

S. DELCHEVALERIE, SR. & H. J. DEBAY
CASTING TABLE.

APPLICATION FILED NOV. 29, 1910.

Patented July 25, 1911.

3 SHEETS-SHEET 1.

999,015.

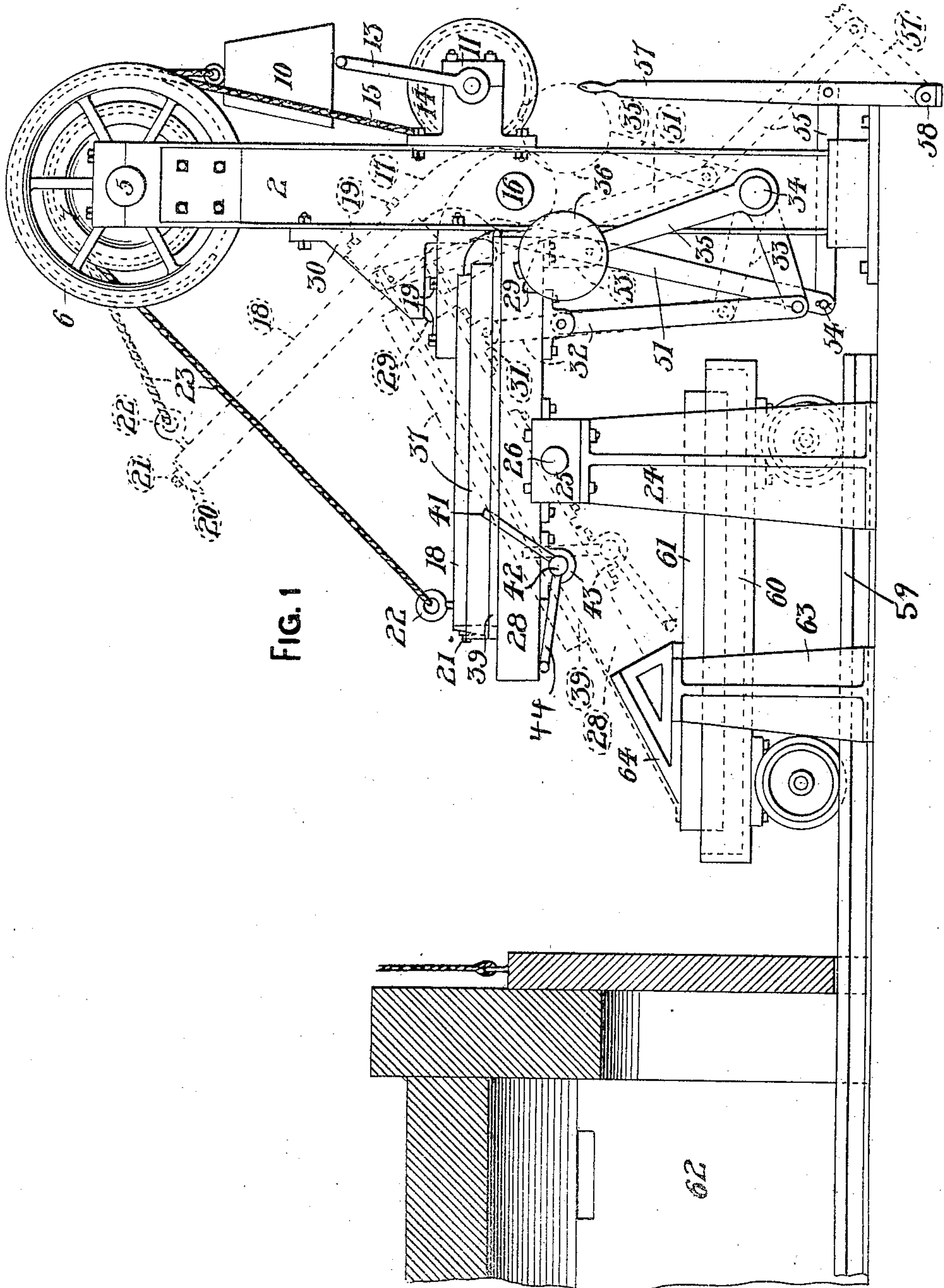


