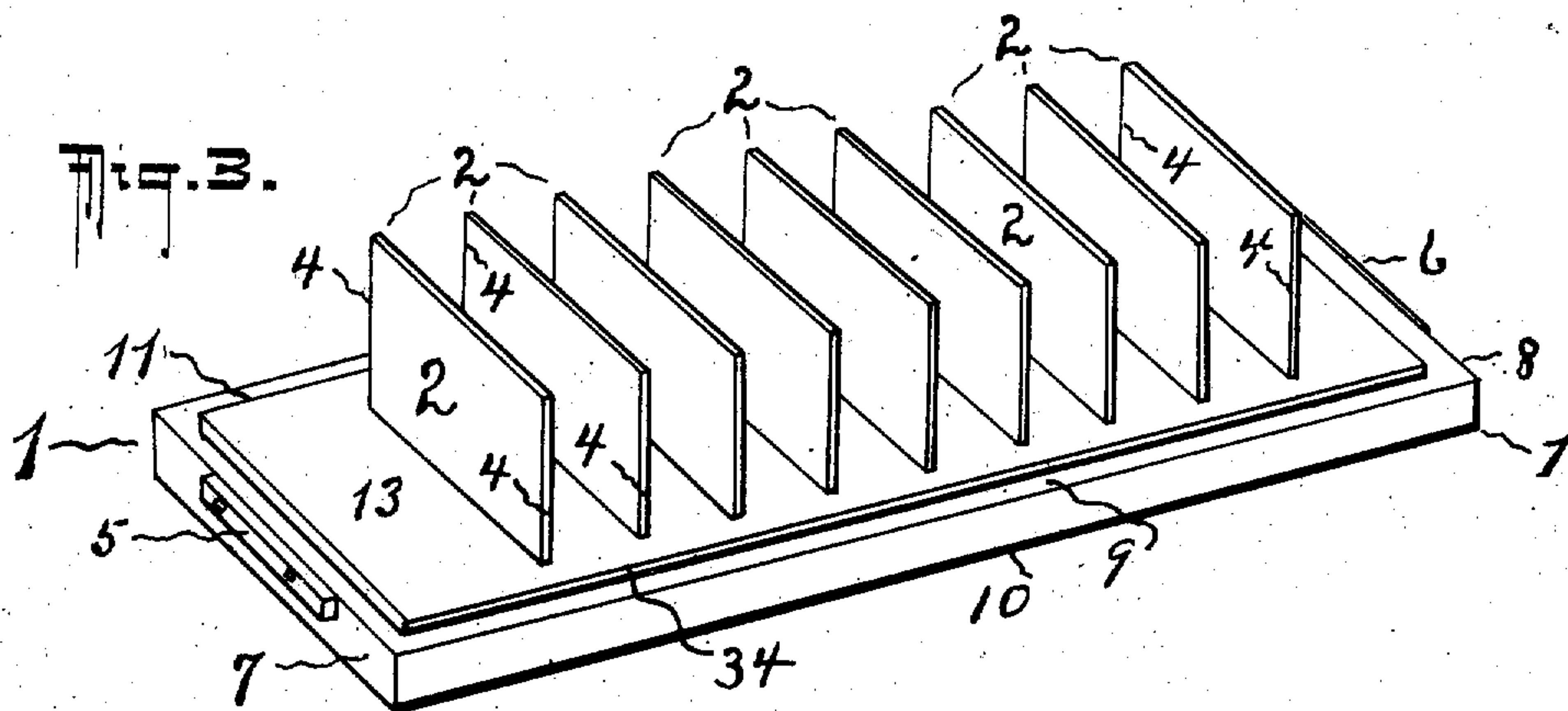
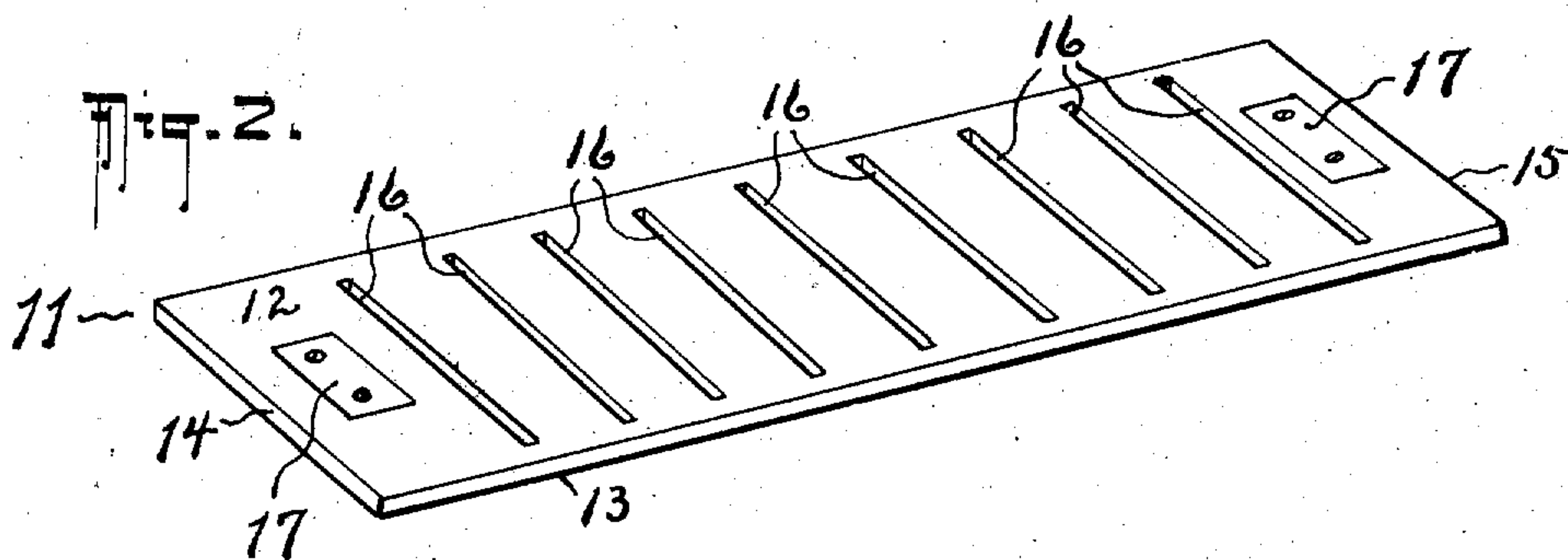
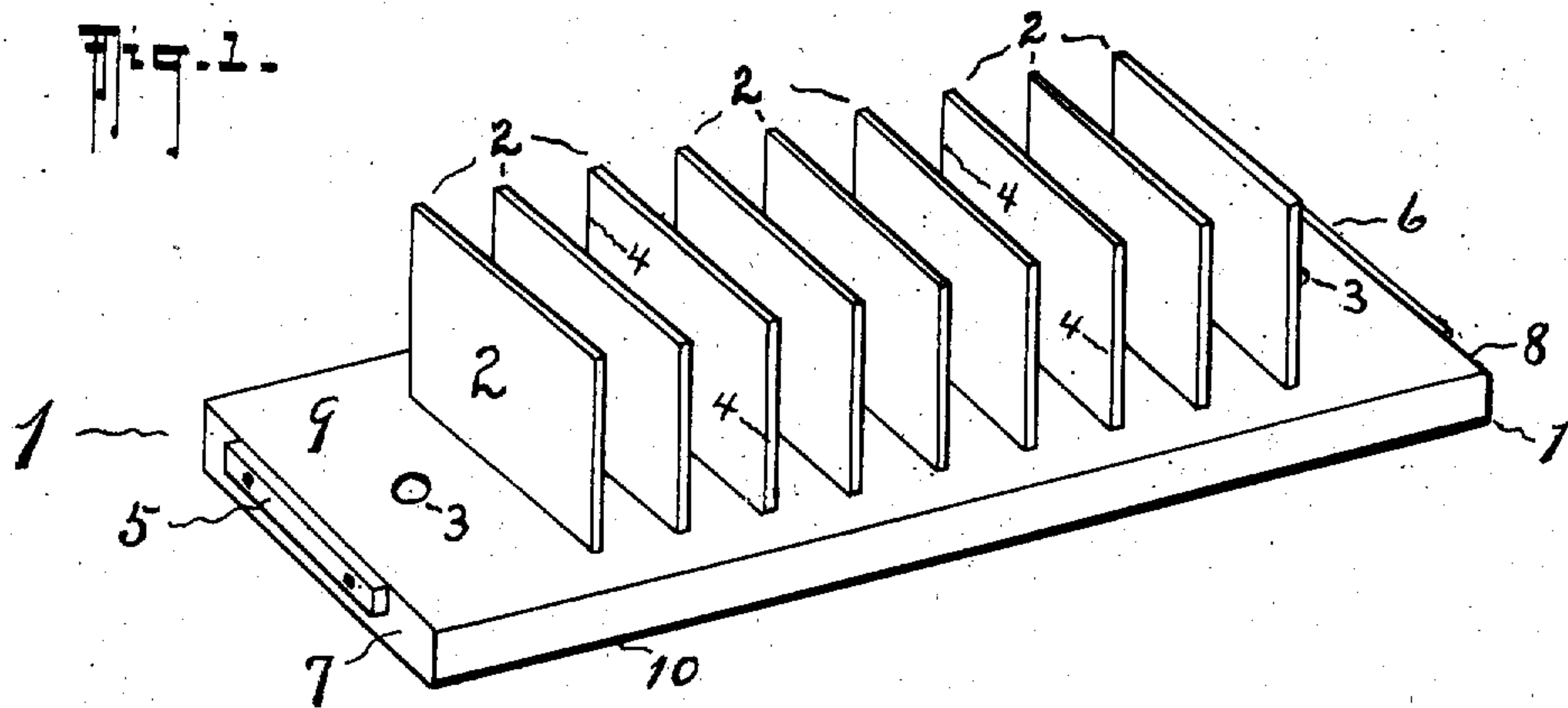


