

Sept. 28, 1926.

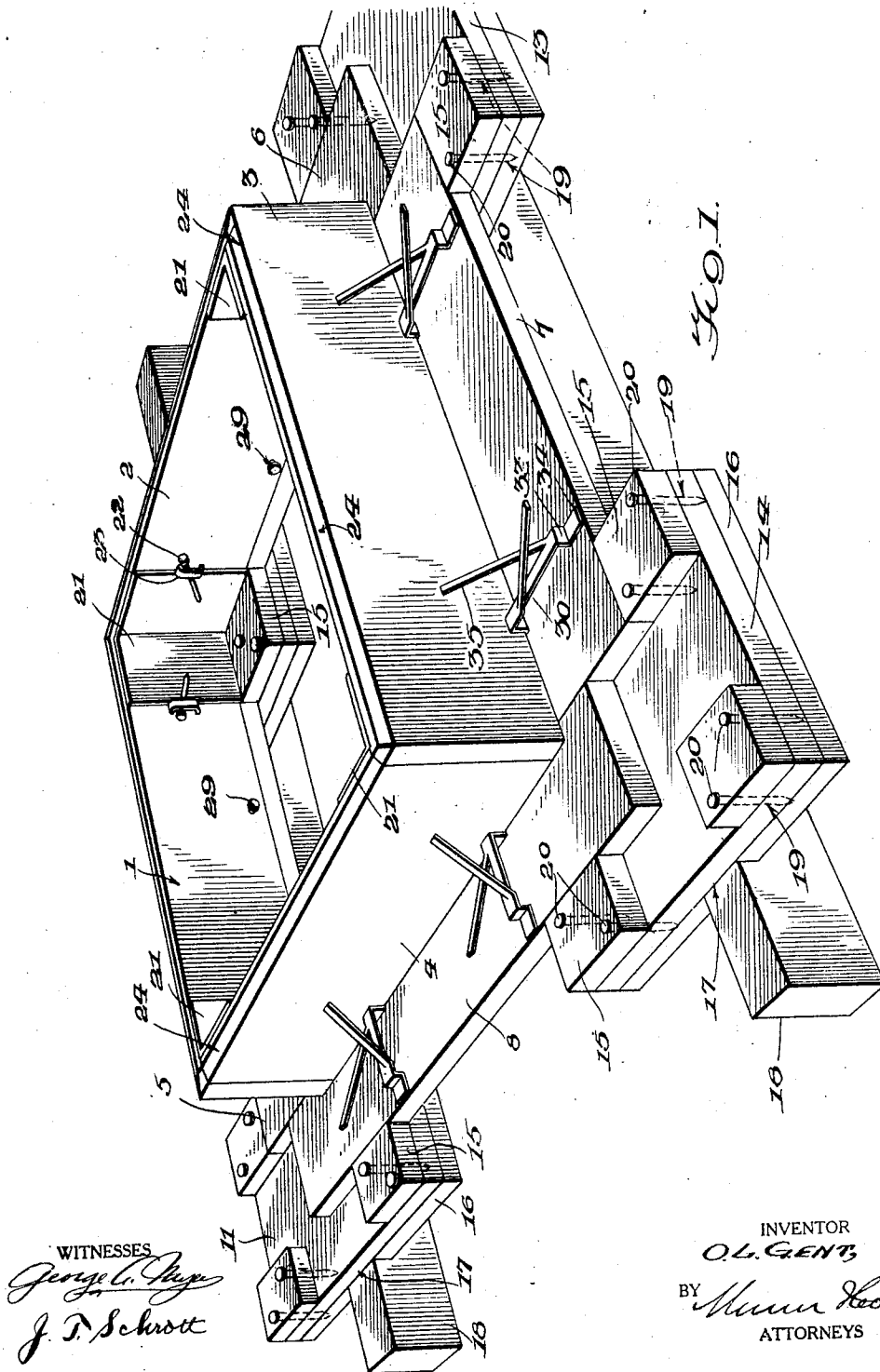
1,601,389

O. L. GENT

CONCRETE MOLD

Filed Nov. 20, 1925

3 Sheets-Sheet 1