FIG. 1

WITNESSES

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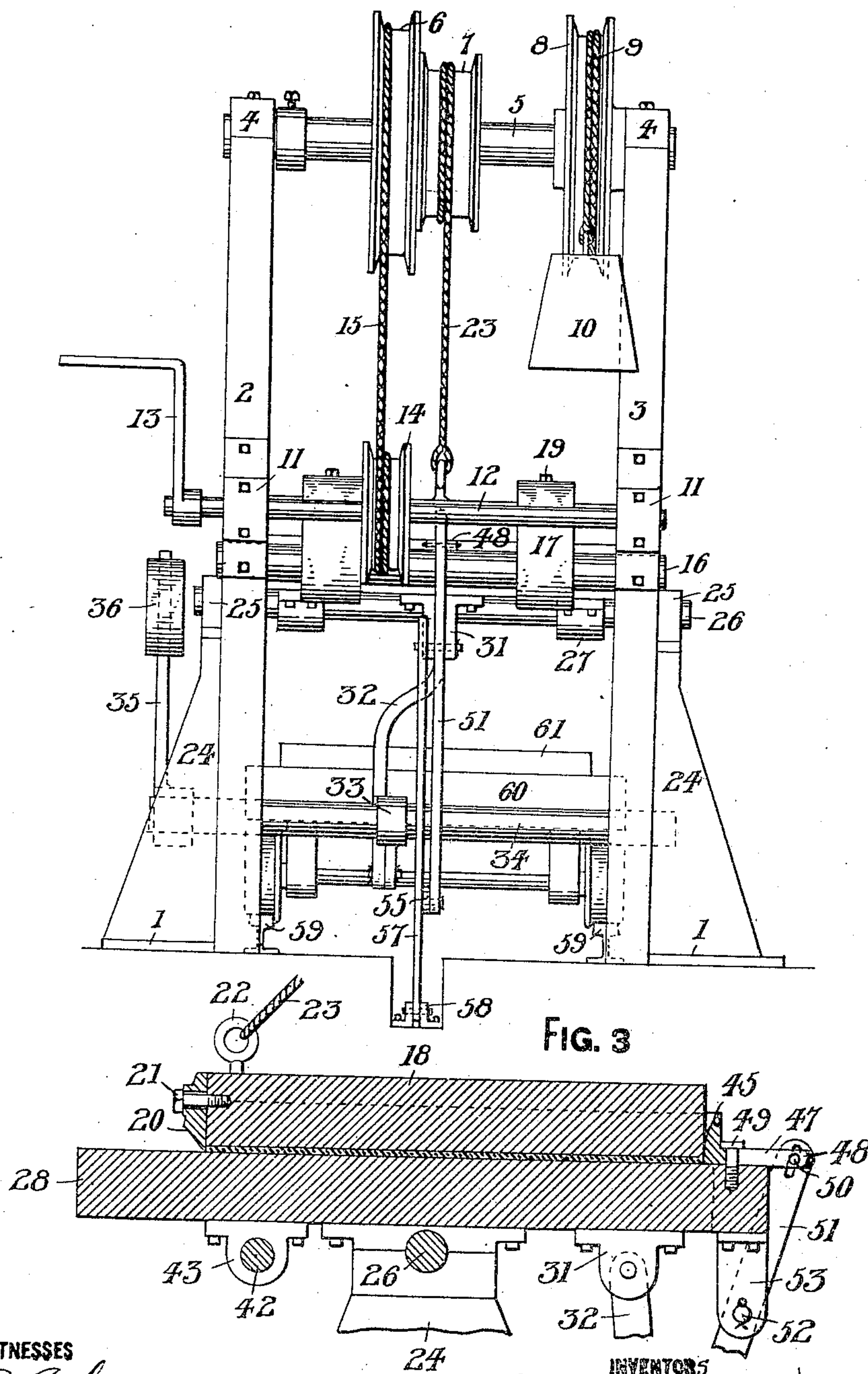
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3 SHEETS—SHEET 2.

