

C. H. WITTHOEFFT.

SCAFFOLD OR MOLD FOR ERECTING CONCRETE OR CEMENT WALLS FOR BUILDINGS.

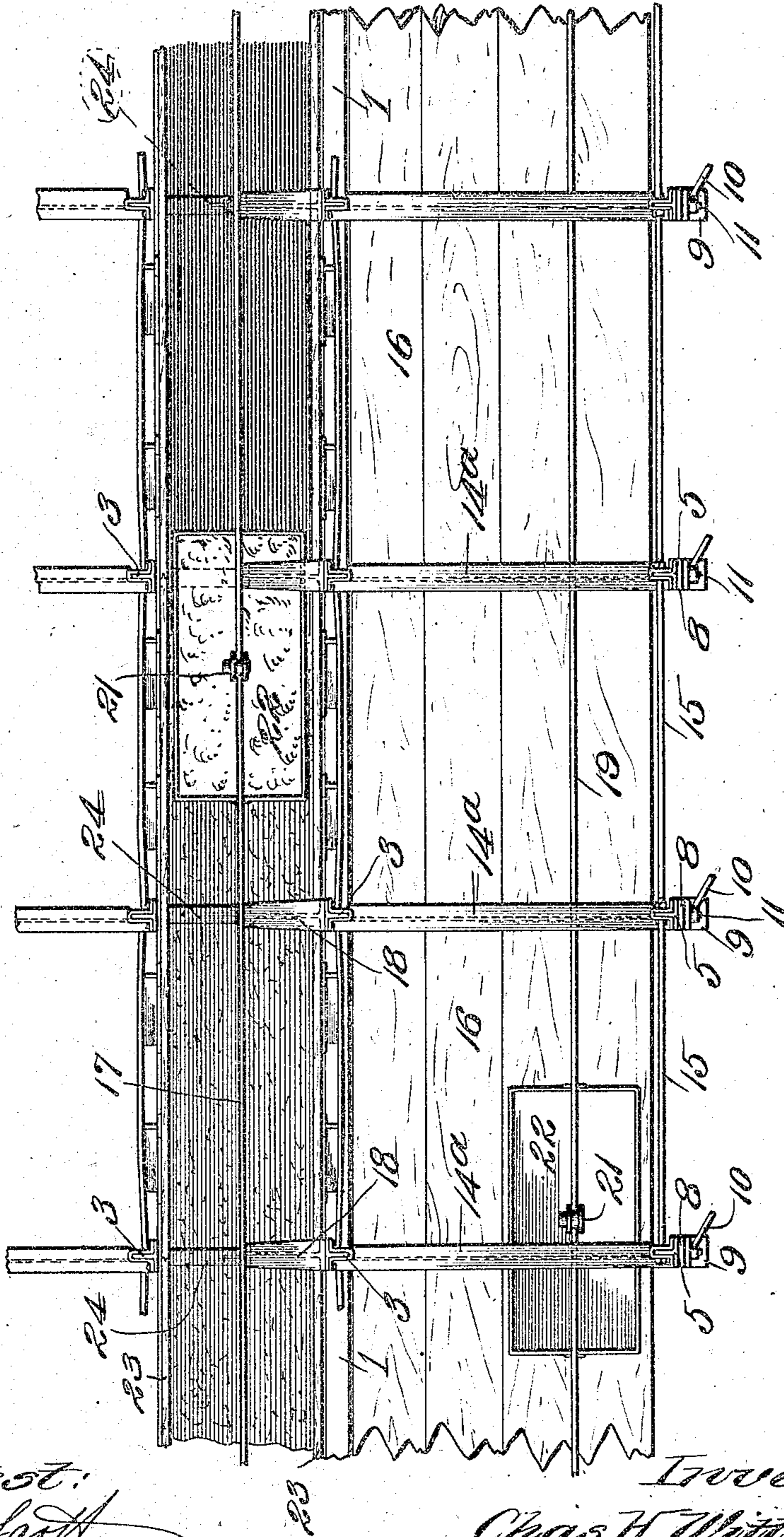
APPLICATION FILED AUG. 15, 1907.