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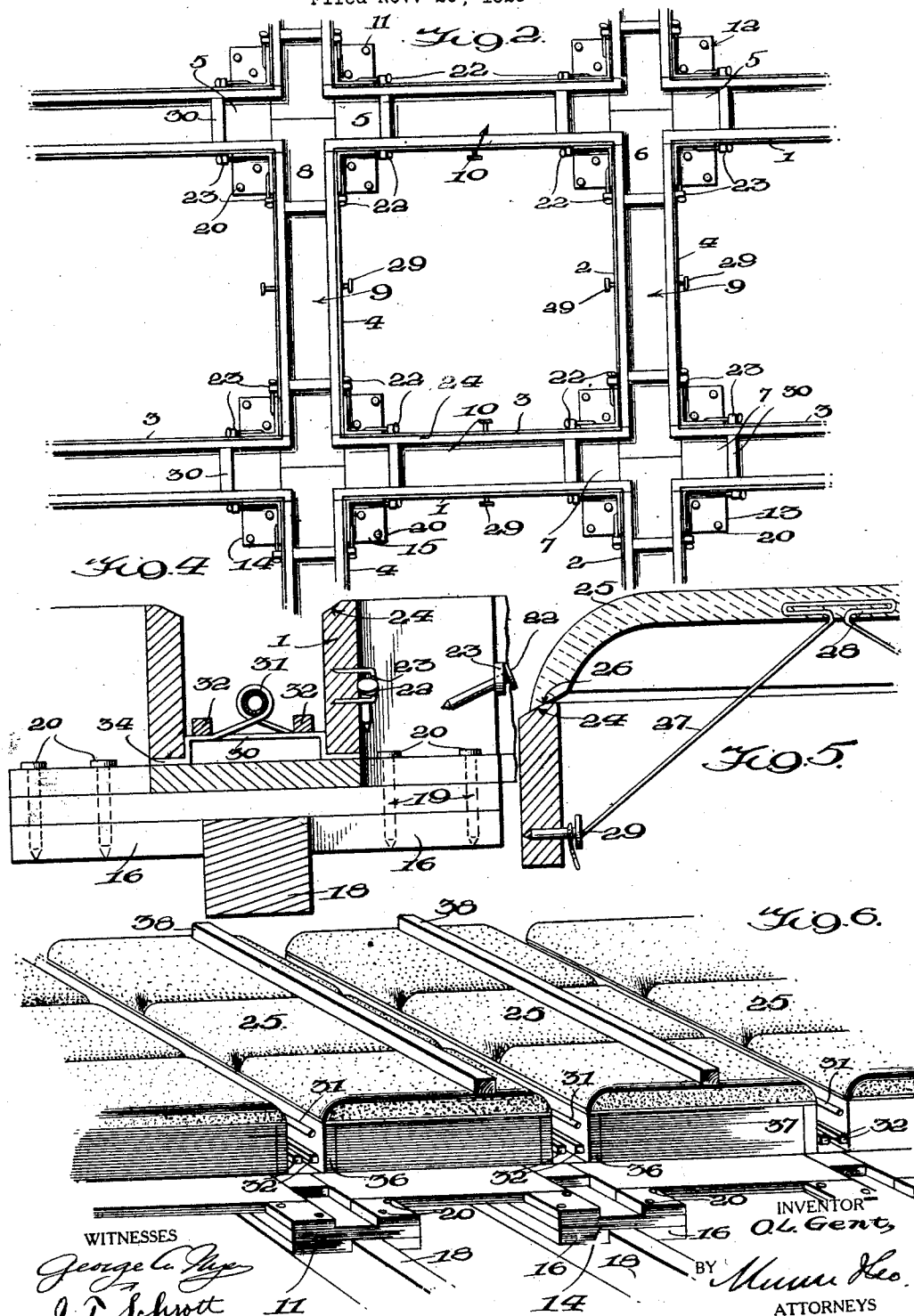
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