July 3, 1951 A. HANSEN 2,559,296

PIPE MOLD

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FIG. 1

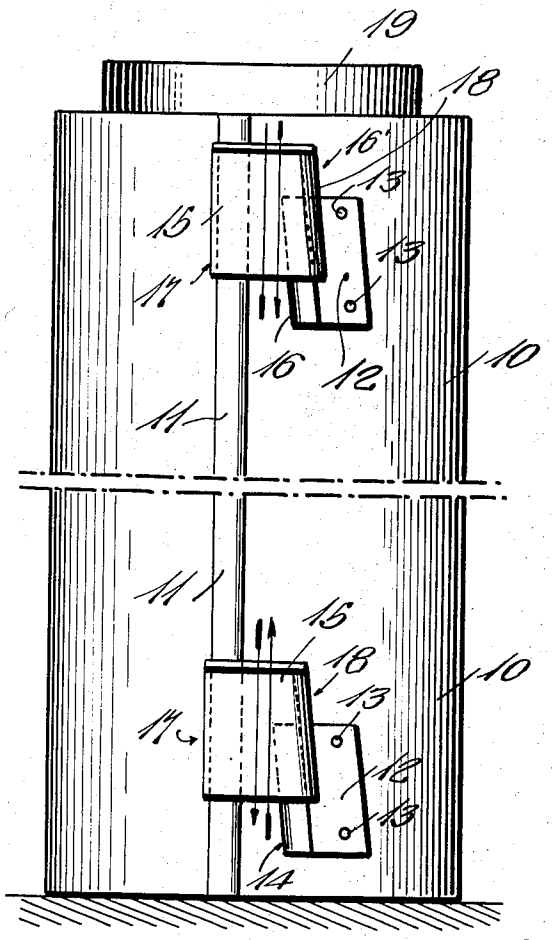


FIG. 8

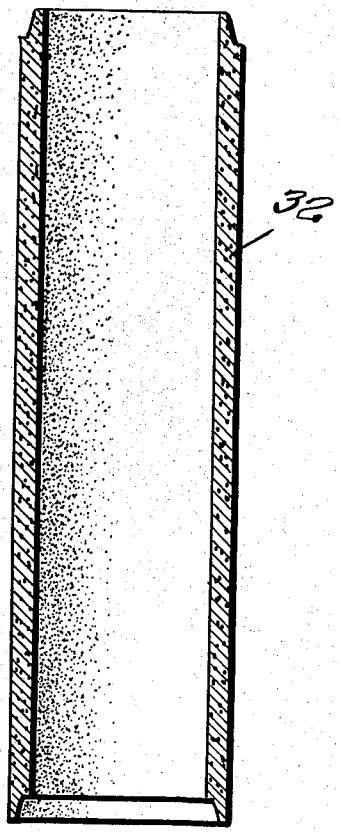
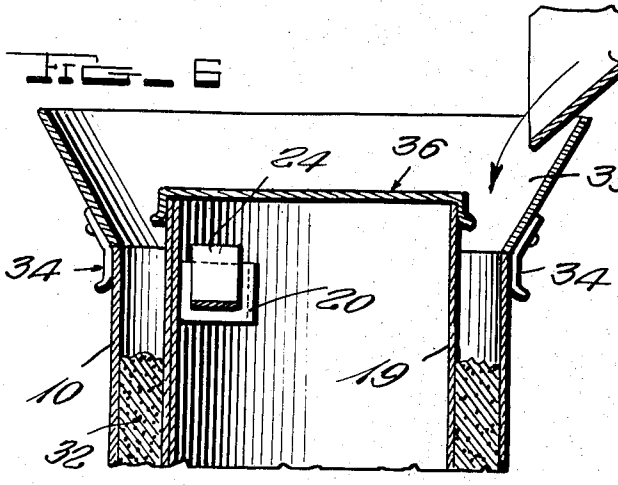


