

M. R. DEYO.
CULVERT.
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1,298,021.

Patented Mar. 25, 1919.

Fig. 1.

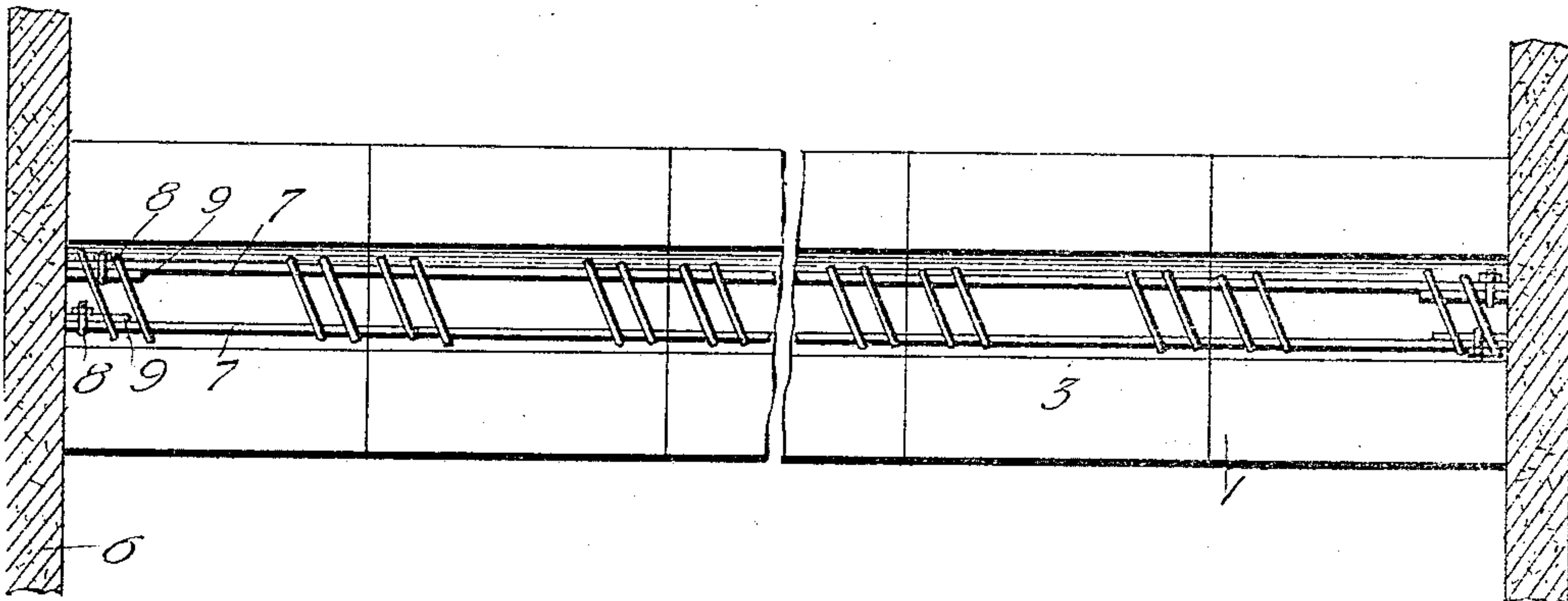


Fig. 2.