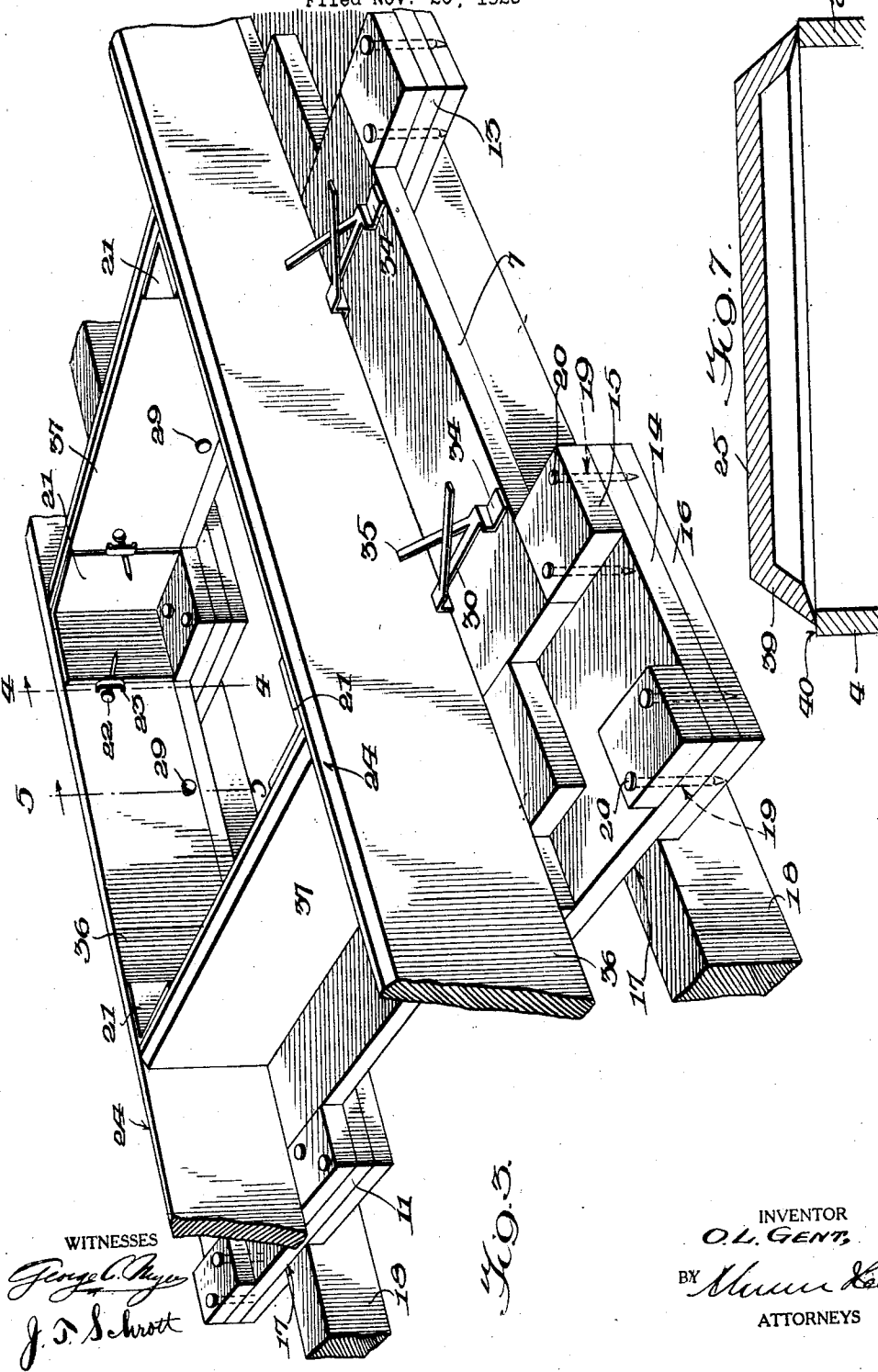
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CONCRETE MOLD

