

W. G. KORAB.
CEMENT BLOCK MACHINE.
APPLICATION FILED MAR. 8, 1909.

953,208.

Patented Mar. 29, 1910.

3 SHEETS—SHEET 1.

Fig. 1

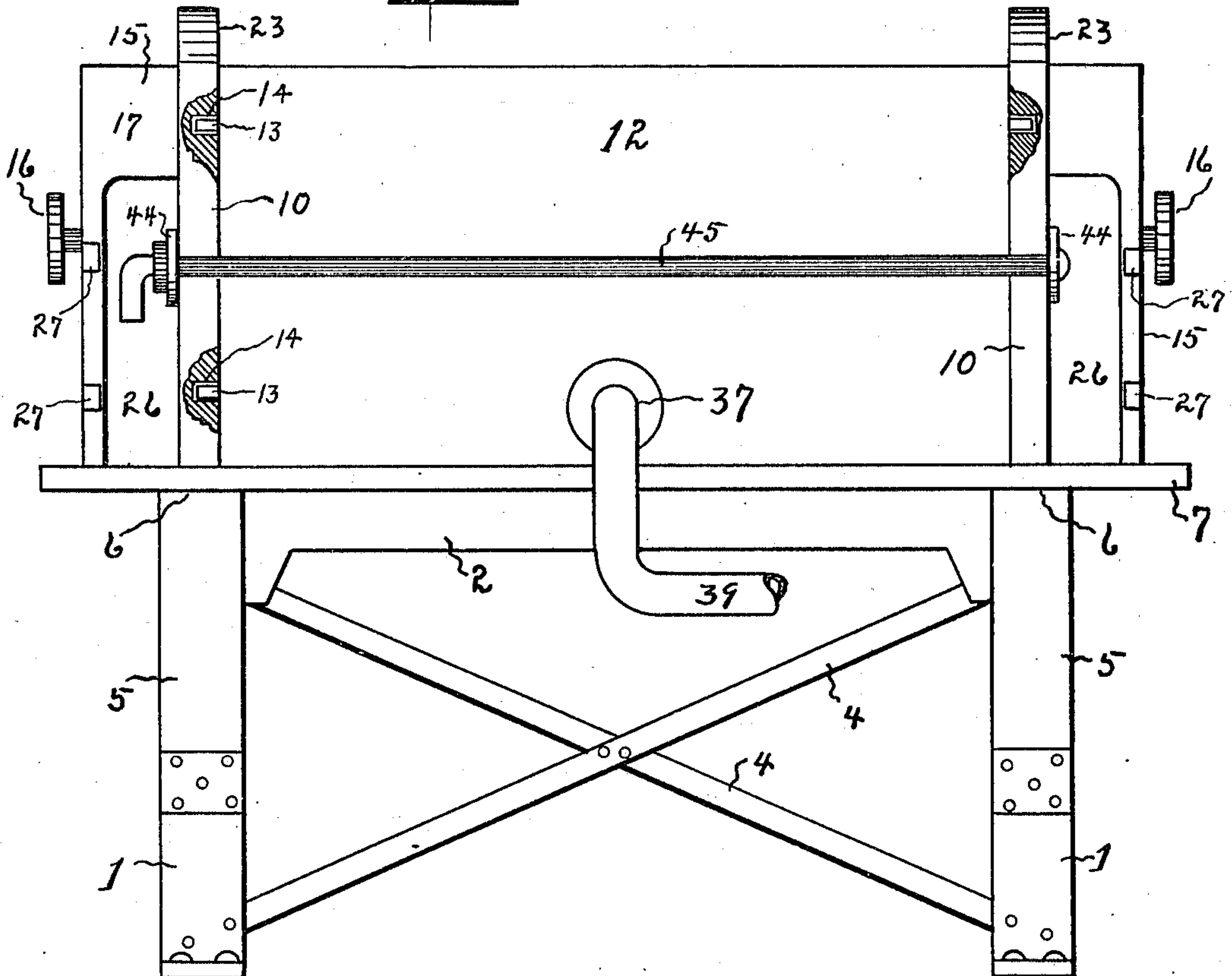
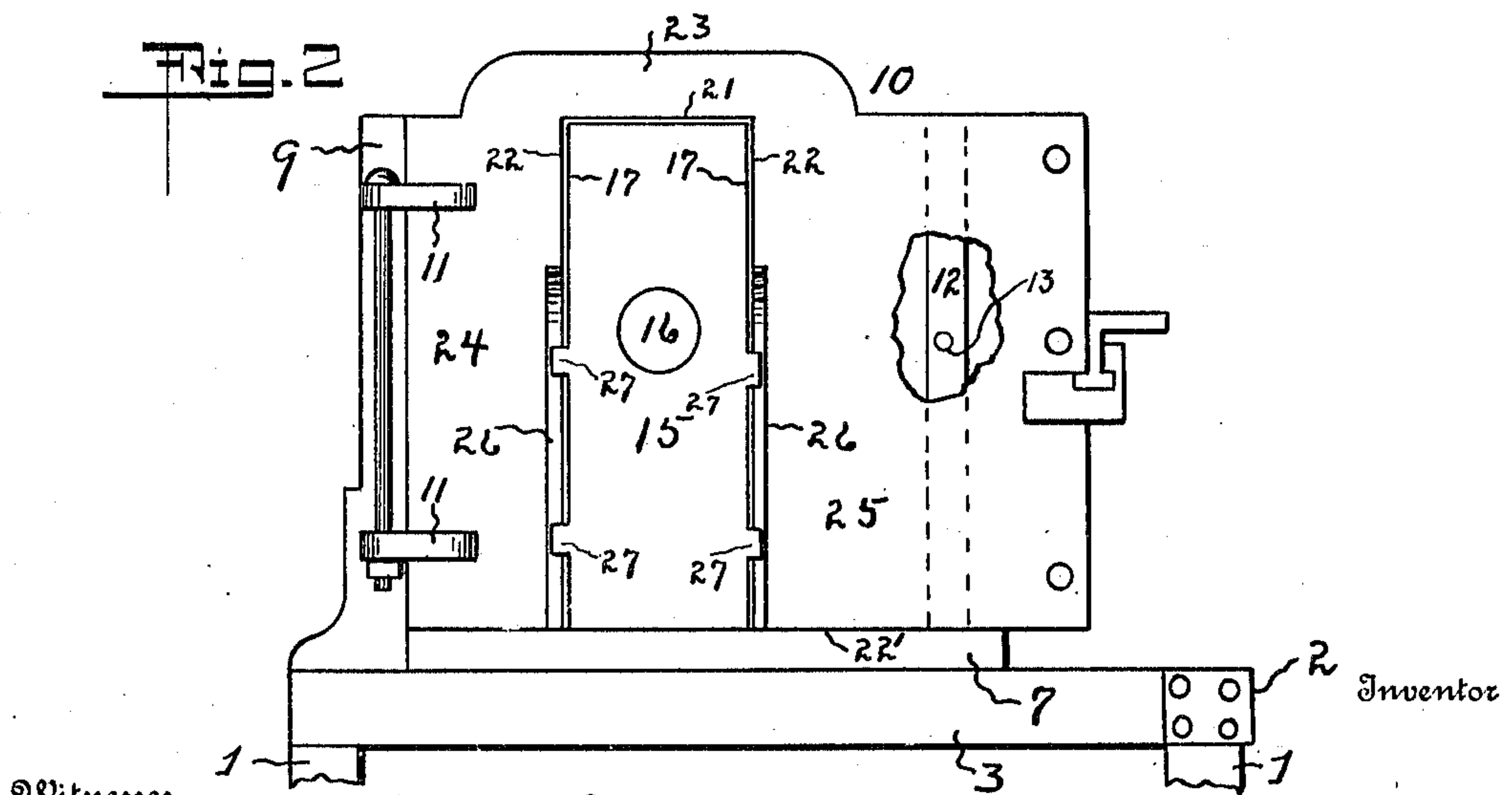