Patented Mar. 23, 1909.

4 SHEETS—SHEET 1.

916,083.

Fig. 1.



Attest:
C. H. Witthoefft
Blanche H. Hagan

Inventor:
Chas. H. Witthoefft,
by Gottfried & Co.

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Fig. III.

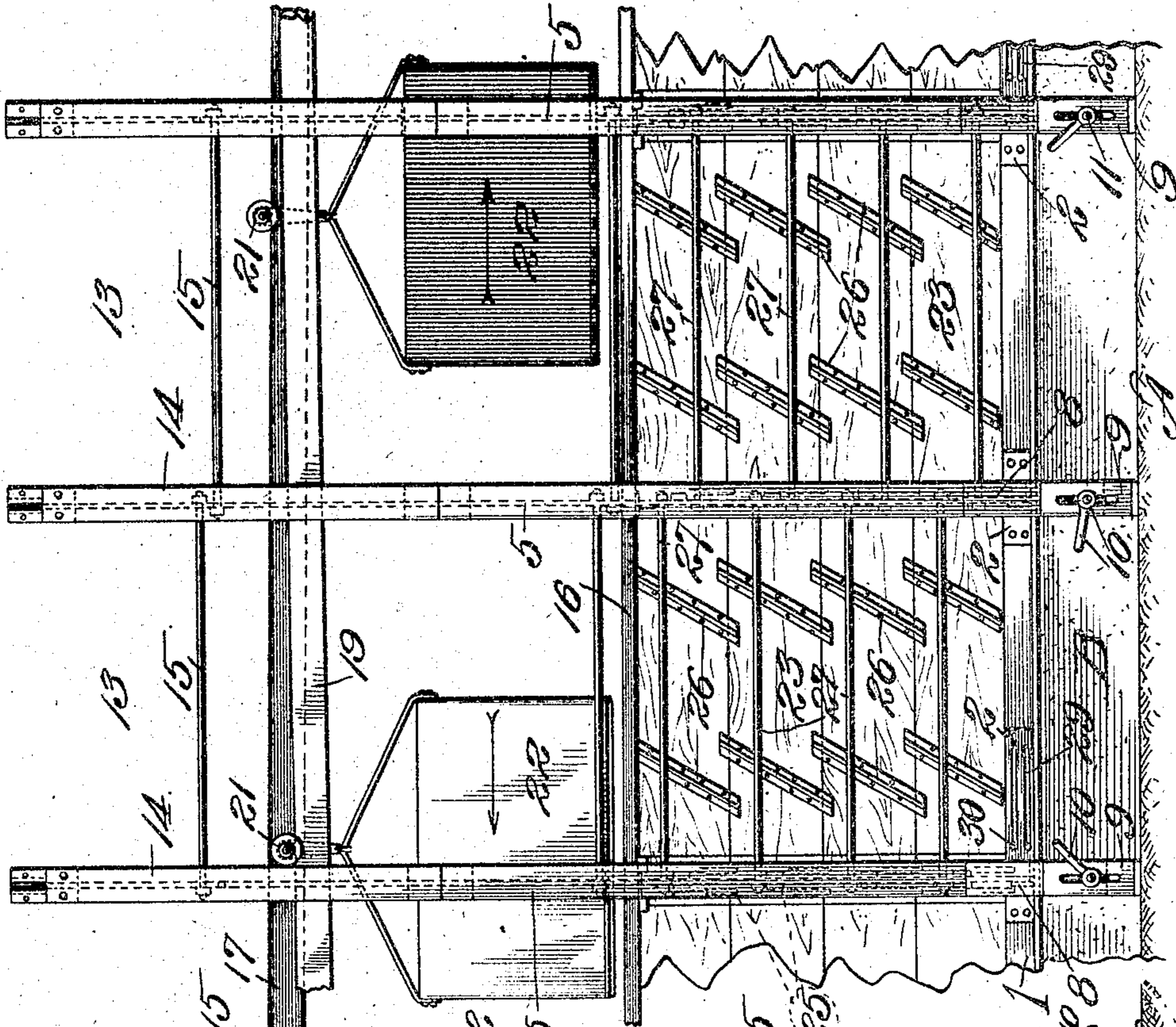
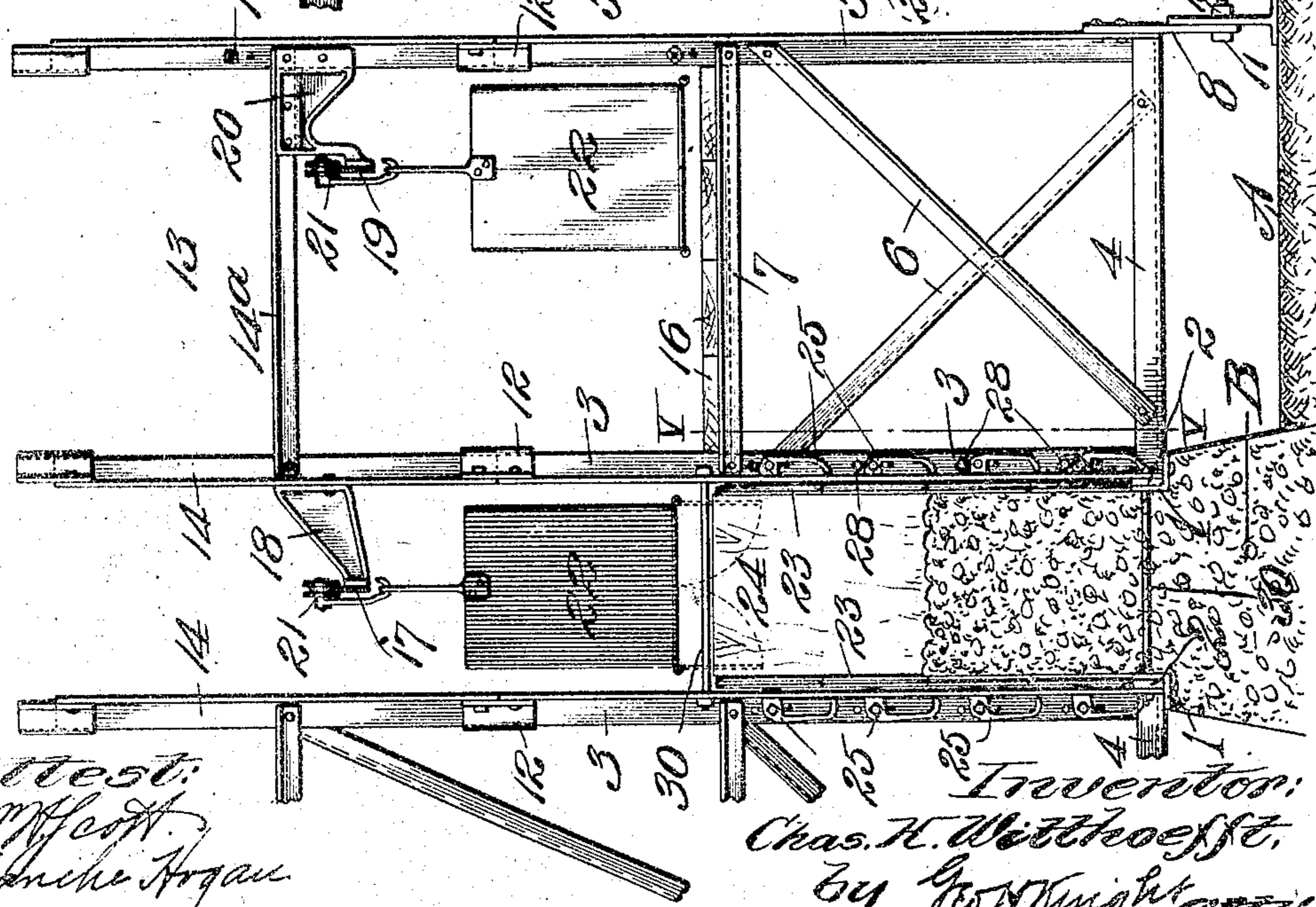


Fig. II.