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FIG. 2



WITNESSES

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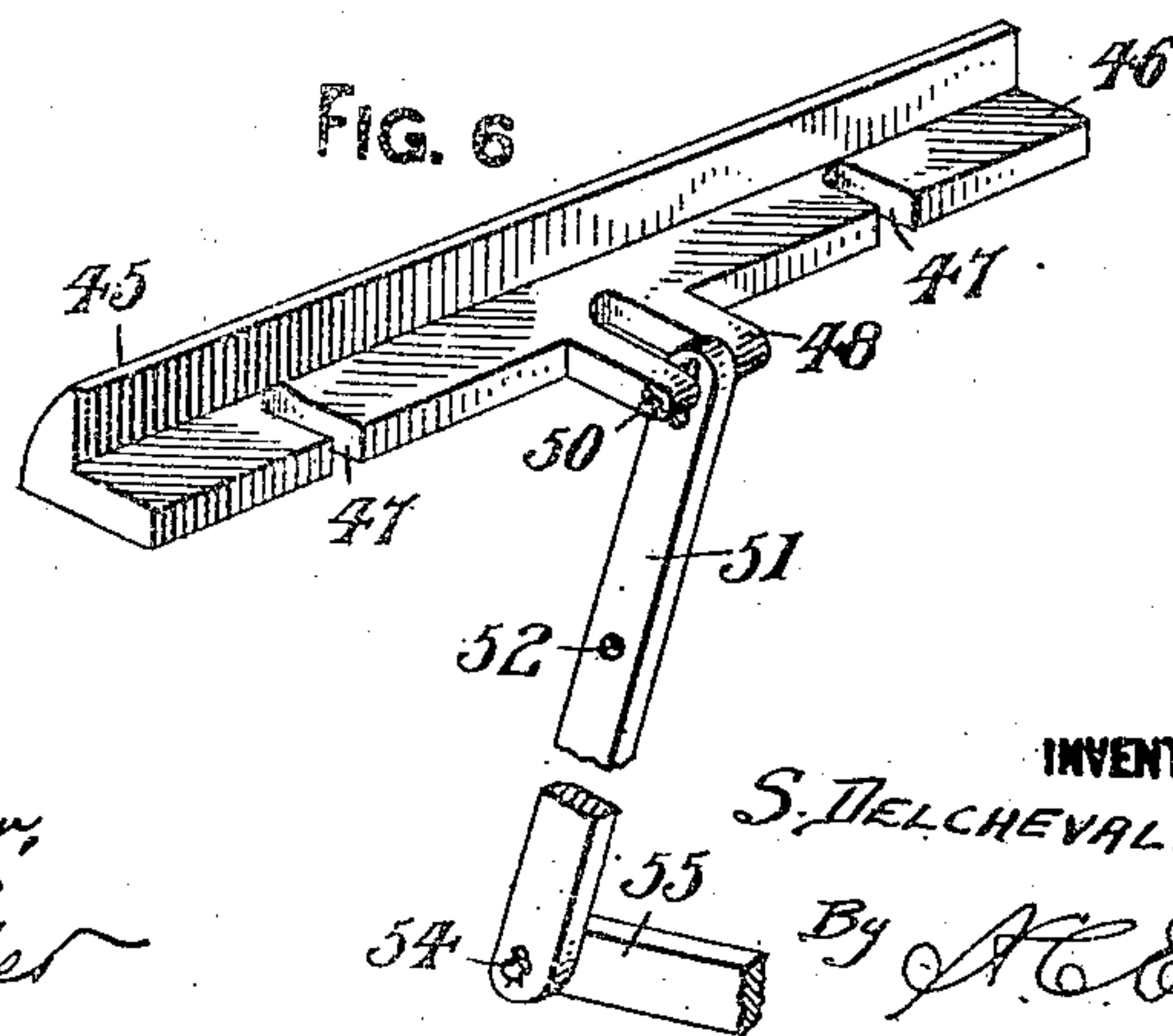
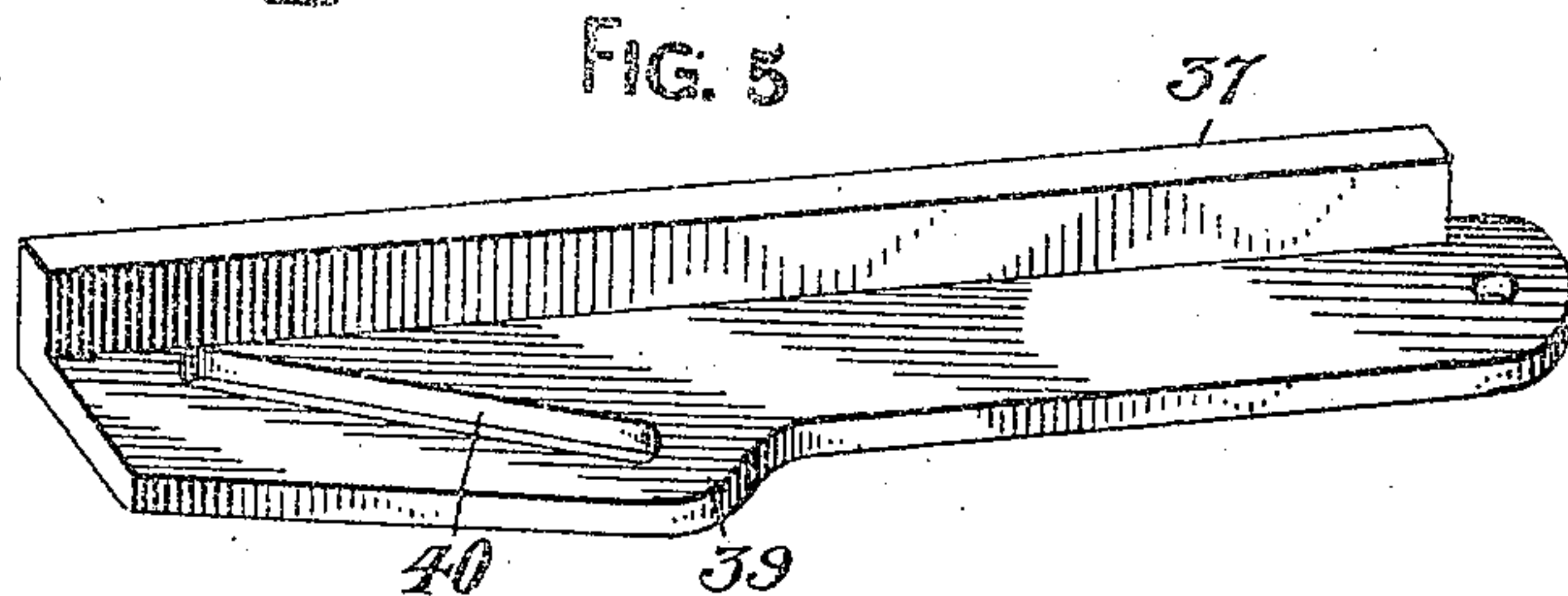
