

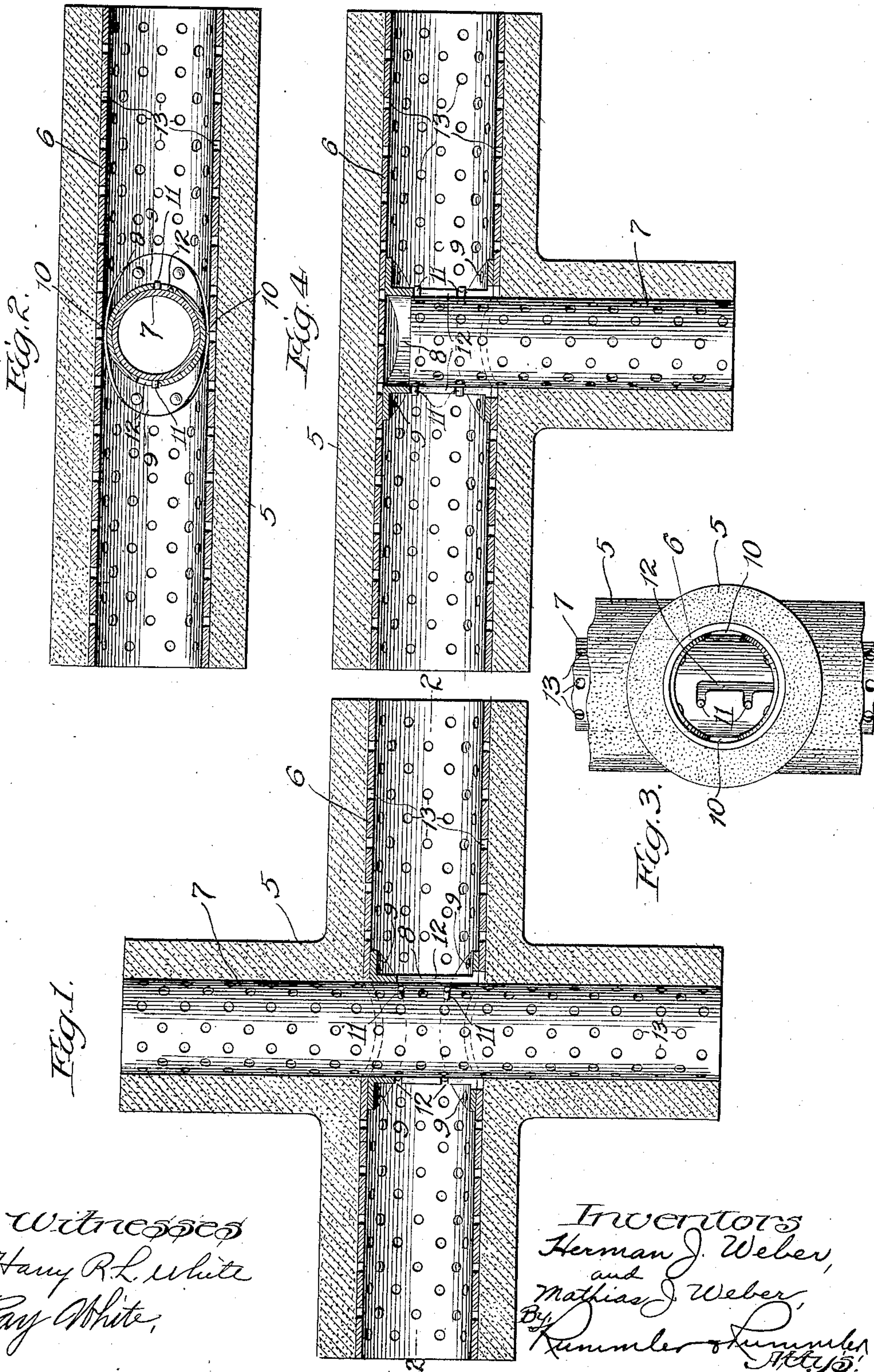
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M. J. & H. J. WEBER.

CORE ARBOR.

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UNITED STATES PATENT OFFICE.

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CORE-ARBOR.

No. 881,090.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MATHIAS J. WEBER and HERMEN J. WEBER, citizens of the United States of America, and residents of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Core-Arbors, of which the following is a specification.

The main objects of this invention are to provide an improved form of arbor for supporting the cores which are used in casting pipe connections with intersecting branches; to provide an improved arbor of this character in which the separate branches of the connection have separate arbors arranged so as to be readily detached for the purpose of withdrawing the arbor from the finished casting; to provide an improved form of sliding pin and slot joint for connecting intersecting arbors in a device of this class. These objects are accomplished by the device shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a pair of core arbors connected at right angles to each other and provided with detachable interlocking connecting means constructed according to this invention. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is an elevation partly broken away of the same, as viewed from the right of Fig. 1. Fig. 4 is a view corresponding to Fig. 1, but showing the method of connecting the arbors of the core of a T.