FIG. 6



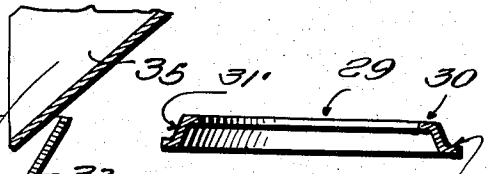


FIG. 7

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FIG. 2

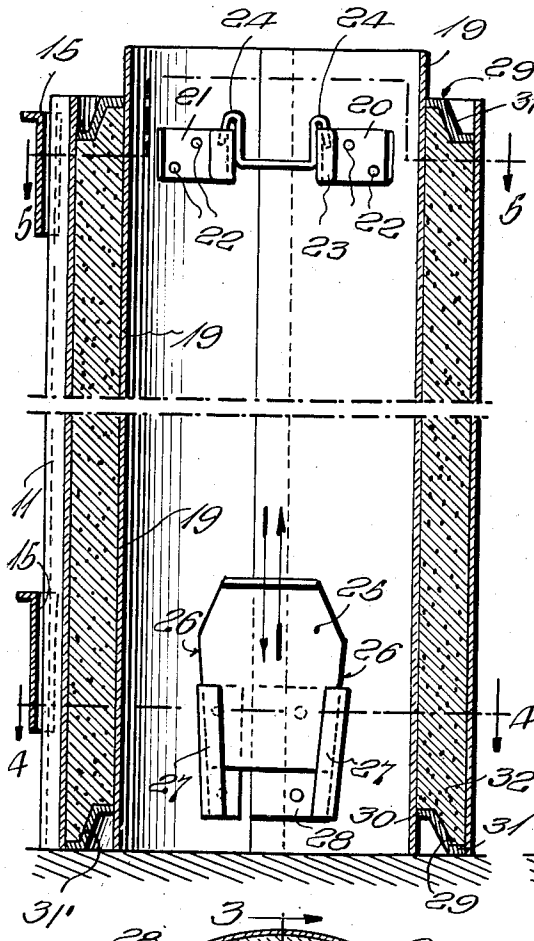
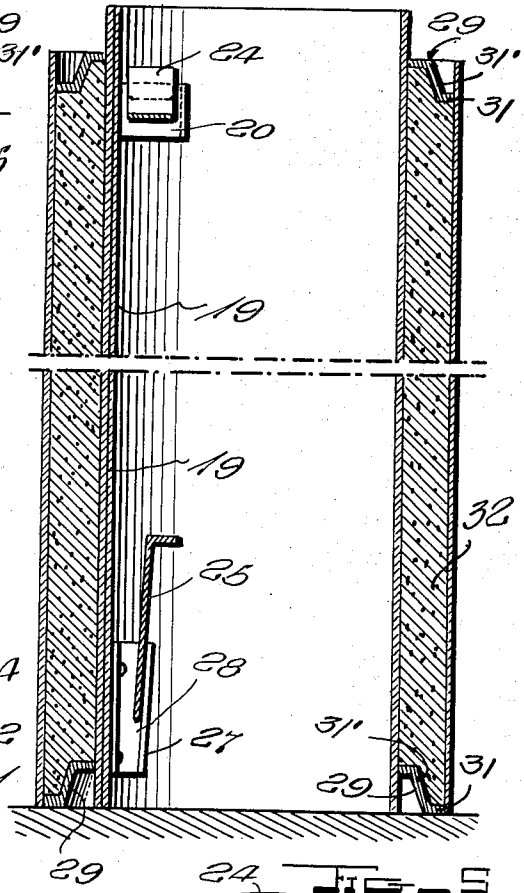