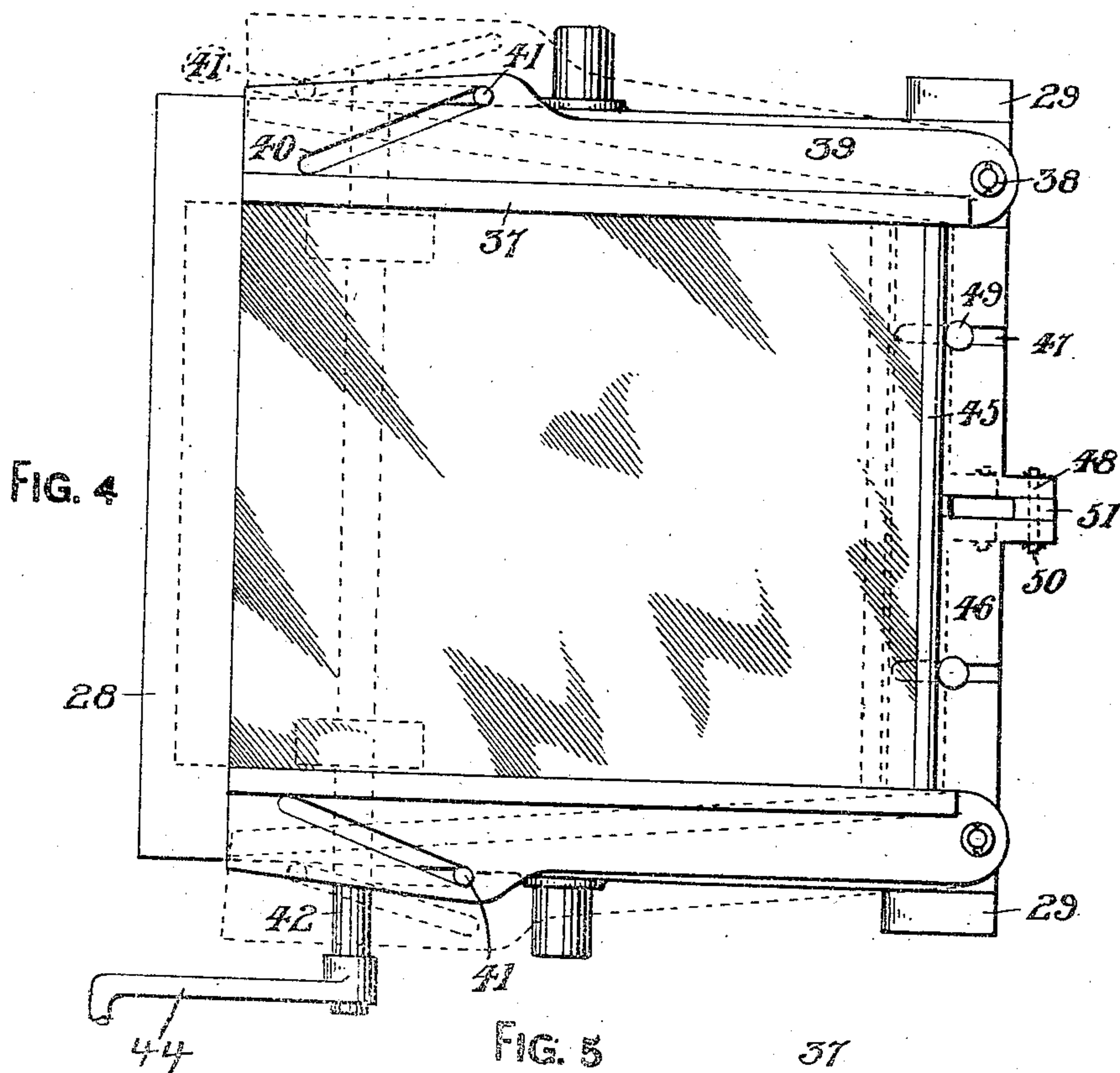
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UNITED STATES PATENT OFFICE.

