L. H. GARLINGHOUSE.

FLOOR FORM.

APPLICATION FILED JULY 31, 1920.

1,428,953. Patented Sept. 12, 1922.

3 SHEETS—SHEET 1.

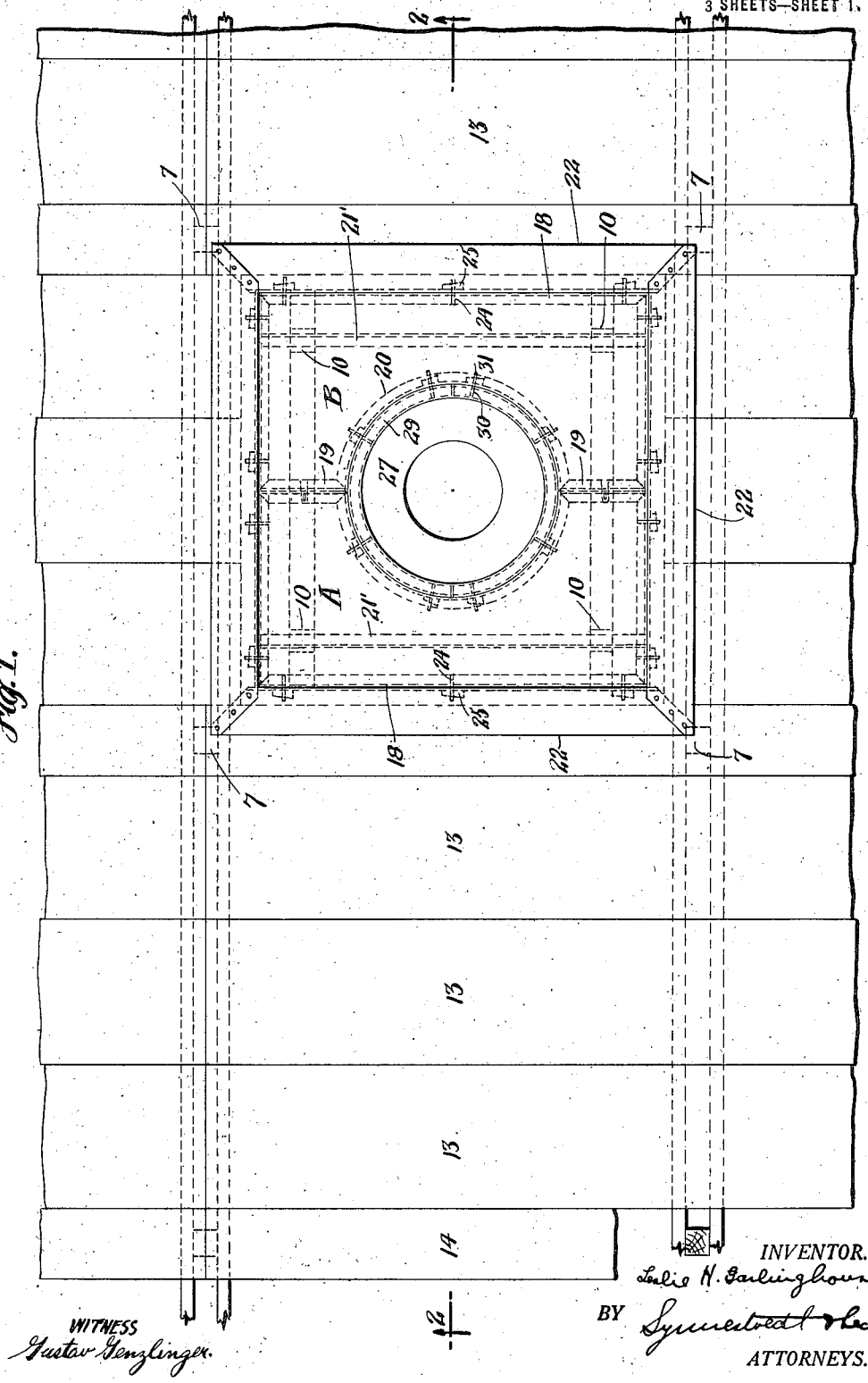



Fig. 1.

WITNESS
Gustav Genzlinger.

INVENTOR.
Leslie H. Garlinghouse
BY Synnestvedt & Lechner
ATTORNEYS.

