

No. 829,586.

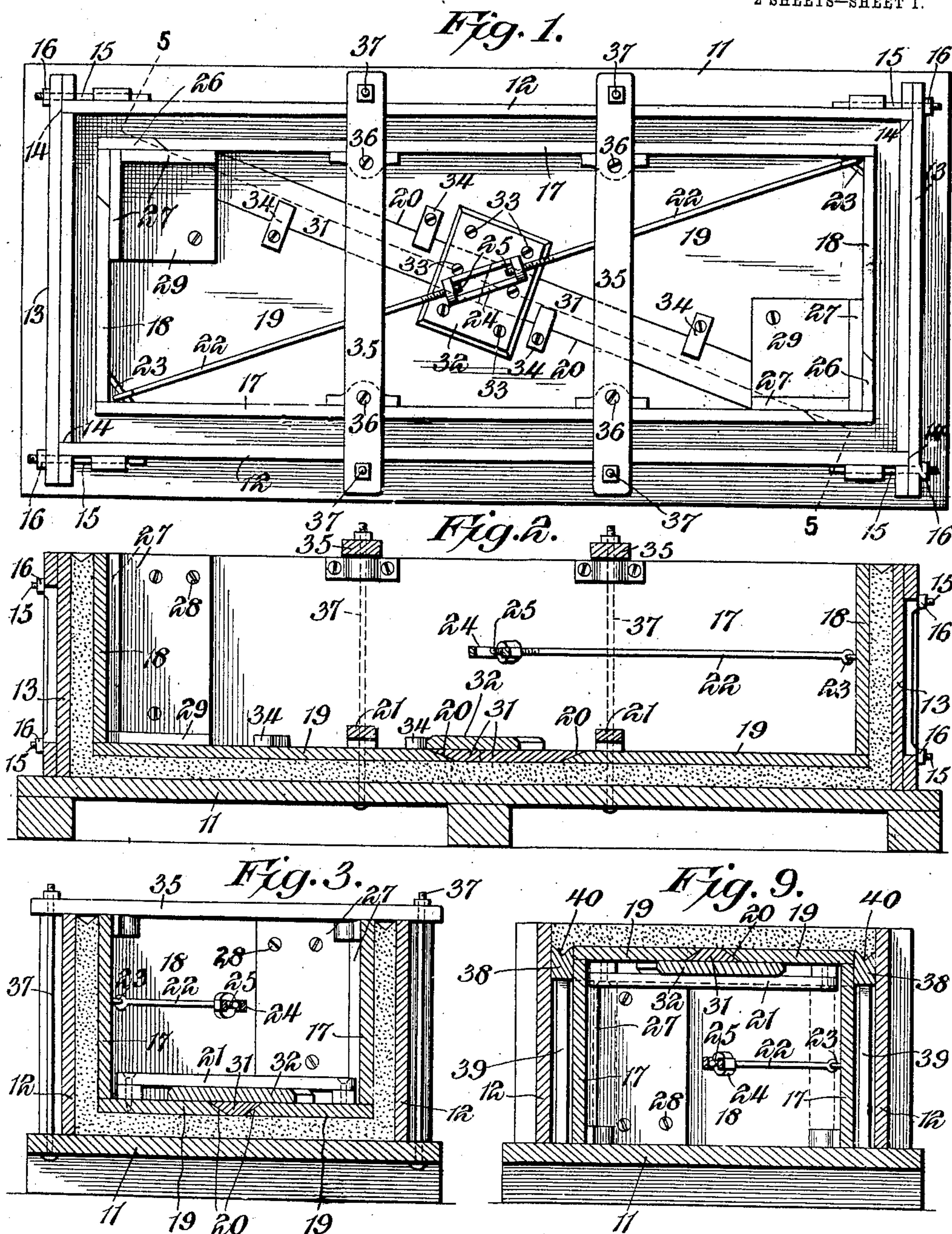
PATENTED AUG. 28, 1906.

W. M. HUBBARD.

MOLD.

APPLICATION FILED OCT. 20, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2

Fig. 4.

