

July 29, 1924.

1,503,358

A. H. EVANS

CONCRETE MOLD

Filed Dec. 9, 1922

Fig. 1.

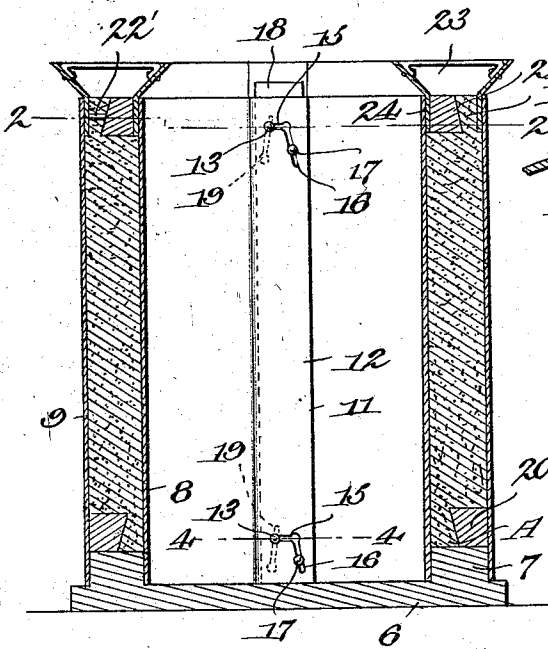


Fig. 4.

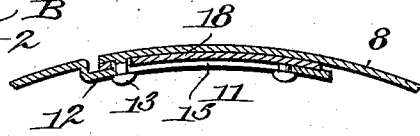


Fig. 3.

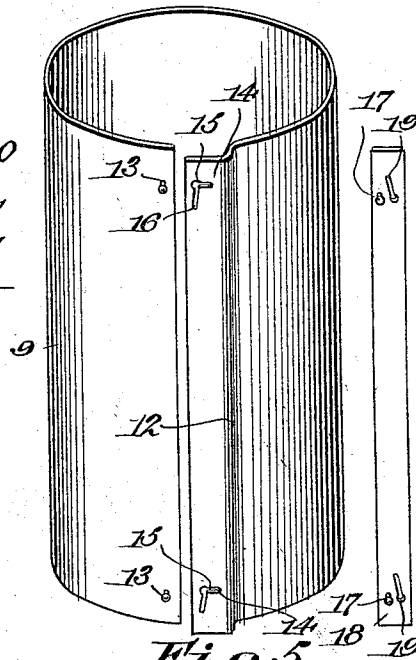


Fig. 2.

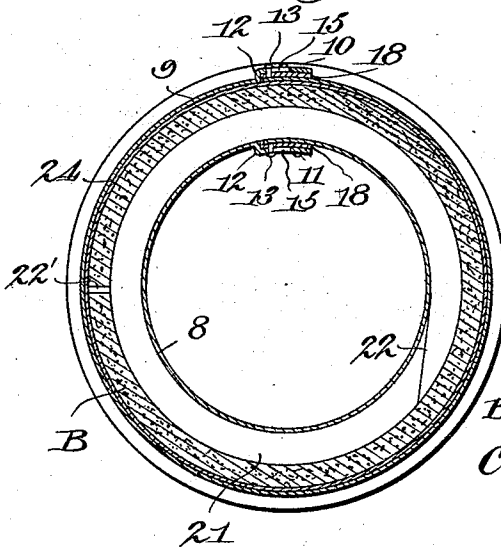
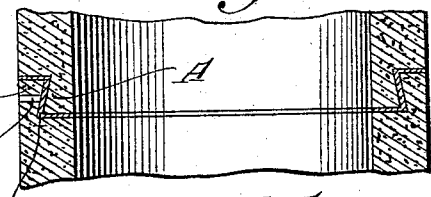


Fig. 5.



Alfred H. Evans.
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS: *[Signature]*

UNITED STATES PATENT OFFICE.

ALFRED H. EVANS, OF BRONX, NEW YORK.

CONCRETE MOLD.

Application filed December 9, 1922. Serial No. 605,891.