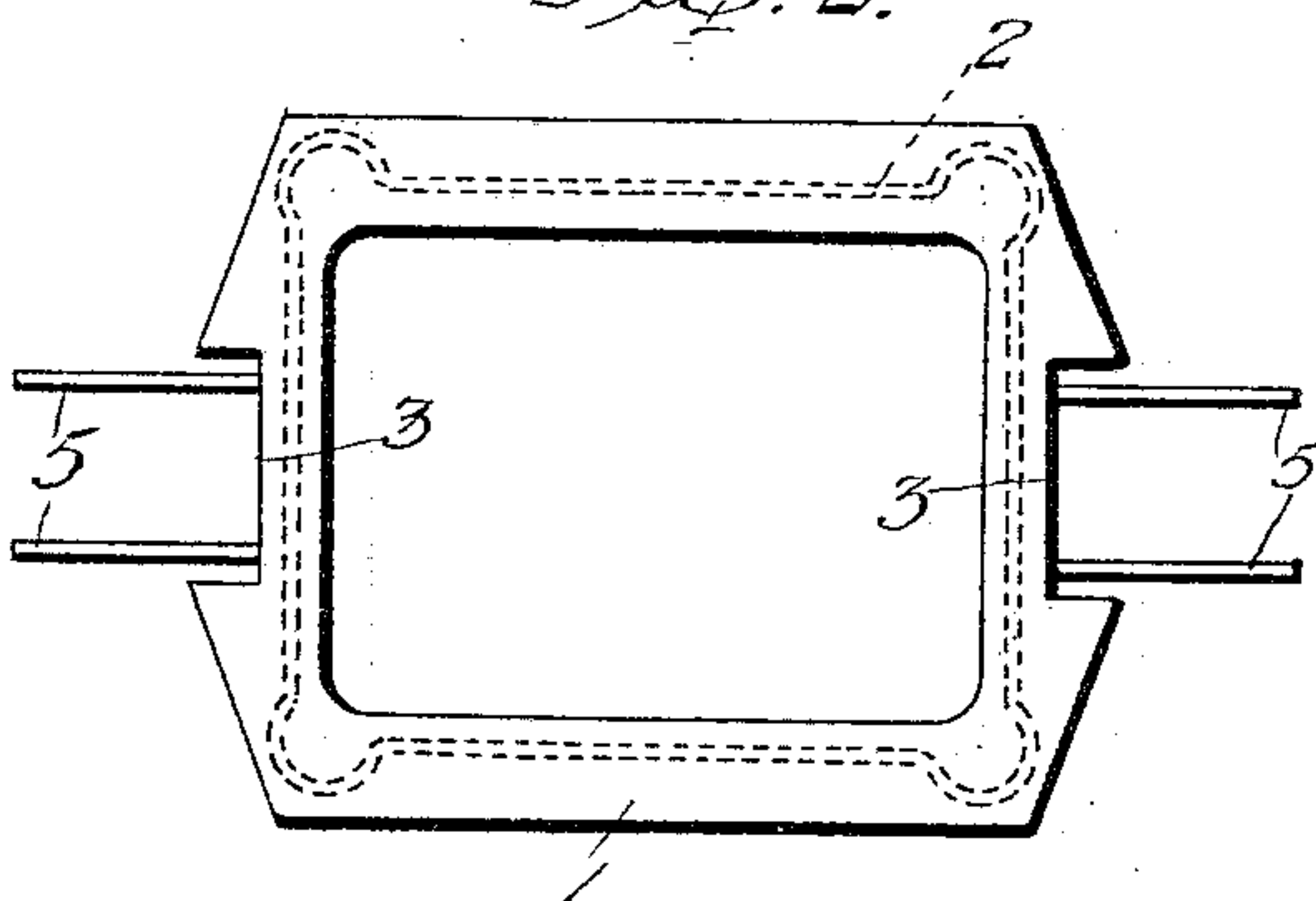


Fig. 3.

