No. 765,360. PATENTED JULY 19, 1904.

T. HANLON.

CONCRETE CONSTRUCTOR.

APPLICATION FILED NOV. 11, 1903.

NO MODEL.

Fig. 1.

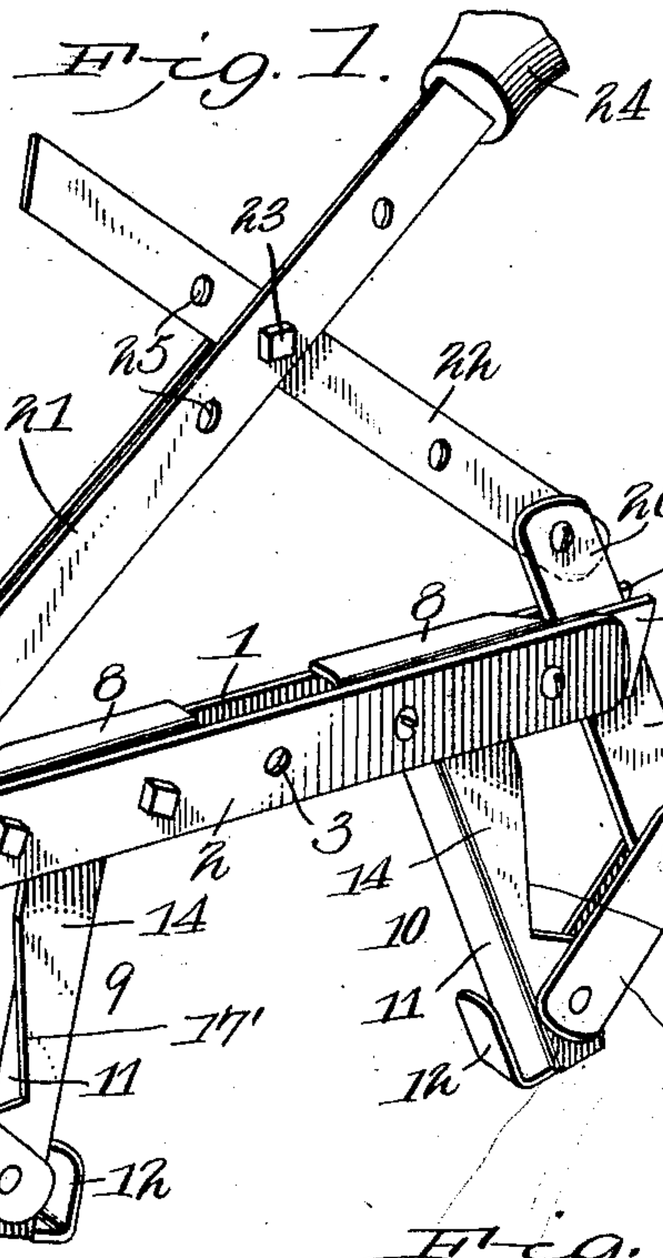

Fig. 4.

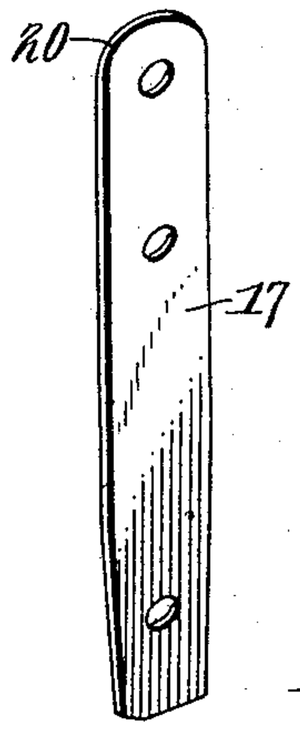

Fig. 3.