Fig. 2



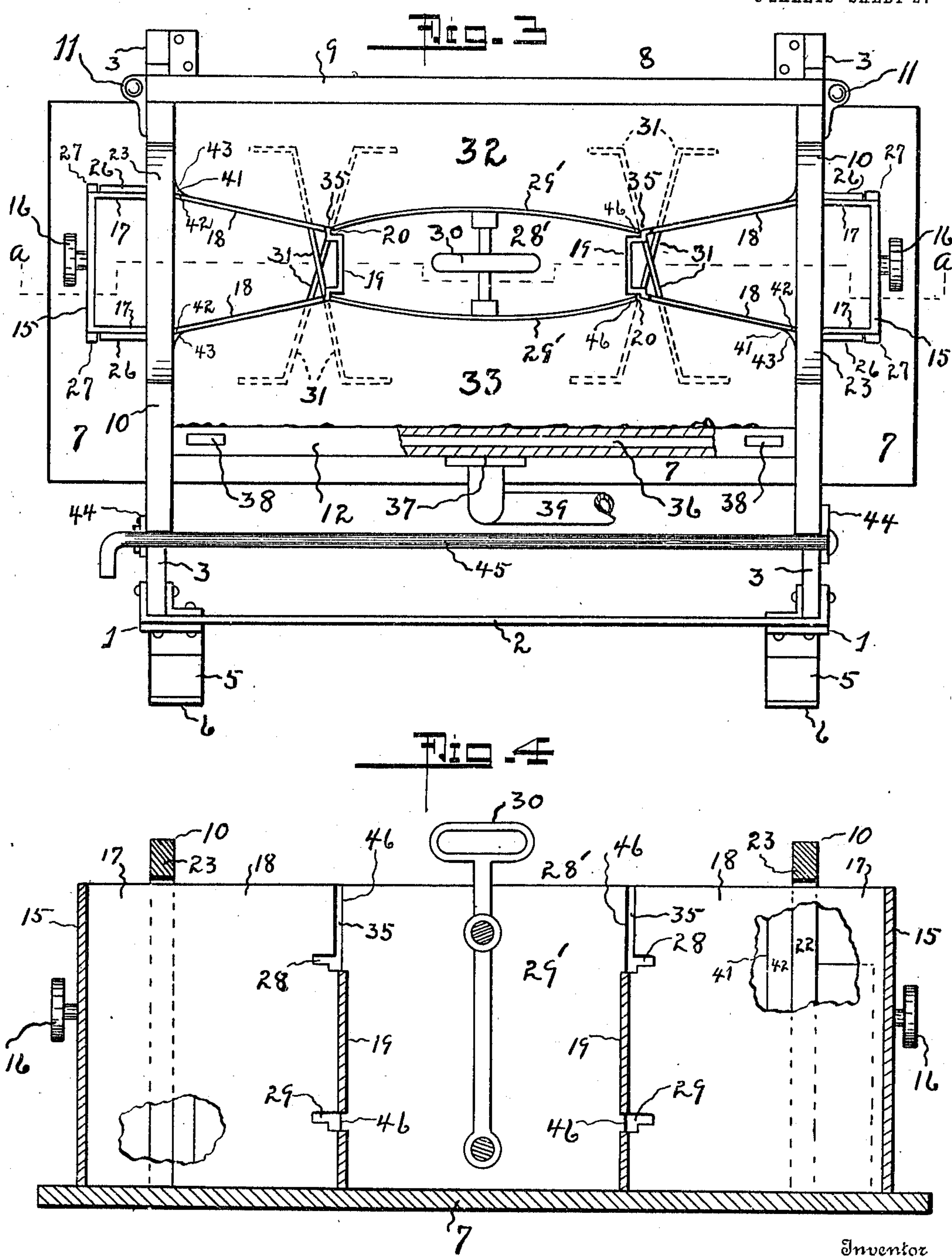
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5

