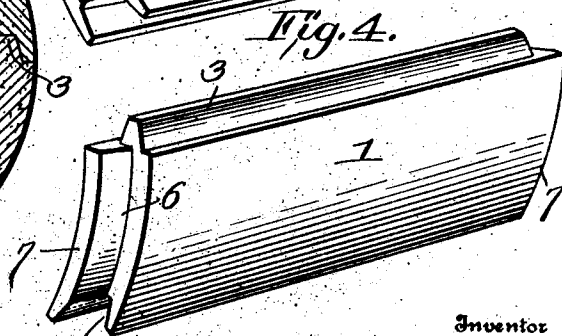
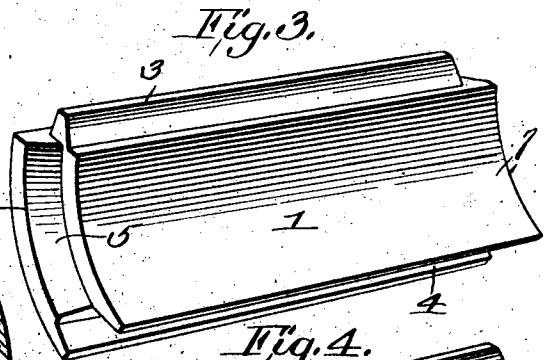
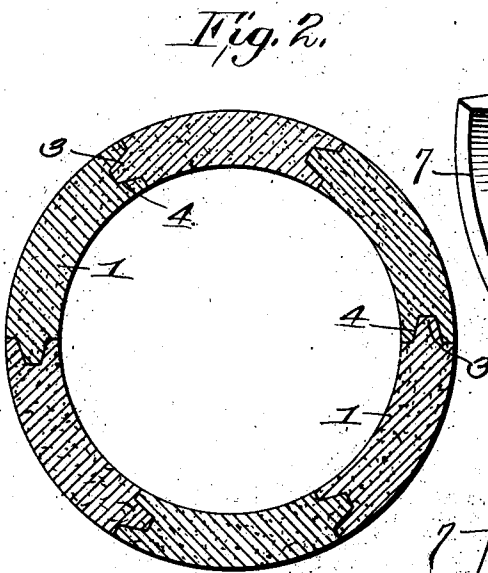
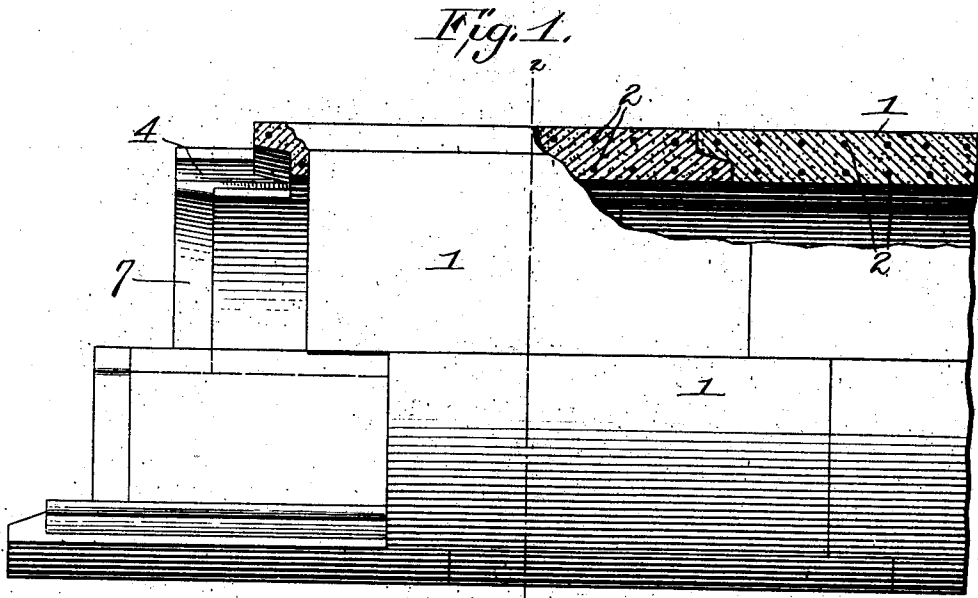


J. M. PHELAN.
SECTIONAL SEWER PIPE.
APPLICATION FILED OCT. 25, 1909.

1,047,983.