No. 843,087.

PATENTED FEB. 5, 1907.

T. G. JENSEN.
BRICK MOLDING MACHINE.
APPLICATION FILED APR. 11, 1906.

4 SHEETS—SHEET 1.



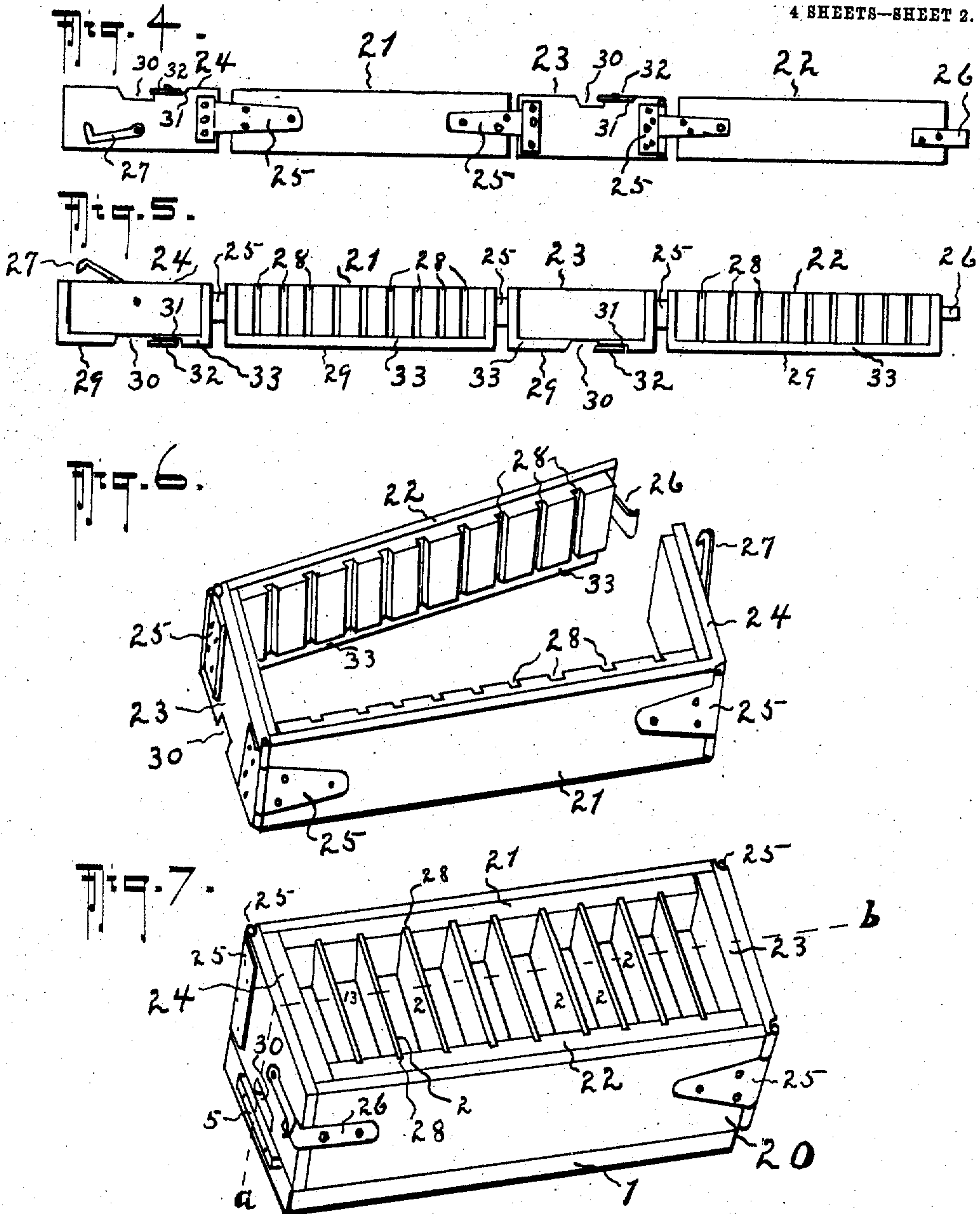