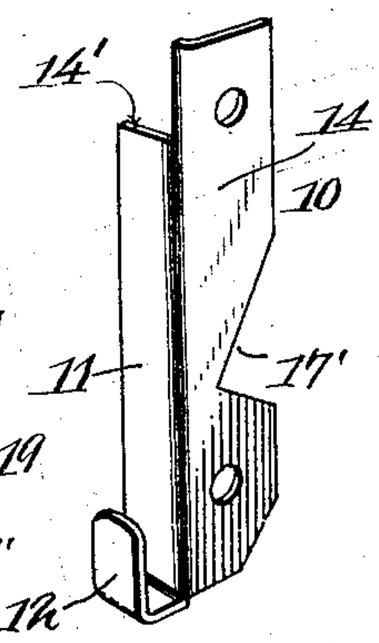

Fig. 2.

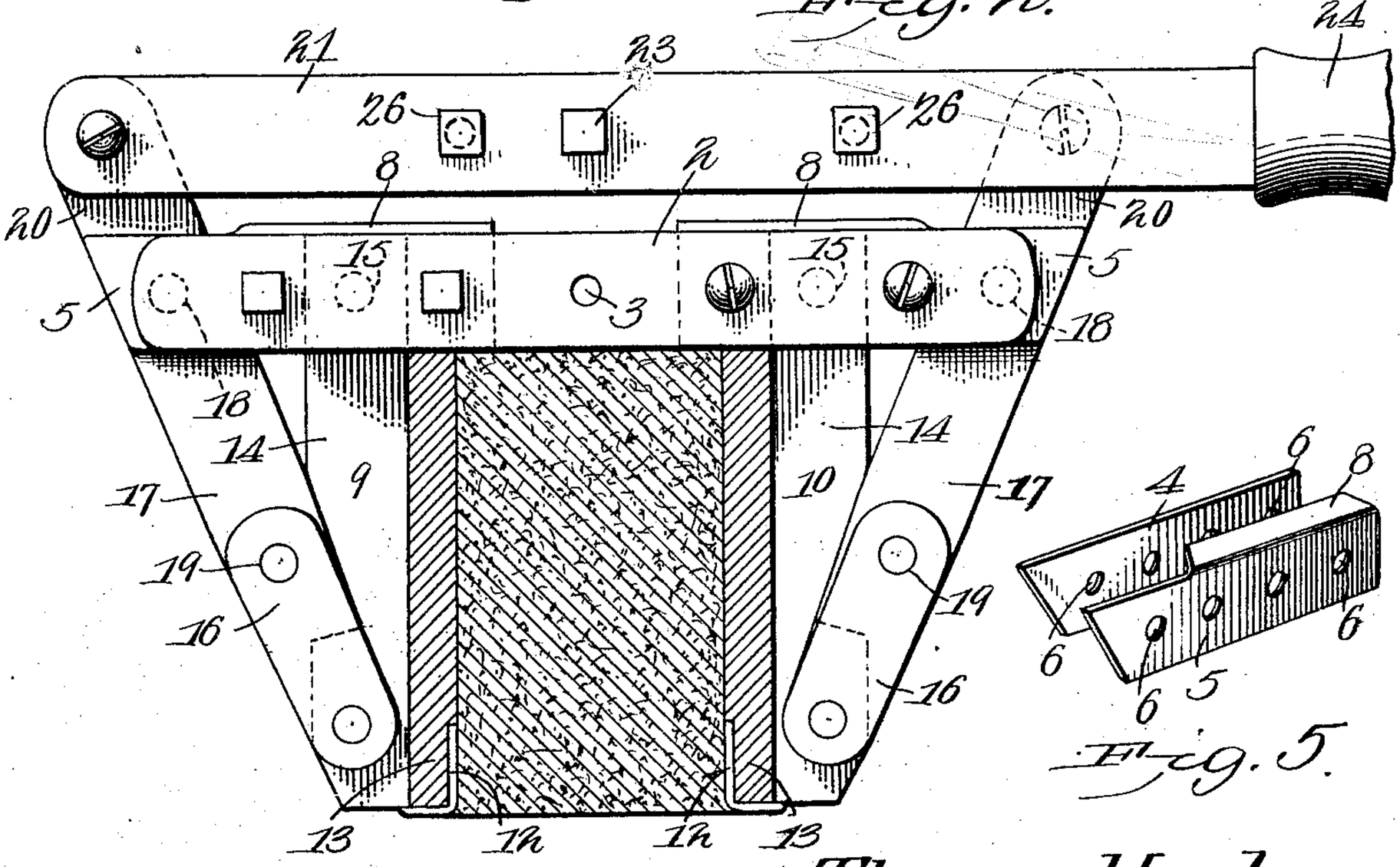

Fig. 5.

