

No. 824,193.

PATENTED JUNE 26, 1906.

B. A. MUELLER.

CORE FOR CONCRETE WALL CONSTRUCTIONS.

APPLICATION FILED FEB. 19, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

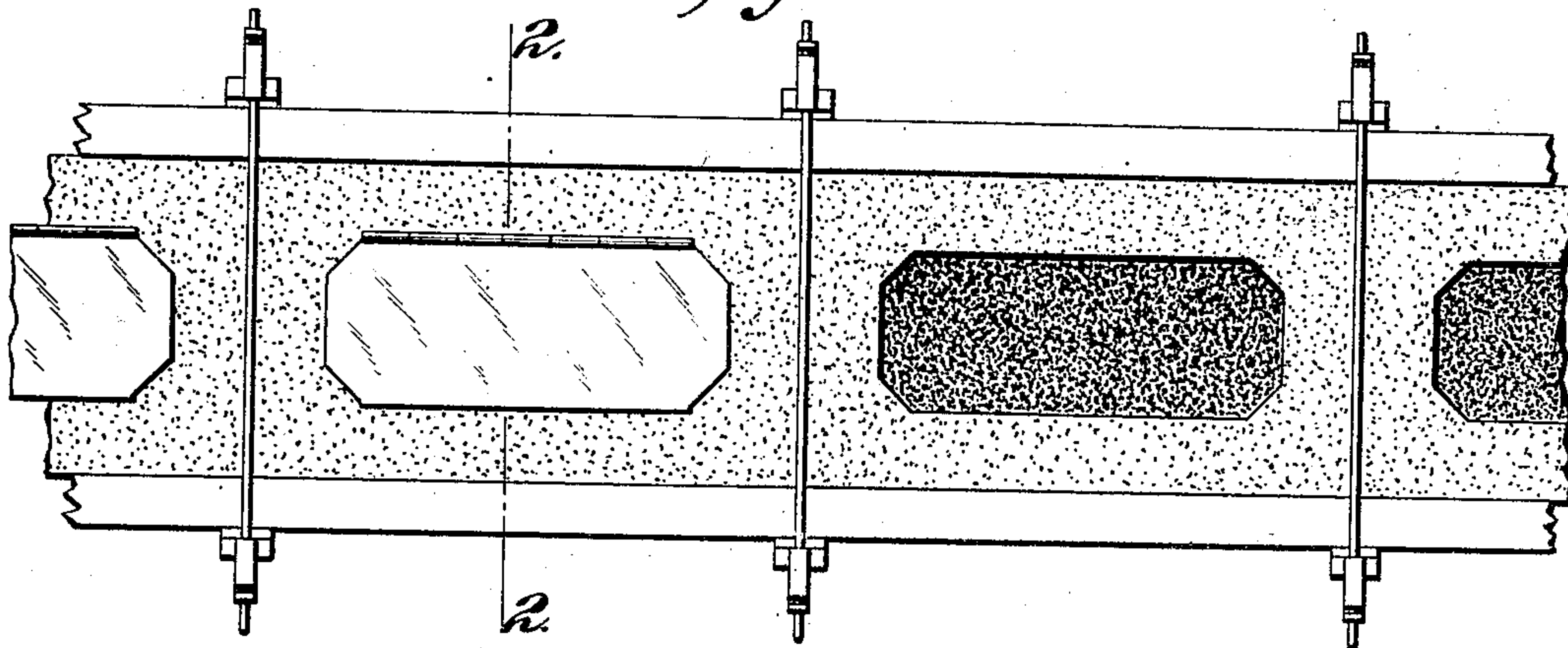
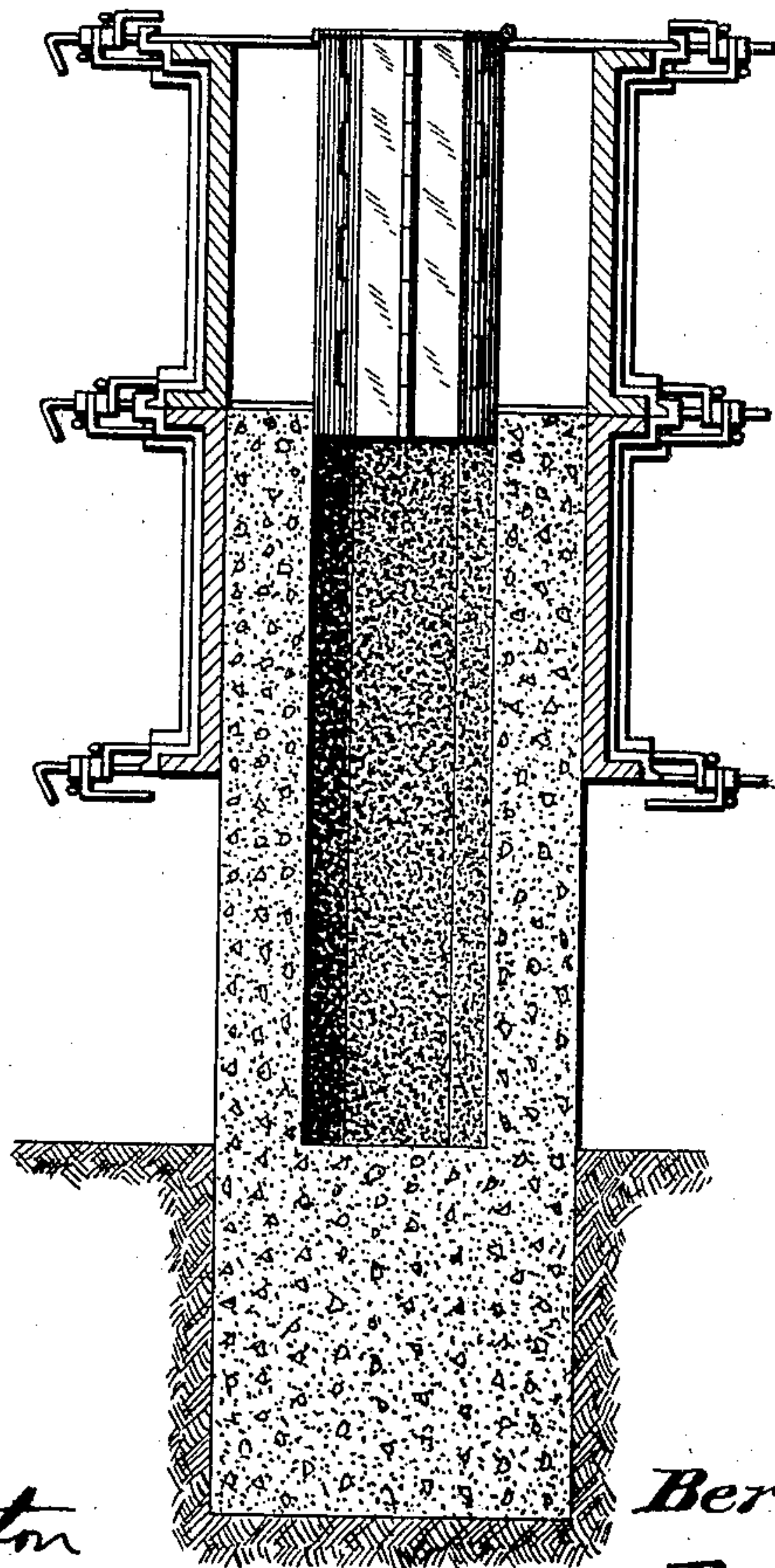


