H. J. KEENAN & E. J. TOBIN.
REINFORCED CEMENT SECTIONAL CONDUIT.
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HUGH J. KEENAN AND EDMUND J. TOBIN, OF JACKSON, MICHIGAN, ASSIGNORS OF ONE-THIRD TO STEPHEN H. CARROLL, OF JACKSON, MICHIGAN.

REINFORCED-CEMENT SECTIONAL CONDUIT.


Application filed December 8, 1908. Serial No. 346,938.

To all whom it may concern:

Be it known that we, HUGH J. KEENAN and EDMUND J. TOBIN, citizens of the United States of America, both residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Reinforced-Cement Sectional Conduits, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of the invention is to obtain a construction in which the cement walls are thoroughly reinforced by metallic strengthening members, and further to so construct and distribute said strengthening members that the stress from the securing devices between sections will be uniformly distributed.

In the drawings, Figure 1 is a sectional perspective view of the conduit; Fig. 2 is a longitudinal section through one of the walls of the conduit showing the strengthening members and the means of attachment for sections of the conduit; Fig. 3 is a perspective view of the adjacent portions of the longitudinal and annular strengthening members; and Fig. 4 is a plan of the locking connection.

The walls of the conduit are formed of suitable cementitious plastic material, such as concrete reinforced by embedded metallic strengthening members. These strengthening members include longitudinally extending bars A, and annular bars B, which are so arranged in relation to each other that when embedded in the cement they will be firmly united and transmit stresses from the one to the other. The longitudinal members A are preferably formed of flat bars, which at their ends are arranged radially with respect to the wall of the conduit and adjacent to the annular members B, are twisted, as at C. These twists form shoulders for engaging members B, and also a flat bearing D, against which the members B bear, as illustrated in Figs. 2 and 3. The member B is preferably formed of a bar of T cross-section bent into annular form and having its ends united.

In forming the sections of the conduit, the cementitious material is molded about the strengthening members assembled in proper position, and the ends of the members A are left projecting beyond the ends of the cement walls. These ends are then formed to suitably engage with the corresponding ends of the members on the adjacent section of the conduit, so that when the sections are thus joined a continuous metallic bond is formed. By reason of the engagement of the members A and B with each other the stress is communicated from one to the other and thus in drawing the one section up against an adjacent section, the stress is communicated to all portions of the body.

Any suitable securing means may be employed for joining the members A of the adjacent sections, but, as illustrated in Figs. 2 and 4 one end of member A is bent into the form of a hook E while the opposite end is formed into an eye F. The arrangement is such that the hooks and eyes may be engaged with each other by a slight rotation of one section of the conduit in relation to the adjacent section.

What we claim as our invention is:

1. A reinforced cement conduit comprising a cement body, longitudinal and annular metallic strengthening members embedded therein, the ends of said longitudinal members projecting beyond the cement body, and a member carried by the ends of the longitudinal members of one section having a locking engagement with the ends of the longitudinal members of the adjacent section upon a slight rotation of one of said sections in relation to the other.

2. A reinforced cement conduit comprising a cement body, longitudinal and annular metallic strengthening members embedded therein, the ends of said longitudinal members projecting beyond the cement body, and hooks and eyes carried respectively by the ends of the longitudinal members of adjacent sections adapted to be engaged with each other upon the rotation of one section in relation to the other.

3. A reinforced cement conduit comprising a cement body, longitudinal and annular metallic strengthening members embedded
therein, hooks and eyes carried respectively by the ends of the longitudinal members of adjacent sections adapted to be engaged with each other upon a slight rotation of one of said sections in relation to the other, and shoulders on the end of one section adapted to abut against shoulders on the end of the adjacent section.

In testimony whereof we affix our signatures in presence of two witnesses.

HUGH J. KEENAN,
EDMUND J. TOBIN.

Witnesses:
NINA A. STROBEL,
IDA C. SCHMIDT.