In the construction shown in the drawings the core comprises a layer of suitable core material, such as a compound of flour and sand, designated 5 in the drawings, packed around a pair of intersecting core arbors 6 and 7, one of said arbors being provided for each of the branches of the fitting. For the purpose of giving ample strength to the joint, the arbor 6 is preferably of larger diameter than the arbor 7, regardless of what may be the relative internal diameters of the respective branches of the fitting. Said internal diameter is determined by the thickness of the layer of sand about the arbor. The arbor 6 has a passage extending transversely through it at the middle of its length for receiving the arbor 7. A locking member 8 is secured within the arbor 6 and has a passage registering with the passage in the arbor 6 and loosely fitting the periphery of the arbor 7. The member 8 is provided with lips or flanges 9 at its ends. These are curved to fit the internal periphery of the

pipe 6, and are secured to said pipe by rivets or screws. The diameter of the arbor 7 should preferably be such that the exterior diameter of the cylindrical part of the member 8 will be somewhat less than the internal diameter of the arbor 6, so as to leave a passage for the flow of gases from one end of the arbor 6 to the other around the member 8. These passages are designated 10 in Figs. 2 and 3. The arbor 7 has on its periphery a plurality of projecting studs 11 preferably arranged in diametrically opposed pairs, and the member 8 is provided with corresponding bayonet-slots 12 opening through one side of the arbor 6 and having branches turned at right angles into which the studs 11 may enter, as will be understood from the drawings. In the form which is shown the pipe 7 is provided with four of such studs arranged in pairs, those on the same side being in longitudinal alinement, and the slots 12 are sufficiently long to receive both pairs of studs and are provided with transverse branches, one for each stud. The purpose of providing four studs is for the sake of making a secure joint, even though the arbor 7 fits quite loosely within the locking member 8. The hollow arbors are perforated as indicated at 13 in the drawings, to permit the free flow of gases therethrough.

The form shown in Fig. 4 is a modification in which the arbor 7 extends through but one side of the arbor 6, as would be the case when a T is to be cast. In other respects the construction is exactly the same as that of Fig. 1.

The operation of the device shown is as follows: The arbor 7 is first inserted into the socket in the locking member 12 of the arbor 6 and pushed inward until one pair of the pins 11 reach the inner end of the slot 12. The arbor 7 is then rotated, causing the pins 11 to enter the branch slots and securely lock the two arbors together. The core material is then molded and baked upon the outside of the arbors in the usual manner and the core is ready for use in the mold. After the finished casting is removed from the mold, the burned core may be readily broken away from the arbor. The arbor 7 is then rotated until the pins pass out of the branch slots, when said arbor 7 may be withdrawn from its connection with the arbor 6 and the two arbors readily removed from the casting.

An important advantage of the sliding pin and slot locking connection which is shown is that it may always be readily connected or

disconnected, as it is not likely to become clogged with core material, nor does it become wedged through slight distortion of the metal of the arbors through expansion and contraction due to the changes in temperature to which they are subjected.

What we claim as our invention and desire to secure by Letters Patent is:—

1. A device of the class described, comprising a hollow core arbor, a second hollow arbor of larger diameter than the first and having therein a transverse socket adapted to receive said first arbor, and means for detachably locking said first arbor within said socket.

2. A device of the class described, comprising a hollow core arbor, a second hollow arbor of larger diameter than the first and having therein a transverse socket adapted to receive said first arbor, said arbors having pin and bayonet-slot interlocking engagement with each other.

3. A device of the class described, comprising a substantially cylindrical core arbor, a second substantially cylindrical arbor having a passage extending transversely therethrough and fitting the first arbor, a hollow locking member secured within said second arbor, said first arbor and member having detachable interlocking pin and slot connection with each other for rigidly connecting said arbors.

4. A device of the class described, comprising a substantially cylindrical core arbor, a second substantially cylindrical arbor of larger diameter than the first, said second arbor having a passage extending transversely therethrough to receive said first arbor, and a member secured within said second arbor and having therein a passage registering with the passage in said second arbor,

said member having therein a bayonet-slot opening through one side of said second arbor, and said first arbor having thereon a projecting pin adapted to enter said bayonet-slot for securing said arbors in detachable interlocking engagement with each other.

5. A device of the class described, comprising a substantially cylindrical core arbor, a second substantially cylindrical arbor of larger diameter than the first, said second arbor having a passage extending transversely therethrough to receive said first arbor, and a member secured within said second arbor and having therein a passage registering with the passage in said second arbor, said member having therein a plurality of bayonet-slots open toward one side of said second arbor, and said first arbor having thereon a plurality of projecting studs located to correspond with the slots in said member and adapted to enter said bayonet-slots for securing said arbors in interlocking engagement with each other.

6. A device of the class described, comprising two substantially cylindrical core arbors, one having a socket in one side and the other having a part fitting within said socket, and locking means adapted to detachably secure said arbors in engagement with each other, said means being adapted to be readily released from one end of one of the arbors when the joint between the arbors is inaccessible.

Signed at Chicago this 20th day of September, 1907.

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Witnesses:

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