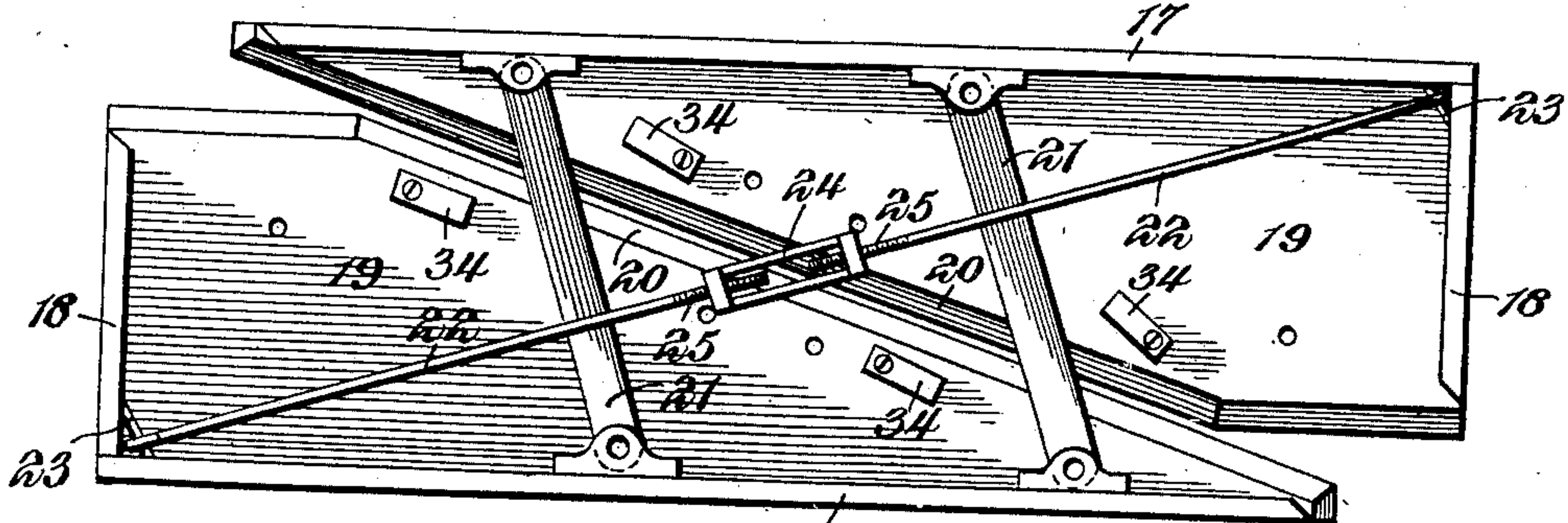


Fig. 5.

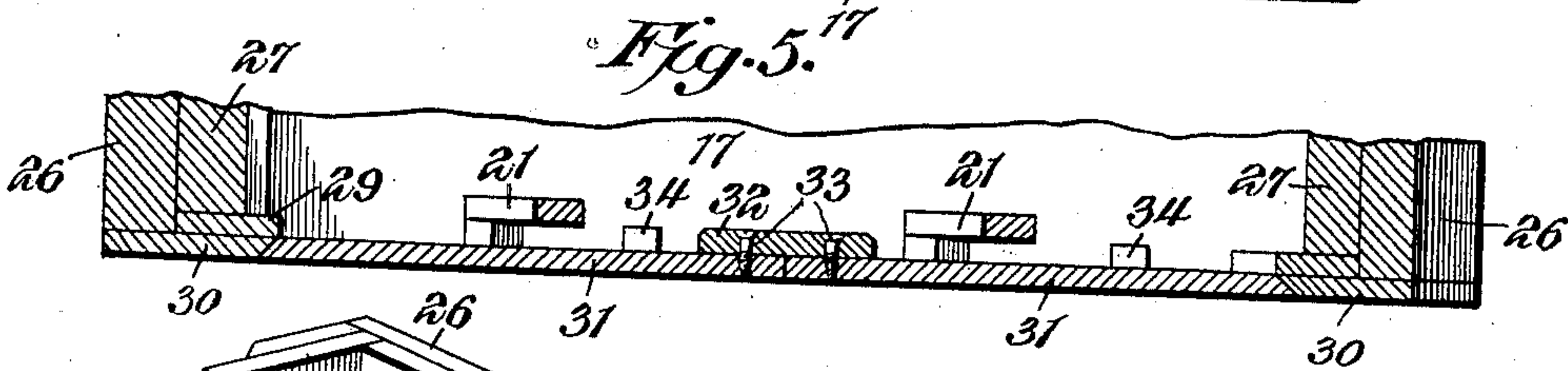


Fig. 6.

