

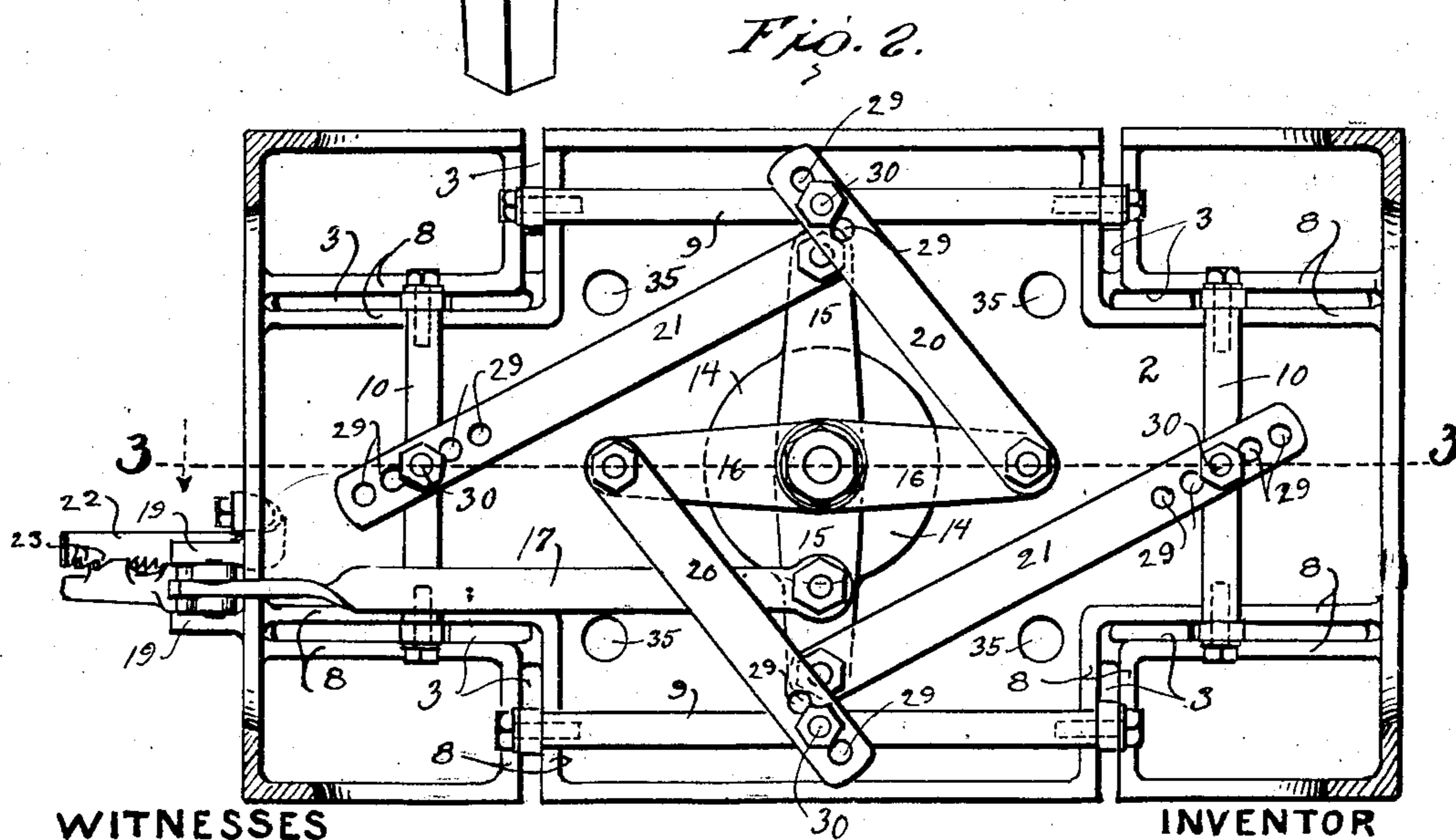
