

No. 804,041.

PATENTED NOV. 7, 1905.

W. PORTEN.  
BUILDING BLOCK MOLD.  
APPLICATION FILED APR. 24, 1905.

2 SHEETS—SHEET 1.

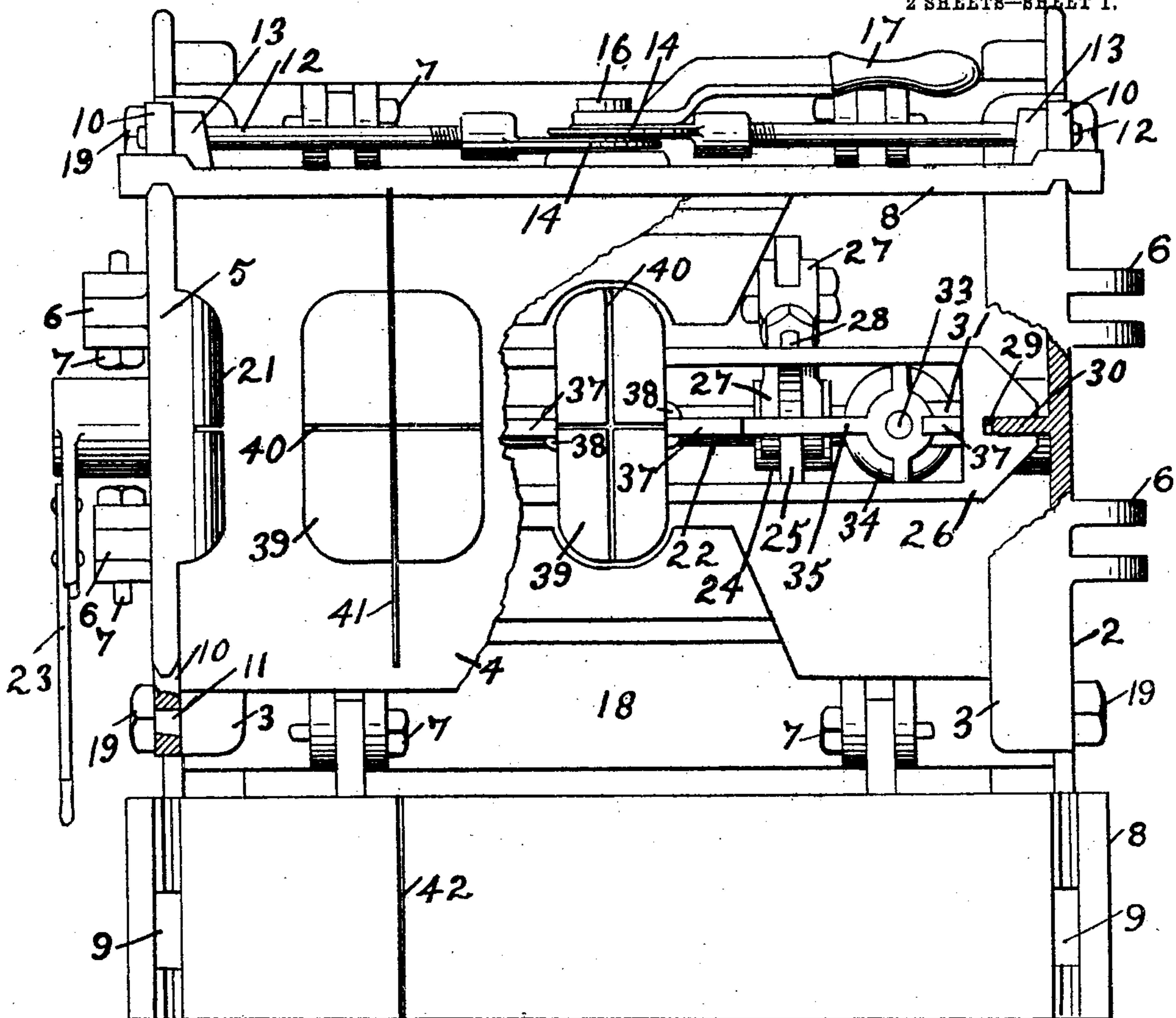


FIG. 1.