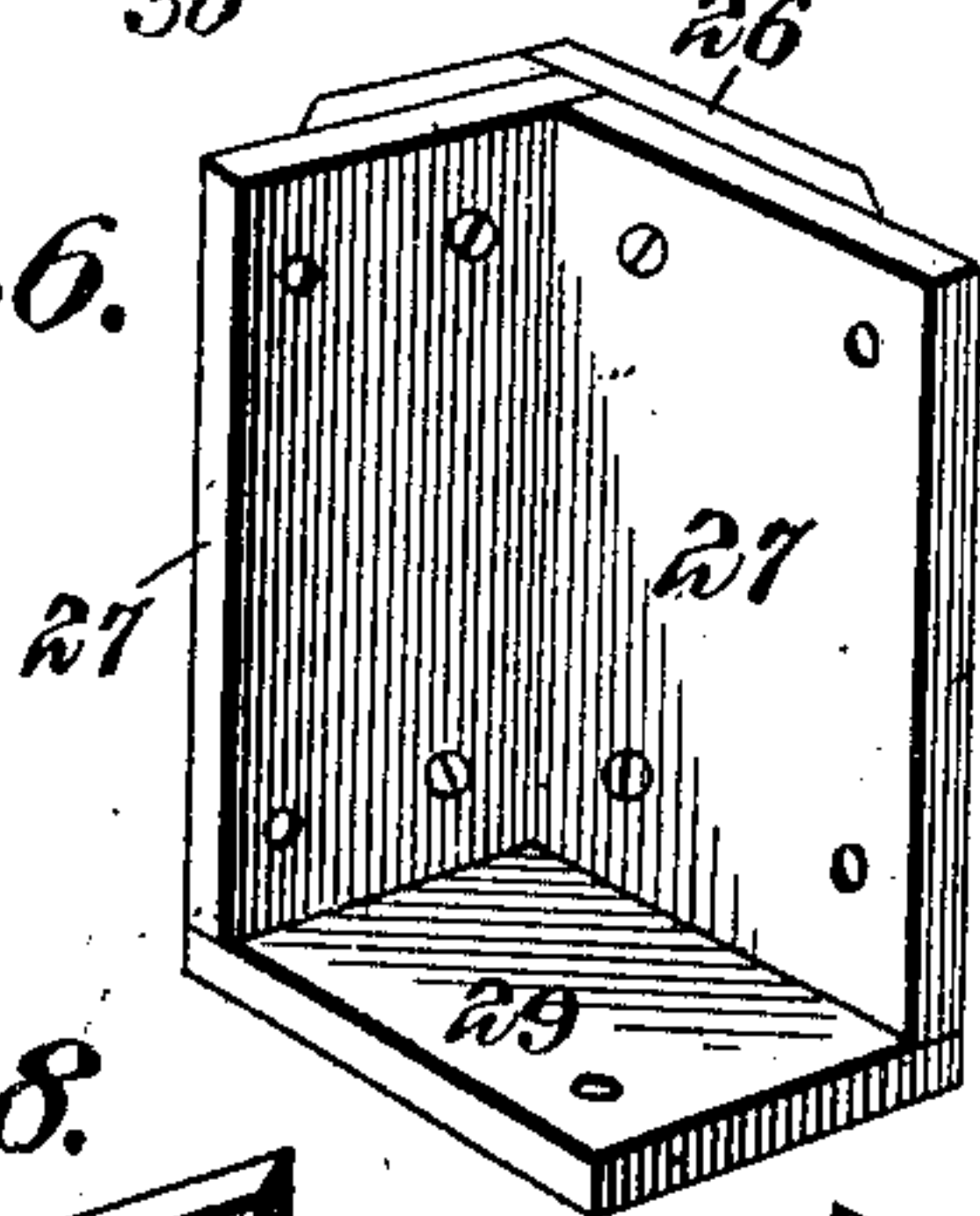


Fig. 7.