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CASTING-TABLE.

999,015.

Specification of Letters Patent. Patented July 25, 1911.

Application filed November 29, 1910. Serial No. 594,800.

To all whom it may concern:

Be it known that we, SIMON DELCHEVALERIE, Sr., and HENRY J. DEBAY, citizens of the United States of America, residing at 5 Charleroi, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Casting-Tables, of which the following is a specification, reference being had therein to 10 the accompanying drawing.

This invention relates to a casting table especially designed for the manufacture of sheet or plate window glass, and the primary object of our invention is to provide 15 a novel tiltable table upon which plate glass can be expeditiously and economically produced.

Another object of the invention is to obviate the necessity of manufacturing large 20 sheets or plates of glass by first producing a cylinder, capping and splitting the same.

A further object of the invention is to furnish a casting table with positive and reliable means in a manner as will be herein- 25 after set forth for equally distributing and pressing molten glass upon the casting table, whereby the sheet or plate of glass produced can be tilted for annealing purposes with smooth and uninterrupted surfaces.

30 A still further object of the invention is to provide a casting table consisting of comparatively few parts compactly assembled and easily manufactured.

A still further object of the invention is 35 to accomplish the above results by a machine that is simple in construction, durable, inexpensive to manufacture and efficient for producing sheets or plates of glass.

With the above and such other objects in 40 view as may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

45 Reference will now be had to the drawings forming part of this specification, wherein like numerals of reference designate corresponding parts, in which:—

50 Figure 1 is a side elevation of the machine, Fig. 2 is a rear elevation of the same, Fig. 3 is a longitudinal sectional view of the table, Fig. 4 is a plan of the same, Fig. 5 is a perspective view of a detached guide, and Fig. 6 is a perspective view of a

detached starting or loosening device adapted to form part of the table.

The reference numerals 1 denote base plates mounted upon a suitable foundation and supporting standards 2 and 3 having the upper ends thereof provided with bearings 4 for a revoluble shaft 5. Revolvably 60 mounted upon the shaft 5 are a winding drum 6, a hoisting drum 7 and a drum 8 to which is secured one end of a cable 9 which is wound upon the drum 8 and provided 65 with a counter-balance weight 10.

11 denotes bearings carried by the rear sides of the standards 2 and 3 for a revoluble shaft 12 having one end thereof provided with a crank 13. Mounted upon the shaft 70 12 is a drum 14 to which is attached one end of a cable 15, said cable being wound upon the drums 14 and 6 with the other end of the cable attached to the drum 6.

16 denotes a shaft journaled in the standards 2 and 3 adjacent to the bearings 11 and mounted upon said shaft between said bearings are supports 17 for a presser block 18, said supports being secured to the upper side of the block 18 by set screws 19 or 80 other adjusting means. The outer end of the block 18 is provided with an adjustable transverse knife 20 adjusted through the medium of set screws 21. Attached to the outer end of the block 18 through the me- 85 dium of an eye-bolt 22 is one end of a cable 23 having the opposite end thereof wound upon and secured to the drum 7.

24 denotes oppositely disposed pedestals located adjacent to the standards 2 and 3 90 and mounted upon the upper ends of said pedestals are bearings 25 in which is journaled a shaft 26. Mounted upon the shaft 26 between the pedestals 24 are the depending supports 27 of a tiltable table 28 95 having the sides thereof at the rear end provided with stop lugs 29 adapted to engage brackets 30 secured to the front sides of the standards 2 and 3 to limit the tilting movement of said table. The under side of the 100 table adjacent to the rear end thereof is provided with a depending bearing 31 and pivotally connected to said bearing by a curved link 32 is the outer end of a crank 33 mounted upon a rock shaft 34 supported by 105 the standards 2 and 3 contiguous to the lower ends thereof. Mounted upon the end of the shaft 34 adjacent to the standard 2

is an angularly disposed arm 35 and fixed upon the upper end of said arm is a weight 36 adapted to facilitate the moving and holding of the table either in a horizontal 5 or tilted position.