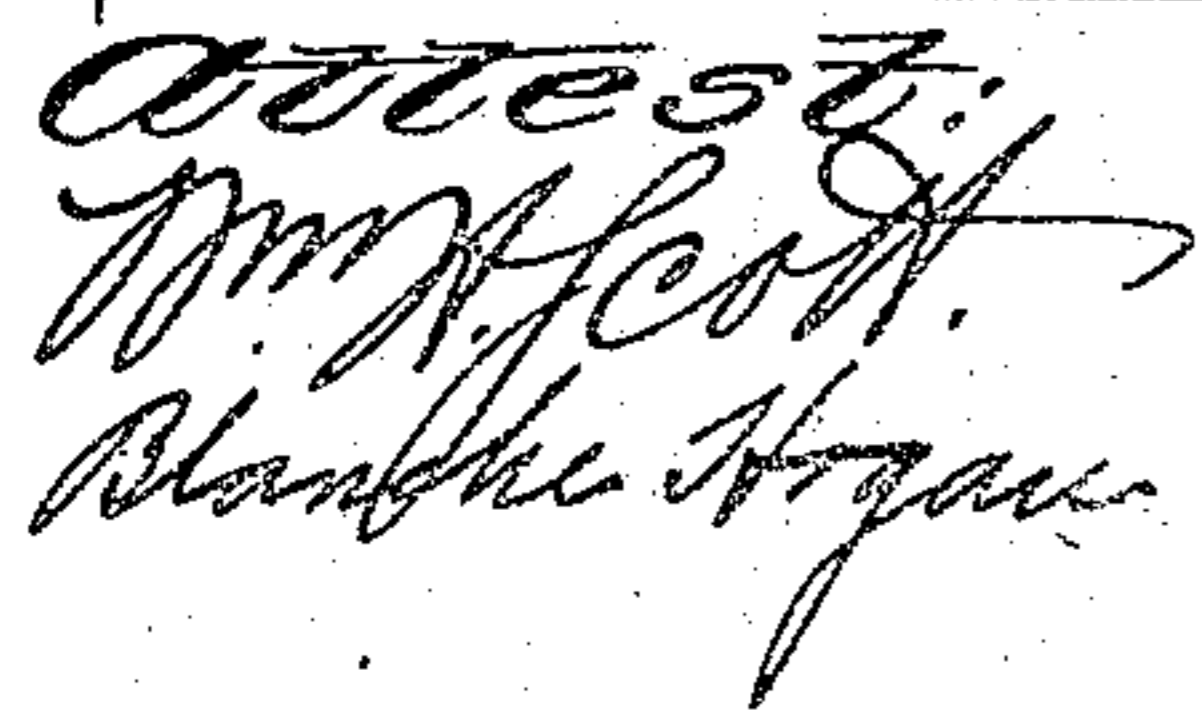
Attest:
C. H. Witthoeft.
Blanche Argau

Inventor:
Chas. H. Witthoeft.
by Geo. W. Knight

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4 SHEETS—SHEET 3.



Inventor:
 Chas. H. Witthoef, Jr.
 by Geo. Knight atty.