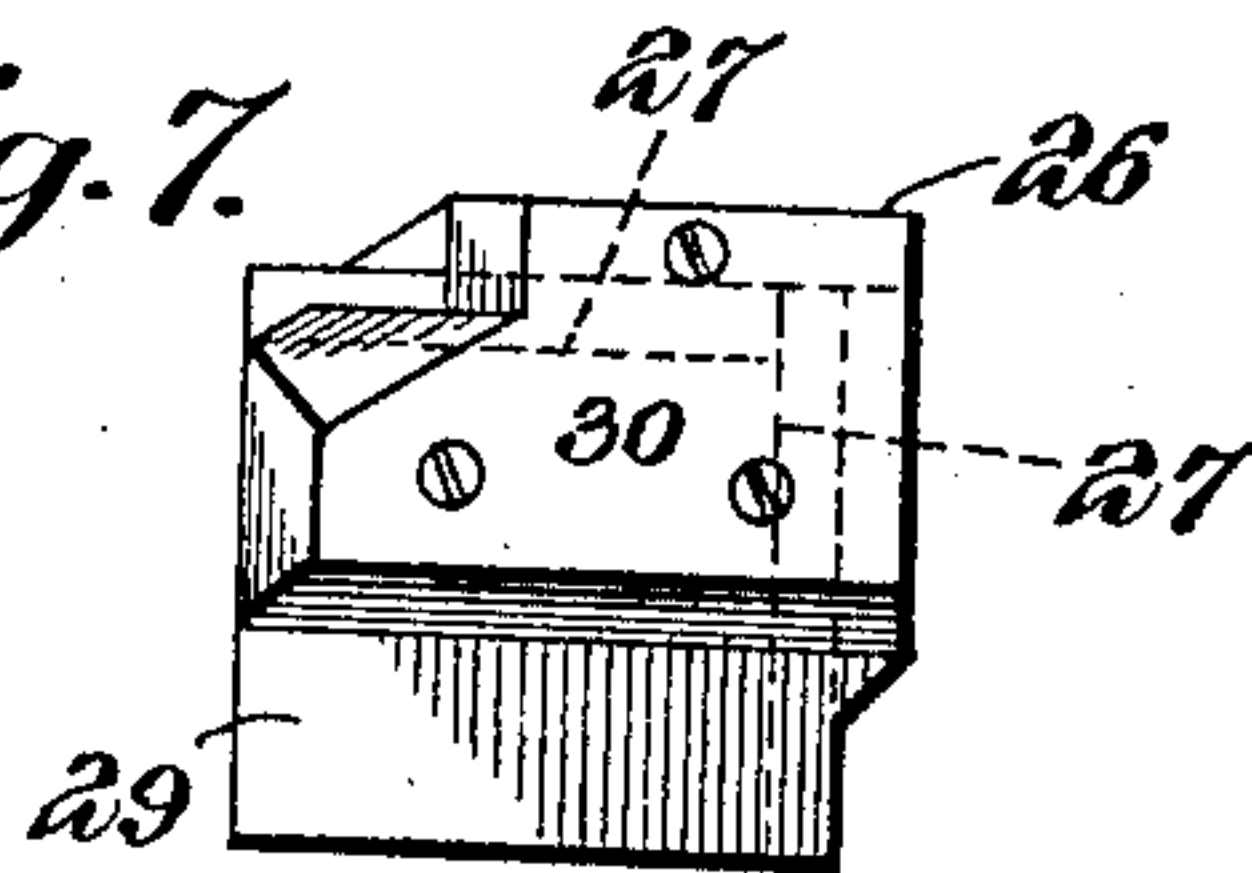


Fig. 8.

