

No. 832,300.

PATENTED OCT. 2, 1906.

E. J. DUNN.
CISTERN FORM.

APPLICATION FILED JAN. 6, 1906.

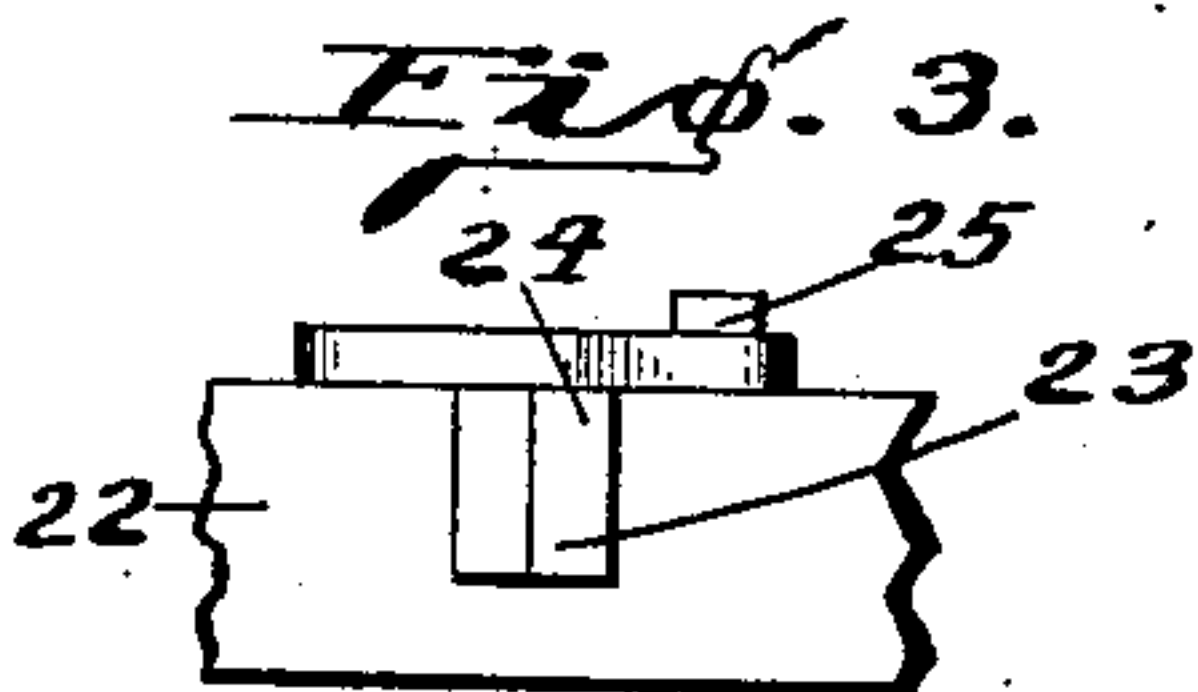
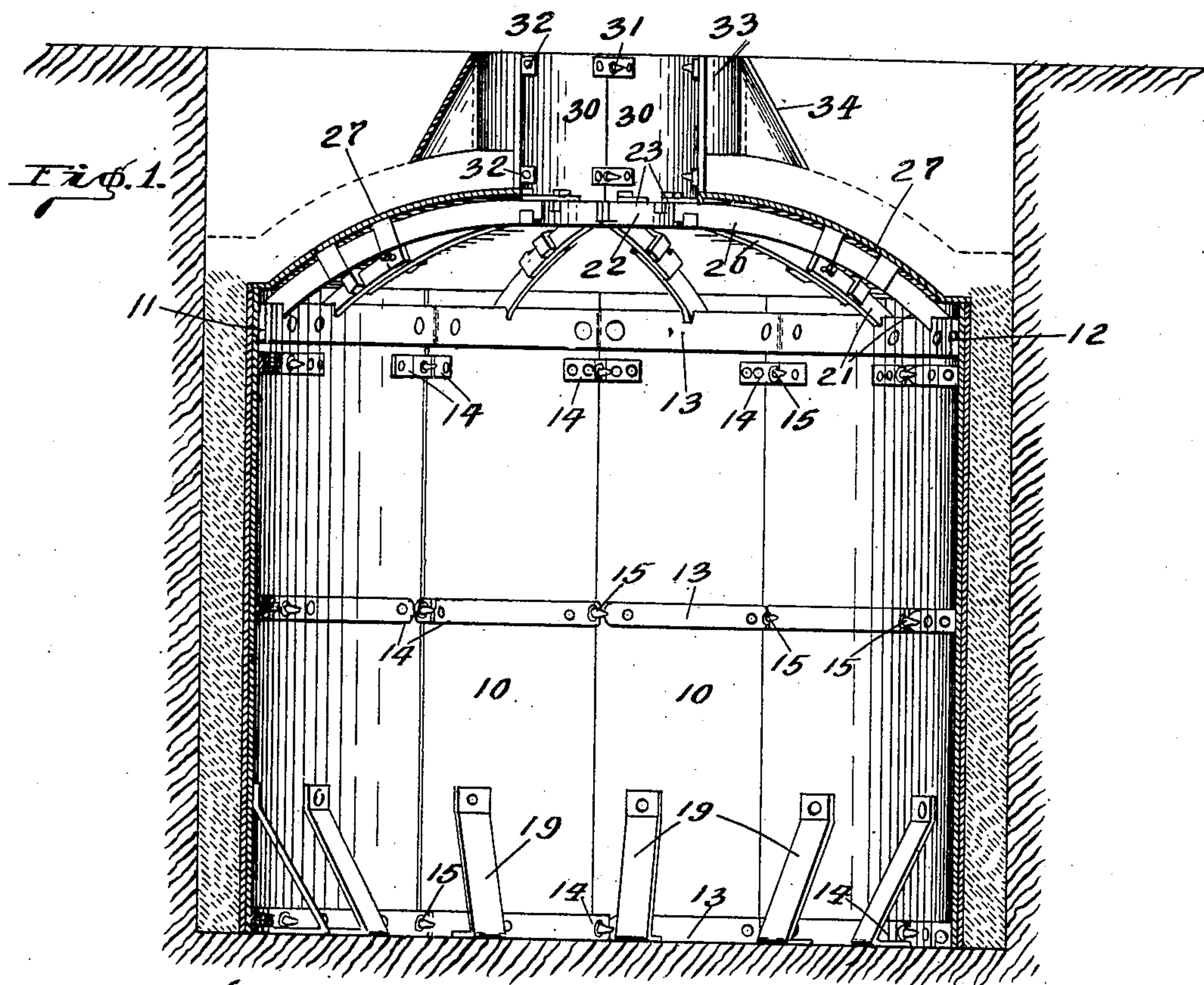