C. H. WITTHOEFT.

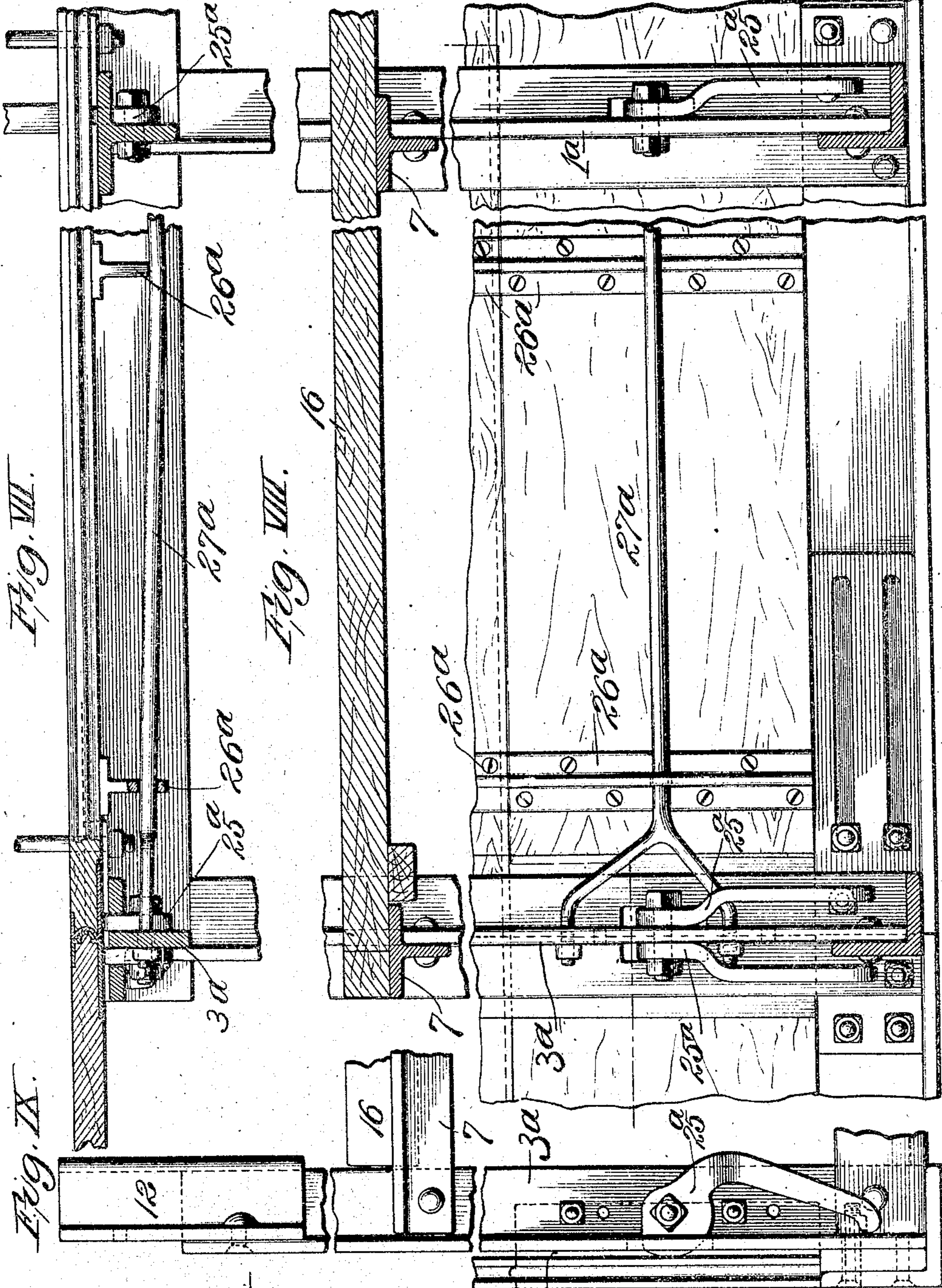
SCAFFOLD OR MOLD FOR ERECTING CONCRETE OR CEMENT WALLS FOR BUILDINGS.

APPLICATION FILED AUG. 16, 1907.