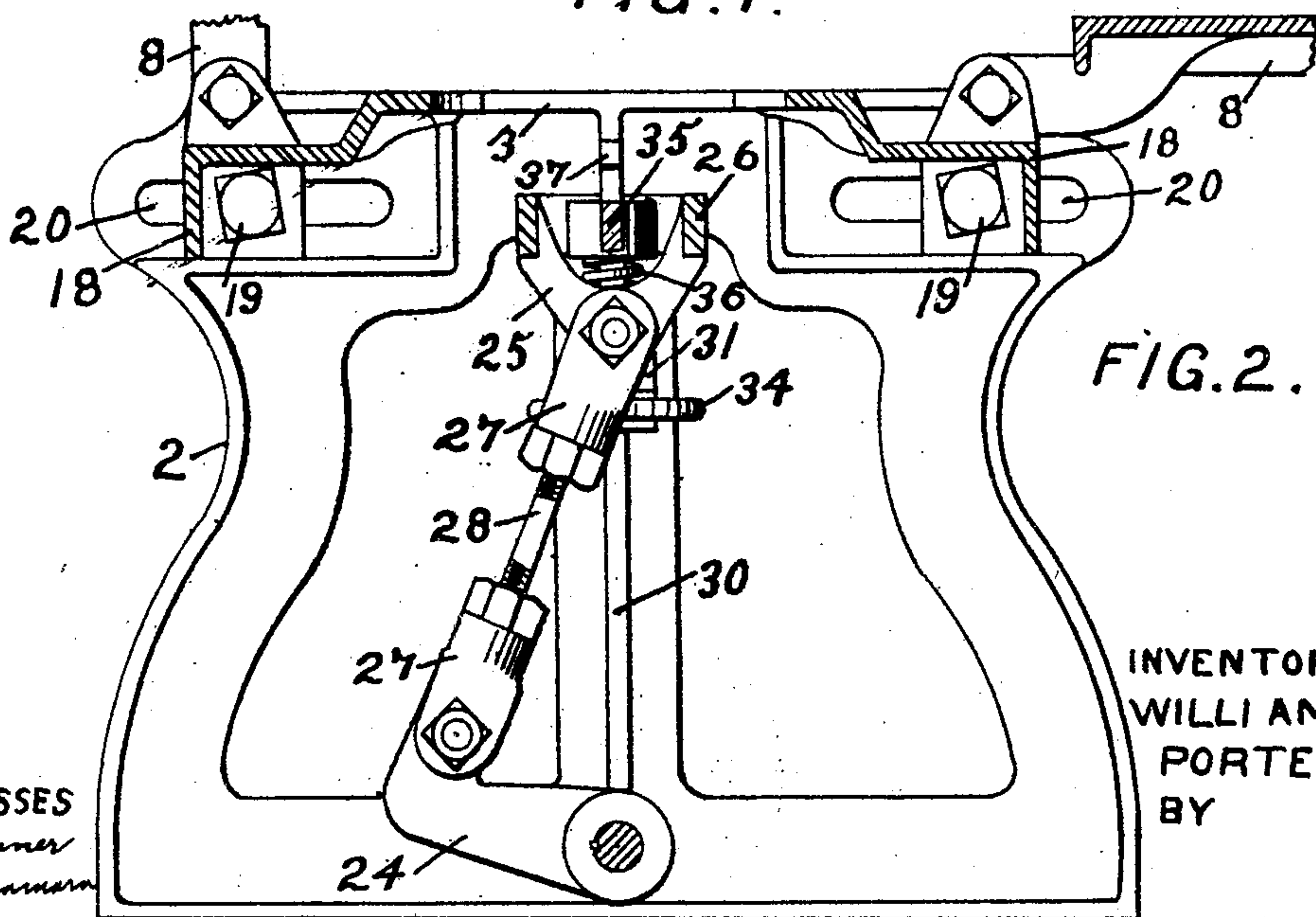


FIG. 2.