Filed Nov. 20, 1925

3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE.

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CONCRETE MOLD.

Application filed November 20, 1925. Serial No. 70,383.

This invention relates to improvements both to molds and floor structures, and it consists of the constructions, combinations and arrangements herein described and claimed.

An object of the invention is to provide a collapsible, reusable sectional mold to be used in the construction of reinforced concrete joists and floors.

Another object of the invention is to provide a concrete mold which, by a simple variation, permits the construction either of joists running only one way (parallel to each other) or both ways (at right angles to each other).

Another object of the invention is to produce an improved reinforced concrete floor of which the dome plates or slabs are important elements.

Other objects and advantages appear in the following specification, reference being had to the accompanying drawings, in which Figure 1 is a perspective view of a portion of a sectional mold by means of which joists running at right angles to each other may be constructed.

Figure 2 is a plan view showing more of the mold structure as set up.

Figure 3 is a perspective view of a mold arranged to permit casting joists running parallel to each other.

Figure 4 is a cross section on the line 4—4 of Figure 3.

Figure 5 is a cross section on the line 5—5 of Figure 3.

Figure 6 is a detail perspective view illustrating a mold prepared in readiness to receive concrete for the construction of a floor having joists running parallel to each other.

Figure 7 is a detail sectional view showing a modified form of dome plate.

This invention is an improvement on my patent on concrete molds #1,494,538 granted May 20, 1924. Some of the principles of the patented structure are repeated herein, but the improved mold includes new features by which the molds can not only be set up in a more practical manner but which will result in the production of a better floor.

The form of the invention in Figures 1 and 2 illustrates a type of mold by means of which joists running at right angles to each other may be cast. Much of the struc-

ture in Figures 1 and 2 appears in the form of the invention in Figure 3. Similar reference numerals are therefore employed to designate corresponding parts in order to avoid useless repetition.

Boards or plates 1, 2, 3 and 4 outline a rectangular space when set in position edge-on upon bottom plates 5, 6, 7 and 8. Figure 2 partially illustrates the result of setting up a number of the rectangles. Corresponding side plates have corresponding numerals, the resulting spaces 9 and 10 showing where the joists are cast at right angles to each other.

The ends of the bottom plates 5, 6, 7 and 8 rest upon corner plates 11, 12, 13 and 14 in the manner substantially as shown in Figure 1. The corner plates provide supports for courses of bottom plates running in both directions (Fig. 2). Each of the corner plates has projections 15 at the four corners. These may consist simply of wooden blocks, and when set in position as shown provide guides or channels for the bottom plates.

Downward projections 16 on the undersides of the corner plates provide grooves 17 for the supporting joists 18. The various corner plates, upper projections 15 and lower projections 16 have registering holes 19 bored through for the purpose of receiving nails 19 which are sufficiently long to pin the upper projections 15 upon the corner plates. The corner projections are intended to be loose. The nails 20 are easily removable to in turn permit removal of the corner projections. This feature facilitates the disassembly of the form.

Metal angle pieces 21 brace the corners of the rectangles formed by the side pieces 1, 2, 3 and 4. These angle braces are positioned on the inside of each rectangle and do not touch the concrete when poured. They stand edge-on upon the internal projections or blocks 15. They are held in place by nails 22 which are introduced beneath the heads of staples 23. The staples are driven into the side plates to such an extent as to leave a channel into which the nails (or pins) are introduced.

The upper edges of the side plates 1, 2, 3 and 4 are beveled at 24 toward the joist face. Previously prepared dome plates or slabs 25 are set in place upon the side plates, the rectangular space defined by the side plates is thus covered (Figs. 5 and 6). The edges

of the dome-plates are also beveled at 26. The purpose of the beveling of both the side plates and dome plates toward the joist space is to prevent the dome-plates, pans or covers from slipping off the side forms, or the tops of the side forms from slipping from beneath the dome plates. Thus the weight of the dome-plates serves as a clamp to hold the parts together.

Figure 7 illustrates the sides 39 of the dome-plate or pan 25 as being beveled instead of rounded as in Figs. 5 and 6. The side forms are also shown as projecting beyond the edges of the dome-plate as at 40, this for the purpose of permitting easy removal of the dome-plates from beneath the cast structure after the side forms have been removed. This projecting feature of the side forms is also shown in Figure 5. Each dome plate has a number of wires 27 imbedded therein at 28 (Fig. 5) at a place substantially in the center. Short but large headed nails 29 are driven into the side plates 1, 2, etc. and the ends of the wires 27 are wrapped around (Fig. 5) in order to hold the dome plates down in place. The wires are later removed from the nails and are clipped close to the surface of the dome plates when finishing the job.

Clips 30 provide joist spacers between adjoining side plates, also supports for such pipes 31 and reinforcing material 32 (Fig. 4) as may be required to be imbedded in the joists. For the first purpose the clips are bent to provide shoulders 33. They then terminate in pads 34 upon which the side plates stand (Fig. 1). For the second purpose the clips are provided with strips 35 which are intended to be wrapped around the pipe or conduit, or possibly the reinforcing material itself.