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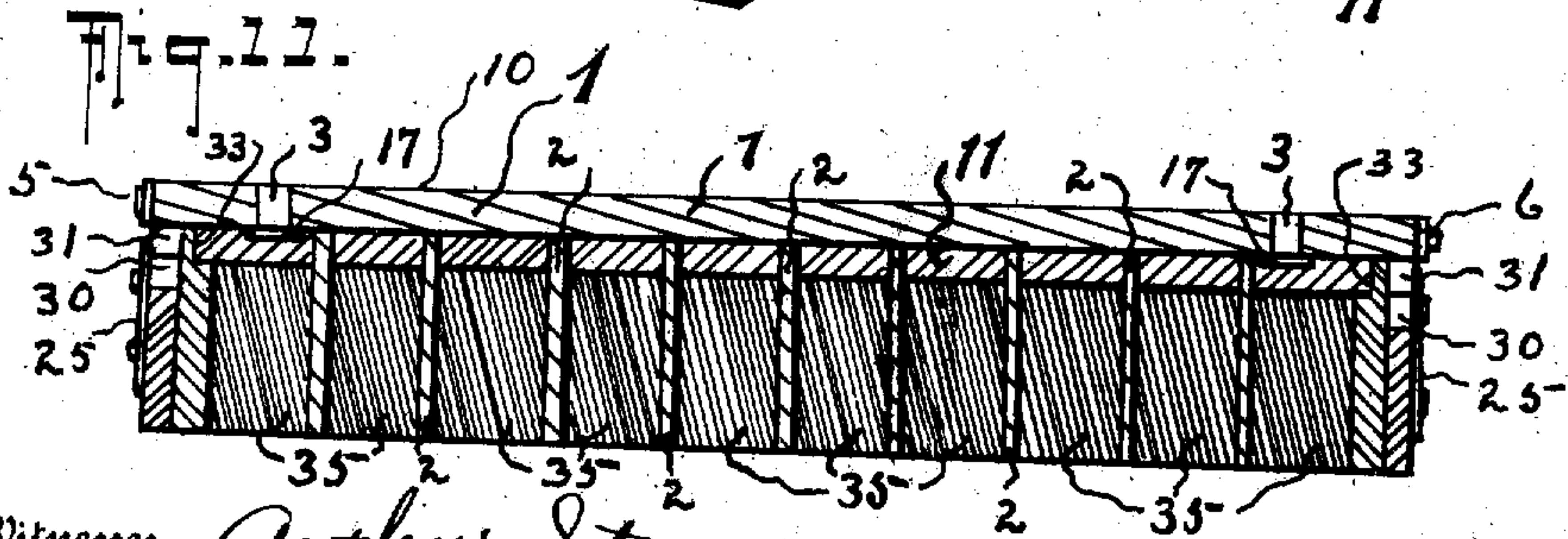
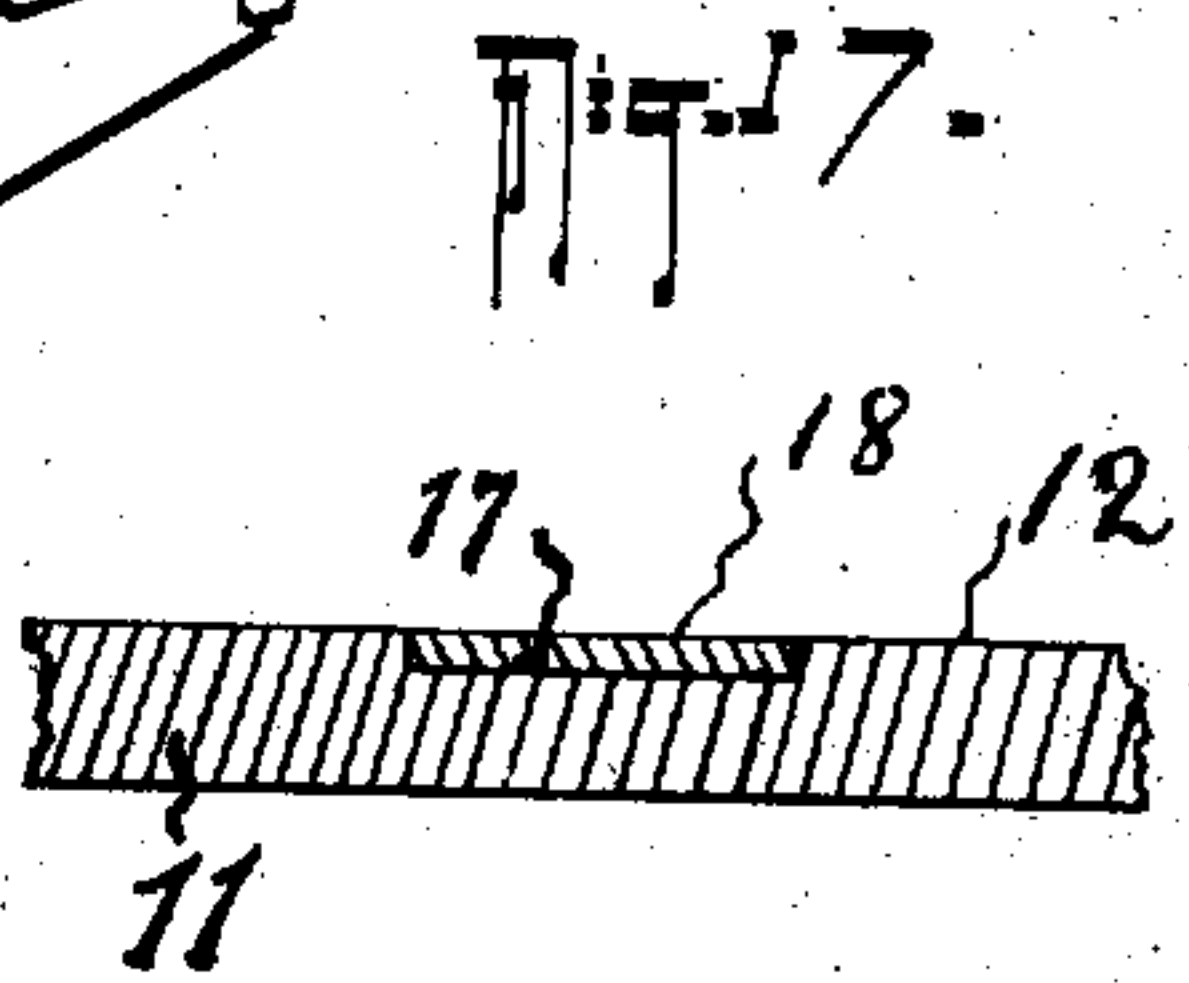
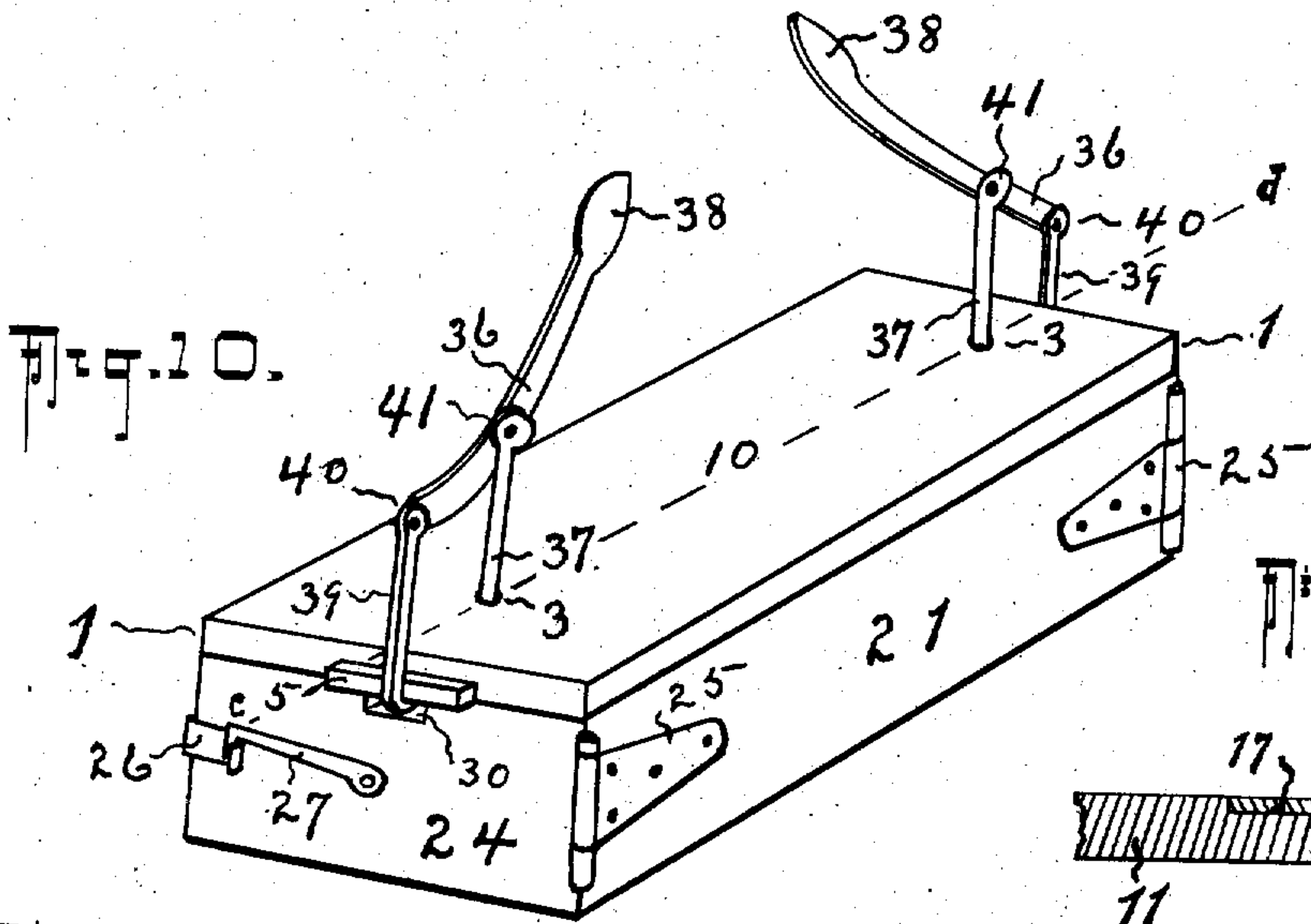