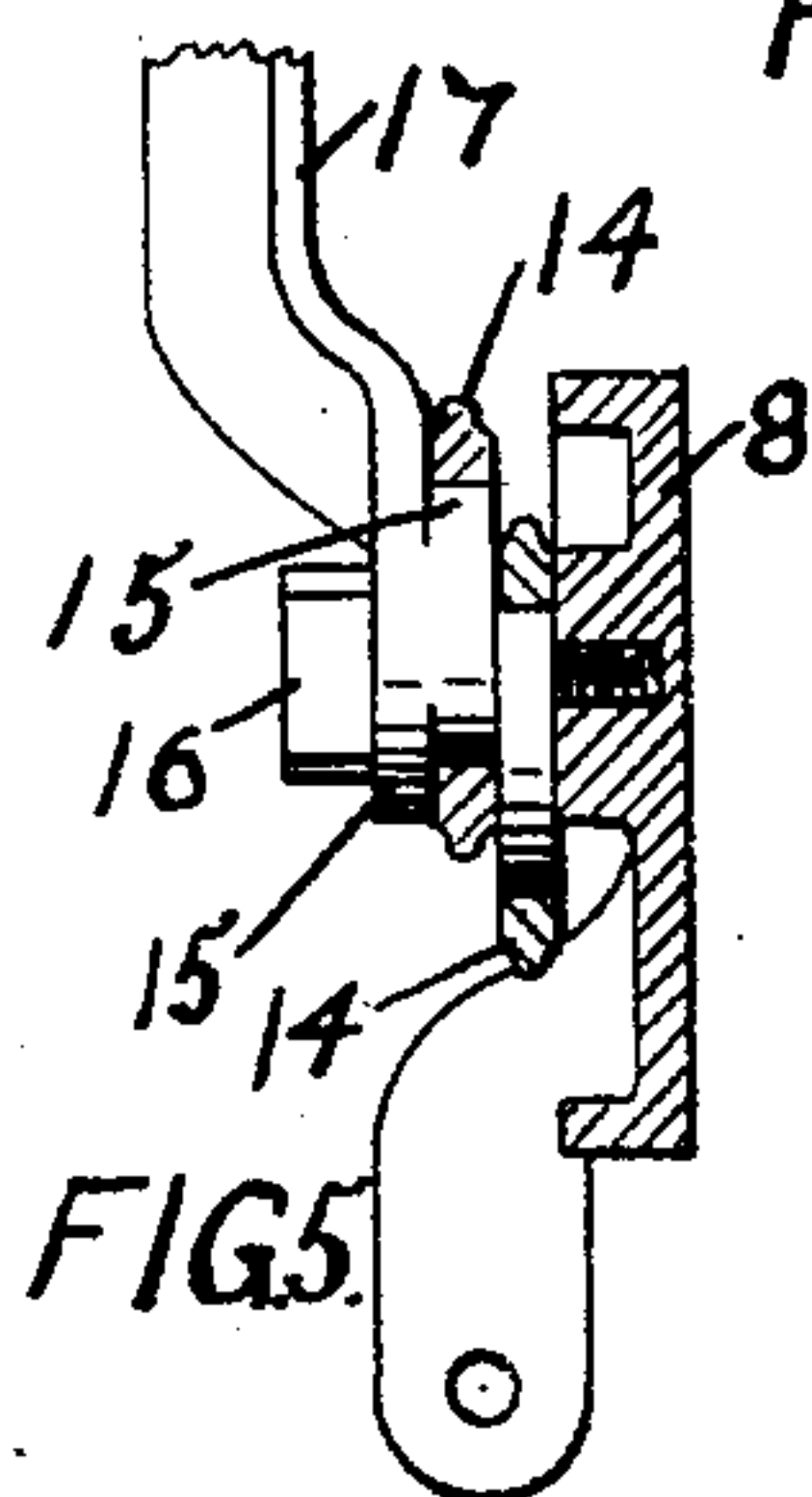
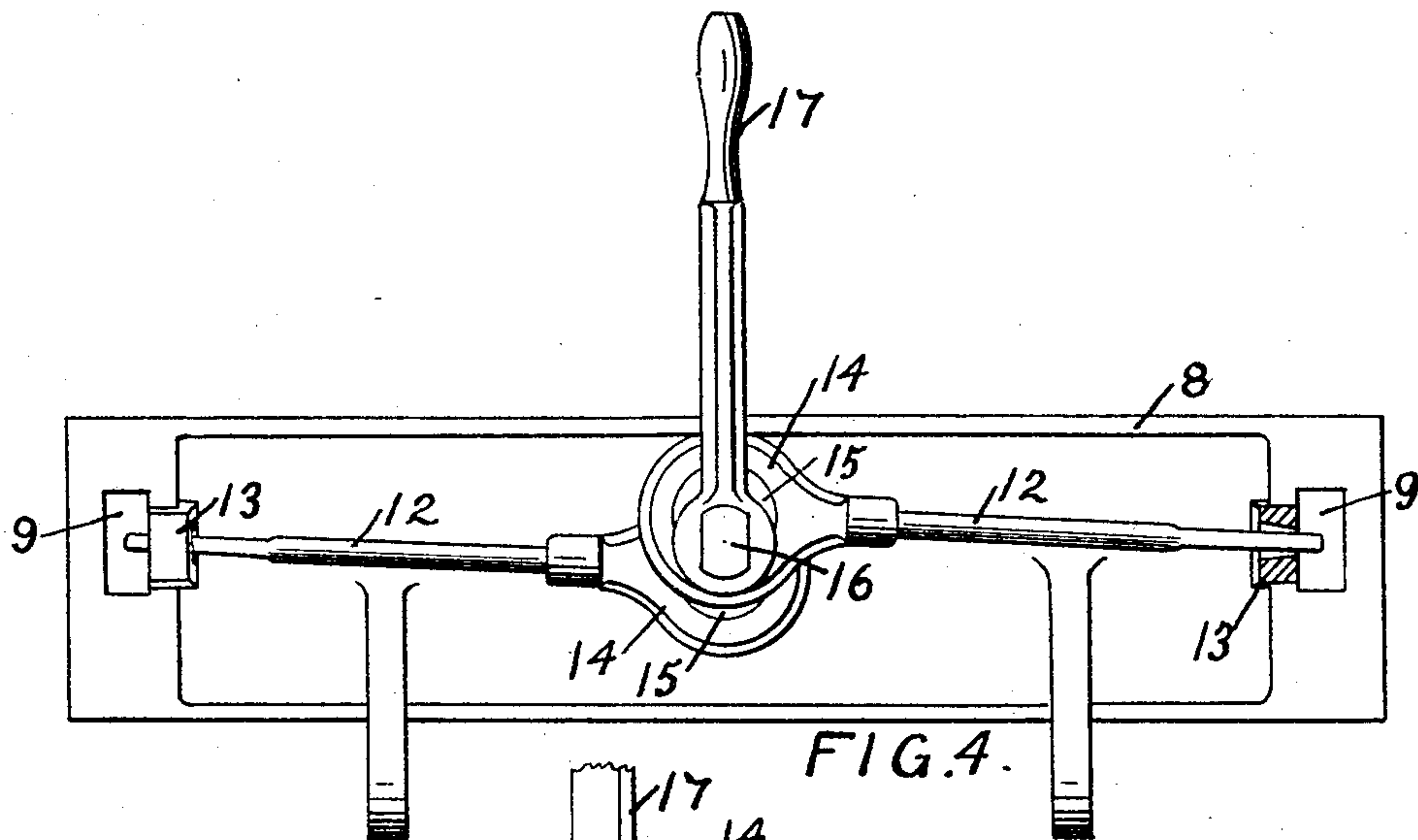
