

Jan. 22 , 1924.

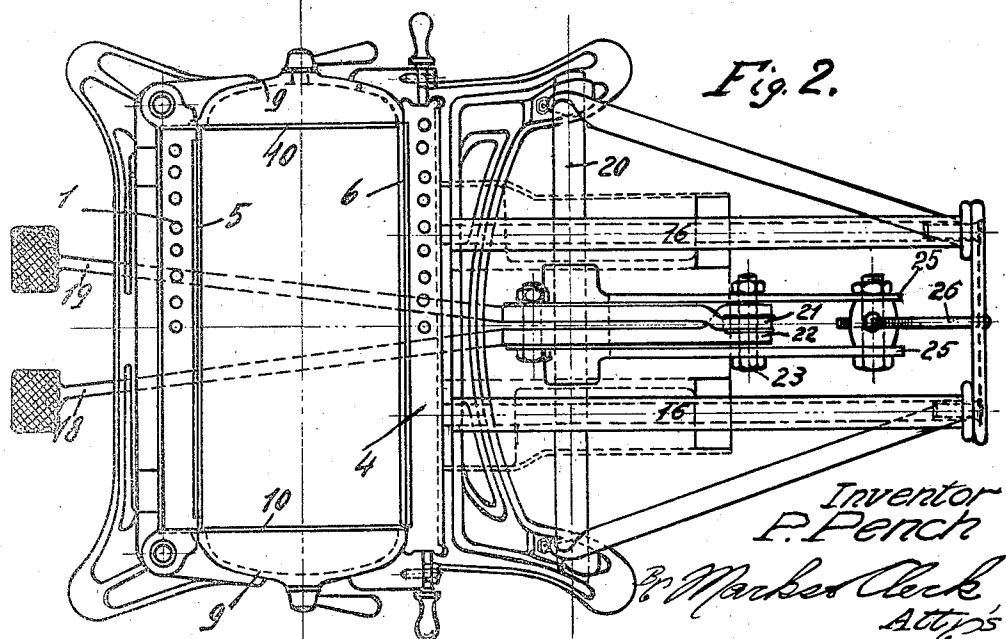
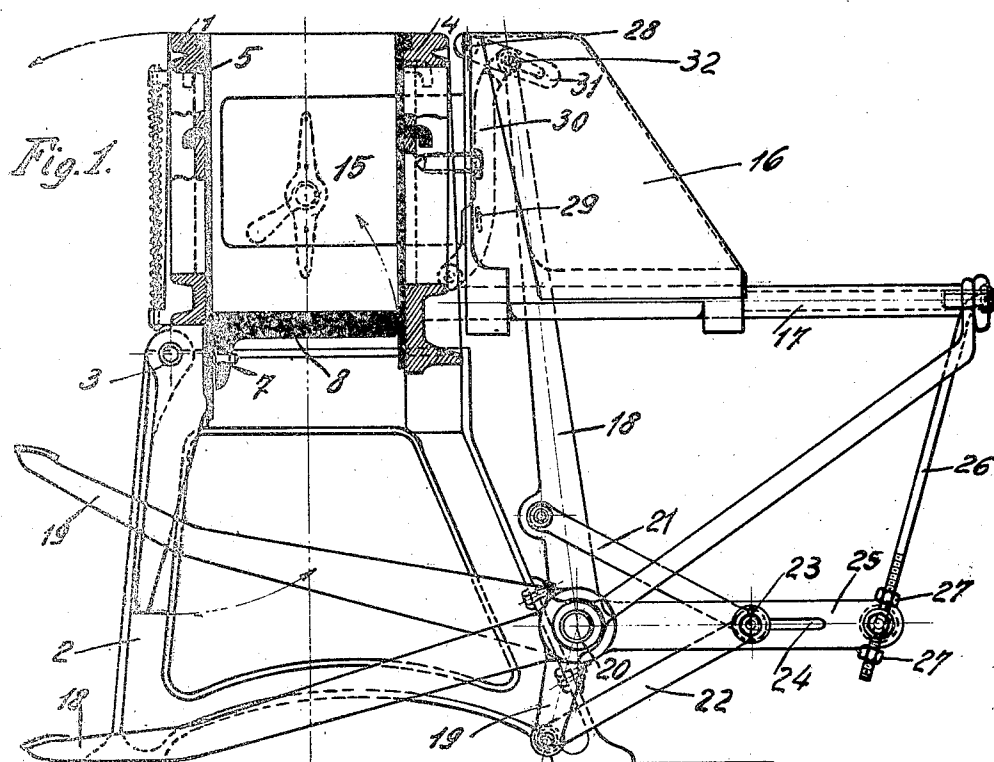
**1,481,736**