Fig. 4.

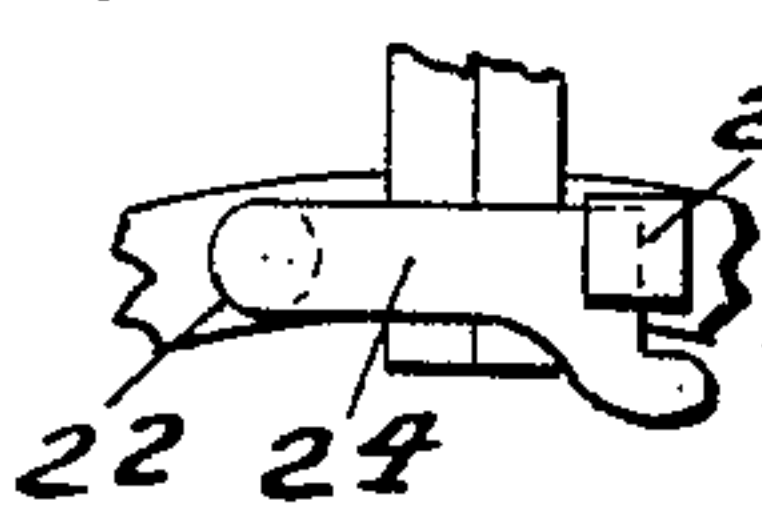