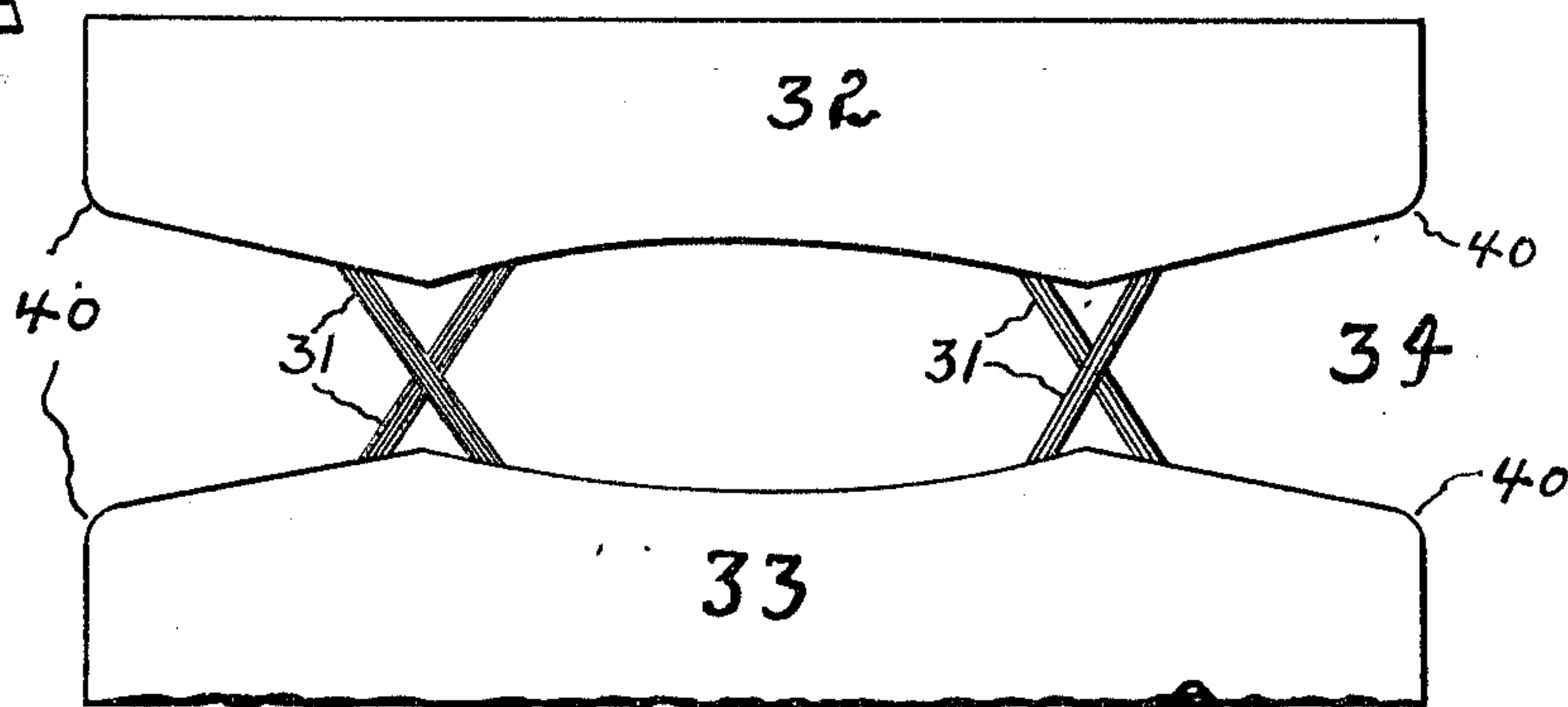


Fig. 6