P. PENCH

MACHINE FOR MAKING BUILDING BLOCKS

Filed Aug. 28, 1922

2 Sheets-Sheet 1



Inventor  
P. Perch

P. Perch

By Marked Clerk  
Attys

Atty's

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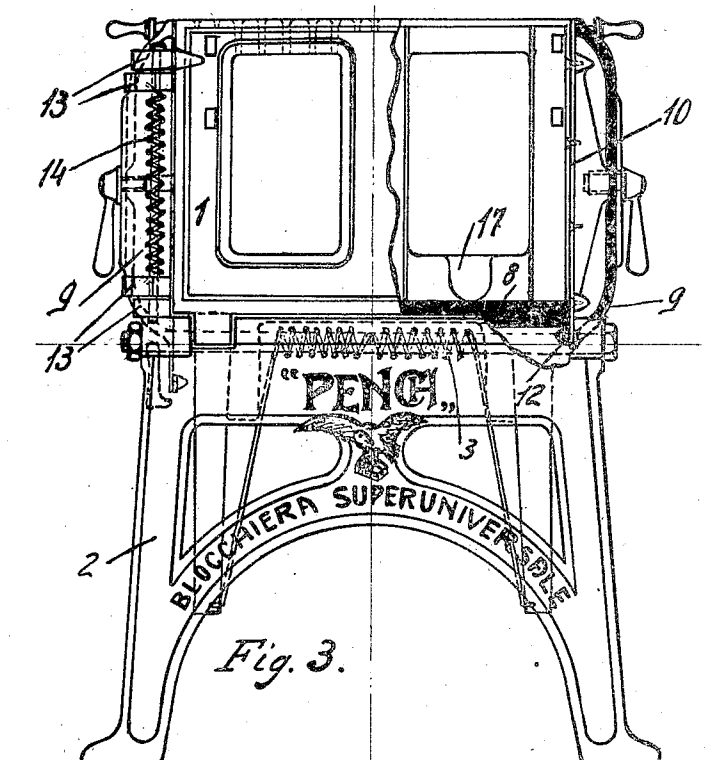
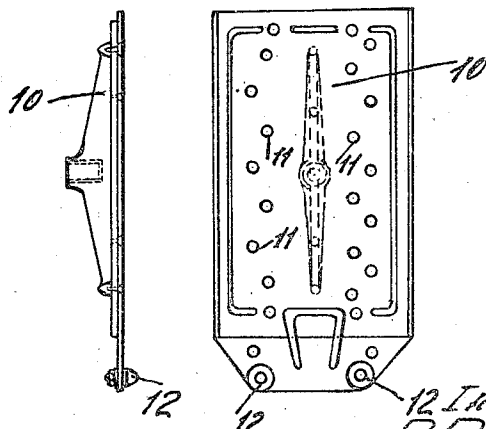


Fig. 4.

Fig. 5.



## UNITED STATES PATENT OFFICE.

PIERO PENCH, OF MILAN, ITALY.

MACHINE FOR MAKING BUILDING BLOCKS.

Application filed August 28, 1922. Serial No. 584,841.

*To all whom it may concern:*

Be it known that PIERO PENCH, manufacturer, citizen of the Kingdom of Italy, residing at Milan, Via Malpighi 12, Italy, has invented certain new and useful Improvements in Machines for Making Building Blocks, of which the following is a specification.

My invention relates to improvements in machines for the manufacture of pressed blocks of concrete or like materials, and more particularly to building block machines provided with mold boxes having hinged sides capable of swinging 90° after the block has been formed. In my machine the cores for forming holes in the blocks are disposed horizontally, and the bottom of the mold box can be disposed at different heights, in order to give to the blocks the required thickness, while maintaining the tops of the blocks at a constant height.

Another object of my invention is to provide lateral doors for the machine each having a concave shape to house supporting elements for the carrying devices for the said bottom.

A third object of my invention is to provide springs on the hinge pintles of the mold box, in order to partly compensate for the weight of the hinged parts.

A fourth object of my invention is to provide a core-carrying device and sliding on rigid guides, the said core-carrier being driven by means of a pedal driving device.

The spirit of my invention will be more fully set forth in the example of carrying out the operation of the block moulding machine provided with the mentioned improvements shown in the accompanying drawings in which like numerals of reference indicate corresponding parts in each of the several figures.

Referring to the drawings—

Fig. 1 is a view of a vertical middle section through a block machine according to my invention.

Fig. 2 is a plan view of the same.

Fig. 3 is a partly sectioned side elevation.

Figs. 4 and 5 show, respectively, a side and a plan view of the door carrying device.