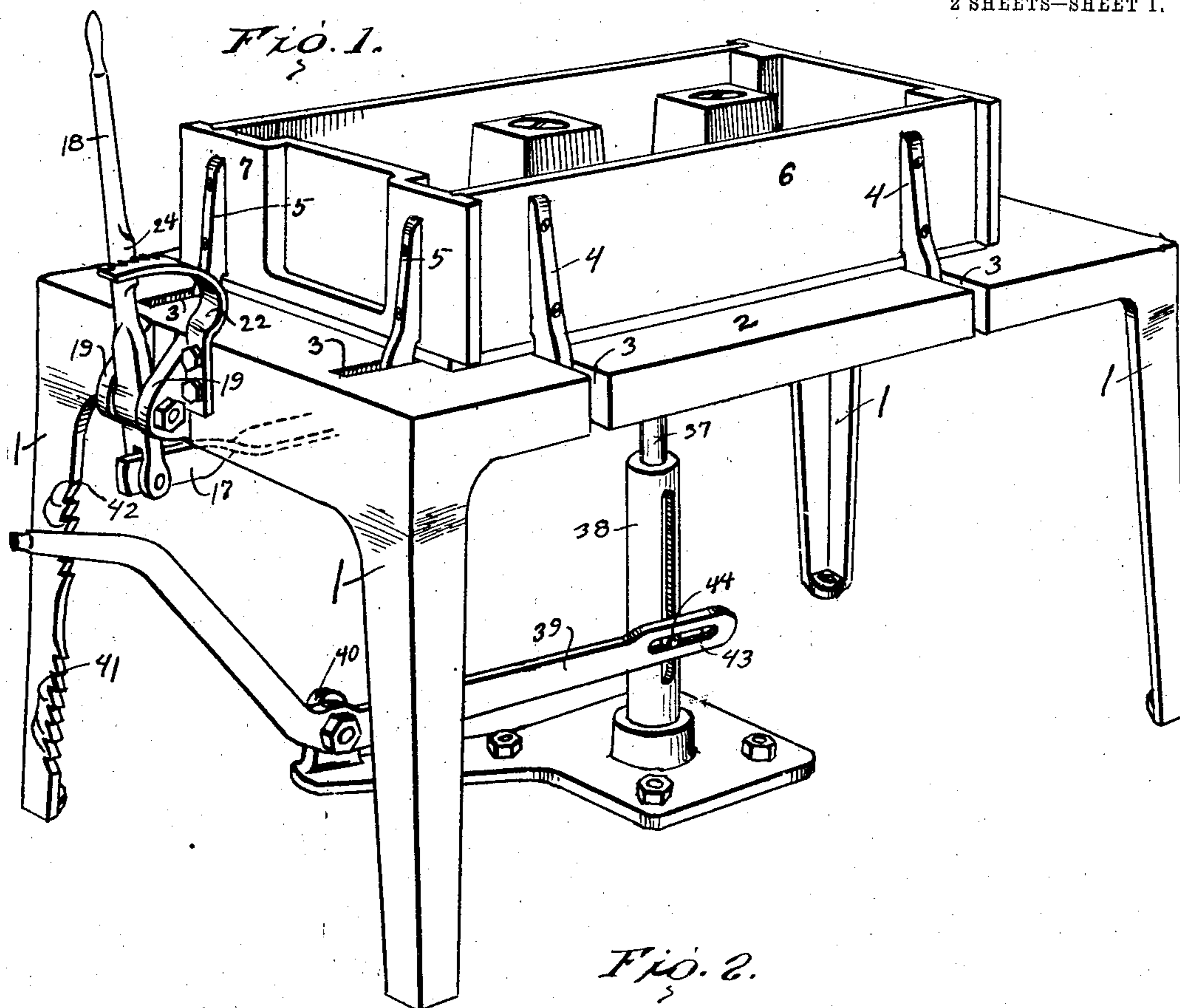
No. 812,336.