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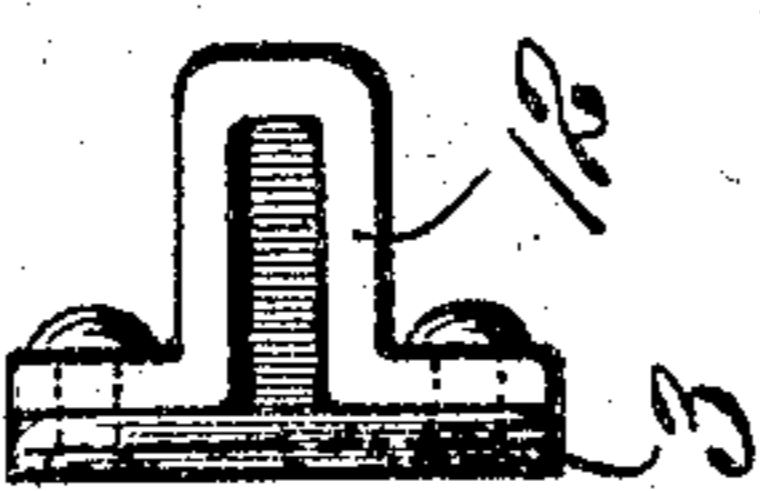
916,083.

4 SHEETS—SHEET 4.



Attest:
Wm. H. Knight
Charles H. Witthoeft

Fig. X



Inventor:
Chas. H. Witthoeft,
By Geo. W. Knight

UNITED STATES PATENT OFFICE.

CHARLES H. WITTHOEFFT, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE WEBER COMPANY,
OF CHICAGO, ILLINOIS, A CORPORATION.

SCAFFOLD OR MOLD FOR ERECTING CONCRETE OR CEMENT WALLS FOR BUILDINGS.

No. 916,083.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed August 15, 1907. Serial No. 388,637.

To all whom it may concern:

Be it known that I, CHARLES H. WITTHOEFFT, a citizen of the United States of America, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Scaffolds and Molds for Erecting Concrete or Cement Walls for Buildings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a new and useful improvement in scaffolds and molds for erecting concrete or cement walls for buildings and the like, and has for its object to produce a device of that character which is comparatively inexpensive to manufacture, strong and light in construction and which can be placed in position to perform its desired functions without the aid of particularly skilled workmen.

Figure I is a top or plan view of a portion of my improved scaffold and mold. Fig. II is an end elevation of the same. Fig. III is a side elevation of the same. Fig. IV is an enlarged detail top or plan view of a portion of my improved scaffold and mold, parts being broken away, and parts being shown in section. Fig. V is an enlarged fragmentary section taken on line V—V, Fig. II. Fig. VI is an enlarged fragmentary side elevation of my improved scaffold and mold. Figs. VII, VIII and IX are views similar to Figs. IV, V and VI respectively, illustrating a slightly modified construction of my structure. Fig. X is an enlarged detail top or plan view of one of the stanchions, together with one of the splice pockets thereon.

A represents a ground level, and B a foundation of concrete, cement or masonry, which is constructed preparatory to setting in place my improved scaffold and mold to build up the wall to be erected on this foundation.

From an inspection of the first three figures of the drawing it will be observed that I arrange a scaffold and one section of the mold on each side of the foundation B and between which scaffolds and molds the wall proper is formed.

1 designates a main sill of my scaffold which is preferably of angle shape.

2 are plates secured to the main sill.

3 designates lower sections of main stanchions preferably of T-shape.

4 designates stay sills preferably of angle shape secured at their ends to the main sill and the stanchion sections 3 and which extend at angles to said main sill.

5 are lower stay stanchion sections similar to the main stanchion sections 3. The stanchion sections 3 and 5 are united by diagonally disposed tie-bars 6 preferably of angle shape and horizontally disposed tie-bars 7 preferably of T-shape.

