

(No Model.)

W. D. SHERMAN.
CORE FOR DRAIN TILE MOLDS.

No. 461,453.

Patented Oct. 20, 1891.

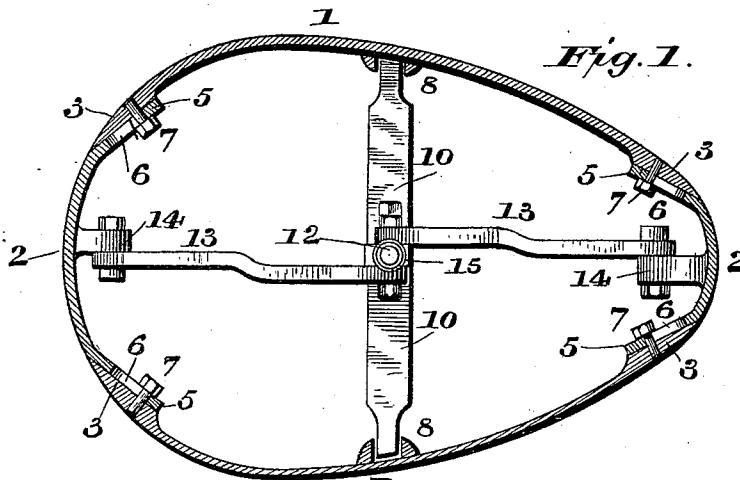


Fig. 1.

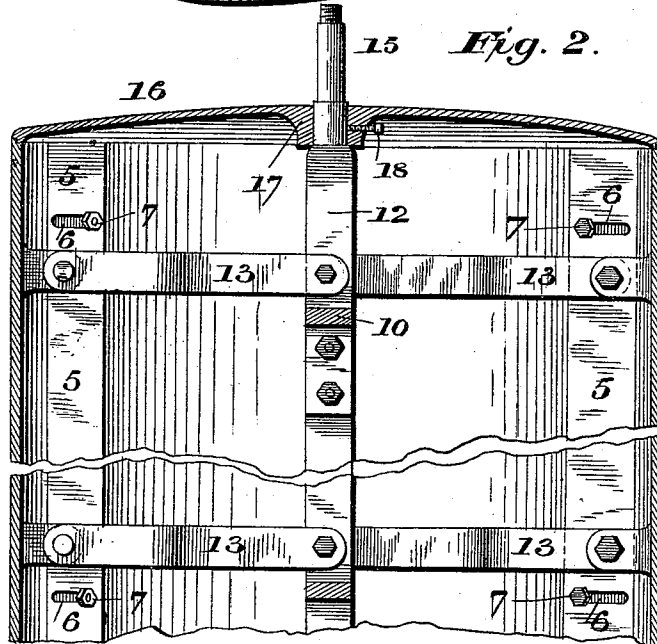
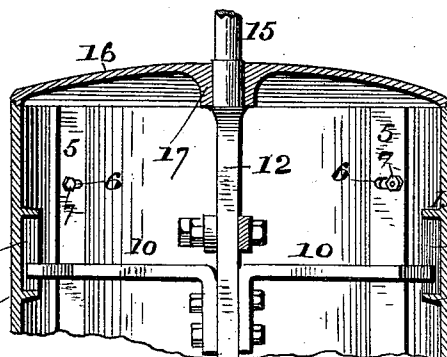


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIS D. SHERMAN, OF OMAHA, NEBRASKA, ASSIGNOR TO THE UNION
HYDRAULIC DRAIN TILE COMPANY, OF SAME PLACE.

CORE FOR DRAIN-TILE MOLDS.

SPECIFICATION forming part of Letters Patent No. 461,453, dated October 20, 1891.

Application filed December 11, 1890. Serial No. 374,358. (No model.)

To all whom it may concern:

Be it known that I, WILLIS D. SHERMAN, a citizen of the United States, and a resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Cores for Sewer-Pipe and Drain-Tile Molds; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in contractible cores for sewer-pipe and drain-tile molds.

In making sewer-pipe and drain-tile and other similar articles of concrete or cement a mold is employed consisting of an outer shell and an inner core with an intervening space between corresponding with the pipe to be made. This space is gradually filled in with damp or wet concrete or other material, which is tamped or compressed by means of tamping-bars during the operation of filling, so that a homogeneous pipe will be the result. These tamping-bars may be operated by hand or by machinery, as may be found most desirable. Owing to this compressing or tamping of the material of which the pipe is composed and the contraction due to evaporation, it is very difficult to remove the core, the pipe frequently being injured and destroyed in the attempt. The object of my invention, therefore, is to provide a contractible core for sewer-pipe and drain-tile molds which can be caused to collapse or be drawn out of contact with the interior of the pipe, thus allowing it to be readily removed without liability of damaging or injuring the pipe.