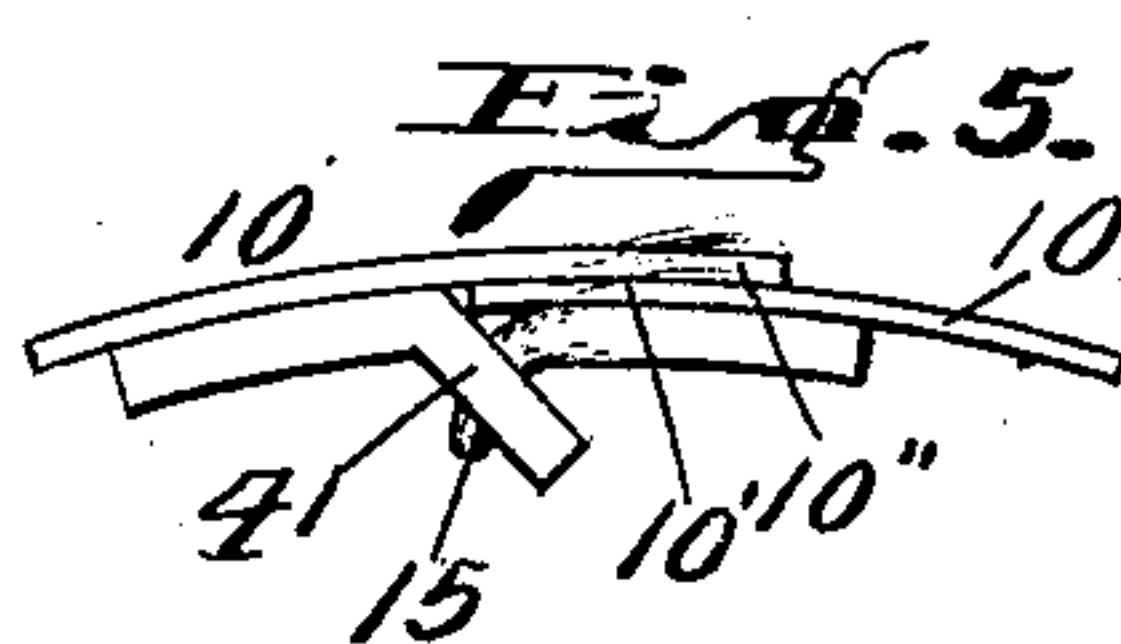
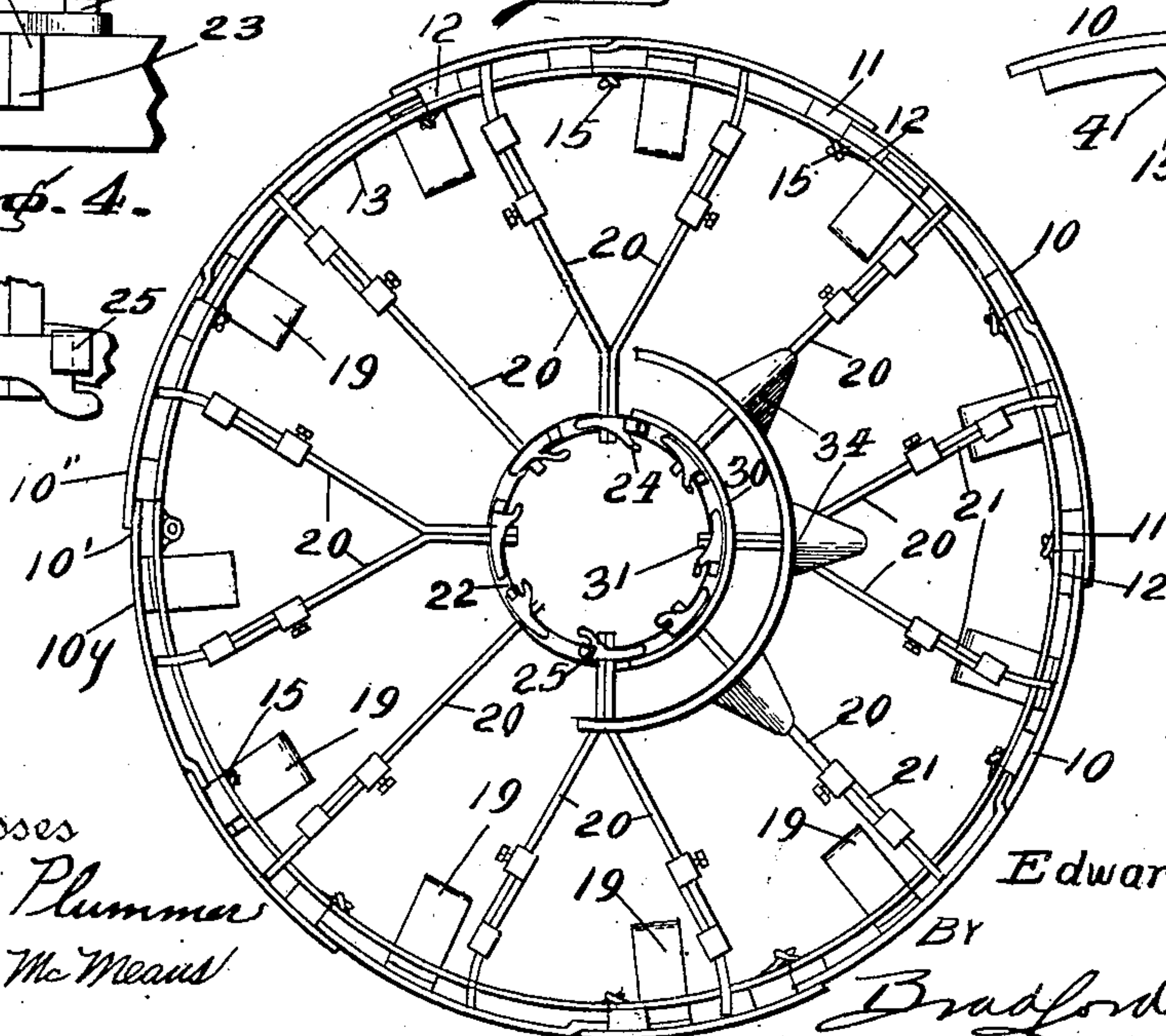