8 designates leveling plates secured to the lower ends of the lower stay stanchion sections 5 and 9 are feet adjustably secured to said leveling plates by means of bolts 11 and nuts 10, the former of which pass through suitable perforations in the leveling plates 8 and feet 9 respectively. Each of the lower stanchion sections 3 and 5 has secured to it at its upper end a splice pocket 12.

14 designates extension stanchion sections preferably of T-shape and which surmount the lower stanchion sections 3 and 5 to which they are connected by introducing them into the splice pockets 12 and by the employment of bolts or other suitable means of fastening inserted through the splice pockets and sections. The extension stanchion sections surmounting the lower stanchion sections 3 and 5 of each scaffold are united by tie-bars 14^a. The extension stanchion sections 14 surmounting the lower stay stanchion sections 5 are united by tie-rods 15. It will be seen, by reference to the drawings, that these tie-rods are arranged out of horizontal alinement with each other, they being so arranged in order that they may be properly mounted in the stanchion sections without conflict with each other. The extension stanchion sections 14 serve to complete the main and stay stanchions to the desired height for the construction of a wall and in the following description they may be in general referred to as constituting parts of the main and stay stanchions where their use is necessary to acquire a desired height in the scaffold.

16 designates a running board or platform arranged between the main stanchions and stay stanchions and supported by the

tie-bars 7 and intended to be used by the workmen employed in constructing a wall in the use of my scaffold.

17 designates a traveler rail supported by brackets 18 attached to the main stanchions and preferably located for the major part of its length directly in the center of the space between two scaffolds in which a wall is to be constructed. 19 is a second traveler rail supported by brackets 20 attached to the stay stanchions. The traveler rails 17 and 19 are designed to be traversed by travelers 21 that support buckets 22 having drop bottoms and in which concrete may be conveyed to be deposited in the space between the scaffolds for the construction of a wall. The two traveler rails are utilized in order that the travelers may be conducted through one course in conveying the buckets to the wall space and then switched into another course in returning the buckets to be refilled.

The mold for the wall is made up of a plurality of mold boards 23 arranged against the main stanchions of two companion scaffolds which, as before stated, are located in juxtaposition to the foundation B and the mold walls are built up by having their lowermost boards rest upon the main sill 1 and then superimposing the other mold boards on the lower boards to the required height. After arranging the mold boards against the scaffolds I place between the two sets of boards and in the wall space distance pieces 24 located at suitable intervals.

25 are cam levers pivoted to the main stanchions and by which the mold boards may be adjusted to carry them to the distance pieces 24. The cam levers 25, when operated, act to carry the mold boards inwardly relative to the wall space and away from the main stanchions, as seen in Fig. VI for a purpose that will be hereinafter explained. Each mold board 23 has secured to it at its outer face stiffener bars 26 preferably of T-shape and preferably extending diagonally of the board. The ends of the stiffener-bars upon each board with the exception of the board at the bottom of each mold wall extend beyond the edges of the board so that they will overlap the adjacent boards to provide for alinement of the entire series of boards and afford a smooth lining mold face which is presented to the wall space.

27 are truss rods mounted in the main stanchions and provided with nuts 28. These truss rods are adapted to bear against the stiffener bars 26 for the purpose of preventing bulging of the mold boards. The holes in the stanchions that receive the truss rods are staggered in order that the rods may be readily mounted without interference with each other.

It will be seen by reference to Figs. III and V, that the plates 2 secured to the main sill 1

are provided with slots 29. The object in providing these slots is to permit of the attachment to the main sill of an additional main stanchion which may be adjustably bolted to said plates and connected to other parts of the scaffold when occasion demands, as in extending the scaffold in filling out corners of walls.