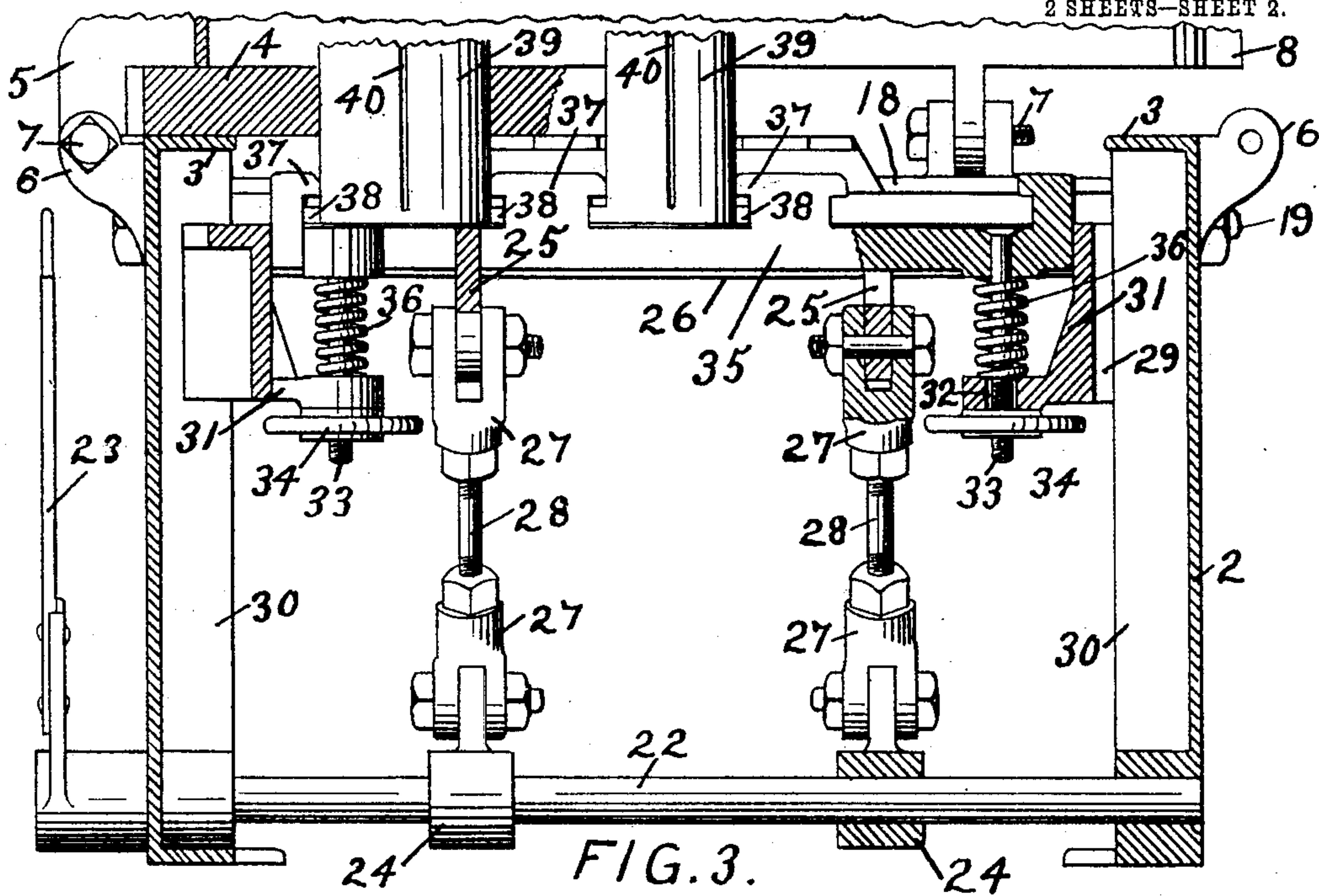
WITNESSES  
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2 SHEETS—SHEET 2.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WILLIAM PORTEN, OF ST. PAUL, MINNESOTA.