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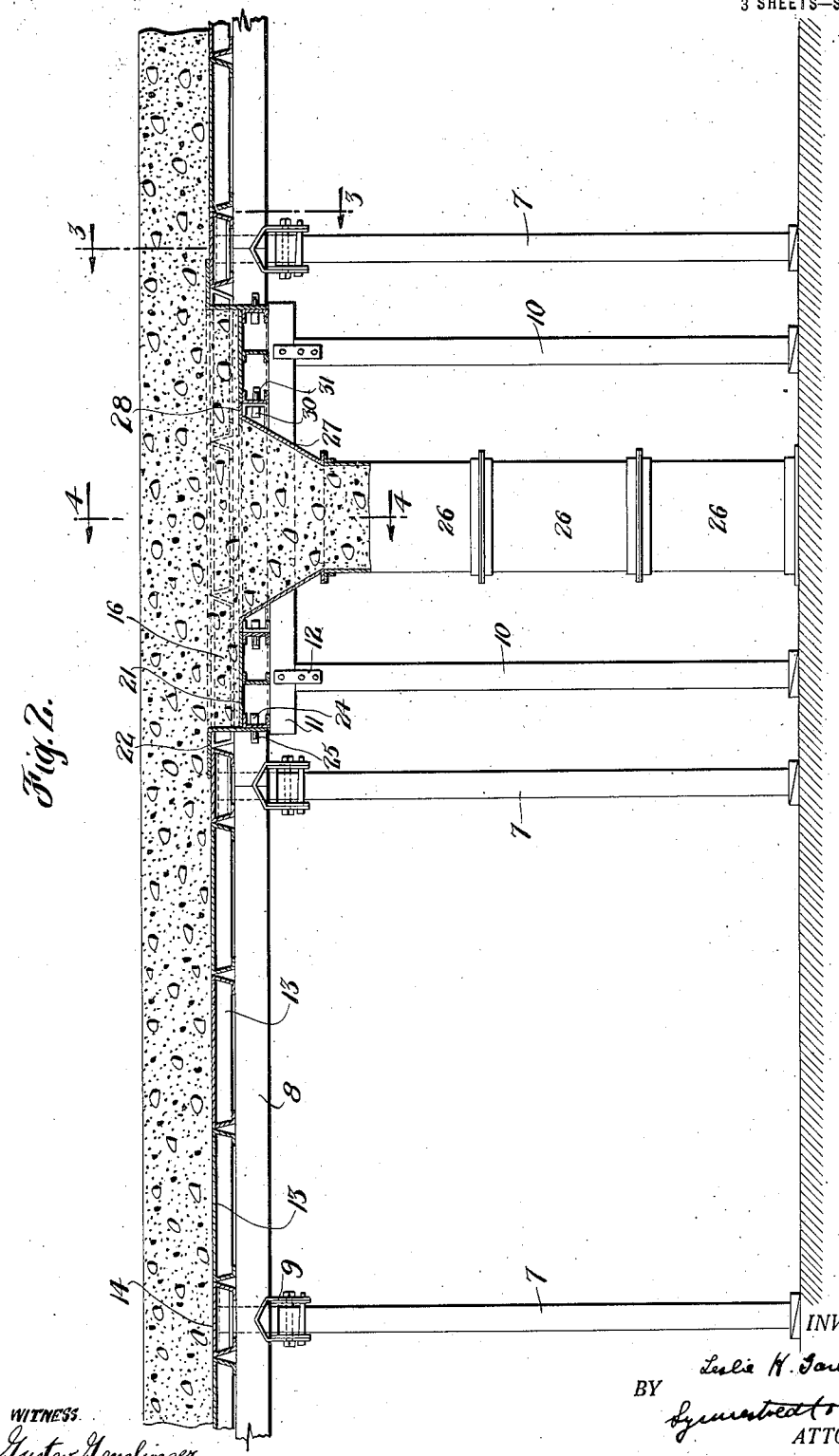



Fig. 2.

WITNESS.
Gustav Genzlinger.