In the practical use of my scaffold and mold the herein described structure is employed as follows: After the foundation B is produced I arrange at each side of said foundation one of the scaffolds constructed as set forth so that the main sill of each scaffold will rest upon the foundation. The scaffolds are then trued or leveled by adjusting the leveling plates 8 relative to the feet 9 to which they are attached. The mold boards 23 are then placed against main stanchions of the scaffolds to form the sides of the mold by which the wall is to be produced. The distance pieces 24 are at this time interposed between the mold boards and the cam levers 25 are operated to move the mold walls consisting of the mold boards inwardly so that they will be closely fitted to the distance pieces. The truss rods 27 are next put in place and the nuts thereon are tightened to bring the truss rods into close impingement against the stiffener bars 26 of the mold boards. Tie-rods 30 are then mounted in the main stanchions of the two scaffolds to connect said scaffolds and prevent outward movement of either scaffold relative to the wall. The platform or running boards and the traveler rails are next put in place upon one or both of the scaffolds and the mold is in readiness for use. As the concrete wall is built up I mount upon the lower stanchion sections the extension stanchion sections 14 to the desired height according to requirement and elevate the platform or running boards and the traveler rails, as occasion demands during the construction of a wall and after tying the extension sections together continue to arrange and operate the parts of the scaffold and mold in the same manner as that initially carried out.

In Figs. VII to IX inclusive I have shown a modification wherein it will be observed that the stiffeners 26^a are vertically disposed and their ends do not overlap the adjacent boards, and that both their longitudinal and transverse edges are tongued and grooved. Also that the truss rod 27^a is formed with bifurcated ends which pass through perforations formed to receive them in the main stanchions 3^a. It will further be observed that one arm of the bifurcated end of the truss rod is of a greater distance from the axis of the truss rod than is the other arm of said bifurcated end. Also that in each stanchion 3 there are four perforations, and by which construction the bifurcated ends of

one truss rod may be passed through two of the perforations while the bifurcated end of the truss rod of the next adjacent section will be passed through the other two perforations, whereby one truss rod will not interfere with the other and neither truss rod will interfere with the operation of the cam 25^a.

I claim:—

1. A scaffold and mold consisting of framework composed of posts, and means for supporting and tying said elements together, a mold facing board, a plurality of cams pivotally supported on said posts for causing said mold facing board to stand away from said posts, and a truss rod supported by said posts which coöperates with said mold facing board for preventing the same from bulging, substantially as set forth.

2. In a structure of the character described, the combination with a framework composed of a base rail, upright posts, and means for supporting and tying said elements together; of a mold facing board supported by said base rail, a plurality of cams pivotally supported on said upright posts for causing said mold facing board to stand away from said upright posts, and a truss rod supported by said upright posts which coöperates with said mold facing board for preventing the same from bulging, substantially as set forth.

3. In a structure of the character described, the combination with a framework composed of a base rail, upright posts, and means for supporting and tying said elements together, of mold facing boards supported by said base rail, overlapping stiffeners carried by said mold facing boards, truss

rods supported by said upright posts which coöperate with said stiffeners for preventing said mold facing boards from bulging, and a plurality of cams for causing said mold facing boards to stand away from said upright posts, substantially as set forth.

4. In a structure of the character described, the combination with a framework composed of a base rail, upright posts, and means for supporting and tying said elements together, of mold facing boards supported by said base rail, overlapping diagonally arranged stiffeners carried by said mold facing boards, truss rods supported by said upright posts which coöperate with said stiffeners for preventing said mold facing boards from bulging, and a plurality of cams for causing said mold facing boards to stand away from said upright posts, substantially as set forth.

5. In a structure of the character described, the combination with a framework composed of a base rail, upright posts, and means for supporting and tying said elements together; of a plurality of vertically and horizontally disposed mold facing boards supported by said base rail, overlapping diagonally arranged stiffeners carried by said mold facing boards, and truss rods supported by said upright posts; said truss rods being so constructed and arranged that one rod will not interfere with the truss rod for the next horizontally alining mold facing board, substantially as set forth.

CHARLES H. WITTHOEFFT.

In presence of—

BLANCHE HOGAN,
H. G. COOK.