37 denotes two angle guides pivotally mounted by pins 38 upon the table 28 at the rear end thereof and adjacent to the longitudinal edges of said table. The lateral 10 flanges of the guides 37 are extended at the forward ends of said guides, as at 39 and provided with angularly disposed slots 40. Extending upwardly through the slots 40 are the crank pins 41 of a rock shaft 42 jour- 15 naled in depending bearings 43, carried by the under side of the table adjacent to the forward end thereof. One end of the rock shaft 42 has a crank or suitable handle 44 whereby it can be easily rocked to shift the 20 angle guides 37 upon the table 28.

45 denotes an angle bar arranged transversely of the table at the rear end thereof, said bar having the lateral flange 46 thereof slotted, as at 47 and provided with rear- 25 wardly extending apertured lugs 48. The angle bar 45 is retained upon the rear end of the table by guide pins or bolts 49 extending through the slots 47 into the table 28. Pivotally mounted between the apertured lugs 30 by a pin 50 is an arm 51 fulcrumed, as at 52 between depending bearings 53, carried by the rear end of the table. The lower end of the arm 51 is pivotally connected, as at 54 to a rod 55 and said rod is pivotally con- 35 nected, as at 56 to an operating lever 57 pivotally mounted in a bearing 58 arranged at a point in the rear of the standards 2 and 3 and in alinement with the longitudinal axis of the table. The elements 45 to 58 inclu- 40 sive constitute a starting or loosening device that will be hereinafter referred to.

59 denotes rails arranged between the pedestals 24 and constituting a track for a car or truck 60 having a slab 61 adapted to 45 receive a plate or sheet of glass from the table 28, the car or truck 60 being arranged whereby it can be easily shifted into an annealing oven or furnace 62. Located at the sides of the track are supports 63 for a 50 transverse inclined chute 64, said chute having the lower edge thereof in proximity to the slab 61 of the car or truck 60 and the upper edge thereof positioned whereby when the table 28 is tilted, the surface of said 55 table will be in a plane with the surface of the chute 64, thereby allowing the sheet or plate of glass upon the table to slide by gravity over the chute on to the slab 61 without becoming distorted or injured.

60 In operation, it is necessary that the attendant of the machine shift the angle guides 37 inwardly, correctly position the transverse angle bar 45, have the table 28 in a horizontal position, the presser block 18 in 65 an elevated position, and the car or truck 60

in position with the forward edge of the slab 61 adjacent to the lower edge of the chute 64. The molten glass can then be poured upon the table 28 and the shaft 12 rotated to lower the presser block 18 upon 70 the molten glass, whereby it will be evenly distributed upon the table and pressed by the weight of the block to that extent as to form a sheet of glass having a lower and upper smooth surface. When the block 18 75 is lowered, the knife 20 thereof severs the forward edge of the plastic sheet or plate and limits the downward movement of the block 18, consequently by adjusting the knife 20 and the set screws 19, the thickness 80 of the sheet or plate of glass upon the table 28 can be regulated. The pressure of the block 18 upon the glass causes the glass to congeal and produce a plastic sheet or plate. The attendant of the machine then rocks the 85 shaft 42 and through the medium of the crank pins 41 shifts the forward ends of the guide bars 37 outwardly, thereby releasing the longitudinal edges of the plastic sheet or plate. The attendant can then elevate the 90 block 18 and tilt the table 28 and by operating the lever 57, the transverse angle bar 49 will be shifted sufficiently to loosen and start the plastic sheet or plate upon the table 28, whereby it will slide over the chute 64 on to 95 the slab 61 of the car or truck 60, said car or truck being moved forward toward the annealing oven as the plate or sheet passes on to the slab 61. After the plastic sheet or plate of glass has left the table 28, said table 100 can be restored to its normal position for another casting of glass.