To all whom it may concern:

Be it known that I, ALFRED H. EVANS, a citizen of the United States, residing at Bronx, in the county of Bronx and State of New York, have invented new and useful Improvements in Concrete Molds, of which the following is a specification.

This invention relates to concrete molds and particularly to molds employed in the manufacture of hollow bodies such as pipes or the like.

An object of the invention is to provide a mold of this character which shall be simple of construction and which will consist of but few parts adapted when set-up for use to form a mold cavity for the production of a hollow body having a male portion at one end and a female portion at the opposite end, whereby when several of the molded bodies are to be used in pipe formation they can be interlocked by use of a plastic key, the latter operating to secure the bodies in sealed contact.

Another object of the invention is to provide a mold of this character embodying forms for producing the male and female portions of the molded object, and the provision of means on one of the forms whereby it can be contracted helically with respect to the molded object after the body is formed.

A still further object of the invention is to provide a mold including an expansible inner wall and a contractible outer wall with means for operating the walls to associate the same with other co-acting parts of the mold structure.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a vertical section through the mold.

Figure 2 is a horizontal section on line 2—2 of Figure 1.

Figure 3 is a perspective view of the outer wall showing the slide member separated.

Figure 4 is a horizontal section on line 4—4 of Figure 1.

Figure 5 is a vertical section through parts of the meeting ends of the two molded bodies constructed from use of the mold.

The invention is designed primarily for casting hollow concrete bodies of cylindrical form and of a construction whereby a number of molded bodies can be interlocked and arranged in pipe or conduit formation. In practice I employ a base or platform 6 having a vertically rising annular collar 7. Within the bore of this collar is fitted the lower end of an expansible inner wall 8. The lower end of an outer contractible wall 9 embraces the collar and same is arranged in parallel relation to the inner wall. Means 10 are employed for contracting the outer wall to bring same into snug impingement with the external walls of the collar 7. Identical means 11 are employed for expanding the inner wall 8 to bring it in snug contact with the walls of the bore of the aforesaid collar 7. As the means 10 and 11 are substantially the same it is thought that a description of one will suffice for the other.

The said means 10 consists in offsetting one of the longitudinal edges of the split wall 9, said offset being illustrated at 12. The opposite edge is provided with headed studs 13, 13 adapted to be inserted in circular branches 14 of slots 15 in said portion 12. These slots are provided with angular branches 16 which receive headed pins 17 on a sliding actuating member or key 18. This member is provided with slots 19 which are arranged in diverging relation to the branches 16 of the slots 15. The said slots 19 are adapted to receive the headed studs 13 and as shown said member 18 is interposed between the free ends of the wall 8 as shown clearly in Figure 4. By actuating or moving the member 18 in one direction the wall 8 will be expanded against the inner walls of the collar 7. When moving the member in an opposite direction the wall 8 may be contracted. The former operation is required when setting up the mold for the forming operation and the latter operation is intended to simplify the work of knocking down the mold parts after the molding operation. The studs 13, 13 co-act with branches 14 of the slots 15 to hold the respective ends of the wall 8 against relative longitudinal movement during the contracting operation. The key 18 simply acts as an actuator and the slots 19 thereof and pins 17 respectively co-act with the studs 13 and branch slots 16 when effecting adjustment of said wall 8.

Removably mounted upon the collar 17 is a split expansible ring 20 the diameter of which is less than the distance between the walls of the inner and outer walls 8 and 9. The inner face of the ring tapers downward and outward as shown in Figure 1. Incident to this construction it will be observed that when a plastic substance is poured into the space between the inner and outer walls 8 and 9 of the mold a rabbet A or male portion will be formed at one end of the molded object. At the other end between the walls 8 and 9 is a similar ring 21, the same being split on a diagonal line 22 so that it may be contracted for a purpose to be hereinafter explained. This ring has a thickness less than the distance between the walls 8 and 9 and as shown the outer face of the ring is tapered downward and outward in parallel relation to the tapered face of the ring 20 so as to form an upper female rabbet B upon the molded object. The said ring 21 is provided with a radial pin 22' which traverses the space between the walls 8 and 9 and which is designed to form an opening C in the molded object as shown in Figure 5. In this manner several of the molded objects can be joined together, the male end of one object fitting in the female end of an adjacent object so as to form a channel D between the objects in communication with said opening. A suitable plastic key forming substance may be poured through this opening and into the key channel and when hardened same acts to seal the joinder between the objects and to hold the latter firmly connected together.