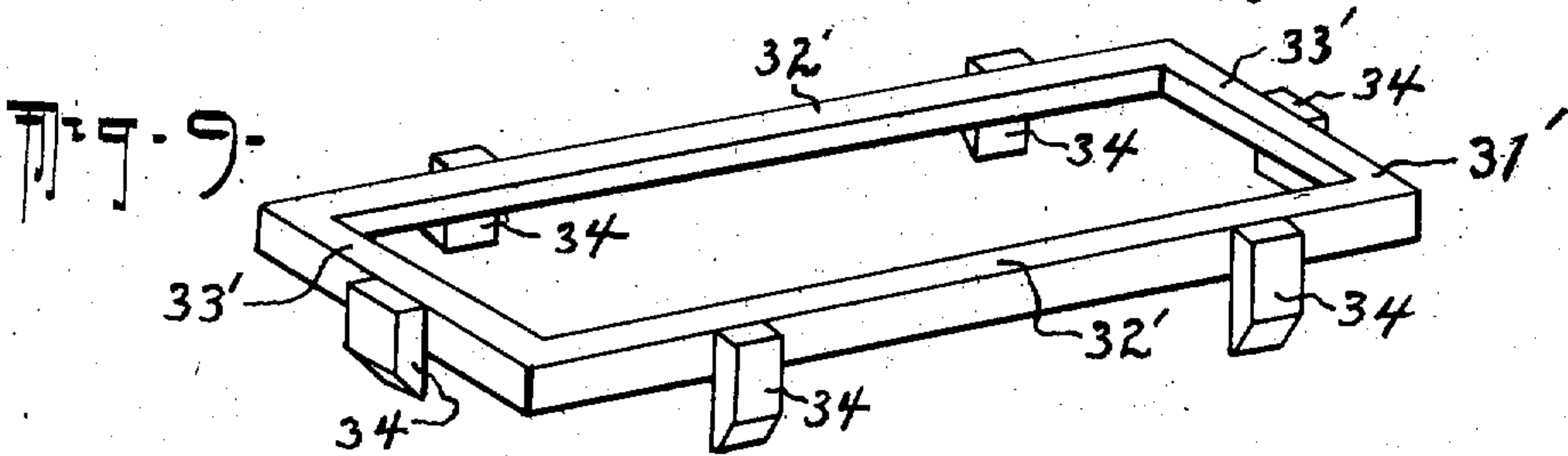
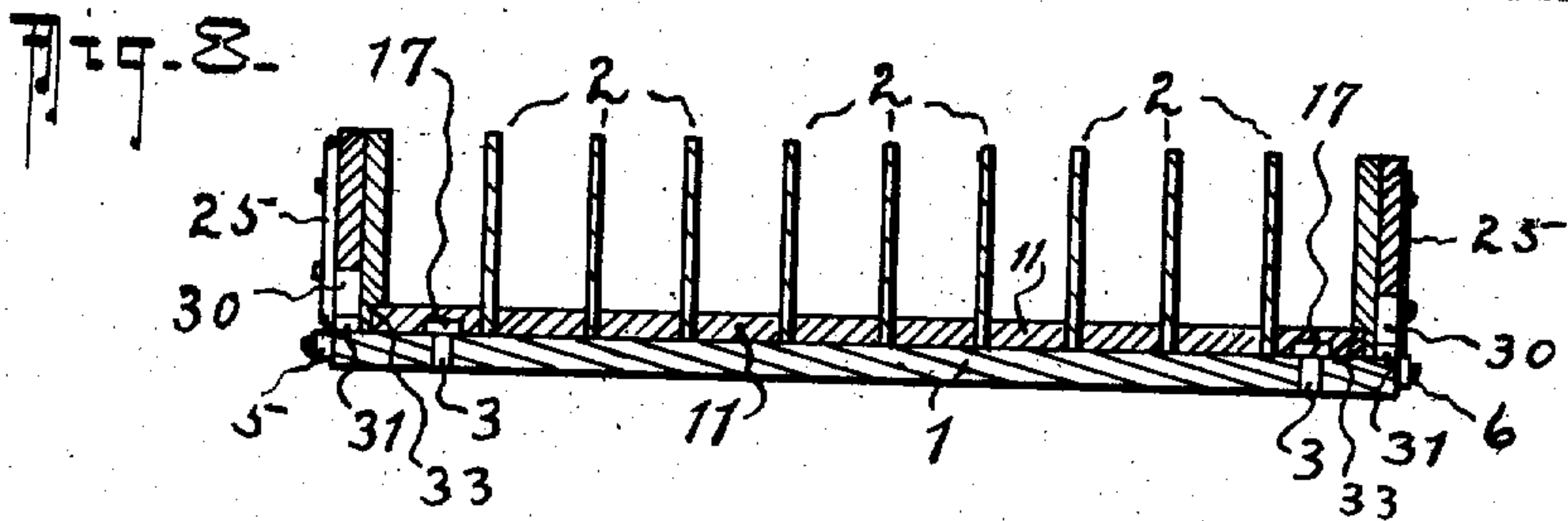
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4 SHEETS--SHEET 3.