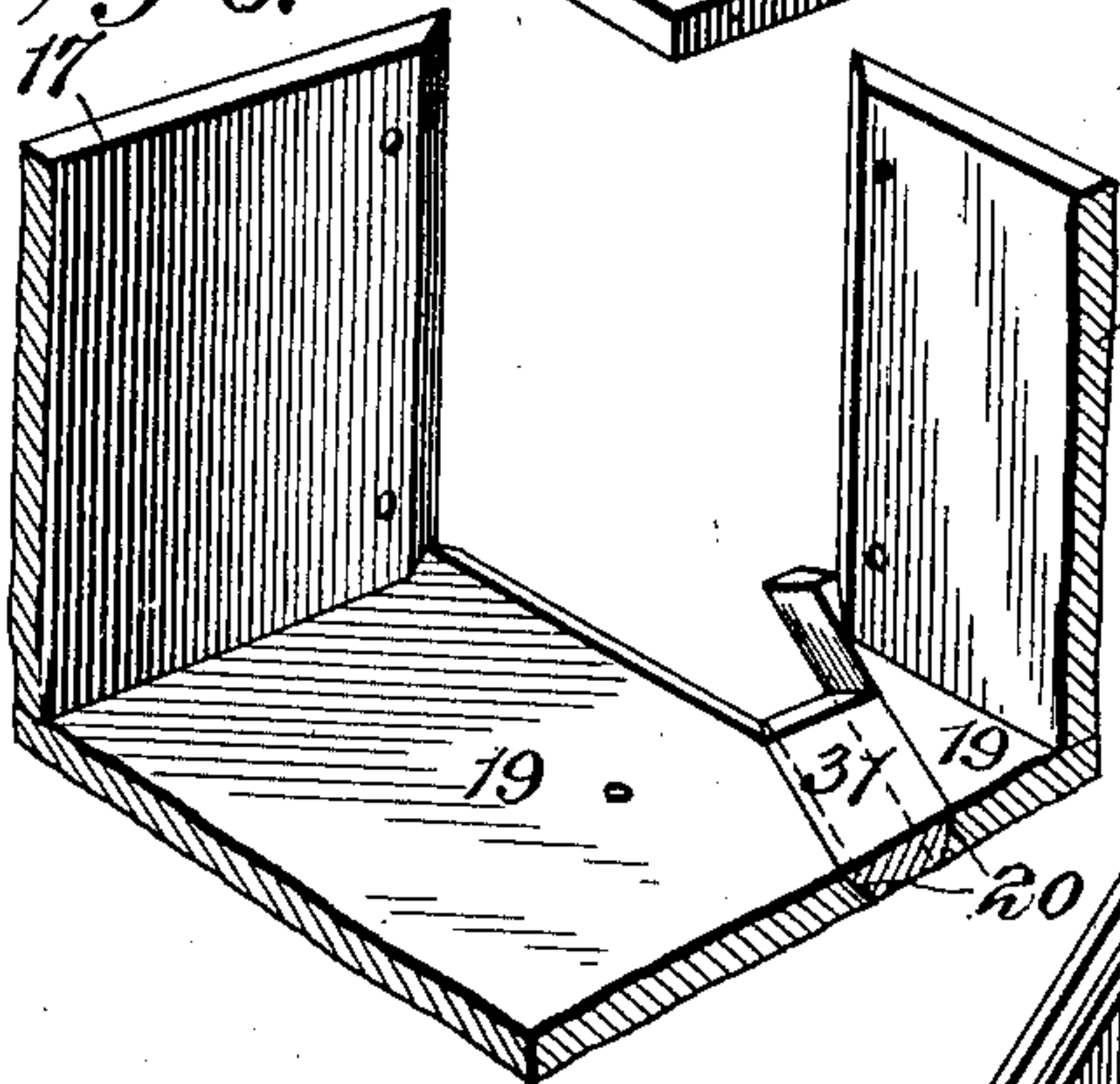
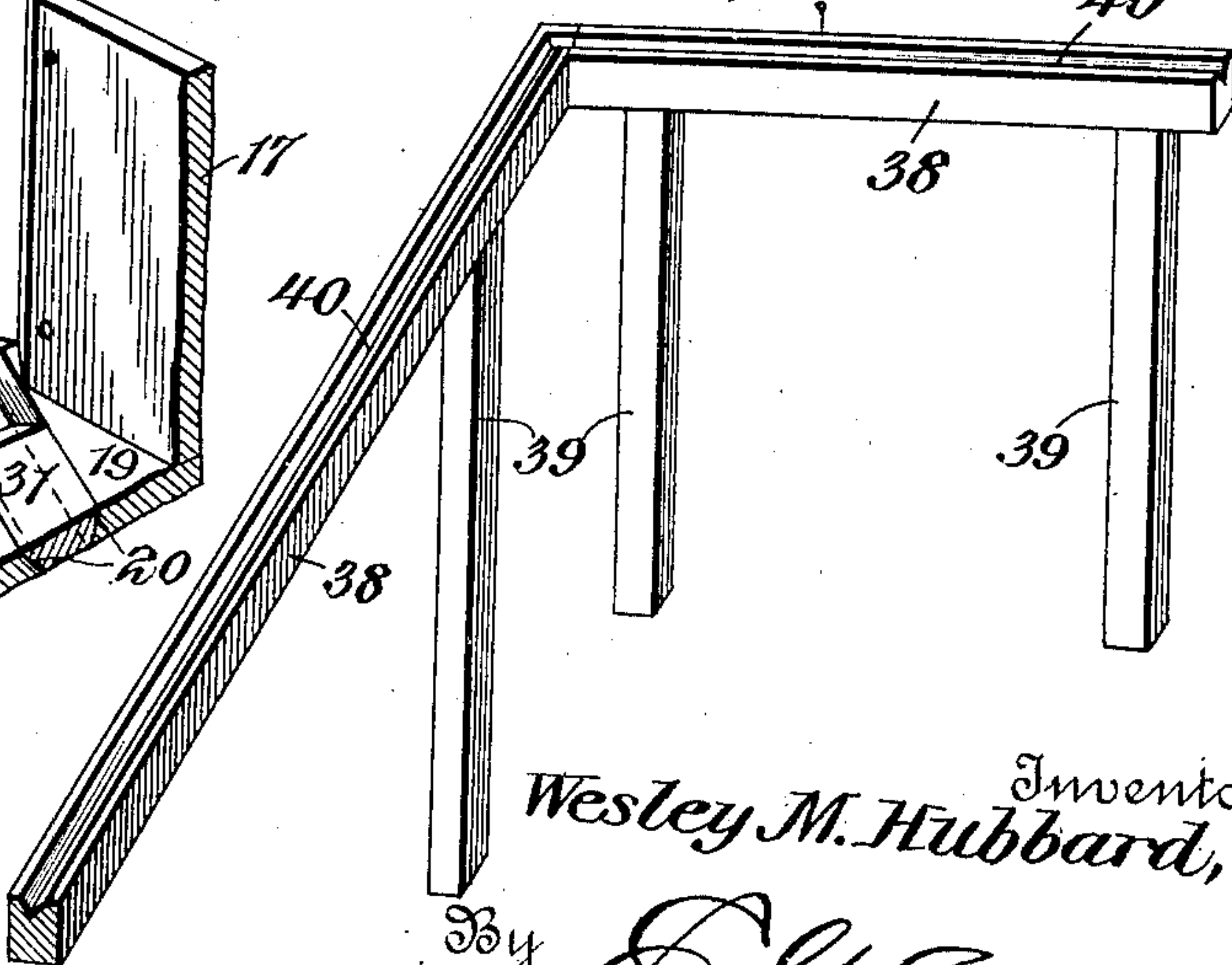