At the outer end of the mold is a suitable hopper 23 having a neck 24 respectively embraced by the walls 8 and 9.

After an object has been molded the several parts of the mold structure can be conveniently knocked down and by splitting the outer ring 21, same can be contracted helically and the pin 23 withdrawn from the opening which it has formed in the molded object.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:—

1. A mold embodying a platform having an annular collar, a split outer wall embracing the collar, an inner split wall embraced by the collar, means for contracting the outer wall against said collar, means for expanding the inner wall against said

collar, split expansible annular means resting upon the collar and spaced from one of said walls, and a split ring interposed between the walls at the opposite ends thereof and spaced from the wall adjacent to which the said split expansible annular means is arranged; the inner face of the said annular means and the outer face of the ring each being inclined so that the spaces between said faces and the walls adjacent thereto are gradually restricted.

3. A mold embodying a platform having an annular collar, a split outer wall embracing the collar, an inner split wall embraced by the collar, means for contracting the outer wall against said collar, means for expanding the inner wall against said collar split expansible annular means resting upon the collar and spaced from one of the walls, and a ring interposed between both walls at the opposite ends of the mold and spaced from the other of said walls, the last said ring being cut on a diagonal line to permit the ring to be contracted.

3. A mold embodying a platform, having an annular collar, a split outer wall embracing the collar, an inner split wall embraced by the collar, means for contracting the outer wall against said collar, means for expanding the inner wall against said collar, annular means resting upon the collar and spaced from one of the walls, and a ring interposed between both walls at the opposite end of the mold and spaced from the other of said walls, the last said ring being cut on a diagonal line to permit the ring to be contracted and provided with a pin extending toward the other of said walls.

4. A mold embodying a platform having an annular collar, a split outer wall embracing the collar, an inner split wall embraced by the collar, means for contracting the outer wall against said collar, means for expanding the inner wall against the collar, split expansible annular means removable resting upon the collar and spaced from one of said walls, and a split ring removably interposed between the walls at the opposite ends thereof and spaced from the wall adjacent to which the said split expansible annular means is arranged, said annular means and said ring each having one of its side faces inclined.

5. A mold embodying a platform having an annular collar, a split outer wall having its walls embracing the collar, an inner split wall embraced by the collar, means for contracting the outer wall against said collar, means for expanding the inner wall against said collar, annular means resting upon the collar and spaced from one of the walls, and a ring interposed between the cores at the opposite end of the mold and spaced from the other of said walls and

means associated with said last named ring for forming an opening in the walls of the molded object.

5 6. A mold embodying a set of cylindrical spaced apart walls, and a set of split beveled rings interposed between the walls respectively at the opposite ends thereof, each of said rings being of a thickness less than the distance between the adjacent walls.

10 7. A mold including a split wall, the ends of the wall being in overlapped relation, and means sandwiched between said overlapped ends co-acting therewith to effect lateral adjustments of the core.

15 8. A mold including a split wall, the ends of the wall being in overlapped relation, and means between said overlapped ends co-acting therewith to effect lateral adjustments of the wall, the ends of said wall
20 respectively provided with pins and slots and said co-acting means having pins and

slots respectively mating with said first named pins and slots.

9. A mold embodying a set of cylindrical spaced apart walls, and a set of removable split beveled rings interposed between the walls respectively at the opposite ends thereof, each of said rings being of a thickness less than the distance between the adjacent walls and means on one of said rings to form an opening in the walls of the molded article.

10. A mold embodying a set of cylindrical spaced apart walls, and a set of laterally adjustable rings interposed between the walls respectively at the opposite ends thereof, each of said rings being of a thickness less than the distance between the adjacent walls.

In testimony whereof I have affixed my signature.

ALFRED H. EVANS.