Fig. 2.



Witnesses:

G. A. Pennington
J. B. Megown.

Inventor:
Bernhard A. Mueller,
By Canis Can
Atty's

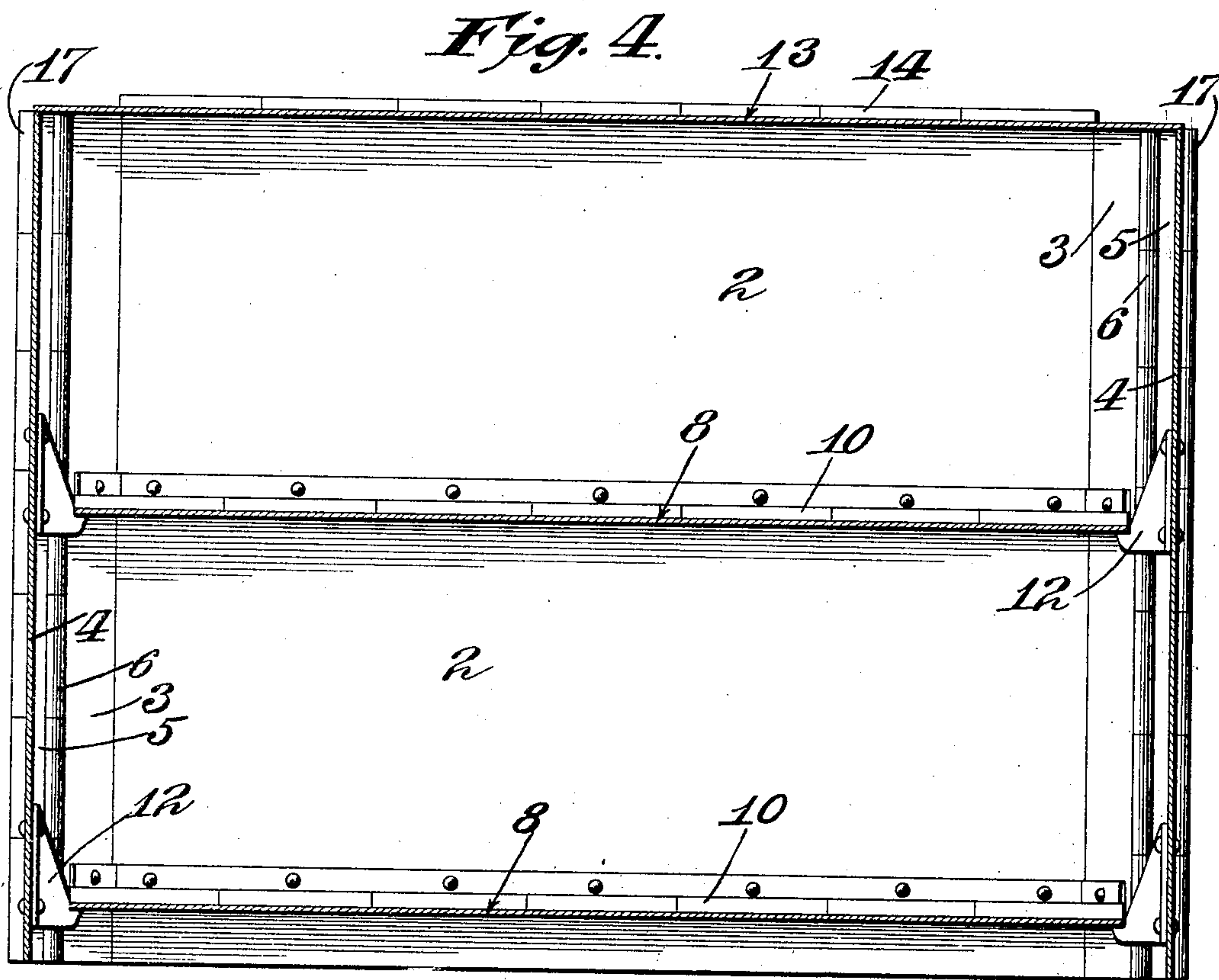