Fig. 10.



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UNITED STATES PATENT OFFICE.

WESLEY MARVIN HUBBARD, OF CLEVELAND, NEW YORK.

MOLD.

No. 829,586.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed October 20, 1905. Serial No. 283,673.

To all whom it may concern:

Be it known that I, WESLEY MARVIN HUBBARD, a citizen of the United States, residing at Cleveland, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Molds, of which the following is a specification.

This invention relates to concrete articles—such as sarcophagi, burial-vaults, and the like—but the same is not necessarily limited to this particular use.

The primary object is to provide a novel and comparatively simple structure that will effectively hold its shape during the molding operation and which can be readily collapsed and dismembered in order to disengage it from the molded article without injury thereto.

A further object is to provide means for positively moving certain of the parts without shock or jar out of engagement with the article, thus eliminating the danger of checking, cracking, or breaking such article.

Still another and important object is to provide a simple mold which may be employed for manufacturing both the body and cover of the vault or other box without materially altering any of the parts.

An embodiment of the invention that is at present considered preferable is disclosed in the accompanying drawings, wherein—

Figure 1 is a top plan view of the mold when set up. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a cross-sectional view. Fig. 4 is a top plan view showing the core collapsed. Fig. 5 is a sectional view through the core, taken substantially on the line 5 5 of Fig. 1. Fig. 6 is a perspective view of one of the corner-pieces. Fig. 7 is a bottom plan view of the same. Fig. 8 is a perspective view showing one of the open corners of the mold with the corner-piece removed. Fig. 9 is a cross-sectional view showing the relation of parts when a cover is formed. Fig. 10 is a perspective view of certain of the filler-bars.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a pallet 11 is employed on which the mold proper is supported. This mold includes outer angularly-disposed side and end walls 12 and 13, the latter being provided in their inner sides with seats 14, receiving the ends of the former. The side walls are provided with longitudi-

nally-projecting stud-bolts 15, that pass through the ends of the end walls 13 and receive holding-nuts 16. It will thus be apparent that the outer walls can be rigidly, but detachably, secured together, and when set up and placed upon the pallet they preferably terminate short of the edges thereof. A core is also provided, said core being in the form of a sectional boxing having side walls 17 and end walls 18, each end wall being rigidly secured to one of the side walls and terminating short of the other, thus leaving diagonally opposite open corners, as will be apparent by reference to Fig. 4. A bottom is also provided for the core and is composed of sections 19, the line of division being between the diagonally opposite open corners and the inner edges of the sections being spaced apart and beveled, as shown at 20. The mold-sections are connected by swinging links 21, pivoted at their ends to said sections, and thus permitting the swinging of the sections toward and from each other. A steady positive movement of the sections toward each other is secured by a connection consisting of draft-bars 22, the outer ends of which are connected, as shown at 23, to the diagonally opposite closed corners of the core-sections, the inner ends of the bars being connected by a turnbuckle 24, having a threaded engagement 25 with said inner ends.

For the purpose of completing the side walls of the core corner-pieces 26 are employed, which fill the open corners and constitute, in effect, continuations of the walls, these corner-pieces being carried by angular reinforcing-plates 27, that overlap the walls 17 and 18 and are detachably secured thereto by screws or other fasteners 28. Bottom plates 29 are carried by the reinforcing-plates 27 and have depending portions 30, that close the ends of the space between the core-sections. This, it is thought, will be clear by reference to Figs. 5, 7, and 8. The remainder of the space between the bottom sections 19 of the core is filled by a strip comprising sections 31, the opposite edges of which are beveled to correspond to the beveled edges of the sections 19, the outer ends of the sections 31 being engaged beneath the bottom plates 29 of the corner-pieces and their inner ends being disposed beneath a holding-plate 32, detachably secured by fasteners 33 to the bottom sections 19 and the inner end of the strip-sections 31. Turn-buttons 34 may also be employed to main-

tain the intermediate portions of the strip-sections 31 in position.

For the purpose of properly positioning and supporting the core between the outer walls cross-bars 35 are employed which are pivotally and detachably connected, as shown at 36, to the side walls 17 of the core and rest upon the upper edges of the outer side walls 12. These cross-bars are preferably disposed directly over the swinging links 21, and the pivot-axes of said links are preferably coincident with the axes of the fasteners 36. The ends of the cross-bars 35 project beyond the outer side walls, and through the same are passed tie-bolts 37, that also pass through the pallet 11, thus clamping all the parts securely against relative movement upon said pallet.

In molding the body of a sarcophagus, vault, or box the parts are placed in the positions and relations illustrated in Figs. 1, 2, and 3, and it will be observed by reference to Figs. 2 and 3 that inasmuch as the core is of less depth than the outer walls the bottom thereof is supported above the pallet. The material is then poured into the space between the side walls and filling the same and the space between the bottom and pallet will be formed into the article. While plain flat side walls are shown in order to avoid confusion, it will be evident that the configuration thereof may be altered to form pleasing and ornamental designs. After filling the mold the top is smoothed off, and when the water has run out, so that the inner mold will not float, the cross-bars 35 are detached and a V-shaped groove is formed in the top edge of the article, as shown in Figs. 2 and 3. The cross-bars are then replaced and the corner-pieces, as well as the strips 31, are detached, this being readily accomplished by removing the fasteners, which will permit the said corner-pieces and strips to be taken out. The turnbuckle 24 is then tightened slightly to eliminate the binding engagement between the core and the article, and thereby avoid hair-cracks in the latter by permitting the cement to contract without interference. When the concrete is sufficiently hardened, the turnbuckle is again operated, which will cause the mold-sections to be positively and evenly moved toward each other because of the swinging link connections 21 and the cross-bars 35, that now act the same as said links. The core is thereby completely disengaged from the side walls and may be readily lifted out, for it will have been materially contracted, as shown in Fig. 4. The outer walls are then detached, leaving the completed body. The mold may also be employed for forming the tops, and no alteration of the parts is required. To form such tops, the outer walls are set up in the ordinary manner, as is also the core. Said core is, however, placed in a reverse