Fig. 2.



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EDWARD J. DUNN, OF INDIANAPOLIS, INDIANA.

CISTERN-FORM.

No. 832,300.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed January 6 1906. Serial No. 294,828.

To all whom it may concern:

Be it known that I, EDWARD J. DUNN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Cistern-Forms, of which the following is a specification.

The object of my invention is to produce a simple yet efficient device by means of which cisterns or other similar receptacles may be formed of concrete or other plastic, the construction being such that any desired size of receptacle may be made by the use of a greater or lesser number of segments.

The accompanying drawings illustrate my invention.

Figure 1 is a central vertical section of my improved apparatus arranged in position for use. Fig. 2 is a plan of the parts shown in Fig. 1, a portion of each of the upper neck-forming rings being omitted; Figs. 3 and 4, a side elevation and plan detail of one of the retaining-arms, and Fig. 5 an enlarged detail of the hook connection between two adjacent segments.

In the drawings, 10 10 indicate a series of arc-shaped segments of sheet metal or other similar material, each of which is stiffened at one edge by a plate 11 and at the opposite edge by a plate 12, the arrangement being such that that portion 10' of the plate adjacent the stiffening-bar 12 may be projected behind the projecting edge 10'' of the adjacent segment. Each segment 10 is stiffened top and bottom by a bar 13.

Secured at various points along the length of one edge of each segment 10 is a series of eye-brackets 14, each of which is adapted to receive a hook 15, attached to the adjacent edge of the adjacent segment 10. One of the segments 10, as shown at the left of Fig. 2, is provided with an overhanging lip 10'' at each edge, and the overhanging lip of the next adjacent segment 10'' is omitted in order that the two segments may be butted against each other, the arrangement being such that in removing the form from the completed cistern the segment 10'' may be swung inward, as indicated by the arrow, and detached from the adjacent segment, whereupon the several segments may be similarly detached in regular order. The order of assembly would be the reverse. The adjacent edges of these two segments are provided with perforated ears 17, which are adapted to receive bolts 18, by means of which the parts

may be connected. Each segment 10 is provided at its bottom with one or more inwardly-projecting feet 19, which serve to hold the segments individually in an upright position. By hooking a greater or less number of segments 10 together a cylinder of any desired diameter may be produced, the adjacent edges of the first and last segments being connected by the bolts 18 instead of by hooks 15 and brackets 14.