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4 SHEETS—SHEET 4.

Fig. 12.

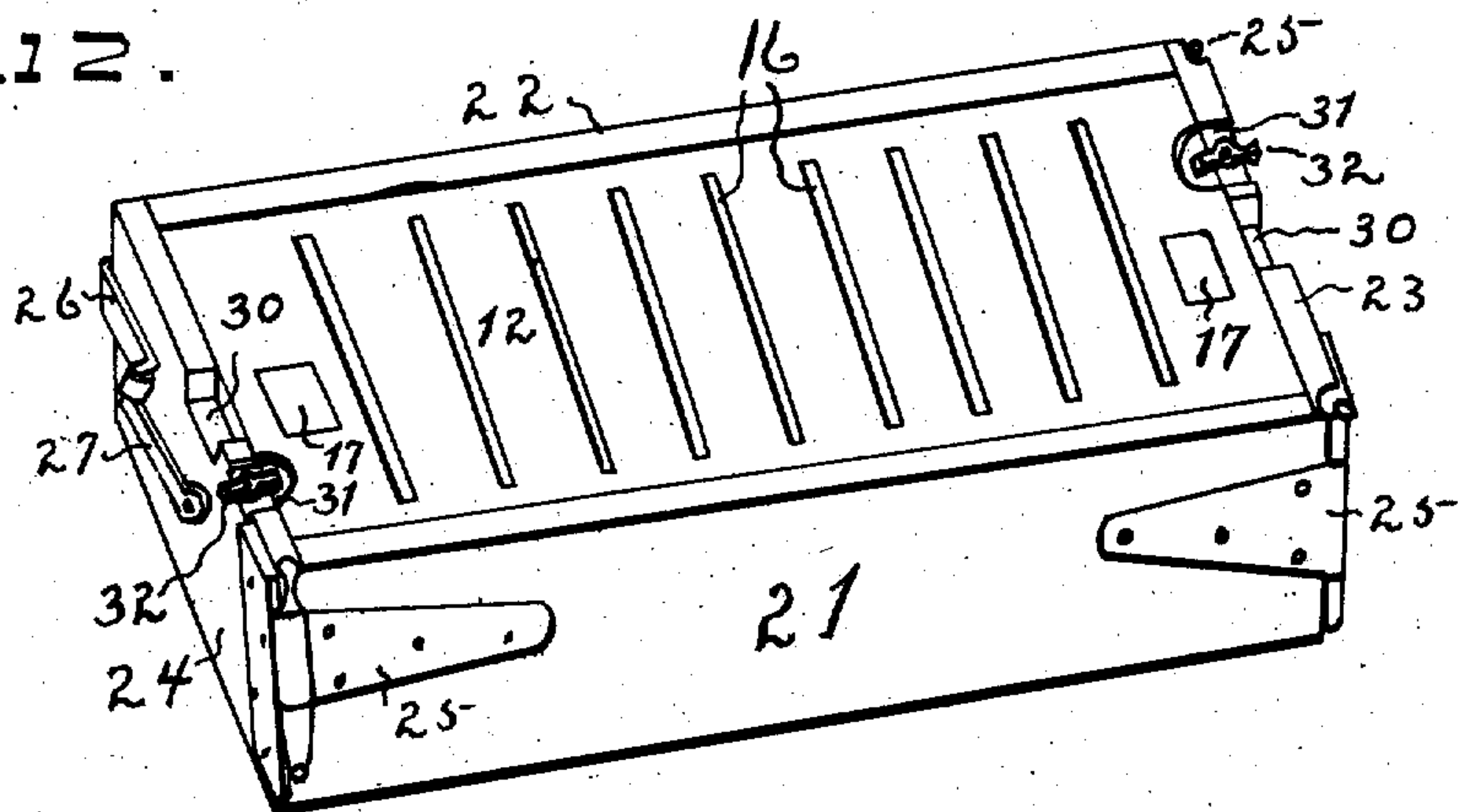


Fig. 13.