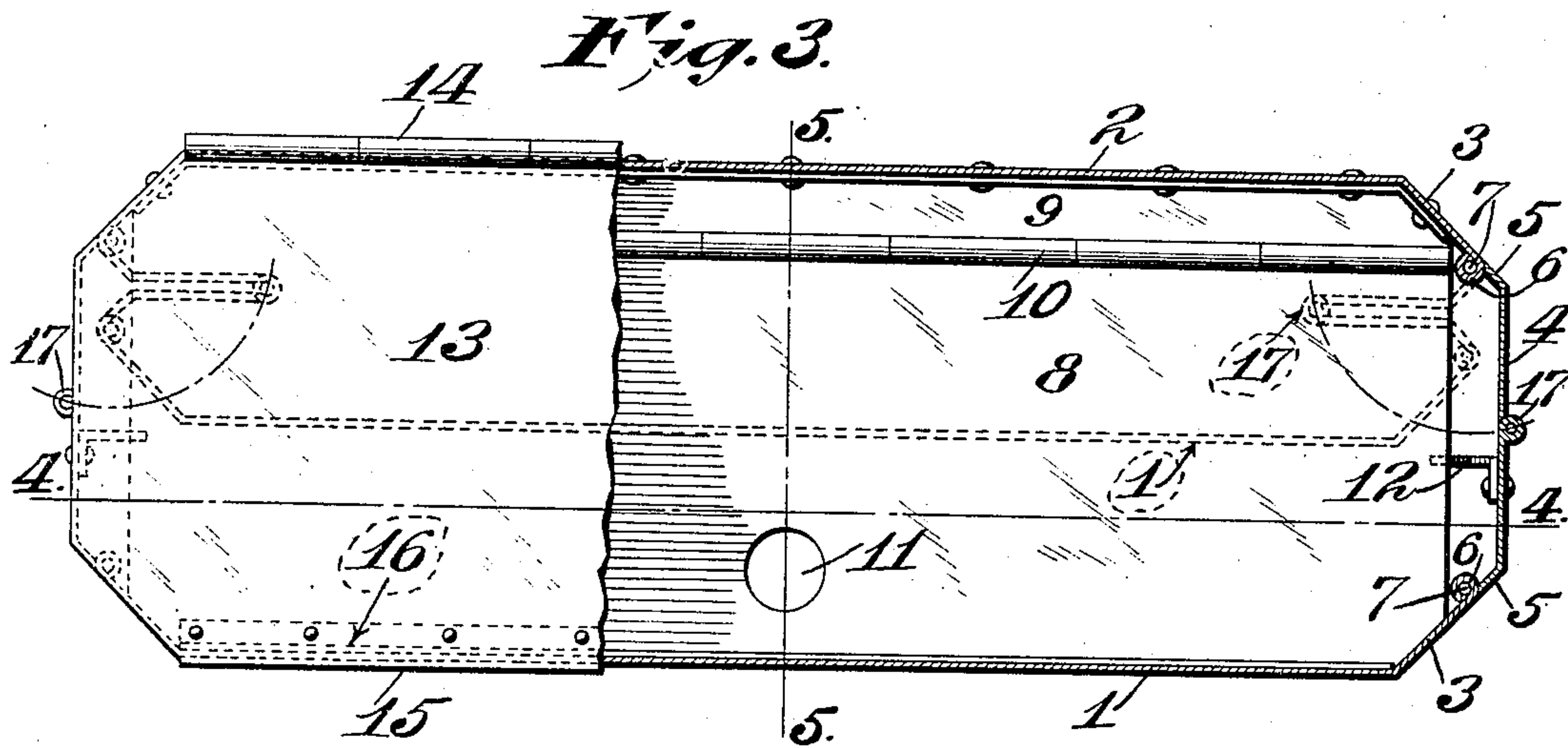
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3 SHEETS—SHEET 2.