From the foregoing it will be observed that we have devised a tiltable casting table in connection with which certain devices are 105 employed for insuring a high degree of perfection, besides expediting the production of sheet or plates of glass, and while in the drawings there is illustrated a preferred embodiment of the invention, it is to be un- 110 derstood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claims.

What we claim is:—

1. A machine for manufacturing plate 115 glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the 120 standards and movable above and associating with the table to form the plate, means for maintaining the table in horizontal position during the operation of the presser block, means carried by the standard for 125 elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding 130

movement of the plate when the table is tilted, and operating means for said starting means.

2. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means for maintaining the table in horizontal position during the operation of the presser block, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, and a combined knife and gage carried by the forward end of the presser block and adapted to engage the table for cutting the forward edge of the plate and regulating the thickness of the plate.

3. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, and counter-weighted means connected with one of the standards and with the table for tilting the table when said means is operated in one direction and for maintaining the table in horizontal position during the operation of the presser block when said means is in normal position.

4. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, a combined knife and gage

carried by the forward end of the presser block and adapted to engage the table for cutting the forward edge of the plate and regulating the thickness of the plate, and counter-weighted means connected with one of the standards and with the table for tilting the table when said means is operated in one direction and for maintaining the table in horizontal position during the operation of the presser block when said means is in normal position.

5. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means for maintaining the table in horizontal position during the operation of the presser block, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, and an inclined chute positioned adjacent to the outer end of the table and associating with the table when the latter is tilted, said chute adapted to be arranged over a transferring means for the plate and further guiding the plate to said transferring means.

6. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means for maintaining the table in horizontal position during the operation of the presser block, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, a combined knife and gage carried by the forward end of the presser block and adapted to engage the table for cutting the forward edge of the plate and regulating the thickness of the plate, and an inclined chute positioned adjacent to the outer end of the table and associating with the table when the latter is tilted, said chute adapted to be arranged over a transferring means for the plate and further guiding the plate to said transferring means.

7. A machine for manufacturing plate

glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a
 5 presser block pivoted at its inner end to the standards and movable above and associating with the table to form the plate, means carried by the standard for elevating and lowering the presser block, means car-
 10 ried by the table for laterally shifting the guides to release the longitudinal edges of the plate, means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating
 15 means for said starting means, counter-weighted means connected with one of the standards and with the table for tilting the table when said means is operated in one direction and for maintaining the table in
 20 horizontal position during the operation of the presser block when said means is in normal position, and an inclined chute positioned adjacent to the outer end of the table and associating with the table when
 25 the latter is tilted, said chute adapted to be arranged over a transferring means for the plate and further guiding the plate to said transferring means.

30 8. A machine for manufacturing plate glass comprising a tiltable table upon which the plate is formed, a pair of adjustable guides carried by the table, a pair of standards arranged rearwardly of the table, a presser block pivoted at its inner end to the

standards and movable above and associat- 35
 ing with the table to form the plate, means carried by the standard for elevating and lowering the presser block, means carried by the table for laterally shifting the guides to release the longitudinal edges of the plate, 40
 means at the rear end of the table for starting the sliding movement of the plate when the table is tilted, operating means for said starting means, a combined knife and gage carried by the forward end of the presser 45
 block and adapted to engage the table for cutting the forward edge of the plate and regulating the thickness of the plate, counter-weighted means connected with one of the standards and with the table for tilting the 50
 table when said means is operated in one direction and for maintaining the table in horizontal position during the operation of the presser block when said means is in normal position, and an inclined chute positioned 55
 adjacent to the outer end of the table and associating with the table when the latter is tilted, said chute adapted to be arranged over a transferring means for the plate and further guiding the plate to said transfer- 60
 ring means.

In testimony whereof we affix our signatures in the presence of two witnesses.

SIMON DELCHEVALERIE, Sr.
 HENRY J. DEBAY.

Witnesses:

MAX H. SROLOVITZ,
 CHRISTINA T. HOOD.