Witnesses
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No. 765,360. Patented July 19, 1904.

UNITED STATES PATENT OFFICE.

THOMAS HANLON, OF OMAHA, NEBRASKA.

CONCRETE-CONSTRUCTOR.

SPECIFICATION forming part of Letters Patent No. 765,360, dated July 19, 1904.

Application filed November 11, 1903. Serial No. 180,739. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HANLON, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Concrete-Constructor, of which the following is a specification.

My invention relates to concrete constructors or molds designed especially for use in producing concrete, cement, or other artificial-stone walls in building construction or the like, and has for its objects to provide a simple inexpensive device of this character in which the retaining plates or members constituting the walls of the mold may be readily released from and advanced along the course of the wall as the construction of the latter progresses, thereby insuring a continuous operation in the formation of the wall, one in which the retaining-plates in moving to casting position will be limited in said movement when in proper parallel relation, and one in which said members may be readily adjusted toward and from each other for varying the thickness of the wall and be securely locked against movement during the molding operation.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of the supporting and operating mechanism for the mold members. Fig. 2 is a sectional elevation illustrating the retainer-plates in position and the device in the operation of constructing a wall. Fig. 3 is a perspective view of one of the hangers. Fig. 4 is a similar view of one of the actuating-links. Fig. 5 is a detail perspective view of one of the adjustable sections of the supporting bar or member.

In the construction of cement, concrete, or other artificial-stone walls, curbs, and the like it is customary to employ a pair of parallel retaining plates or members constituting the walls of the mold and between which the material is cast, the retainer members being from time to time advanced along the course of the wall as the formation of the latter progresses, thus providing for a continuous operation in the construction of the wall. It is the primary purpose of this invention to provide a simple and efficient mechanism for sustaining and manipulating the retainer members and for readily advancing the latter.

In accordance with my invention the retaining plates or members 13 are sustained by hangers 9 10, connected in turn to a supporting bar or frame comprising a pair of parallel spaced plates or members 1 and 2, having a series of alined coincident perforations 3, suitably spaced in a direction longitudinally of the plates and adapted for the reception of connecting bolts or devices, as hereinafter explained.

The supporting bar or frame, which normally lies in a horizontal plane, is provided at its opposite ends with longitudinally-adjustable sections, each comprising a pair of plates 4 5, carried, respectively, by the spaced plates 1 2 and having perforations 6, adapted to register with the perforations 3, for the reception of bolts or other fastening members by which the adjustable sections are connected with the supporting-bar. These sections, which carry, respectively, the hangers 9 10 and are adjustable for varying the distance between the latter, are provided with a plumb-level support in the form of inturned longitudinal flanges 8, formed upon the plates 5, whereby a level may be readily employed for bringing the supporting-frame to the proper horizontal position.

Pivoted, respectively, to and between the plates 4 5 of the adjustable supporting-sections is a pair of hangers 9 10, formed, preferably, from plate metal angularly bent to produce on each an inner front wall or portion 11 and an outwardly-projecting side wall or portion 14, said hangers being provided at their lower ends with engaging devices or seats consisting of inwardly-upturned hooks 12, designed for engagement with the lower edges of the retaining plates or members 13, the upper ends of the side portions 14 being extended above the adjacent ends of the front portions 11, thus producing stops or abutments 14′ for a purpose which will hereinafter appear.