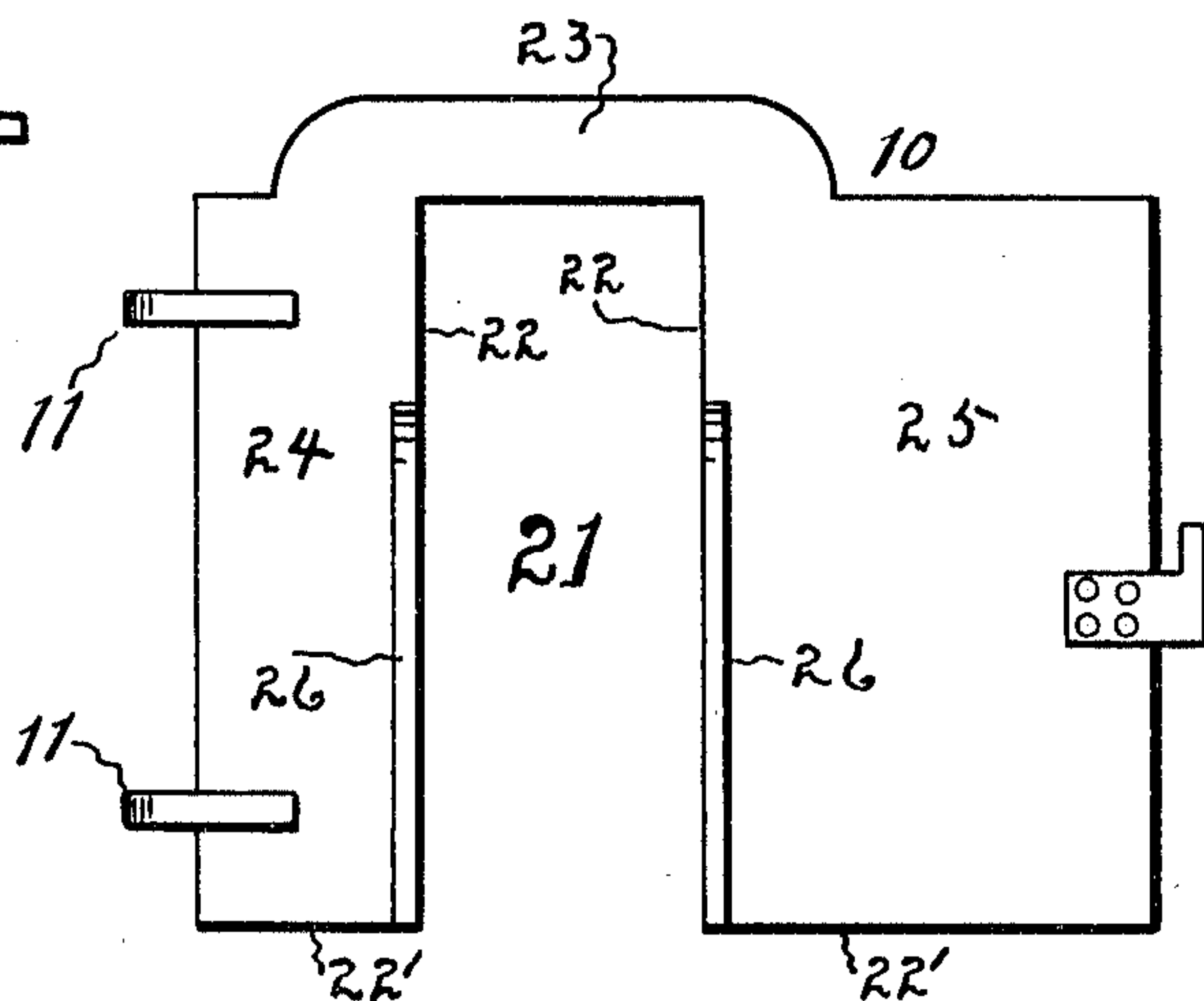
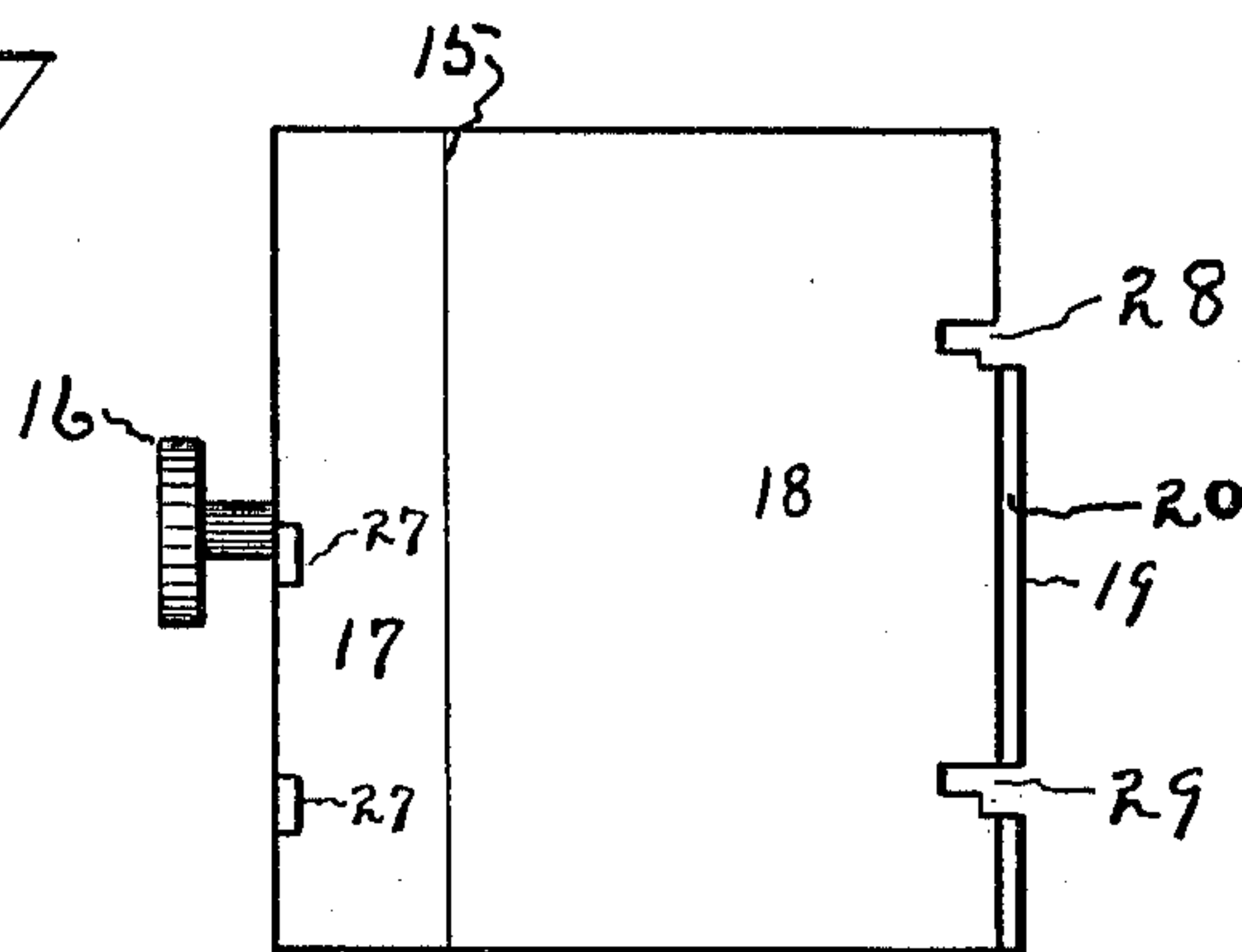