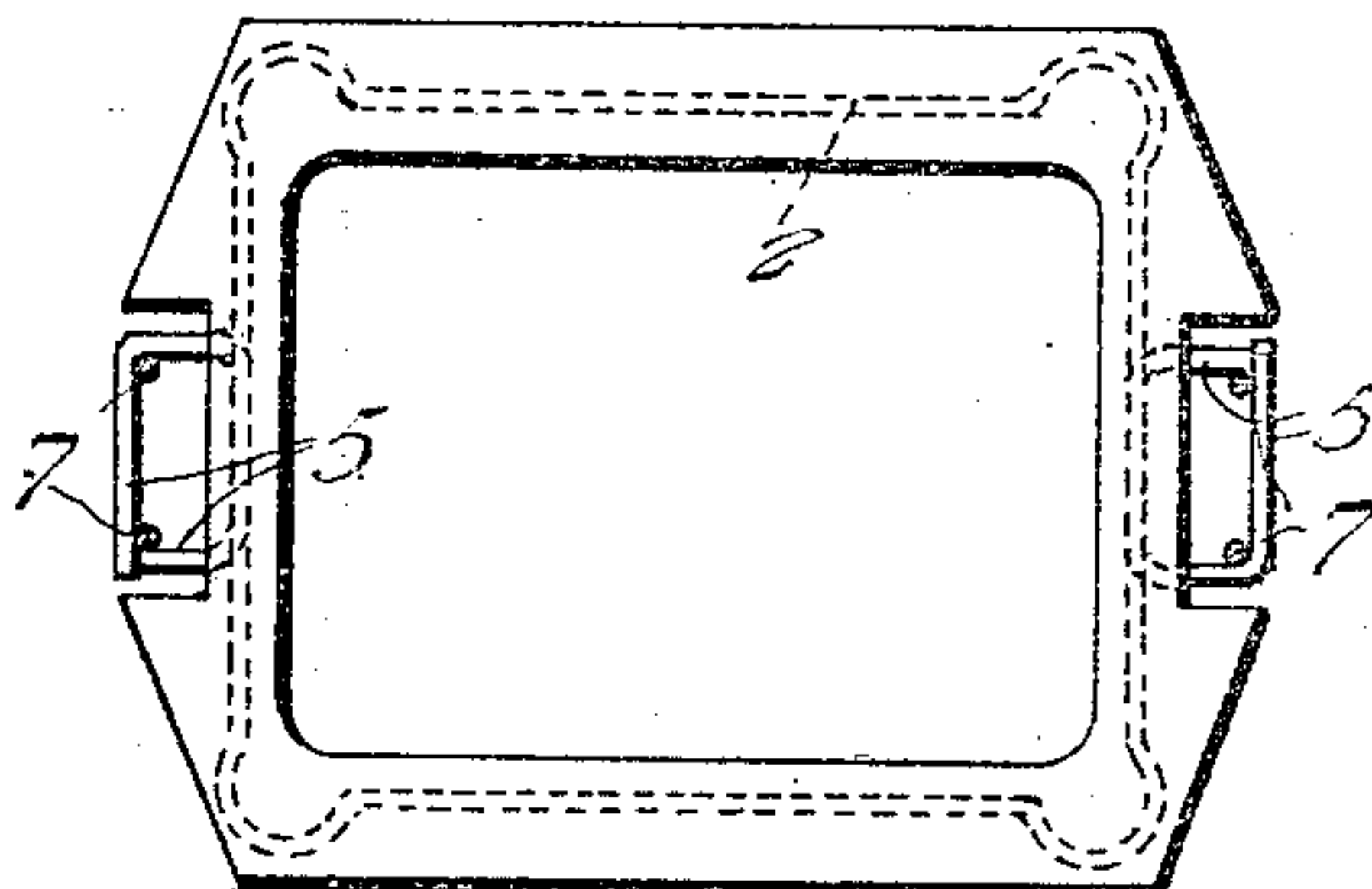
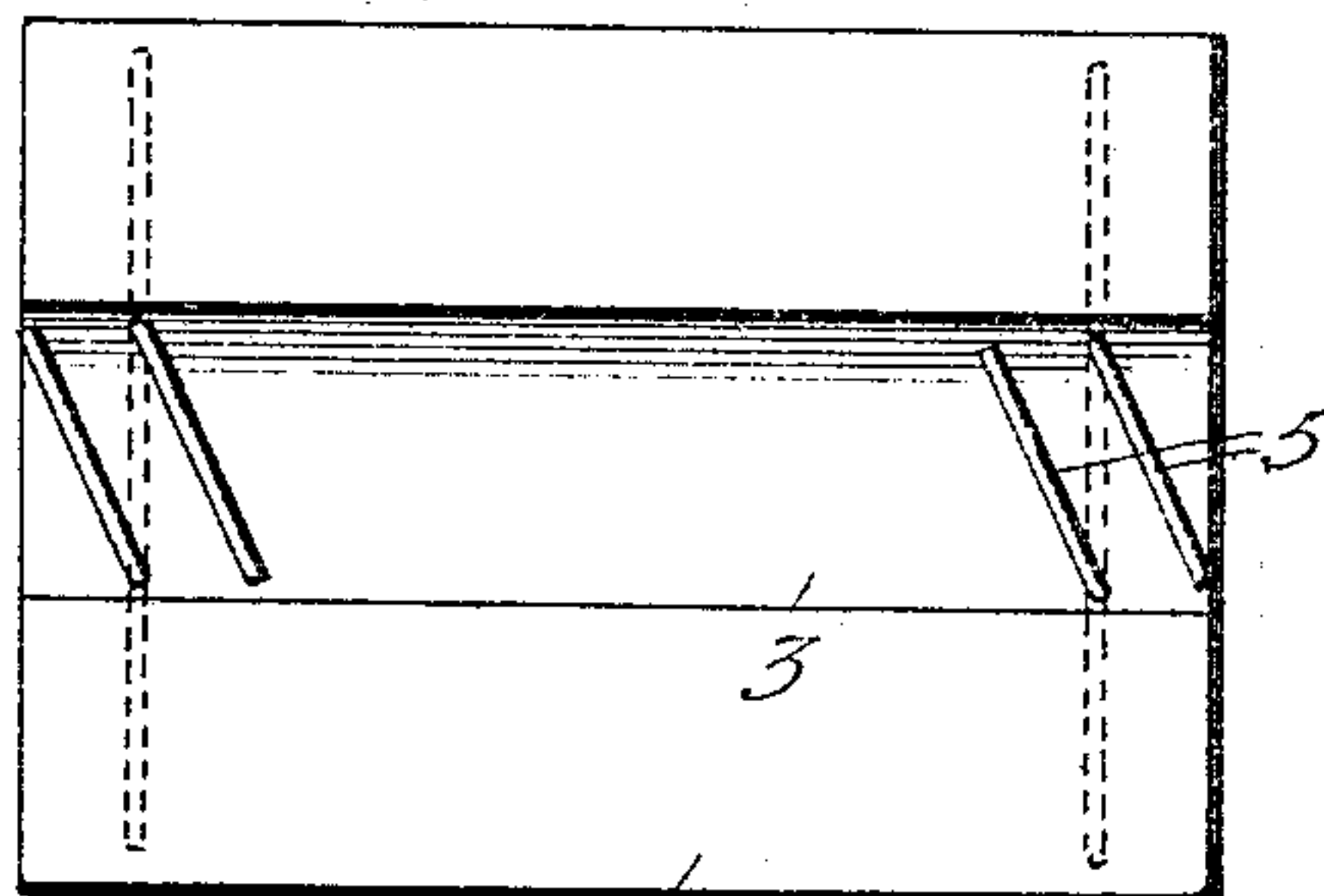