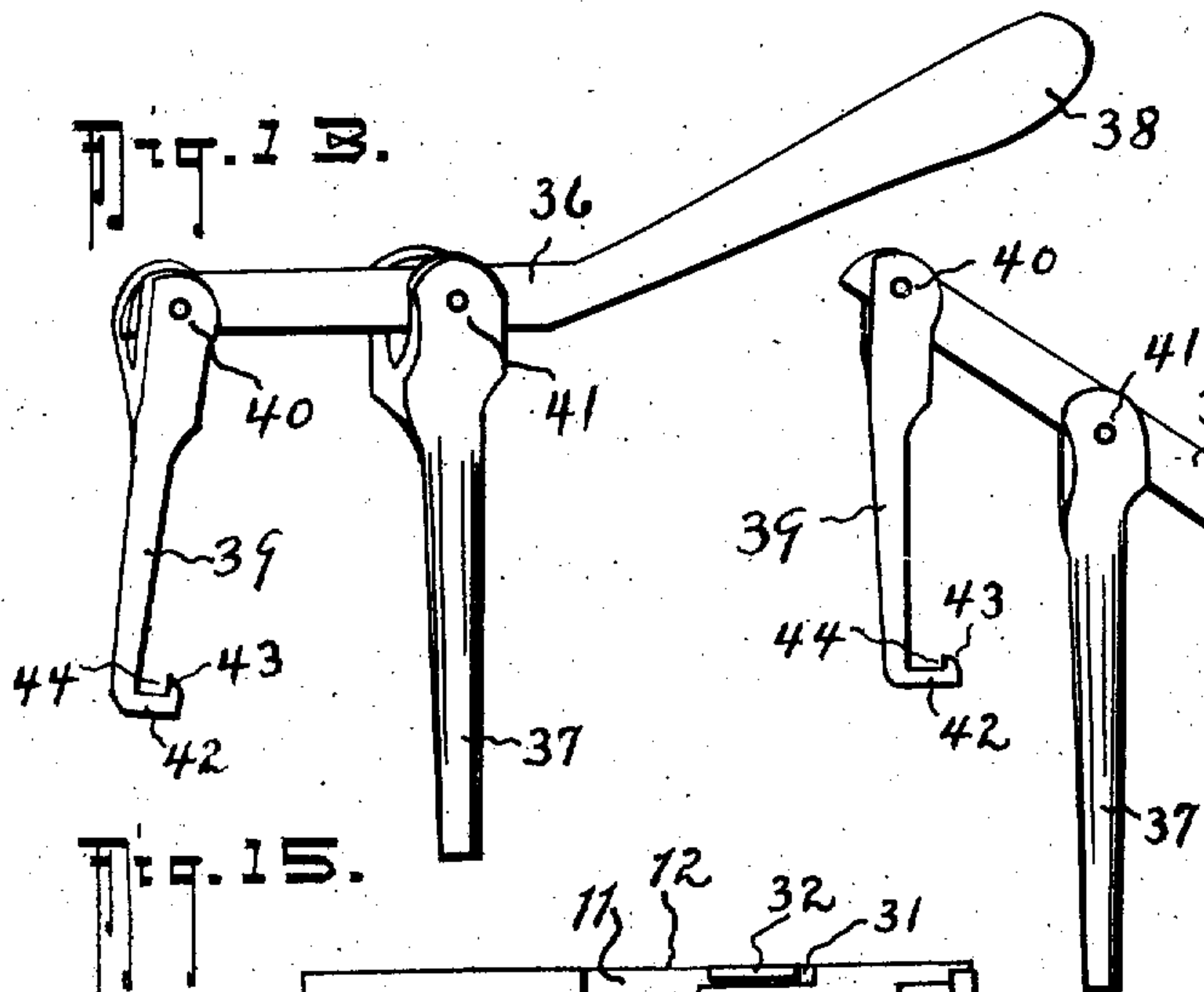


Fig. 14.

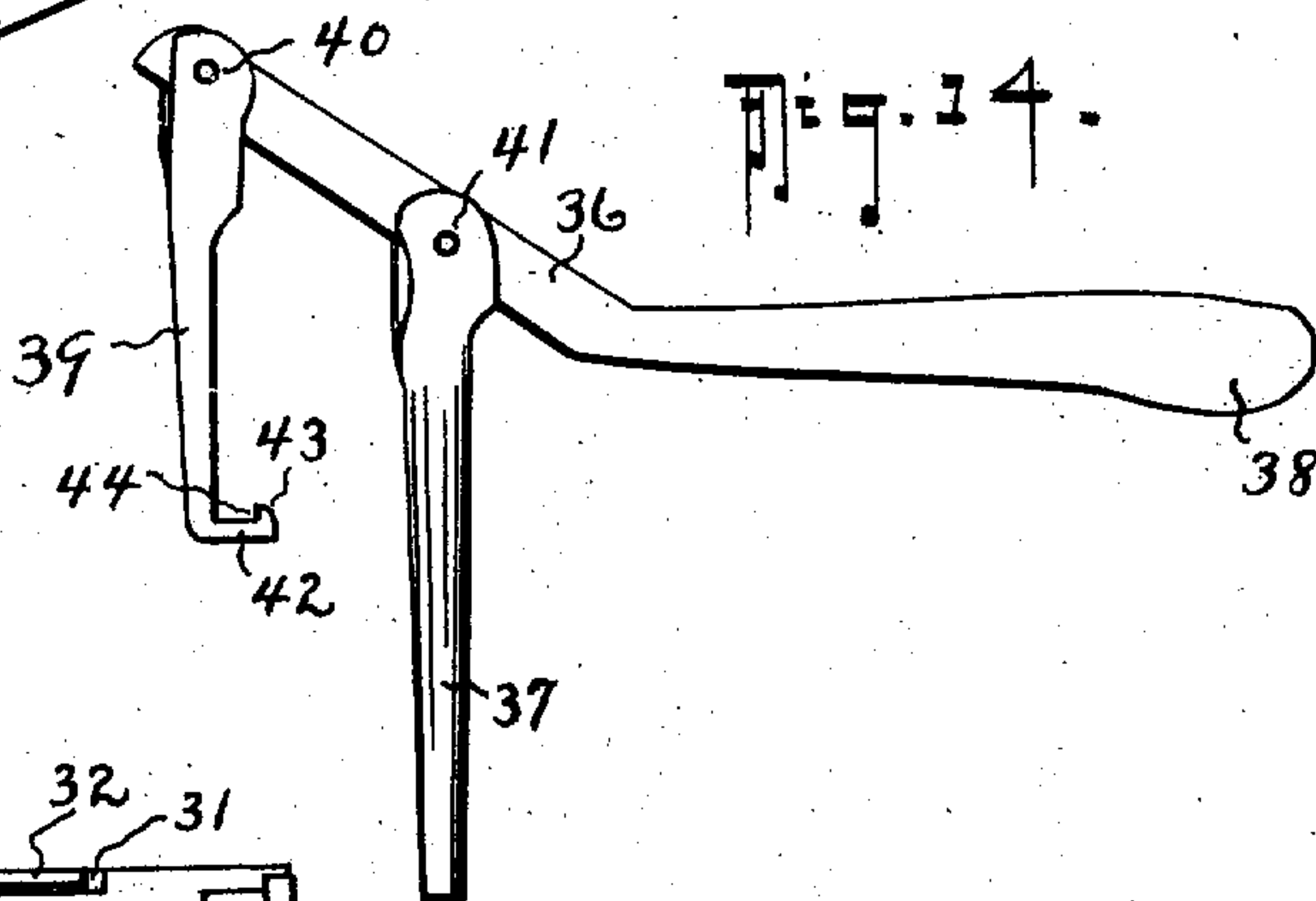


Fig. 15.