position between the side walls and rests directly upon the pallet with the bottom uppermost, as illustrated in Fig. 9. The said bottom will thus be below the upper edges of the outer walls, and the spaces between the side walls of the core and the outer side walls are closed by filler-bars 38, that fit snugly between said walls and are supported flush with the upper face of the core-bottom by standards 39, resting upon the pallet. The upper faces of the filler-bars 38 have longitudinally-disposed grooves 40, that are V-shaped in cross-section. When the parts are arranged as shown in Fig. 9, the material is poured upon the bottom until it is flush with the upper edges of the outer walls. Thus a top is formed corresponding in size to the body and having ribs in its under margins which will fit in the grooves formed in the upper edge of the body. It will thus be seen that a simple structure is provided which will effectually hold its shape during the molding operation and which can be readily collapsed and dismembered in order to disengage it from the article without injuring the same. Furthermore, the mold can be employed for forming both the body and cover of a vault or other box. It is also to be observed that the parts are simple and are of a nature that will withstand the pressure and rough usage incident to the manufacture of concrete and similar structures. There is nothing of a delicate or unsubstantial nature that is liable to derangement.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a mold of the character described, the combination with outer walls, of an angular core divided, between two diagonally opposite corners, into sections, and means connecting the other diagonally opposite corners of the different sections for moving the sections toward each other.

2. In a mold of the character described, the combination with outer walls, of a core comprising an angular boxing divided between two diagonally opposite corners into sections, draft-bars connecting the other diagonally opposite corners of the different sections, and a turnbuckle connection between the draft-bars.

3. In a mold of the character described, a

boxing having diagonally opposite open corners and comprising side walls and a bottom, said bottom being diagonally divided between the open corners into sections that are spaced apart and are carried by the side walls, detachable corner-pieces located in the open corners, and detachable means filling the space between the bottom-sections.

4. In a mold of the character described, a boxing having diagonally opposite open corners and comprising side walls and a bottom, said bottom being divided between the open corners into sections that are spaced apart, each having beveled opposing inner edges, detachable corner-pieces located in the open corners and secured to the adjacent walls, and a detachable strip filling the spaces between the bottom-sections and having its edge beveled to correspond to the beveled edges of said sections.

5. In a mold of the character described, the combination with detachably-connected outer walls, of a core located between the outer walls and comprising a boxing having diagonally opposite open corners, said boxing consisting of angularly-disposed side walls and a bottom, said bottom being divided between the open corners into sections that are spaced apart and having beveled opposing inner edges, detachable corner-pieces closing the open corners and detachably secured to the adjacent walls, said corner-pieces having depending portions engaging in the ends of the open space between the bottom-sections, strip-sections filling the remainder of the space between the bottom-sections and having beveled edges, and means for detachably securing the strip-sections in place.

6. In a mold of the character described, an angular boxing comprising side walls and having diagonally opposite open corners forming said boxing into sections, a bottom diagonally divided between the open corners into sections, said sections being carried by the boxing-sections, and means connecting the boxing-sections to move them and the bottom-sections toward each other.

7. In a mold of the character described, an angular boxing comprising side walls and having diagonally opposite open corners forming said boxing into sections, a bottom diagonally divided between the open corners into sections, said sections being carried by the boxing-sections, and means connecting the other opposite diagonal corners of the boxing-sections to move them and the bottom-sections toward each other.

8. In a mold of the character described, an angular boxing comprising side walls and having diagonally opposite open corners forming said boxing into sections, a bottom diagonally divided between the open corners into sections, said bottom-sections being carried by the boxing-sections, draft devices

connected to the other diagonally opposite corners of the boxing-sections, and a turnbuckle connecting the draft devices, said devices and turnbuckle extending across the joint between the bottom-sections.

9. In a mold of the character described, the combination with a boxing comprising angularly-disposed walls, said boxing having open corners dividing the same into sections, of a bottom divided between the open corners into sections, said bottom-section being carried by and movable with the boxing-section, a link pivoted to the sections and bridging the joint between the bottom-sections for swinging the boxing, and bottom-sections carried thereby, toward and from each other.

10. In a mold of the character described, the combination with a boxing comprising angularly-disposed walls, said boxing having diagonally opposite open corners dividing the same into sections, of a bottom diagonally divided between the open corners into sections, said bottom-sections being carried by and movable with the boxing-sections, and links pivoted to the bottom-sections and bridging the joint between the same for swinging the boxing and bottom sections toward and from each other.

11. In a mold of the character described, the combination with a boxing comprising angularly-disposed walls, said boxing having diagonally opposite open corners, of a bottom diagonally divided between the open corners into sections that are carried by the boxing-sections, means connecting the diagonally opposite closed corners of the boxing-sections for moving said sections toward each other, and links pivoted to the bottom-sections and bridging the joint between the same for swinging the sections toward each other when the moving means is operated.

12. In a mold of the character described, the combination with a boxing comprising side walls, said boxing having open corners, of a bottom diagonally divided between the open corners into sections that are spaced apart, means detachably located between the bottom-sections for filling the space therebetween, and corner-pieces detachably fitted in the corners and engaging said filling means.

13. In a mold of the character described, the combination with a boxing comprising side walls, said boxing having open corners forming sections, of a bottom diagonally divided between the corners into sections that are carried by the boxing-sections and having their inner edges spaced apart, a strip located between the bottom-sections for filling the space therebetween, and corner-pieces detachably fitted in the corners of the boxing and having retaining foot portions that engage over the ends of the strip.