The invention consists in the novel construction and combination of parts hereinafter fully described, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a horizontal section of a pipe-core constructed in accordance with my invention for making what is known as an "egg-shaped" pipe. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a cross-section taken at right angles to Fig 2.

In the said drawings the core is shown as being composed of two outer and two inner sections designated by the reference-numerals 1 1 and 2 2, each consisting of a curved vertical plate of cast-iron or other suitable material. The outer sections 1 1 at their ends are preferably slightly increased in thickness and beveled, as shown at 3, Fig. 1, forming a beveled or inclined face, extending from top to bottom thereof. The inner sections 2 have their ends bent inwardly at an angle to the remaining portion, forming vertical wings 5, which fit snugly against the inclined faces which overlap the same. These wings 5 at suitable intervals are provided with slots 6, through which pass the headed pins 7, which are screw-threaded at their ends and received in corresponding holes in the faces. The heads of these pins bear loosely against the wings 5, so that said wings and the inclined faces can slide upon each other.

Located upon the interior of the sections 1, near the top and bottom thereof, are vertical guideways, each consisting of two parallel ribs 8, which may be connected at each end by the cross-ribs 9. These ways are designed to receive the free ends of the bars or rods 10, which are secured at their other ends to a vertical bar 12, located approximately in the center of the core. Pivoted to this bar 12 near the top and bottom are arms 13, which are pivoted at their other ends to lugs 14, secured to the sections 2.

Formed with or secured to bar 12 is an upwardly-extending rod 15, which carries a cover 16, corresponding in shape with the core, and which fits down upon the tops of the sections, thus preventing the entrance of filling material to the interior of the core. The cover and the sections 1 and 2 where they meet, when the cover is in place, are provided with annular recesses, so as to make a snug and close fit. The cover is provided with a central boss 17 and a set-screw 18, by which it is adjustably secured to the rod 15.

The operation will be readily understood. When the core is placed within the mold, the parts will occupy the positions shown in the drawings. It will then be seen that the outer portions of the sections 1 and 2 where they meet will be flush with each other, thus pre-

senting a smooth unbroken surface of a contour corresponding with the interior of the pipe to be produced, with the cover 16 snugly seating upon the upper edges of said sections.

5 After the filling material has been inserted in the space between the core and shell and tamped down to form the pipe and it is desired to withdraw the core, the rod 15 is grasped by suitable machinery or by hand and

10 drawn upward. This will cause the bar 12 to be elevated, raising the cover out of contact with the sections and actuating the pivoted arms 13, which will draw the sections 2 2 inwardly or toward the center, which in turn,

15 by means of pin-and-slot connections with sections 1, will also draw in the latter, thus causing the core to be contracted and forced out of contact with the interior of the tile and enabling it to be readily withdrawn. The bars

20 or rods 10, working in the guideways, serve to steady and guide the bar 12 and move upwardly therewith. It will be seen that the free ends of these rods 10 do not quite extend to the sections 1 where the latter are extended,

25 as shown in the drawings, a slight space being left therebetween to provide for the contraction of said sections. When the core is returned to the mold and the central bar pushed down, the sections will be expanded

30 to again assume their proper positions.

While I have illustrated in the drawings a core adapted to make egg-shaped or oval pipe, it is obvious that the same may be employed in connection with circular, square, rectangu-

lar, or other shaped pipe without departing 35 from the principle of the invention, and therefore I do not wish to be understood as limiting myself to any particular form or shape of core or of the sections composing the same.

The invention will be found to be peculiarly 40 adapted for employment in connection with machines for making sewer-pipe and drain-tile, such as is disclosed in an application filed by me of even date herewith, Serial No. 374,356, and with a concurrent application for an im- 45 provement in shells for sewer-pipe and drain-tile molds, Serial No. 374,359, although it is equally well adapted for use with other styles of machines and also for hand-made pipe.

Having thus described my invention, what 50 I claim is—

A core for sewer-pipe and drain-tile molds, consisting of the outer sections having beveled ends, the inner sections having inclined 55 slotted wings, the headed bolts, the vertical bar, the arms pivoted to said bar and to the inner sections, the guideways on the outer sections, and the rods working in said guideways and secured to the vertical bar, substantially as described. 60

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIS D. SHERMAN.

Witnesses:

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BENNETT S. JONES.