## BUILDING-BLOCK MOLD.

No. 804,041.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed April 24, 1905. Serial No. 257,036.

*To all whom it may concern:*

Be it known that I, WILLIAM PORTEN, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Building-Block Molds, of which the following is a specification.

My invention relates to machines for molding artificial blocks used in foundation work and in the erection of buildings of various kinds; and the object of the invention is to provide a machine wherein a concrete block can be easily and quickly molded with comparatively little labor.

A further object is to provide a mold that can be easily and quickly adapted for molding blocks of different size.

The invention consists generally in providing improved means for locking the cores in the mold.

Further, the invention consists in a mold having walls that are adjustable toward or from each other to adapt them for molding different widths of blocks.

Further, the invention consists in providing cores that are slotted to allow the insertion of division-plates whenever it is desired to change the dimensions of the block.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a mold embodying my invention, one of the side walls being in its open position. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a longitudinal vertical section through the mold. Figs. 4 and 5 are details of the mechanism for locking the hinged walls of the core-box or mold together.

In the drawings, 2 represents a suitable frame having horizontal flanges 3, whereon the removable floor 4, that has holes to receive the cores, is placed. End walls 5 are hinged at 6 at each end of the base, the pivots 7 of the hinges being readily removable to allow the walls to be taken off and others substituted therefor. Side walls 8 are hinged on the sides of the base in the same manner as the end walls and provided with slots 9 to receive tongues 10 on said walls. These tongues have slots 11 to receive bolts 12, that are slidable in guides 13 on the side walls, and are provided with eccentric-straps 14, that inclose eccentrics 15, mounted on a stud 16 and provided with an operating-handle 17. When this handle is reciprocated in one direction, the bolts 12 will be withdrawn from the notches in the tongues 10 and separation of the walls will be permitted. Upon moving

the lever in the opposite direction the bolts will be thrust into the tongues and the walls securely locked together. The hinges of the side walls are preferably mounted upon bars 18, that are adjustable by means of bolts 19 in horizontal slots 20 in the frame of the mold. By moving these bars toward or from each other the width of the mold can be varied to suit the dimensions of the block that it is desired to form, the end walls being changed, of course, to correspond to the varying width of the mold. The side walls are also easily removable from the frame to permit the substitution of a rock-facing wall whenever it is desired to form that style of block. The end walls are provided with the usual fixed end cores 21. The movable cores in this mold are preferably raised and lowered by the mechanism which I will now proceed to describe.

22 is a rock-shaft horizontally mounted in the base of the machine and provided with an operating-lever 23. Arms 24 are secured on said shaft and are adjustably and pivotally connected with lugs 25 on the bottom of a frame 26 by means of links 27 and rods 28. By adjusting these rods the vertical movement of said frame can be regulated. The frame 26 is provided on each end with slots 29 to receive webs 30 on the frame of the machine, which act as guides for said frame in its vertical movement. Brackets 31 are provided on said frame and have holes 32 to receive the lower threaded ends of pins 33, provided with adjusting-wheels 34. The upper ends of said pins are secured in a bar 35, that is vertically movable in the frame 26 and independently thereof, and said bar is normally held in its raised position by springs 36, carried by the pins 33. These springs are adapted, as soon as the hand-wheels have been operated, to release the clamp to automatically return the clamping-bar to its raised or inoperative position. A very slight movement of the hand-wheels will serve to release the clamp and the springs will immediately raise the bar and allow the lugs on the core to be disengaged therefrom. I am thus able to insert a core into the mold or remove it therefrom in a much shorter space of time and with less labor than is usually required. The upper side of the bar is provided with a series of hooks 37, that are adapted to engage lugs 38, provided on the lower ends of the cores 39. These cores rest upon the frame 26, and when the hooks 37 are drawn down against the lugs



38 the cores will be clamped securely on said frame and held against accidental or premature movement during the molding operation. Whenever it is desired to move a core, the wheels 34 are revolved to raise the bar 35 and release the lugs 38, whereupon any one or all of the cores can be removed from the mold and others substituted therefor. When the wheels 34 are turned to draw down the bar 35, the springs 36 will be put under tension to automatically lift the said bar to its normal position when released.

I have shown a core provided with slots 40, extending through the same from side to side and adapted to receive division-plates that are inserted into the mold for the purpose of molding a short block or a narrow one, as indicated in Fig. 1, the numeral 41 representing a plate inserted into a slot in the core and having its ends adapted to enter vertical slots 42 in the side walls, thus decreasing the length of the mold and adapting it for forming a shorter block.