In order to form a support for the top or arch of the cistern, I provide arch-ribs 20, which in the drawings are shown as adjustable in length by means of a longitudinally-adjustable foot-piece 21. The outer ends of the foot-pieces 21 are notched to receive the upper stiffening-bar 13, and the inner ends of the ribs 20 are similarly notched to receive a central ring 22. Ring 22 is provided with notches 23 to receive one or more of the arch-ribs 20, and the ring is held in position on the arch-ribs by means of pivoted catches 24, one of which is pivoted adjacent each notch 23 and is adapted at its free end to be swung beneath a retaining-hook 25. The arch-ribs 20 support segmental metal plates 27, which form a cover for the mold and a support for the concrete. The inner neck-ring is formed of a plurality of segments 30, which are hooked and bolted together by hooks 31 and bolt-brackets 32 in the same manner as the segments 10 are connected. This neck-ring rests upon the inner ends of the segmental plates 27. Surrounding the ring 30 is an outer neck-ring 33, which is provided with wing-like extensions 34, into which the concrete may flow in order to form supporting ribs or braces for the neck.

I claim as my invention—

1. A cistern-form comprising a plurality of vertical segments provided at one vertical edge with a series of substantially horizontal fixed inwardly-curved hook members and at the other edge with hook-receiving eyes, said hook members and eyes being secured to the segments to cause overlapping of adjacent edges of the segments when the hooks and eyes are assembled by an outward swing of one segment relative to the other, a plurality of arch-ribs provided at one end with means for detachably engaging the upper ends of the vertical segments and at the other ends with means for detachably engaging a central ring and the said central ring.

2. A cistern-form comprising a plurality of vertical segments provided at their vertical

- edges with interengaging separable hook-and-eye members, a plurality of arch-ribs provided at one end with means for detachably engaging the upper ends of the vertical segments and at the other end with means for detachably engaging a central ring, the said central ring, and retaining-catches carried by the ring and adapted to be moved into engagement with adjacent arch-ribs.
3. A cistern-form comprising a main tubular body, a plurality of arch-ribs each provided at its outer end with means for separably engaging the upper end of said body and at its inner end notched to enter a corresponding notch of a central ring, the said notched ring, and a plurality of retaining members carried by the ring and serving to retain the arch-ribs in engagement with the ring.
4. A cistern-form comprising a main tubular body, a plurality of arch-ribs each provided at its outer end with means for separably engaging the upper end of said body and at its inner end notched to enter a corresponding notch of a central ring, the said notched ring, a plurality of retaining members pivoted one adjacent each notch of the ring, and a lip arranged adjacent each notch of the ring to engage the free end of the adjacent retaining member.
5. A cistern-form comprising a plurality of vertical segments provided at one vertical edge with a series of substantially horizontal fixed inwardly-curved hook members, and at the other edge with hook-receiving eyes, said hook members and eyes being secured to the segments to cause overlapping of the adjacent edges of the segments when the hooks and eyes are assembled by an outward swing of one segment relative to another.
6. In a cistern-form a tubular body consisting of a plurality of vertical segments carrying near one edge one or more eye-brackets and at the other edge one or more hooks curved horizontally toward the center of the body and adapted to engage the eye-brackets of an adjacent segment by an outward swing of one segment relative to another, a plurality of arch-ribs provided at one end with means for detachably engaging the upper ends of the vertical segments and at the other end with means for detachably engaging a central ring, the said central ring, and means for adjusting the length of the arch-ribs.
7. A cistern-form comprising a plurality of vertical segments provided at their vertical edges with interengaging separable hook-and-eye members, a plurality of arch-ribs provided at one end with means for detachably engaging the upper ends of the vertical segments and at the other end with means for detachably engaging a central ring, the said central ring, retaining-catches carried by the ring and adapted to be moved into engagement with adjacent arch-ribs, and means for adjusting the length of the arch-ribs.
8. A cistern-form comprising a main tubular body, a plurality of arch-ribs each provided at its outer end with means for separably engaging the upper end of said body and at its inner end notched to enter a corresponding notch of a central ring, the said notched ring, a plurality of retaining members carried by the ring and serving to retain the arch-ribs in engagement with the ring, and means for adjusting the length of the arch-ribs.
9. A cistern-form comprising a main tubular body, a plurality of arch-ribs each provided at its outer end with means for separably engaging the upper end of said body and at its inner end notched to enter a corresponding notch of a central ring, the said notched ring, a plurality of retaining members pivoted one adjacent each notch of the ring, a lip arranged adjacent each notch of the ring to engage the free end of the adjacent retaining member, and means for adjusting the length of the arch-ribs.
- In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 30th day of December, A. D. 1905.
- EDWARD J. DUNN. [L. s.]
- Witnesses:
 ARTHUR M. HOOD,
 THOMAS W. McMEANS.