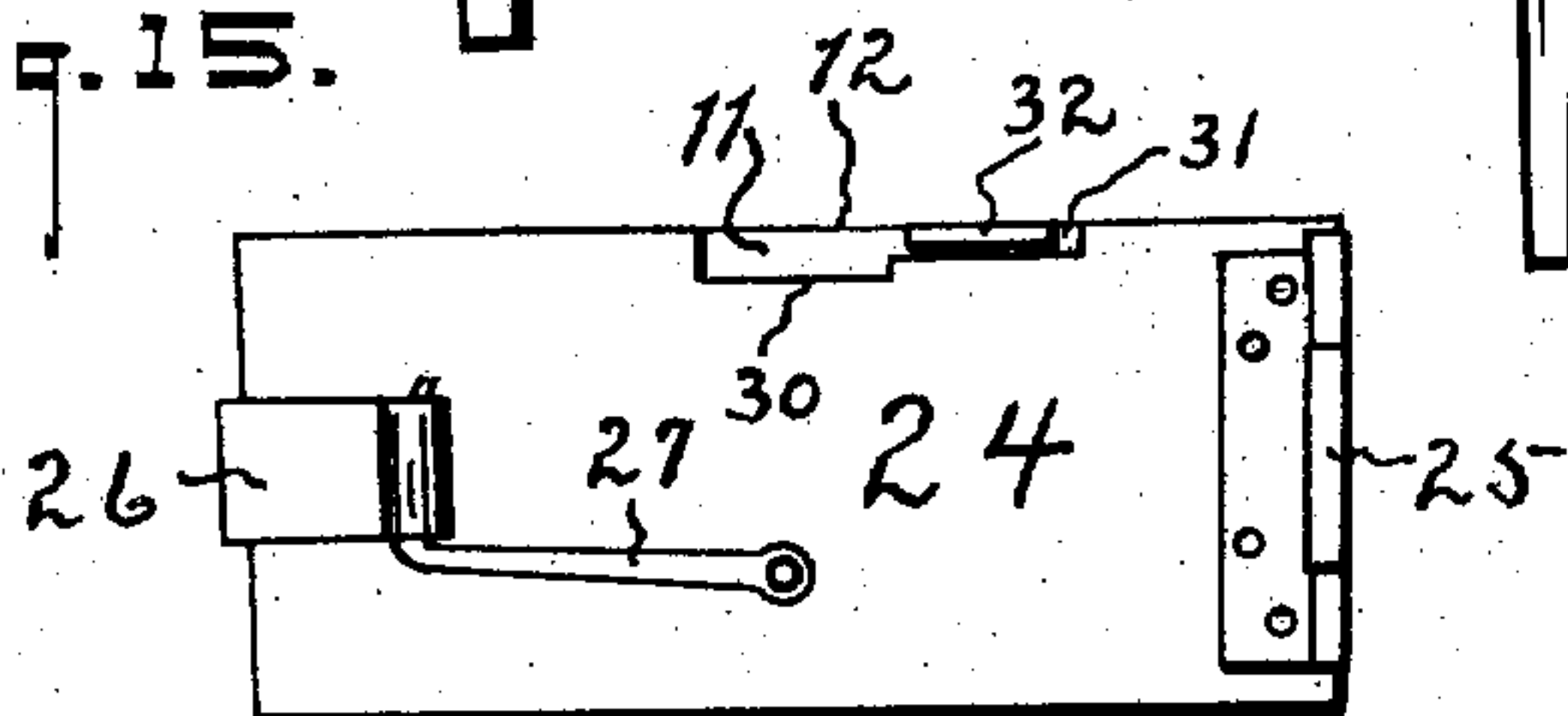
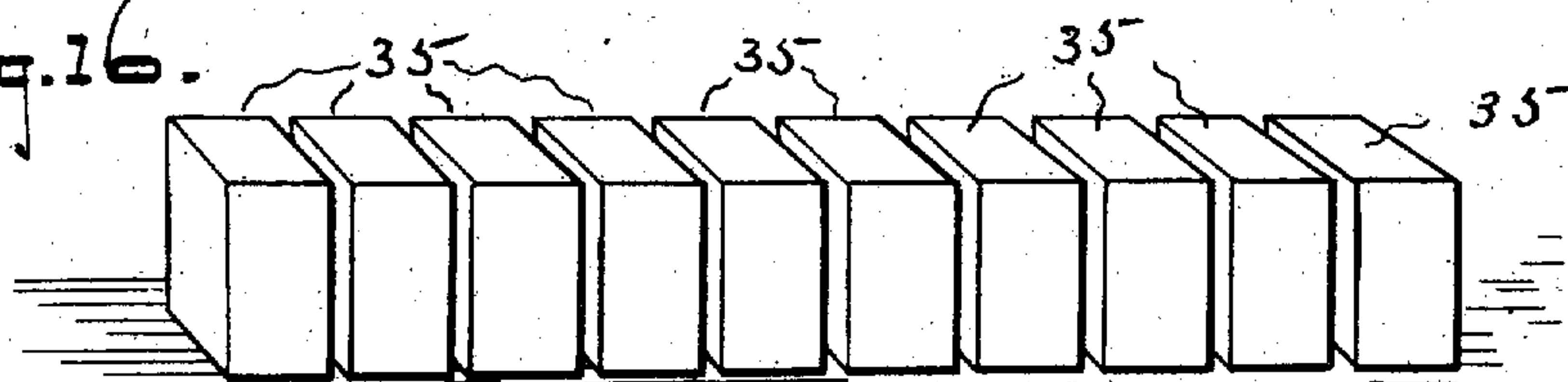


Fig. 16.



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UNITED STATES PATENT OFFICE.

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AND JENSEN, OF KIMBALLTON, IOWA, A PARTNERSHIP.

BRICK-MOLDING MACHINE.

No. 843,087.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed April 11, 1906. Serial No. 311,054.

To all whom it may concern:

Be it known that I, THORVALD G. JENSEN, a citizen of the United States, residing at Kimballton, in the county of Audubon and State of Iowa, have invented certain new and useful improvements in Brick-Molding Machines, of which the following is a specification.

This invention relates to brick-molding machines for use where cement or other adhesive material is used to form brick without employment of heat.

One of the objects of the invention is to provide a hand-machine of simple construction for manufacturing brick without heating, which shall be more simple and convenient than heretofore presented.

Another object is to provide means whereby a person may manufacture brick independent of the aid of another person. The means as illustrated has reference to rapidity in forming the brick and delivering them from the molds and refer especially to economy in machine construction.

The novel features of the invention are fully disclosed herein and illustrated by the drawings, wherein—

Figure 1 represents a vertical perspective view of the core and integral base-plate. Fig. 2 represents a perspective view of the lower surface of the apertured bed-plate inverted to show the bearing-plates mounted thereon. Fig. 3 is a vertical perspective view of the assembled core and bed-plate to show the apertured bed-plate in its normal position. Figs. 4 and 5 represent vertical horizontal views, respectively, of the outer and inner foldable sides and ends of the molding mechanism. Fig. 6 represents a perspective view of Fig. 5 in a partly-folded position. Fig. 7 is a perspective view of the parts shown in Figs. 3 and 6 assembled as a molding-box. Fig. 8 is a vertical horizontal view of the parts shown in Fig. 7 sectioned on the line *a b* thereof to show relative arrangement of parts, and Fig. 9 is a perspective view of the vertically-disposed packing-rim. Fig. 10 is a perspective view of the complete invention, showing core-lifters in position. Fig. 11 is a vertical horizontal view of certain parts shown in Fig. 10 sectioned on the line *c d* thereof. Fig. 12 is a perspective view showing the parts after re-

moval of base-plate and core (illustrated by Figs. 1 and 10) has been effected under operation of core-lifters and enclosing apertured bed-plate. Figs. 13 and 14 are perspective views of core-lifters. Fig. 15 represents an end view of Fig. 12 to show alignment of swivel mounting. Fig. 16 is a perspective view showing the finished product at time of dumping. Fig. 17 is a detail of Fig. 11 to show alignment of outer surface of bearing-plates with outer surface of bed-plate.