Fig. 4.



WITNESSES

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CULVERT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MARK R. DEYO, a citizen of the United States, and a resident of Bradford, in the county of Stark and State of Illinois, have invented certain new and useful Improvements in Culverts, of which the following is a specification.

My invention is an improvement in culverts, and has for its object to provide a culvert formed from hollow tiles formed from plastic material capable of hardening, the tiles being placed end to end and having means in connection therewith for permanently locking them together and to the head walls, and wherein a continuous compound reinforcement is provided for the conduit.

In the drawings:

Figure 1 is a side view of a section of culvert showing the culvert and head walls;

Fig. 2 is an end view of the tile as it comes from the mold;

Fig. 3 is a similar view of the tile ready to lay;

Fig. 4 is a side view of the tile.

In the present embodiment of the invention the culvert is composed of similar tiles or sections, each consisting of a hollow body 1 substantially rectangular in cross section and suitably reinforced, as indicated at 2, the reinforcing rods extending circumferentially in the wall of the tile or section. Each section has longitudinally extending external grooves or channels 3 in its opposite side walls, and the ends 5 of the reinforcing rods extend out into these channels, opening through the bottoms thereof.

Referring to Figs. 2 and 3, it will be noted that the reinforcements are formed by rods which are bent to lie in the top and bottom walls of the section and to extend approximately half the depth of the side walls, and to be then bent outwardly into the channels or grooves. In the condition of Fig. 2 the tiles or sections leave the mold, the rod ends 5 being straight and perpendicular to the bottom of the channels.

In laying a culvert with the improved tiles, the ditch is first dug and the bottom leveled. The first section has a layer of mortar or cement placed on one end, and this end is abutted against one of the head walls 6, the said wall having the rods 9 extending out

into the channels of the section. The opposite end of the section is then mortared or cemented and the succeeding tile is laid, and this process is repeated until the culvert is of the desired length. The rods 7 are now placed, and are secured to the head wall 6 at that end at which the laying commenced. These rods are placed in the registering grooves of the sections at each side of the culvert, and the said rods are long enough to extend from one head wall to the other, although it is obvious that they might be sectional if desired.

To place the last head wall a block and tackle is run through the water-way of the culvert, and the sections are squeezed together, making absolutely tight joints. The rods 7 are clamped at each end, and the ends 5 of the rods 2 are then bent about the rod 7, as shown in Fig. 3. After this is done enough concrete is poured or slushed in to cover the exposed rods and completely fill the groove or channel on each side of the culvert. The whole culvert is thus fastened together, and as soon as the concrete sets the culvert has the same strength as though it were completely poured in place.

A completed section of culvert is, in fact, a structure having a continuous compound reinforcement at each side, extending from one end of the structure to the other, the reinforcement being formed by the rod 7 and the concrete filling the channel. These compound reinforcements not only tie and fasten the sections together but act to resist bending stress at any point in the length. By pressing the sections together longitudinally of the culvert an absolutely tight joint is formed between each pair of adjacent sections.

While the tile is shown in connection with a culvert it will be obvious that it might be used with equal facility in any other connection where a structure of this character is desired.

I claim:

A structure of the character specified, composed of sections abutting at their ends, each section having at its opposite side walls longitudinally extending grooves opening externally, the grooves of the sections registering to form channels extending the full length

of the structure, spaced rods lying in the channels, each section having reinforcing elements embedded in its wall and extending at their ends into the grooves, the said ends
5 being connected with the rods to form a continuous compound reinforcement at each side of the conduit structure extending the full length thereof, the channels being adapted to be filled with plastic material capable of hardening.

MARK R. DEYO.

Witnesses:

CAROL HARLAN,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."