INVENTOR.
Leslie H. Garlinghouse
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3 SHEETS—SHEET 3

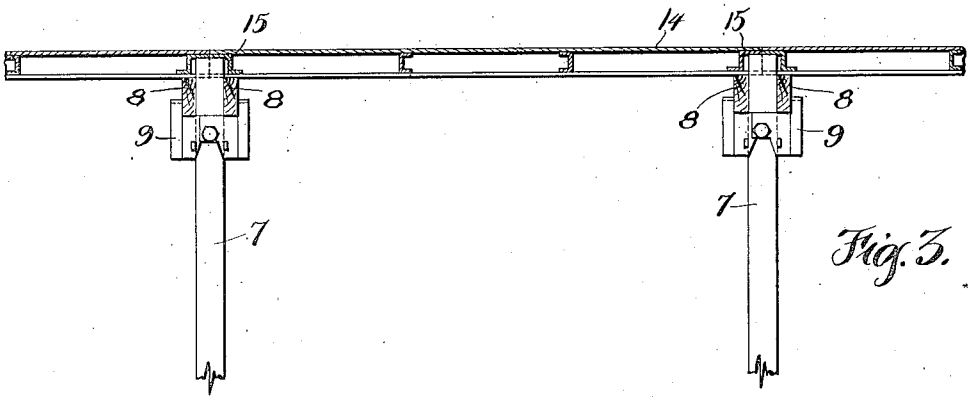



Fig. 3.

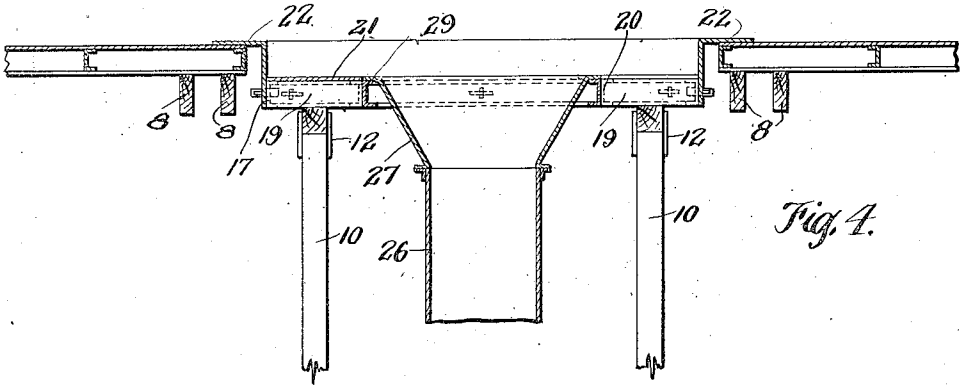
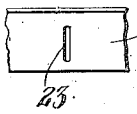



Fig. 4.

Fig. 6.



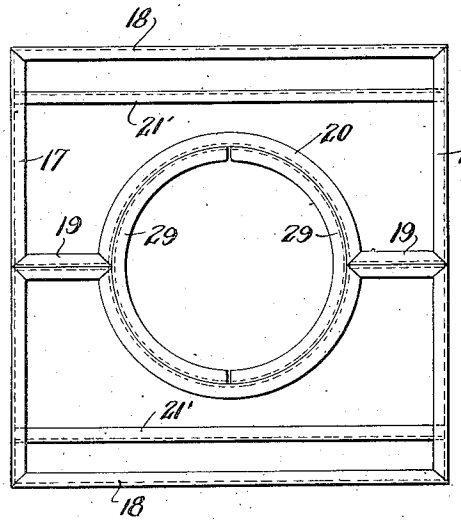




Fig. 5.

WITNESS

Gustav Genzlinger.

INVENTOR.

Leslie N. Garlinghouse

BY Symmes Hecht & Lechner

ATTORNEYS.

Patented Sept. 12, 1922. 1,428,953

# UNITED STATES PATENT OFFICE.

LESLIE H. GARLINGHOUSE, OF ASPINWALL, PENNSYLVANIA, ASSIGNOR TO BLAW-KNOX COMPANY, A CORPORATION OF NEW JERSEY.

## FLOOR FORM.

Application filed July 31, 1920. Serial No. 400,465.

*To all whom it may concern:*

Be it known that I, LESLIE HOLMES GARLINGHOUSE, a citizen of the United States, residing at Aspinwall, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Floor Forms, of which the following is a specification.

This invention relates to floor forms such as used in the construction of floors made from concrete or other plastic material, the invention being particularly useful in connection with column supported floors having drop heads or plinths.

One of the primary objects of my invention resides in the provision of an improved floor form of simple character, designed to carry out progressive castings with a minimum amount of equipment and accommodating itself to variations in service conditions.