FIG. 3



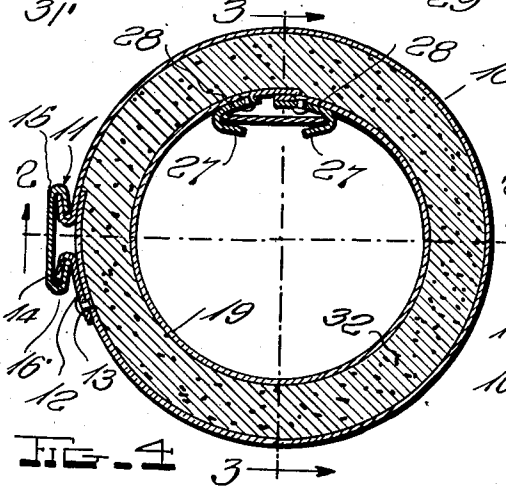
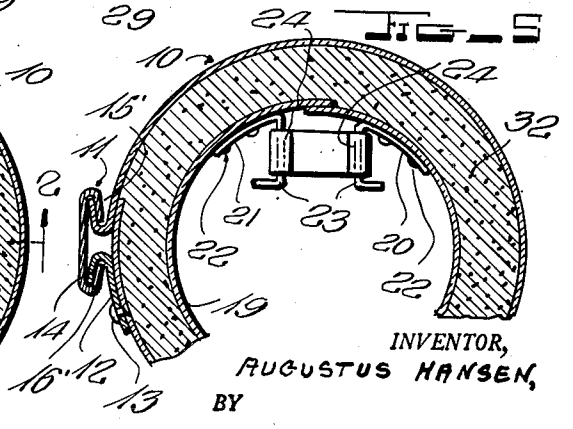


FIG. 4

FIG. 5



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UNITED STATES PATENT OFFICE

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PIPE MOLD

Augustus Hansen, Lakeside, Ariz.

Application June 19, 1947, Serial No. 755,332

2 Claims. (Cl. 25—127)

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This invention relates to molds for casting plastic composition pipes in which cement and sand are the principal ingredients, the said ingredients having a water content sufficient to cause the composition to pour and flow into molds designed to shape the pipe for use as conduits for water, sewage, and the like, and it is to be understood that the molds may be used in association with devices which jar the molds to a degree that the composition is made compact to form dense conductors through which water will not seep.

An object of this invention is to provide molds having annular casting chambers or spaces, the said chambers being open at their ends, and the said molds are provided with closures or rings for the ends of the annular chambers, so shaped as to form a tongue and groove at alternate ends of the pipe, and the rings serve to hold the concentric mold sections in proper spaced relation to each other. The rings are so formed that the tongues and grooves are complemental to each other so that they form a closed joint when an end of one pipe section is caused to abut the end of another pipe section.

It is furthermore an object of the invention to provide mold sections each comprising an inner and an outer concentric collapsible tube, between which the composition is poured, and furthermore, to provide means by which each tube section is held in shape to function, the said means being releasable so that the mold sections can be collapsed to free the molded pipe and thereafter the mold sections can be re-assembled.

A still further object of the invention is to provide clamping means by which the joints of the mold sections are held rigid so that they cannot expand or collapse while the material is being poured between the mold sections and the mold is being manipulated or jarred to compress the composition being cast.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which:

Figure 1 illustrates a view in elevation of the exterior of the mold;

Figure 2 illustrates a sectional view of the mold on the line 2—2 of Fig. 4;

Figure 3 illustrates a sectional view of the mold on the line 3—3 of Fig. 4;

Figure 4 illustrates a sectional view of the mold on the line 4—4 of Fig. 2;

Figure 5 illustrates a sectional view of the mold on the line 5—5 of Fig. 2;

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Figure 6 illustrates a sectional view of the mold with a cover applied to the inner mold section, and a hopper installed on the outer mold section;

Figure 7 illustrates a sectional view of one of the rings; and

Figure 8 is a vertical sectional view of the pipe formed by the use of the present mold.

In these drawings 10 denotes the outer mold section formed from a metal plate or sheet having an edge 11 flanged to form a hook, and the said outer mold section has a clamping plate 12 secured to it by fastenings 13, such as rivets or the like. The plate has a flanged or hooked edge as shown at 14, and a clamping plate 15 has flanged edges shaped to form hooks 15' and 16' which engage the flanges 11 and 14, respectively. The flanged edge of plate 12 is diagonal or at an angle with relation to the edge of the member 10, as shown at 16, and one edge 17 of the clamp 15 is straight, whereas the opposite edge 18 is diagonally disposed at an angle complemental to the angle of the edge 16 of the plate 12 so that as shown in Figure 1, when the clamping plate 15 is moved with its flanges in engagement with the flange 11 and the flange 14, there is a camming action between the two flanges 14 and 16' which serves to move the edges of the plate 10 to regulate the diameter of the outer mold section. The mold section may be provided with any number of these clamping elements, according to the length of the mold section.