Fig. 7



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UNITED STATES PATENT OFFICE.

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CEMENT-BLOCK MACHINE.

953,208.

Specification of Letters Patent.

Patented Mar. 29, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM G. KORAB, a citizen of the United States, residing at Spencer, in the county of Boyd and State of Nebraska, have invented certain new and useful Improvements in Cement-Block Machines, of which the following is a specification.

This invention relates to an improvement in cement block machines, and has for its object, broadly, the provision of convenient means for forming building blocks of the class comprising outer and inner plates or secondary blocks, held together with tie-rods to form complete blocks.

The invention has reference especially to means for the practical formation of blocks by employing what is ordinarily called the "wet process", or the process wherein a liberal supply of water is used when mixing the sand and cement, sufficient water being employed to make the mass very moist or wet, in contradistinction to the "dry process" wherein a limited quantity of water is used; the advantages of the wet process being that the blocks will not readily absorb moisture after being laid in a wall, and on that account being more desirable for general use.

The invention includes a feature found to be useful in the formation of the ornamental face of the building block, consisting of subjecting the face of the block to heat while the block is being formed, also convenient features for withdrawal of the cores from the molding box.

With these and other objects in view, the invention presents a novel combination and arrangement of parts as described herein, pointed out by the appended claim and as illustrated in the accompanying drawing, wherein,—

Figure 1 is a vertical, front view of the machine. Fig. 2 is an end view of the molding box. Fig. 3 is a plan view of the machine, the molds being filled to form a building block. Fig. 4 is a longitudinal, sectional view on the irregular line *a a* of Fig. 3. Fig. 5 is a plan view of a building block. Fig. 6 is a front view of an end plate. Fig. 7 is a side view of one of the end cores.

Referring now to the drawing for a more particular description, I employ a convenient supporting frame comprising legs 1 held together by use of side braces 2, end braces 3 and cross pieces 4, and, preferably,

I employ arms 5 secured upon legs 1 and extending upwardly at the front of the frame and having terminals 6, said arms terminating at the same height as braces 2 and 3.

Side braces 2 and end braces 3 provide a suitable platform upon which the pallet 7 may be seated or supported. The molding box 8 consists of the back plate 9, the end plates 10 secured by hinges 11 to the ends of the back plate, and the front plate 12.

The front plate is provided with projections 13 near their upper and lower edges, and the end-plates have corresponding recesses 14; and when the end plates are closed, these projections enter recesses 14 for the purpose of holding the front mold-plate in a vertical position.

I provide two horizontally movable end cores 15 having handles 16 at their outer terminals; and having parallel, vertical sides 17 for a part of their lengths, and provided with longitudinally convergent, vertical sides 18 intermediate their parallel sides and inner terminals 19; and preferably, I provide grooves 20, said grooves being formed vertically, intermediate the junction of sides 18 and the angular terminal 19 of said core.

Each end plate 10 has a recess 21 opening upon its lower edge 22'. The side walls 22 of recess 21, preferably, are parallel, and these walls have a length measured vertically, substantially equal to the height of cores 15; and above the opening 21 thus formed, is provided an arch 23 which unites the adjacent portions 24 and 25.