Another of the objects of the invention resides in the provision of improved floor form means in which the floor form parts properly cooperate more simply and effectively with the column or capital form.

My invention also contemplates the provision of improved floor form apparatus in which the erectors will have greater latitude with respect to such parts as may be left in place or taken down to meet the exigencies of the particular work in hand.

The foregoing, together with such other objects as may hereinafter appear, or are incident to my invention, I obtain by means of a construction which I have illustrated in preferred form in the accompanying drawings, wherein:

Fig. 1 is a plan view of a portion of a floor form embodying my improvement; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a section taken on the line 3—3 of Fig. 2; Fig. 4 is a section taken on the line 4—4 of Fig. 2; Fig. 5 is a plan view of a detail of my invention; and Fig. 6 is a fragmentary, side elevation illustrating another detail of my improvements.

In works of the character to which this invention relates, it is customary, a short time after the floor, or a section of the floor, has been cast, to take down certain portions of the floor form for reuse at another point, leaving other portions thereof in place to support the concrete until it has thoroughly set. In this regard, complications develop where the floor is of the column supported type. With this brief foreword the nature of my invention will be better understood.

Referring now particularly to Figs. 1 and 2, it will be seen that the form parts are supported on false work consisting of shores 7, arranged in bays, and detachably carrying stringers 8 by means of brackets 9 of the character shown and described and claimed in my copending application Serial No. 330,343 filed October 13, 1919. The drop head or plinth forming mold parts are supported on the shores 10 and stringers 11, the stringers 11 resting upon the top of the shore 10 and being held in position by the members 12, usually nailed in place.

The floor form parts proper consist of panel members 13, which may be of any desired construction but which are preferably made in accordance with Letters Patent issued to Ambursen No. 1,339,912, and dated May 11, 1920; and the narrow panel members 14, which are preferably constructed in accordance with my copending application No. 373,999, filed April 15, 1920, such panels having Z-bars 15 at the ends thereof adapted to rest upon the top of the shores 7, in the manner indicated in Fig. 3.

The drop head or plinth 16 is formed by two complementary or counterpart mold or panel sections A and B, each of which consists of a frame work comprising end members 17, a side member 18, and another side consisting of the members 19 and a member 20 semicircular in shape. The various members constituting the frame are preferably commercial sections such as channels, and if desired the frame may be reinforced by a channel 21′. The various parts are secured together in any desired manner and they are provided on one face with a plate 21 cut to correspond to the shape of the frame. The two frames A and B rest upon the stringers 11 and cooperate with angle shaped filler pieces 22, preferably composed of sheet metal plate, bent into the desired form and secured together detachably at their ends to form a surrounding frame as indicated in Fig. 1. The vertical leg of the members 22 is slotted at a plurality of points as indicated at 23 in Fig. 6 to afford means whereby such members may be releasably and adjustably secured at the desired elevation to the outside portions of the frames for the sections A and B. The horizontal

leg of the member 22 projects well over the adjacent panels of the floor form proper so as to take care of variations in the distances between the floor form panels and the drop head panels. As one means for securing the angle pieces to the drop head panels, I have illustrated keys and wedges, respectively numbered 24 and 25.

The column form consists of the shank molds 26, the capital form 27, all of which may be of any desired construction, it being preferred, however, that the capital form 27 have an annular flange 28 at the top thereof.

The capital form is supported from the drop head panels by annular ring-like means in the form of two channel members 29, each of which is bent into semicircular shape with the web out so that they may be placed back to back with the semicircular members 20 on the drop head panel that form the peripheral walls of its column opening. The ring sections or segments 20 and 29 are suitably apertured at a plurality of points in order that the latter may be detachably secured to the former as by means of keys and wedges 30 and 31, respectively. The parts are preferably assembled so that the members 29 are offset 90° with respect to members 20, as illustrated in Fig. 5. When the members 29 are secured in this fashion, it will be seen that the drop head panels will be braced and secured together to constitute a rigid platform supporting the load of the drop head.

The flange 28 of the capital form 27 is dimensioned so as to fit within the opening formed by the drop head panels when assembled, such flange being adapted to rest upon the top of the members 29. In assemblage it will be understood that the members 29 are secured before the capital form 27 is in place, and the latter dropped in place from above.