The modification in Figure 3 provides for casting joists running parallel to each other in one direction only. The reader will observe that the construction is practically identical with that already described, and as already stated, similar reference numerals are used to designate corresponding parts to avoid a repetition of description.

The side form boards 36 may be as long as necessary. These are spaced by plates 37. The spacer plates and form boards are braced and held by metallic angles 21 precisely as before. Referring to Figure 3, the reader will understand that a form board similar to 36 will be stood edge-on upon the pads 34 and upon the bottom plates 7 so as to define a longitudinal beam or joist space.

Upon reference to Figure 6 it is to be noted that nailing strips 38 are incorporated in the form structure. These strips are laid crosswise upon the dome plates 25, and are intended for the purpose of permitting laying down a floor after the desired concrete

work has been finished. Figure 6 also illustrates the use of transverse reinforcing elements 31 and 32. This is laid in the grooves formed by adjacent dome plates.

The improvements may be briefly summarized. The corner projections or blocks are readily removable from the corner plates 11, 12, etc. by simply reaching up inside of the rectangle defined by the various side plates 1, 2, etc. and pulling out the nails 20 which are inserted perfectly loose. The removal of the corner projections 15 will in turn permit the ready removal of the bottom plates 5, 6, etc. The clips are molded in the concrete and are not removable.

A second feature of the invention appears in the dome plates 25. These are previously manufactured, whether of wood, metal, plastic or cement, being either rounded or beveled at the sides, and are incorporated in the form. In this capacity they act as covers of the rectangular spaces defined by the side plates, but when the form is disassembled these dome-plates are removed because one of the purposes of the invention is to permit re-use of all parts.

While the construction and arrangement of the improved concrete mold is that of a generally preferred form, obviously, modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:—

1. A mold comprising a bottom plate, corner plates upon which the ends of the bottom plate are supported, means on the corner plates to form passages to receive said ends, and means holding said passage-forming means in temporary position permitting ready removal thereof upon disassembling the mold.

2. A mold comprising a bottom plate, corner plates upon which the ends of the bottom plate are supported, means on the corner plates providing passages to receive said ends said corner plates and passage forming means having registering openings, and means including nails being dropped into said openings to temporarily hold said passage forming means in position, said nails being readily removable to facilitate disassembly of the mold.

3. A mold comprising a pair of plates including corner plates, means underneath of said plates providing passages and constituting guides for supporting structure, a bottom plate, the ends of which are laid upon said first plates, means placed upon said first plates forming passages to receive said ends there being registering openings in said passage-forming means, first plates and guide means, and means including nails dropped into said registering openings to temporarily secure said passage forming means in position.

4. A mold comprising a bottom plate, side plates, set edge-on upon said bottom plate to define a joist space, dome plates applied to the upper edges of the side plates leaving
5 said joist space clear, and bevels along the adjoining edges of the dome and side plates being contactible to prevent the dome plates from slipping off of the side plates or the slide plates from under the dome plates.

10 5. A mold comprising a bottom plate, side plates set edge-on upon said bottom plate defining a joist space, dome-plates, and bevels along the confronting edges of the side and dome plates tending to maintain the parts
15 in place by virtue of the weight of the dome plates.

20 6. A mold comprising a plurality of side plates defining part of a molding space, a dome plate cooperating with the side plates aiding in completing the molding space, and means to temporarily secure the dome plate upon said side plates including elements
25 driven into said side plates, and flexible elements extending from said dome plate being wrapped around said driven elements.

7. Apparatus of the character described comprising a plurality of side plates set together in mold formation, a separate dome plate performing the function of part of said mold, wires imbedded in said dome plate, 30 and nails driven into said side plates around which the ends of the wires are wrapped to temporarily hold the plate in position.

8. A mold comprising a plurality of plates set together in mold formation, angle pieces 35 reinforcing the corners formed by the plates, staples driven into said plates beside certain edges of said angle pieces, and means including nails so inserted through the staples as to engage said angle pieces to removably sus- 40 tain them in place.

9. A mold comprising side plates secured together to define a corner, bracing pieces positioned in said corner, means carried by said plates being situated beside certain 45 edges of said pieces to define a channel, and means including nails inserted in said channels to extend over said pieces and temporarily sustain them in position.

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