Witnesses:

G. A. Pennington.
J. B. Megown.

Inventor:
Bernhard A. Mueller,
By *Carroll Darr,*
Attys.

No. 824,193.

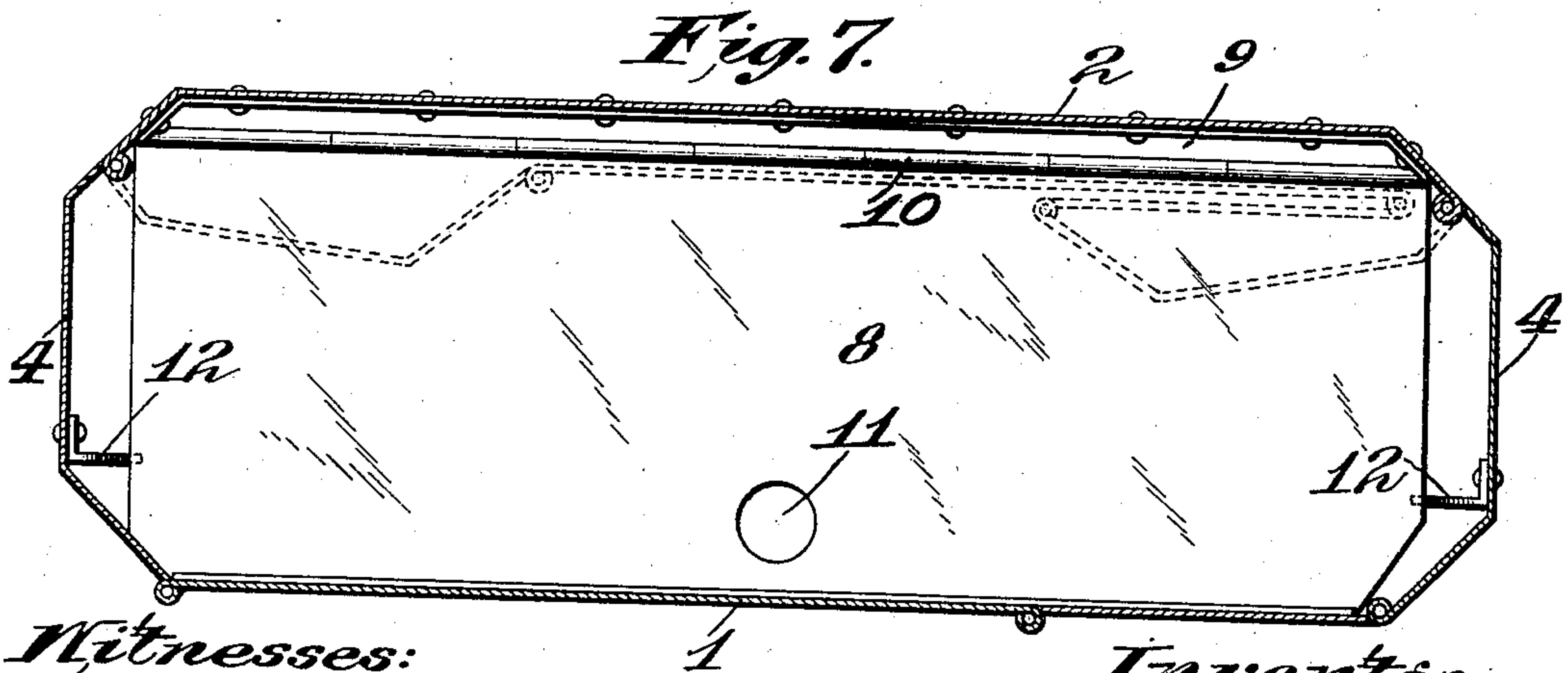