The upper projecting ends of the hangers

are pivoted, as at 15, between the plates 4 5 of the adjustable sections, thus permitting of the hangers swinging toward and from each other in moving the mold-walls to and from casting position, this swinging movement of the hangers being effected by an actuating mechanism comprising a pair of operating-levers 21 22 and two pairs or sets of toggle-links, disposed, respectively, at opposite ends of the supporting bar or frame. Each set of toggle-links comprises a primary link 17, pivoted between its ends to the outer end of the adjacent adjustable section of the supporting-bar for its upper end to project, as at 20, above the latter, and a secondary link 16, pivoted at its lower end to the lower end of the portion 14 of the hanger, the links being in turn pivotally connected, as at 19. Formed in the portion 14 of each hanger is a seat or recess 17′, designed for the reception of the adjacent end of the primary link 17, whereby when the operating-levers are manipulated for bringing the retaining-plates 13 to casting position the links 16 17 will move into parallel relation with the lower end of the link 17, engaging the hangers for locking the latter against outward movement, inward movement of the hangers being prevented, owing to engagement of the stops or abutments 14′ with the adjacent lower edge of the plate 1, whereby the hangers will be maintained in vertical parallel position and the retainers 13 in parallel relation.

The operating-levers 21 22 are crossed adjacent to their longitudinal centers and pivotally connected by means of a bolt or its equivalent 23, the ends of the levers being pivotally connected, respectively, with the upper projecting ends 20 of the primary links 17, whereby as the main operating-lever 21, which is provided at its free end with a suitable handle 24, is swung vertically upward the toggle-links will be caused to break joint at the pivots 19, thereby swinging the hangers from each other and disengaging the retainers 13 from the adjacent faces of the wall. When in casting position, the levers 21 22 will lie in parallelism in a horizontal plane and may be locked against movement for securely holding the walls of the mold in casting position by means of bolts 26, inserted through registering openings 25, provided in the levers upon opposite sides of the pivot 23.

In practice it is contemplated to employ one of the sustaining and operating mechanisms at each end of the mold and as many mechanisms between the ends as may be necessary for properly supporting the mold-walls. Furthermore, under certain conditions, such as in the construction of subwalls and in order to utilize the previously-constructed main wall as one side of the mold, I propose to detach one of the hangers, together with its operating-lever and toggles, and connect the adjacent end of the supporting-frame directly to the main wall by means of a vertical bar or other connecting member attached to the wall.

From the foregoing it is apparent that I produce a simple efficient device admirably adapted for the attainment of the ends in view, it being understood that minor changes may be made in the details herein set forth without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. The combination with a support, of notched hangers carried by the support and links connected with the support and having terminals for engagement with the notches for maintaining the hangers rigid with relation to the support.

2. The combination with a support, of hangers carried by the support and movable toward and from each other, sets of actuating-links disposed respectively at opposite ends of the support and connected with the hangers, one link of each set having an end projecting above the support, and means connected with the projecting ends of the links for operating the hangers.

3. The combination with a support, of movable hangers carried by the support, sets of links sustained by the support and connected with the respective hangers, one link in each set having an end projecting above the support, and operating-levers connected to the projecting ends of the links for operating the latter to actuate the hangers.

4. The combination with a support, of pivoted hangers carried thereby and having side portions provided with notches, seats provided on the hangers for the reception of retainer members, and a plurality of actuating-links connected with the hanger and support, one of said links of each set being designed for engagement with the notches in the adjacent hangers to brace the latter relative to the support.

5. A hanger for artificial-stone-making machines having means for engaging a retainer-plate, a bar for supporting said hanger, a bracing member connected to the bar and hanger, and an operating-lever connected with the bracing member.

6. A hanger for artificial-stone-making machines having means for engaging a retainer-plate, a bar for supporting said hanger, a bracing-link connected to the bar and the hanger, and a lever connected to the bracing-link.

7. The combination with a support having longitudinally-adjustable sections, of pivoted hangers carried by said sections, actuating members connected with the sections and hangers, and operating-levers connected with the members.

8. The combination with a support, of hangers pivotally connected therewith and adapted to swing inward and outward toward and

from each other, means for limiting the inward movement of the hangers, actuating members connected with the latter and the support, operating-levers connected with the actuating members, and means for locking said levers to prevent outward movement of the hangers.

9. The combination with a support, of hangers pivotally connected therewith and adapted to swing inward and outward toward and from each other, stops provided on the hangers for engagement with the support to limit inward movement of the hangers, means for operating the hangers, and means for locking the latter against outward movement.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS HANLON.

Witnesses:
S. B. CLARK,
JOHN E. QUINN.