sealing the joint. On the outer side of the conduit, the lower half is provided at each side with the outwardly extending rib or ledge 10, the upper face 11 of the said rib or ledge being horizontal and flat, while the lower face 12 is rounded as shown in Figs. 2 and 3. The upper face of the said rib or ledge 10 provides an additional support for the cement 9, and the said cement 9 may be arranged as shown in Fig. 3, to deflect water from entering the joint or from resting on the ledge. The arrangement of the scores or cuts, that is, inclining inwardly and downwardly provides a shallow trench for receiving the cement.

To insure that the fracture will follow the portion 5 at each side of the conduit, a longitudinal rib 13 is provided on the upper half of the pipe just above the score or cut 4, the said rib being rounded as shown. The upper half is thus reinforced or strengthened at each edge and the lower half is similarly reinforced or strengthened by means of the rib 10. The said ribs 10 and 13 constrain the line of fracture to run between the scores or cuts, and the rib or ledge 10 performs three functions, first, a ledge for holding the cement, second a reinforcing rib at the fractured edge of the lower, and third, a means of insuring that the line of fracture will follow the portion 5 of the conduit.

The rib 13 performs two functions, first, that of reinforcing or strengthening the edge of the upper half and second a means of insuring that the line of fracture will run true.

The ribs or ledges 6 not only furnish a supporting means for the traveling supports for the pipe, but also strengthen the conduit. The inclined arrangement of the scores or cuts hold the cement in place, thus insuring not only a secure joint but a better and safer alinement of the two parts.

The internal ribs 6 and the notches 7 are not claimed in the present application, this construction forming the subject matter of my application, Serial No. 782,661, filed August 2, 1913, which is in part a divisional application of the present case.

I claim:

1. A conduit of the character specified, said conduit having a plurality of pairs of oppositely arranged longitudinally extending cuts, the pairs of cuts being spaced apart at angular distances of 180° and the members of each pair being on opposite sides of the conduit wall, the members of each pair being being at an angle of approximately 90° from the central line of the bottom of the conduit, said conduit having an internal longitudinally extending rib above each of the cuts, and an outwardly extending rib below each of the outer cuts, the last named ribs having flat approximately horizontally upper faces, and the said faces being at the lower side wall of the external cuts.

2. A conduit of the character specified, said conduit having a plurality of pairs of oppositely arranged longitudinally extending cuts, the pairs of cuts being spaced apart at angular distances of 180° and the members of each pair being on opposite sides of the conduit wall, the members of each pair of cuts inclining inwardly and downwardly toward each other, each of the said cuts having its side wall plane and converging toward the inner edge of the cut, each pair of cuts being at an angle of approximately 90° from the central line of the bottom of the conduit, said conduit having an internal longitudinally extending rib above each of the cuts, and an outwardly extending rib below each of the outer cuts, the last named ribs having flat approximately horizontally upper faces, and the said faces being at the level of the lower side walls of the external cuts.

3. A conduit of the character specified, said conduit having a plurality of pairs of oppositely arranged longitudinally extending cuts, the pairs of cuts being spaced apart at angular distances of 180° and the members of each pair being on opposite sides of the conduit wall, the members of each pair of cuts inclining inwardly and downwardly toward each other, each of the said cuts having its side walls plane and converging toward the inner edge of the cut, each pair of cuts being at an angle of approximately 90° from the central line of the bottom of the conduit, said conduit having a reinforcing rib adjacent to each cut, the ribs adjacent to the outer cuts being below the said cuts and having their upper faces at the side walls of the said cuts, and the ribs adjacent to the inner cuts being above the cuts.

4. A conduit of the character specified, said conduit having a plurality of pairs of oppositely arranged longitudinally extending cuts, the pairs of cuts being spaced apart at angular distances of 180° and the members of each pair being on opposite sides of the conduit wall, the members of each pair of cuts inclining inwardly and downwardly toward each other, each of the said cuts hav-
ing its side wall plane and converging toward the inner edge of the cut, each pair of cuts being at an angle of approximately 90° from the central line of the bottom of the conduit, said conduit having a reinforcing rib adjacent to each cut, the upper faces of the ribs at the outer cuts being at the lower side walls of the said cuts.

3. A conduit of the character specified, said conduit being partially separated into upper and lower halves by means of pairs of oppositely arranged cuts in its wall, the members of each pair of cuts inclining inwardly and downwardly toward each other and being of greatest width at the face of the wall, said conduit having a reinforcing rib adjacent to each cut, the ribs adjacent to the outer cuts being below the same, and having their upper faces adjacent to the lower side walls of the said cut.

6. A conduit partially separated into sections by oppositely arranged pairs of longitudinally extending incisions, the members of each pair extending inwardly and downwardly from the inner and outer wall of the conduit, said conduit having a longitudinal reinforcing rib adjacent to each incision.

7. A conduit of the character specified, having oppositely arranged pairs of cuts in its wall partially separating the conduit into upper and lower sections, the members of each pair of cuts being opposite each other and inclining downwardly and inwardly, the conduit having an external rib below each of the external cuts, each rib having its upper face approximately horizontal and forming a continuation of the lower side wall of the cut, the conduit having a longitudinally extending reinforcing rib above each of the internal cuts.

8. A conduit of the character specified, having oppositely arranged pairs of cuts in its wall partially separating the conduit into upper and lower sections, the members of each pair of cuts being opposite each other and inclining downwardly and inwardly, the conduit having an external rib below each of the external cuts, each rib having its upper face approximately horizontal and forming a continuation of the lower side wall of the cut.

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Witnesses:

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