The tipable wall —1—, of the machine, which is hinged on the bed plate —2— which is distinguished from the hinged walls of other moulding machines known by that it is provided with a spring —3— destined to compensate partly its own weight and to

compensate also the weight of the doors and the relative suspension devices or other parts carried by the same, in order to permit a more easy working. Moreover the wall —1— itself and the back —4— are disposed in such a manner that they can receive and sustain the plates —5— and —6— which can be made with or without perforations and have different sizes, according to the kind of block to be produced.

The plates —5— are provided with pins —7— destined to support the bottom or moulding plate —8—; this latter by the variations of size of the plates takes a higher or a lower position thus permitting the formation of blocks of different thickness. The bottom —8— if the block machine is closed, is sustained also by the little doors —9— of a concave shape whereon are fixed the plates —10— provided with holes —11— (Fig. 5) adapted to receive the supports —12— which support the said bottom until the doors 9 also are tipped for releasing the moulded block. The doors —9— are connected with the tipable wall —1— by means of hinges —13— (Fig. 3) and the weight of the same is compensated by springs —14— which serve to eliminate a part of the strain required for raising or lowering the same. The said doors 9 cannot be changed for producing different types of blocks but the plates 10 may be changed for this purpose. These plates may be of different types. The bottom 8 can have different shapes also to accommodate various types of blocks.

The cores 15 may be of different sizes corresponding to the holes to be provided in the blocks. The core is fixed on a carriage 16 which slides to and fro upon guides 17 under the influence of pedal driven bell-crank levers 18 and 19. Both levers are pivoted on a transverse shaft 20 and connected with each other by means of the connecting links 21 and 22, pivoted on the common pivot 23 sliding within the slots 24 of the guides 25, and adjusted by the tie-rod 26 by means of nuts 27.

The said lever system is arranged in such manner that, if for instance, lever 19 is moved in a counterclockwise direction, the link 22 will push the pivot 23 toward the right in the slot 24, and said pivot 23 will pull the link 21 and consequently the other lever 18 will be swung in a clockwise direction and move the carriage 16 toward the right. During this movement, the pedal por-

tion of the lever 18 will be raised, so that it will be brought into position for the next movement of the carriage 16 toward the left. The described lever system is connected with  
 5 the core-carriage 16 by means of pivot pins 28 and 29 which engage levers 30 and 31. The lever 30 is pivotally connected to the bed plate 2, and the lever 31 is pivotally connected to the carriage 16. The pin 29 en-  
 10 gages a slot in lever 30. Said levers 30 and 31 are connected by means of the pivot pins 32 to the upper end of the lever 18. It is obvious that various details may be changed without departing from the spirit of the in-  
 15 vention as expressed in the claims.

What I claim is:—

1. A machine for making solid or perforated blocks of pressed cementitious or analogous material including a mold box provided with a swinging wall adapted to be  
 20 swung into a position substantially parallel with the bottom of the box after a block has been molded, a horizontally movable core adapted to enter and be withdrawn from  
 25 said box, the bottom of said box being vertically adjustable to accommodate blocks of various thicknesses, the ends of said box including swinging doors hinged to the swing-  
 30 ing wall and provided with cavities, and plates arranged in said cavities and provided with means for supporting the bottom of the box.

2. A machine as claimed in claim 1 including means for moving said core, said  
 35 core moving means including rigid guides, a carriage mounted on said guides and connected to said core, a plurality of foot oper-

ated levers, one of which is connected to said carriage, and means connecting said levers to permit one lever when depressed to cause  
 40 the raising of the other lever.

3. A machine as claimed in claim 1 in which the hinges of the hinged wall and the swinging ends of the box are provided with  
 45 springs in order to aid in swinging the wall and doors into positions to form the complete box.

4. A machine of the class described including a mold box provided with a fixed  
 50 side wall, a swinging side wall arranged opposite the fixed side wall and adapted to be swung into a position substantially at right angles to the fixed side wall, end  
 55 walls hinged to the swinging side wall and provided with cavities, a bottom wall capable of adjustment between the side and end walls, and plates arranged in the cavities of the end walls and provided with means for supporting said bottom.

5. A machine as claimed in claim 4 in  
 60 which the fixed side wall is perforated, and a core movable into and out of the box through said perforation.

6. A machine of the class described including a core, a carriage supporting said  
 65 core, a first bell-crank lever connected to said carriage, a second bell-crank lever, a pair of links, one connected to one of said levers and the other connected to the other of said  
 70 levers, a pivot pin connecting said links together, and slotted guides for said pivot pin.

In testimony whereof I affix my signature.

PIERO PENCH.