In operation it will be seen that after the floor section has been cast the panels 13 may be taken down by releasing the brackets 9 and lowering the stringers 8, the parts being capable of being taken down as a unit or separately, leaving the panel members 14 in place to support the concrete. Similarly, the drop head panels may be taken down, leaving the column forms in place, or the latter may be taken down leaving the drop head panels in place, it being necessary, in either event, simply to remove the members 29. When the panels are taken down it will also be necessary to remove the keys and wedges which secure the filler strip 22 to the panels. If the panels are left in position it will be noted that all of the floor form panels in the immediate vicinity can be taken down.

Another important advantage of the arrangement is that by substituting members 29 of varying widths, the same drop head panel can be used for different sizes of column heads, this making it unnecessary to provide a drop head form for every size of column head.

I claim:

1. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form with an opening for the column form, and annular means for supporting the column form in said opening, said means being detachably secured to the head form adjacent the opening and adapted to permit removal of the column form without destroying the integrity of the drop head form.

2. In floor form apparatus for column supported floors and the like, the combination of a column form having a flanged capital forming portion, a drop head form having an opening for the capital form, and means detachably secured to the drop head form adjacent the opening for supporting the capital form from said flange, said detachable means permitting removal of the capital form without destroying the integrity of the drop head form.

3. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form including two sections having complementary recessed portions adapted to provide an opening for the column form, and means for bracing said drop head sections together as a rigid platform, said means being detachably secured to the sections adjacent the opening and adapted to support the column form so as to permit removal of the same without destroying the integrity of the drop head form.

4. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form having an opening for the column form, and a segmental ring detachably secured in said opening for supporting the column form from the head form, said ring permitting removal of the column form without destroying the integrity of the head form.

5. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form, and a floor form part proper, all supported for independent taking down.

6. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form, a floor form proper, and filler means between the drop head form and the floor form overlying the floor form so as to permit proper centering of the column form and of the drop head form.

7. In floor form apparatus for column supported floors and the like, the combi-

nation of a column form, a drop head form, a floor form proper, and filler means between the drop head form and the floor form compensatingly secured to one of these forms and overlying the floor form so as to permit proper centering of the column form and of the drop head form.

8. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form, a floor form proper, and filler means between the drop head form and the floor form compensatingly secured to one of these forms and overlying the other form.

9. In floor form apparatus for column supported floors and the like, the combination of a floor form proper, a drop head form, and filler means around the drop head form detachably secured thereto for vertical compensating adjustment.

10. In floor form apparatus for column supported floors and the like, the combination of a floor form proper, a drop head form, and filler means around the drop head form detachably secured thereto for vertical compensating adjustment, and projecting horizontally therefrom to overlie the floor form and take care of variation in the distances between floor form and drop head form.

11. In floor form apparatus for column supported floors and the like, the combination of a column form, a drop head form, a floor form proper, and filler means between the drop head form and the floor form detachably secured to the drop head form.

12. In floor form apparatus for column supported floors and the like, the combination of a pair of substantially counterpart panels, each consisting of a frame of commercial sections a portion of which is bent to provide a semi-circular recess and a sheet metal plate therefor having a corresponding recess.

13. A drop head form for the construction of column-supported floors and the like, comprising a plurality of mold sections cooperating to form the drop head floor with the column opening therein, and annular means at said opening detachably fastened to said sections to secure and brace them together as a rigid platform.

14. A drop head form for the construction of column-supported floors and the like, comprising a plurality of mold sections cooperating to form the drop head floor with the column opening therein, and annular means in said opening detachably fastened to its peripheral walls to secure and brace the sections together as a rigid platform.

15. In floor form apparatus for column supported floors and the like, the combination of a pair of substantially counterpart panels, each consisting of a frame of commercial sections a portion of which is bent to provide a semi-circular recess and a sheet metal plate therefor having a corresponding recess, together with a ring-like means fitting within the opening formed by the panels and secured to the frames.

16. In floor form apparatus for column supported floors and the like, the combination of a pair of substantially counterpart panels, each consisting of a frame of commercial sections a portion of which is bent to provide a semi-circular recess and a sheet metal plate therefor having a corresponding recess, together with a ring-like means fitting within the opening formed by the panels and secured to the frames detachably.

In testimony whereof, I have hereunto signed my name.

LESLIE H. GARLINGHOUSE.