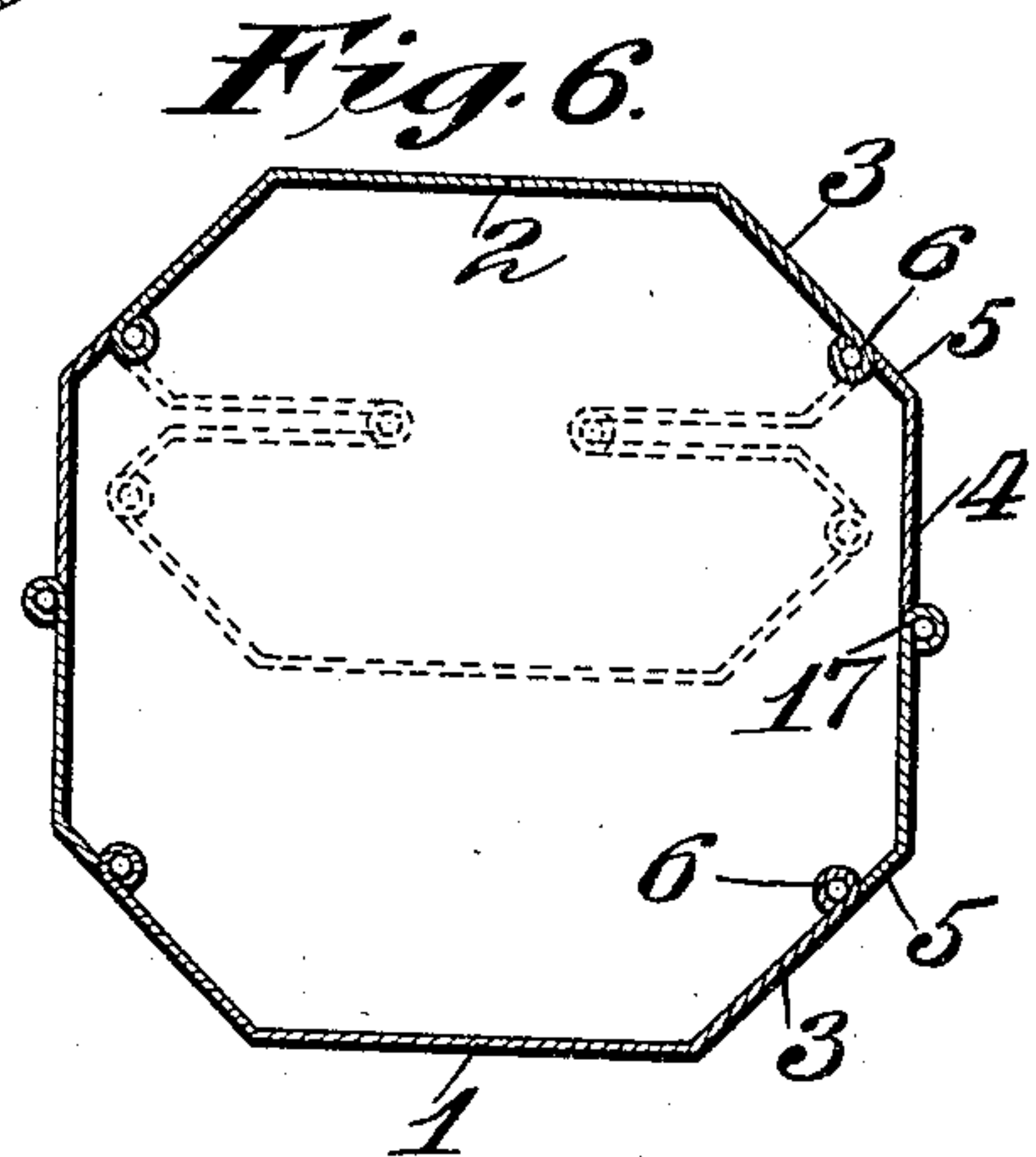
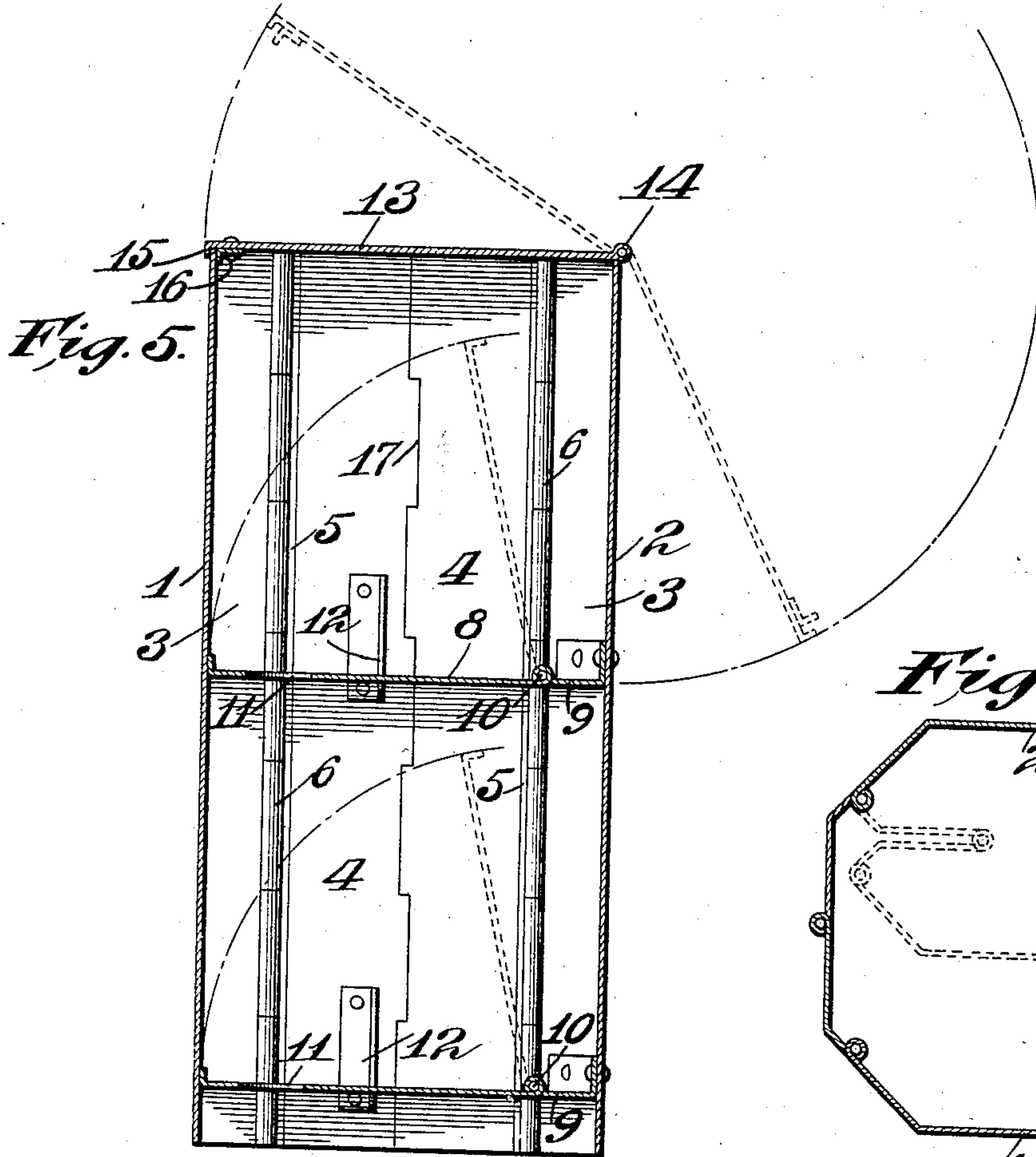
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3 SHEETS—SHEET 3.