Patented Dec. 24, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN M. PHELAN, OF JACKSON, MICHIGAN.

SECTIONAL SEWER-PIPE.

1,047,983.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed October 25, 1909. Serial No. 524,571.

To all whom it may concern:

Be it known that I, JOHN M. PHELAN, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented a new and useful Improvement in Sectional Sewer-Pipes, of which the following is a specification.

This invention relates to an improvement in a construction of concrete pipes, and the improvement is especially designed for pipes to be employed in connection with tunnel work.

It is not practicable to lay the ordinary style of concrete pipe in a tunnel and I have therefore devised a concrete pipe formed of a plurality of transversely curved interlocking sections adapted to be fitted together to form a cylindrical pipe, the said sections overlapping in the manner of brick work, so that there is avoided anywhere in the pipe the formation of an annular joint.

In the accompanying drawings: Figure 1 is a side elevation, partly broken away and shown in section, illustrating a portion of a pipe formed in accordance with my invention. Fig. 2 is a transverse section on the line 2-2 of Fig. 1. Figs. 3 and 4 are perspective views showing respectively inner and outer faces of one of the sections.

In these drawings 1 represents a transversely curved block of concrete provided with a plurality of transversely arranged wires 2, which are embedded in the block, a portion of said wires being adjacent the outer face and a portion being adjacent the inner face of the block. One marginal portion of the block is reduced in width leaving a projecting approximately V-shaped tongue 3. The other edge of the block is channeled out as shown at 4, said channel having the same shape as the tongue 3 and being adapted to receive the tongue of an adjacent block. By means of this construction, the various blocks are interlocked along their edges. At the ends each block is cut away on its inner face as shown at 5, and the tongue 3 and the inner wall of the channel 4 is also cut away at this end. At the opposite end of the block the outer face is cut away as shown at 6 and the tongue and outer wall of the channel are also cut away. By means of this construc-

tion the ends of the block sections are provided with overlapping end projections 7. It will also be noted from Fig. 1 that the cooperating faces of these projections 7 are slightly beveled. When these blocks are assembled in position, they are offset or staggered with respect to each other so that the transverse joints between the various blocks are offset and no cylindrical joint is formed. By means of this construction, a pipe of great strength can be quickly built in a tunnel, and said pipe can be readily rendered water proof by cementing all joints, or by applying any desired water proofing lining to the interior of the pipe after the same has been completed. It will also be obvious that any desired form of metal reinforcing can be adopted in connection with these blocks.

What I claim is:

1. In a concrete pipe, a block curved transversely, said block being provided with a beveled tongue along one edge, the said tongue stopping short of the ends of the block, and having a tongue receiving channel formed in the opposite edge, said channel extending the entire length of the block, the inner wall of the channel being cut out at one end and the outer wall being removed at the other end, and the said block having its opposite end portions cut out upon the outer and inner faces, respectively, thereby forming beveled end portions, each of said end portions being continuous with one wall of the said channel.

2. A concrete pipe consisting of a plurality of block sections, each block being transversely curved, provided with a beveled end portion at each end, the said end portions being continuous with the outer face of the block at one end and with the inner face at the opposite end, a beveled tongue formed along one side of the block, and stopping short of the ends of the block, and a channel cut in the opposite edge of the block and extending the entire length of the block, as and for the purpose set forth.

JOHN M. PHELAN.

Witnesses:

WM. J. SAMELS,
JOHN V. MORAN.