Referring to the numerals in the several drawings, 1 represents a base-plate having parallel sides 9 and 10, parallel ends 7 and 8, and on side 9 at right angles thereto and non-removably thereon is mounted the series of leaves 2, equally spaced apart and parallel as compared one with the other and having terminal ends 4. Near the ends 7 and 8 of the base-plate are formed apertures 3, which extend through the base-plate transversely as compared with sides 9 and 10, and upon the faces, respectively, of terminal ends 7 and 8 are rigidly mounted brackets 5 and 6, which extend parallel with sides 9 and 10.

The bed-plate 11 is provided with parallel sides 12 and 13. The apertures 16 in the bed-plate are parallel with ends 14 and 15 and parallel with each other, and upon side 12 of the bed-plate are rigidly mounted the bearing-plates 17, these bearing-plates being seated in bed-plate 11, so that the surfaces 18 will be upon the same plane as surface 12 of the bed-plate, Fig. 17. As thus constructed bed-plate 11 may be placed upon or removed from side 9 of base-plate 1, the series of leaves 2 passing within apertures 16, and it will be understood that the leaves operate as a mold-forming core, since the brick (except the two end bricks) are formed between these leaves.

As further devices the molding member (designated by the numeral 20, Fig. 7) is employed, having the sides 21 and 22 and ends 23 and 24, Figs. 4 and 5, held together rotatable, as by means of hinges 25, and having locking means upon the free ends, as staple 26 and catch-bolt 27, and transversely upon the inner surface of sides 21 and 22 are formed the series of parallel recesses 28, the inner surfaces of ends 23 and 24 being plain and smooth, and upon the lower edge of ends 23 and 24, Fig. 5, are chamfered the re-

cesses 30, also the recesses 31, and within each recess 31 is rotatably seated a locking means, as the swivel 32. As thus constructed the side and end pieces 21, 22, 23, and 24 may have an opening and closing movement, by reason of hinges 25, to form a rectangular box without top or bottom, the continuous chamfered groove 33, Figs. 5 and 6, being adapted to have a seating near the perimeter 34 of and upon the upper surface of bed-plate 11, Fig. 3, the lower edge 29 of these sides and ends resting upon the side 9 of base-plate 1, the openings 30 being closely adjacent to brackets 5 and 6, and these sides and ends may be locked, at which time the assembled parts will appear as shown by Fig. 7.

The normal position of the invention ready for filling is shown by Fig. 7, and in operation the material, containing a percentage of cement, sand, and moisture or other ingredient, is filled between ends 23 and 24 and the adjacent leaves 2 and between these leaves, and for this purpose the packing-rim 31', Fig. 9, may be used to advantage. This packing-rim is substantially a rectangularly-formed frame having the sides 32' and ends 33' adapted to have a seating upon and to practically cover the upper edges of sides and ends 21, 22, 23, and 24 of the molding member 20, Fig. 7, the brackets 34 passing over these sides and ends, so that the packing-rim will be sustained in operative position, thereby protecting these parts while tamping or filling the molds. The packing-rim is useful also as a strike for removal of excess material or polishing the exposed surface of the bricks after the molds have been filled.

After the molds have been filled, as described, the parts are inverted, as shown by Fig. 10, and a removal of base-plate 1 and leaves 2 is made from bed-plate 11, at which time the bed-plate 11 will be positioned, as shown by Fig. 12. This removal may be effectually made, as presently described, after which the series of brick 35 will rest upon the ground or upon a pallet, as desired. A force must be applied for the removal or separation of the parts, since friction and suction must be overcome, and for this purpose core-lifters 36 are used, the strut 37 thereof passing through apertures 3 of bed-plate 1 and resting upon bearing-plates 17 of bed-plate 11, Figs. 10 and 11. By pressing downward handles 38, pivotally mounted at 41, the levers 39, pivotally mounted at 40, will be elevated to a position shown by Fig. 14, thereby raising the base-plate 1 and causing a separation of this base-plate and leaves 2 from the series of brick and from bed-plate 11. Lever 39 is provided with a transversely-extending arm 42, Figs. 13 and 14, and an angularly-extending claw 43 is seated upon the free end of arm 42, having a wall 44, extending substantially parallel with lever 39, and by reason of this construction

and the manipulation of handles 38 a single person may readily and effectually accomplish the separation of the core from the brick, arms 42 at this time passing through openings 30 and engaging brackets 5, the wall 44 of claw 43 making a secure holding upon side 9 of base-plate 1 during the partial rotation of handles 38.

It will be noted that one end of swivels 32, seated in recesses 31, is adapted to catch over the edge of bed-plate 12, Fig. 12, which operates to lock the bed-plate securely with the foldable sides and ends 21, 22, 23, and 24. It is found to be an advantage to construct the parts of light-weight material, so that they may be readily handled and brick manufactured by a single person. A good quality of light wood is therefore employed. The outer surface of bearing-plates 17 are upon the same plane as side 12 of the apertured bed-plate 11, Figs. 2, 8, 12, and 17, and the bed-plate is therefore chamfered to permit the seating therein of the bearing-plates. The bearing-plates are preferably constructed of metal to furnish a wearing-surface for contact of struts 37 therewith.

It will also be noted that the alinement of side 12 of bed-plate 11 and adjacent edges of the foldable sides and ends 21, 22, 23, and 24 must be the same, so that swivel 32 will not be obtrusive, since there must be no air-space between bed-plate 11 and base-plate 1, and this construction is followed and clearly shown by Figs. 8, 11, and 15.

It is found that brick can be rapidly manufactured by a single person when using the invention, and from the description given it is believed no particular explanation need be made as to operation or function. The parts are first assembled as shown by Fig. 7, and by reference to Fig. 8 it will be seen the base-plate and bed-plate are in contact, the bearing-plates 17 being adjacent to apertures 3. Material is then placed in the molds, the packing-rim, Fig. 9, being placed in the position already mentioned. After filling the mold packing-rim is lifted off and at once used as a convenient strike to cut a smooth surface upon the face of the brick. The parts are then inverted upon a suitable pallet or other surface, and the core-lifters are then employed to separate the core from the brick and bed-plate, and after this separation has been effected in the manner already detailed the brick appear as shown by Fig. 16.

A hardening by heat is not required where a percentage of cement is used, as is well known, and a pressure of the material while in the mold is not needed, as is also known to those experienced in the manufacture of this class of brick. The brick thus manufactured are of the highest quality of excellence for all purposes for which brick are used, and the invention affords a very economical means for brick manufacture, since no plant

for burning is required, no extra help needed, and the cost of the machine comparatively inexpensive.

5 While specific means have been named to accomplish the several results attained by the invention, there is no intention to limit the invention to exactness of construction, the scope of such invention being determined by the claim.

10 What is claimed as the invention is as follows:

15 A brick-molding machine, in combination, comprising a base having upset partitions 2 formed thereon, said upset partitions having free ends; a removable bed-plate 11 adapted

to be seated on said base and to inclose a part of each of said partitions; the foldable member 20 seated upon said base and adapted to inclose the free ends of said partitions; the apertures 3 formed in said base; the core-lift- 20 ers 36 adapted to make an entrance within apertures 3, and means to lock and unlock said foldable member.

In testimony whereof I have affixed my signature in presence of two witnesses.

THORVALD G. JENSEN.

Witnesses:

CHR. CHRISTENSEN,
M. C. MITTEN.