I claim as my invention—

1. In a mold for building-blocks, the combination, with a frame, of a vertically-movable core-support and means for operating the same, and means for temporarily clamping a core on said support and means for automatically returning said clamping means to its unclamped or inoperative position, substantially as described.

2. In a mold for building-blocks, the combination, with a frame, of a vertically-movable core-support, cores resting thereon, and a spring-pressed clamp device arranged to temporarily lock said core upon said support, substantially as described.

3. The combination, with a frame, of an adjustable core-support and means for operating the same, cores resting upon said support and having lugs at their lower ends, and a clamp mechanism arranged to simultaneously engage said lugs and temporarily secure said cores upon said support.

4. The combination, with a frame, of a core-support adjustably arranged therein and means for operating the same, cores adapted to rest on said support and having lugs at their lower ends, a bar having hooks to engage said lugs, and means for drawing down said bar to clamp said cores.

5. The combination, with a frame, of a vertically-movable core-support, pins loosely mounted therein and having threaded lower ends provided with operating-wheels, a bar carried by the upper ends of said pins and having hooks, springs arranged on said pins for yieldingly holding said bar in its raised position, and cores adapted to rest on said support and be locked thereon by said hooks, substantially as described.

6. The combination, with a side wall, of a stud having eccentrics mounted thereon and provided with an operating-lever, eccentric-

straps inclosing said eccentrics, bolts connected with said straps and reciprocated in opposite directions by the movement of said lever, and tongues provided on said end walls and having notches to receive said bolts, substantially as described.

7. In a building-block mold, the combination, with a frame and cores mounted thereon, of side bars adjustably supported in said frame and adapted to be moved toward or from each other to increase or decrease the width of the block, a movable floor for the bottom of the mold, side walls removably hinged on said adjustable bars, and end walls removably hinged on said frame between said bars, substantially as described.

8. In a mold for building-blocks a vertically-movable core-support, in combination with a core resting thereon, and spring-pressed means for holding said core on said support.

9. In a mold for building-blocks, a vertically-movable core-support, a core resting thereon, a bar centrally arranged with respect to said support and provided with means for engaging and clamping said core and means for automatically raising said bar and releasing said core, substantially as described.

10. In a mold for building-blocks, the combination with a frame and cores thereon and a movable bottom or floor, the ends of said frame having laterally-extending slots, of side bars 18 having their ends adjustably secured in said slots, side walls hinged upon said bars and adjustable therewith toward or from each other to increase or decrease the space between them, end walls hinged upon said frame between said side walls, and said side and end walls being readily detachable from said bars and said frame, substantially as described.

11. The combination, with a core-support, of a core, and a clamp device having a spring arranged to raise said clamp when the core is released.

12. The combination, with a frame provided with vertical webs 30, of a core-support having slots to receive said webs, means for raising or lowering said support, a core adapted to rest upon said support, and spring-pressed means for clamping it thereon.

13. The combination, with a core-support, of cores adapted to rest thereon, a clamping-bar and operating means therefor, and spring devices put under tension by the movement of said bar to clamp said cores for lifting said bar when the cores are released.

14. The combination, with a vertically-movable core-bar, of cores adapted to rest thereon, a clamping-bar having means to engage the cores and lock them temporarily on said core-bar, means for operating said clamping-bar, and spring devices put under tension by the operation of clamping the cores for separating said core-bar and said clamping-bar when the cores are released.

15. The combination, with a core-bar, of a  
core adapted to rest thereon, and a clamping-  
bar parallel with said core-bar and having  
means to engage said core to lock it tempo-  
5 rarily on said core-bar, substantially as de-  
scribed.

16. In a mold, the combination with a frame,  
of side and end walls hinged thereon, said side  
walls having sockets to receive notched tongues  
10 on said end walls, bolts longitudinally movable  
in guides on said side walls and adapted to

enter the notches in said tongues and lock said  
walls together, and a cam mechanism for si-  
multaneously projecting and withdrawing said  
bolts, substantially as described. 15

In witness whereof I have hereunto set my  
hand this 15th day of April, 1905.

WILLIAM PORTEN.

Witnesses:

RICHARD PAUL,  
C. MACNAMARA.