It will be understood, that after the end plates have been moved to a "closed" position, the front mold-plate having been seated vertically upon the pallet, the end-cores may be inserted within openings 21. The end-cores at this time are seated upon the pallet, and they may be moved horizontally in directions toward each other, within the mold box.

I provide upon end mold-plates 10 the parallel, vertical guide-plates 26; they project outwardly of the end-plates at substantially a right angle, adjacent walls 22. At the outer terminal of the end-cores and adjacent parallel sides 17 are provided stop-lugs 27, and it will be seen that the end cores may be moved within the molding box until lugs 27 make contact with the terminals of guides 26. The end cores may be withdrawn from the molding box by use of handles 16.

I provide recesses 28 and 29, formed near the respective top and bottom, in sides 18, and opening upon the terminal of each end core; and provide a middle or central core 5 28' comprising sides 29' curved outwardly and adapted to have seatings in grooves 20. Core 28' is provided with a handle 30 for raising it from or placing it in the molding box; and in operation for forming a build- 10 ing block, after a pallet has been seated upon the supporting frame, and the end plates and front mold-plate have been closed or secured together, the end cores are moved longitudinally within the mold box, at 15 which time a pair of tie-rods 31 are inserted in each recess 29 and the mold box is partly filled and tamped; the tie-rods therefore are embedded in plates or members 32 and 33 of block 34.

20 After the mold box has been filled to the altitude of recesses 28, tie-rods, in pairs, are inserted in the intervening spaces 35, and after being moved downward and crossed in recesses 28, material is added to fill the 25 mold box and the tie rods are embedded therein. Spaces 35 intervene between terminals 46 of plates 29' and the adjacent edges of walls 18 of the end cores, terminal walls 19 or the upper parts thereof being 30 cut away to provide said spaces 35 so that the tie rods may be inserted and may be deposited outwardly of the ends 46 of central core 28'.

In order that there may be no defacement 35 of the front part or ornamental portion of the block, I employ devices found to be effective for partly drying the same while the block is being formed. Plate 12 is provided with the longitudinal chamber 36, 40 having an intake 37 near its bottom and exit ways 38 at its top. A flexible tube or pipe 39 is secured to the plate at intake 37 so that heated air or steam may be introduced from any exterior source of supply, through pipe 45 39, and made to circulate in chamber 36, and thereby will partly dry the wet material forming the ornamental face of the block, so that it will not be defaced when plate 12 is removed, and will not be readily 50 injured during the subsequent handling of the block.

After a block has been formed, the end cores are drawn horizontally from the molding box; the front plate is removed, the 55 end-plates are swung outward; and then, by use of handle 30, the middle core is raised vertically from the block; the pallet is then

removed from the machine with the block seated thereon. Another pallet is then employed, and the operation may be repeated 60 for the formation of other blocks.

In order that the ends of portions 32 and 33 of the block may have convexed surfaces at their inner, vertical edges 40, projections 41 are formed to extend vertically upon the 65 inner side of end plates 10 adjacent walls 22, having flat outer surfaces 42, and convexed inner surfaces 43. The object in view in the formation of convexed surfaces 40 is to supply a feature found to be of advantage when filling or "pointing" with mortar 70 the space between the blocks, when the blocks are laid in a wall. Projections 41 form these convexed surfaces; they also operate as guides or holding-lugs to prevent a 75 sidewise movement of the end cores while the material is being tamped in the molding box.

End plates 10 are provided with catches 44, and by use of latch or rod 45, the mold- 80 ing box may be held together while the block is being formed.

Having fully described my invention, what I claim and desire to secure by Letters Patent is,— 85

A machine of the character described, comprising a supporting frame and a mold box consisting of a back plate, end plates hingedly connected thereto, and a removable front plate supported in a vertical position by said end plates, a pair of tapering hollow end core members movable longitudinally through the end plates, a central core member comprising a pair of spaced bowed plates, a handle located therebetween 95 and extending upwardly therefrom, the free ends of each of the bowed plates engaging vertical channels formed at each of the inner end corners of the end core members, there being vertically spaced tie rod receiving recesses formed transversely in each of 100 the end core members, and said end core members being cut away above the uppermost tie-rod receiving recesses to form a channel from said uppermost recesses to the 105 uppermost face of said core members, substantially as shown and described.

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

WILLIAM G. KORAB.

Witnesses:

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