Witnesses:

G. A. Pennington
J. B. Megown

Inventor:

Bernhard A. Mueller,
By Candace
Attys.

UNITED STATES PATENT OFFICE.

BERNHARD A. MUELLER, OF EAST ST. LOUIS, ILLINOIS.

CORE FOR CONCRETE-WALL CONSTRUCTIONS.

No. 824,193.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed February 19, 1906. Serial No. 301,764.

To all whom it may concern:

Be it known that I, BERNHARD A. MUELLER, a citizen of the United States, and a resident of the city of East St. Louis, county of St. Clair, and State of Illinois, have invented a new and useful Improvement in Cores for Concrete-Wall Constructions, of which the following is a specification.

My invention relates to cores for molds for concrete-wall construction, and has for its principal object to provide a collapsible core for concrete-wall constructions.

It consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a plan view of a fragment of concrete wall, showing the cores in position and also the wall with the cores removed therefrom. Fig. 2 is a vertical sectional view on the line 2 2 of Fig. 1. Fig. 3 is an enlarged plan of the core with a portion of the top broken away. Fig. 4 is a longitudinal sectional view on the line 4 4 of Fig. 3. Fig. 5 is a vertical cross-section on the line 5 5 of Fig. 3. Fig. 6 is a horizontal sectional view of a hexagonal core, and Fig. 7 is a horizontal sectional view embodying a modification of the construction.

The core is preferably made of sheet metal and is of elongated shape. The two long sides of the core are parallel and form the front wall 1 and rear wall 2 thereof. The ends of both the front and rear walls of the core have interior inclined offsets 3, which extend a short distance from the plane of said walls. Two walls 4, also parallel to each other, are provided at right angles to the front and rear walls and form the ends of the core. The ends 4 also have interior inclined offsets 5 and are connected to said offsets 3 of the front and rear walls by hinges 6. These hinges are preferably formed by bending the edges of the offsets 3 and 5 alternately to form a continuous bearing and are held in position by a suitable pin or pintle 7.