14. In a mold of the character described, the combination with a boxing comprising

side walls, said boxing having open corners forming sections, of a bottom divided between the corners into sections that are spaced apart and are carried by the boxing-sections, strip-sections located between the bottom-sections and filling the space therebetween, and means for securing the strip-sections in place, said means including turnbuckles engaging said sections and carried by the bottom-sections.

15. In a mold of the character described, the combination with a boxing comprising side walls, said boxing having open corners, of a bottom divided between the corners into sections that are spaced apart and are carried by the boxing-sections, strip-sections fitted between the bottom sections, a plate secured to the bottom-sections and extending over the joint between the strip-sections, retaining devices engaging intermediate portions of the strip-sections, and corner-pieces detachably fitted in the open corners of the boxing and having foot portions that are located between the bottom-sections and engage over the strip-sections.

16. In a mold of the character described, a core-boxing comprising angularly-disposed side walls and a bottom, said bottom being divided between diagonally opposite corners of the boxing into sections and said sections being carried by and movable with the side walls, links pivotally connecting the sections and permitting the movement thereof toward each other, draft-bars connected to the boxing at their diagonally opposite corners, and a turnbuckle connection between the draft-bars.

17. The combination with a mold, comprising outer walls and core-walls located between the outer walls and spaced therefrom, of filler-bars that detachably fit between the outer and core walls and contract the spaces therebetween.

18. The combination with a mold comprising outer walls and a core that is arranged to be placed between the outer walls, said core having side walls and a bottom and being reversible to bring the bottom uppermost, of filler-bars that detachably fit between the outer and core walls and contract the space therebetween.

19. In a mold of the character described, the combination with a pallet, of detachably-connected outer walls, a core located between the outer walls and comprising a reversible boxing, means for supporting the core between the outer walls when said core is in one position, and filling-bars that fit between the core and outer walls when the core is reversed, said bars having standards that rest upon the pallet.

20. In a mold of the character described, the combination with a pallet, of outer walls that rest on the pallet, of a core located between the outer walls and comprising a re-

versible boxing having a bottom, means for supporting the core between the outer walls with the bottom at the lower side thereto and in spaced relation to the pallet, said core when reversed being arranged to rest upon the pallet with the bottom uppermost, filling-bars fitted between the core and outer walls when the core is in its latter position, and means for supporting the bars above the pallet.

21. In a mold of the character described, the combination with a pallet, of detachable outer walls located thereon, a core that detachably fits within the outer walls and comprises side walls and a bottom, and cross-bars pivotally connected to the core and resting on the outer walls to support the core above the pallet, said core comprising sections movable toward each other and connected by the cross-bars, and said sections moving toward each other on the swinging movement of the bars in one direction.

22. In a mold of the character described, the combination with a pallet, of detachable outer walls located thereon, a core that detachably fits within the outer walls and comprises side walls and a bottom, cross-bars connected to the core and resting on the outer walls to support the bottom above the pallet, and tie-rods connecting the outer ends of the cross-bars and the pallet outside the outer walls, said tie-rods clamping the outer walls upon the pallet and preventing the upward movement of the core.

23. In a mold of the character described, the combination with outer walls, of a core located therebetween and comprising sectional side walls and a bottom carried by the side walls, links pivoted to the lower portions of the sections, supporting cross-bars pivoted to the outer portions of the sections, said cross-bars extending beyond the core and resting on the outer walls to support the bottom of the core above the lower edges of the outer walls, said supporting-bars and links swinging the core-sections toward each other on their swinging movement in one direction.

24. In a mold of the character described, the combination with a pallet, of outer mold-walls located thereon, a core located between the outer walls and comprising sections, links pivoted to the lower portion of the sections, supporting cross-bars pivoted to the upper portions of the sections, said cross-bars extending beyond the core and resting on the outer walls to support the core above the pallet, said links and cross-bars swinging the core-sections toward and from each other on their swinging movement, and tie-rods connecting the pallet to the cross-bars outside the outer walls.

25. In a mold of the character described, the combination with a pallet, of detachably-associated outer walls mounted thereon, an angular core comprising side walls and a bot-

tom carried by the side walls, said core being
divided between diagonally opposite corners
and through the bottom into separate sec-
tions, links pivotally connecting the core-sec-
5 tions, supporting cross-bars pivotally con-
necting the core-sections and extending be-
yond the same, said cross-bars resting on the
outer walls and projecting outside said walls,
a filling-strip fitted between the bottom sec-
10 tions of the core, corner-pieces detachably

mounted in the corners of the core and engag-
ing the filling-strip, and tie-bolts connecting
the projecting ends of the supporting cross-
bars and the pallet.

In testimony whereof I affix my signature 15
in presence of two witnesses.

WESLEY MARVIN HUBBARD.

Witnesses:

C. GETMAN,
H. D. KELSEY.

It is hereby certified that in Letters Patent No. 829,586, issued August 28, 1906, upon the application of Wesley Marvin Hubbard, of Cleveland, New York, for an improvement in "Molds," an error appears in the printed specification requiring correction, as follows: On page 2, the words "the combination with outer walls, of a core," comprising line 123, should be stricken out; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 18th day of September, A. D., 1906.

[SEAL.]

E. B. MOORE,
Acting Commissioner of Patents.