The inner mold section 19 is formed from a sheet or plate of metal which is held in tubular formation by spacing elements and clamps which, in the present embodiment of the invention, comprise two brackets 20 and 21 secured to the inner surface of the mold section 19 by fastenings 22, such as rivets or the like, and each bracket has an angularly disposed arm 23, and the arms are suitably spaced apart and are engaged by a clamp having hooks 24 which are pressed into engagement with the arms 23 for holding the mold section in tubular formation. The inner mold section is further held by a spacing plate 25 having tapered edges 26 which engage curved flanges 27 of plates 28 secured to the inner surface of the inner mold section, one on each side of an edge of the joint formed by the overlapping edges of the inner mold section. It is evident by an inspection of Figure 2 that the plate 25 may be forced downwardly so that the tapered edges of the plate may force the overlapped edges, and this action would result in expanding the mold section, since the edges of the plate engage the flanges 27 which are at an angle with respect to to the edge of the plate 28. Hence, in assembling the inner mold section, the said mold section is forced into engagement with a ring 29 which is located between the inner and outer mold sections at the end thereof, so that the

inner mold section is properly spaced with relation to the outer mold section.

It is shown that the ring has angularly disposed flanges 30 and 31 and that the flanges are at the upper and lower edges of the ring so that when the ring is inserted in the space between the inner and outer mold sections, the casting or pipe 32 is provided with a tongue and groove formation at its end. The flanges 30 and 31 are formed integral with a diagonally disposed web 31' and thus the flanges, together with the web, produce the recess in the end of the pipe. As shown in Figure 2, the tongue is at the outer edge or at the periphery of the pipe, but when the ring is inverted as it is shown at the top of Figure 2, a tongue is formed at the inner edge of the pipe and the groove is at the outer edge of the pipe. When pipes having these tongues and groves at opposite ends are assembled, the end of the pipe having the tongue at the outer edge will fit in a pipe having a complemental configuration at its contacting end so that a tongue and groove joint is formed between the two pipe sections.

In order to properly guide the composition to the mold, a hopper 33 is held on the outer mold section 10 by cleats 34, and the composition may be delivered to the hopper by any suitable means, such as a chute or trough 35. In order to prevent the composition from gaining access to the interior of the inner mold section, a cover 36 of any appropriate type may be applied to the inner mold section 19 and thus provision is made for delivering the composition to the mold and at the same time prevent the composition from fouling the inner mold section.

I claim:

1. In a composition pipe mold of the type having an inner mold section and a concentrically disposed outer mold section, each section being formed from metal plates, the ends of the metal plates being arranged in overlapping relationship, and means for securing the ends of the outer mold section, the improvement comprising a bracket adjacent each free edge of the said plate forming the inner mold section, a clamp engaging said brackets whereby the plate will be held in a substantially tubular form, an inclined guideway adjacent each free edge of the plate near the lower end thereof, and a wedge element adapted to be lodged in said guideways to prevent the collapse of the plate when in tubular form.

2. In a composition pipe mold of the type having an inner mold section and a concentrically disposed outer mold section, each section being formed from metal plates, the ends of the metal plates being arranged in overlapping relationship, and means for securing the ends of the outer mold section, the improvement comprising a bracket adjacent each free edge of the plate forming the inner mold section, an outwardly extending arm on each bracket, a hook-like member adapted to engage said arms to hold the plate in a substantially tubular form, an inclined guideway adjacent each free edge of the plate near the lower end thereof and a wedge element adapted to be lodged in said guideways to prevent the collapse of the plate when in tubular form.

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