In order to hold the core in position and to prevent the same from being distorted, one or more struts composed of flat parts 8 and strips or shelves 9, connected together by hinges 10, are provided in the lower part of said core. When in position, these struts extend across the entire width of the core, and in order to permit the flat part 8 to be

raised into vertical position said strip or shelf 9 should not extend beyond the plane of the offsets 3 on the rear wall 2. These struts should also be a sufficient distance apart to permit said flat part 8 to be raised into vertical position. Holes 11 are provided in said flat part to permit the insertion of an object to facilitate the raising of said part when desired. Braces 12 are provided on the sides of said core to hold the same in position, which braces are preferably inclined on their upper edge and abut against said flat parts 8 to act as a strut to hold the core rigid. A cover 13 is preferably connected along one side of the core by a hinge 14, also having a continuous bearing throughout its length. Along the side opposite to said hinge said cover has a channel formed by the downward flange or margin 15 thereof and an angle-strip 16 secured to the under part of said top parallel to said flange 15. As the cover is connected to one side of said core and has a channel arranged to engage the opposite wall thereof, it serves both as a strut and as a tie to hold the side and end walls in position. The end walls 4 have a hinge 17 in the middle thereof to permit said walls to swing inwardly. By thus hinging said ends they are permitted to be doubled upon themselves until parallel with the front wall 1 and rear wall 2. The length of said core will also be shortened by this arrangement an amount equal to the distance which said hinges 6 are inwardly offset from the plane of the respective ends 4.

The operation of the device is as follows: The side and end walls of the core are extended by swinging the flat part 8 in horizontal position, thus forming a strut, with the shelf 9 constituting a part thereof. If more than one of these struts are used, they are all set in position as just described. The cover is set in position with the flange and strip on its outer under side engaging the front wall and holding the upper part of the core rigid. As the braces 12 on the ends of the core abut against the flat part 8 said braces, together with said flat part 8, form a strut and prevent distortion of said ends from outside pressure. The core is placed in position between the walls of the mold, which walls are preferably interchangeable, as set forth in my application, Serial No. 293,883, filed December 30, 1905. After being placed in position the concrete is poured in the molds to about the height of the core, the cover thereof prevent-

ing the concrete from getting inside. The concrete is then permitted to set until it retains its shape rigidly and sustains the weight of another layer. The cover of the core is then raised out of engagement with the front wall. The flat parts 8 are then raised into vertical position, which will permit the ends of the core to be swung inwardly on their hinges and to be doubled upon themselves, thereby causing a shortening of all sides of the core and permitting the same to be easily removed from the concrete. The operation just described is then ready to be repeated to the desired height of the wall. It is desirable, however, to allow a small portion of the lower part of the core to remain in the concrete, and thereby hold said core by friction against its sides while the next section of concrete is being constructed.

Obviously divers changes can be made in the details of construction without departing from my invention, and therefore I do not wish to be limited to the details herein set forth—as, for instance, the front wall may be hinged intermediate of its ends to permit the walls of the core to be collapsed, as shown in Fig. 7 of the drawings.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A core for a hollow-wall construction having side and end walls hinged together at a point interiorly offset from their planes, substantially as described.

2. A core for hollow-wall construction having side and end walls hinged together at a point interiorly offset from their planes, and hinges at said ends, substantially as described.

3. A core for hollow-wall construction having side and end walls hinged together at a point interiorly offset from their plane and one or more struts for holding said side and

end walls in position, substantially as described.

4. A core for hollow-wall construction having side and end walls hinged together at points interiorly offset from their planes and one or more struts for holding said side and end walls in position, substantially as described.

5. A core for hollow-wall construction having side and end walls hinged together at points interiorly offset from their planes and one or more struts for holding said side and end walls in position, said struts being made in two parts connected together by a hinge to permit the same to be folded until parallel with the side walls of said core, substantially as described.

6. A core for hollow-wall construction having side and end walls hinged together at a point interiorly offset from their planes and one or more struts for holding said side and end walls in position and a top for said core hinged along one side and having a channel along its opposite side to engage the wall of said core, substantially as described.

7. A core for hollow-wall construction having side and end walls hinged together at a point interiorly offset from their planes, one or more struts for holding said side and end walls in position, said struts being made of two parts and connected together by a hinge to permit said strut to be folded, a top for said core hinged along one side and having a channel along its opposite side to engage the wall of said core, substantially as described.

Signed at St. Louis, Missouri, February 17, 1906.

BERNHARD A. MUELLER.

Witnesses:

J. B. MEGOWN,
G. A. PENNINGTON.