PATENTED FEB. 13, 1906.

E. C. GLATFELTER.  
MACHINE FOR FORMING CONCRETE BLOCKS.

APPLICATION FILED AUG. 23, 1905.

2 SHEETS—SHEET 1.



**WITNESSES**

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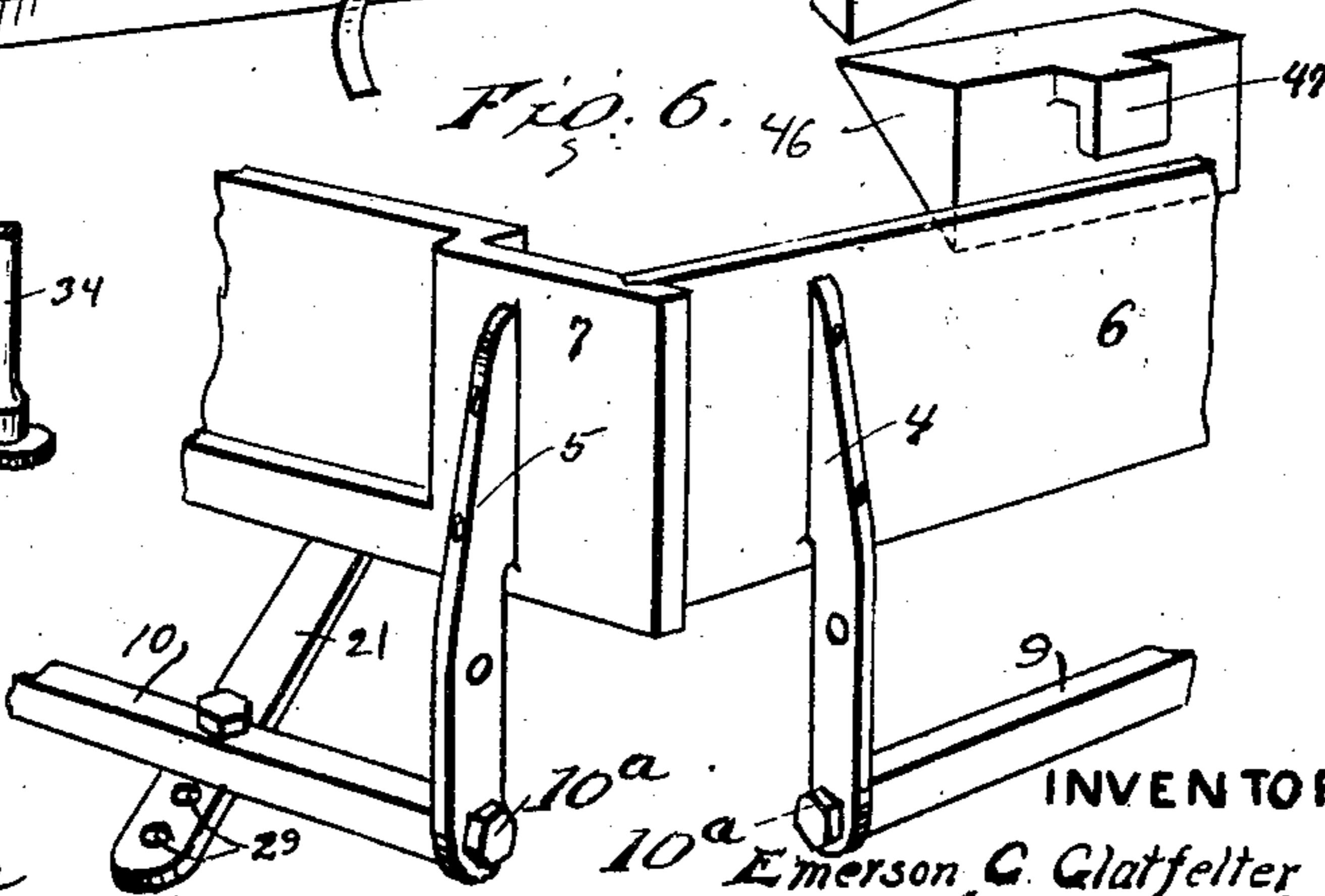
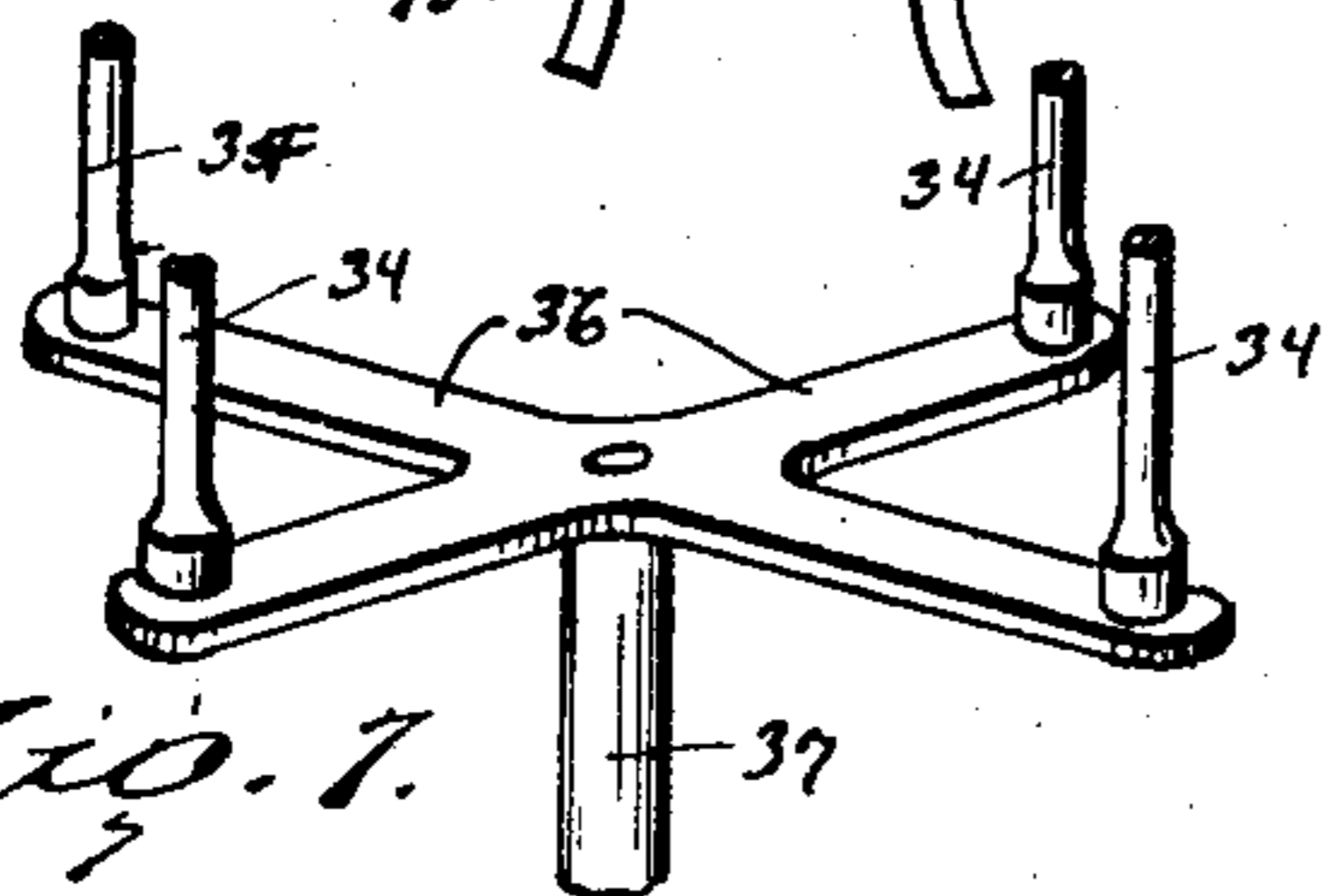
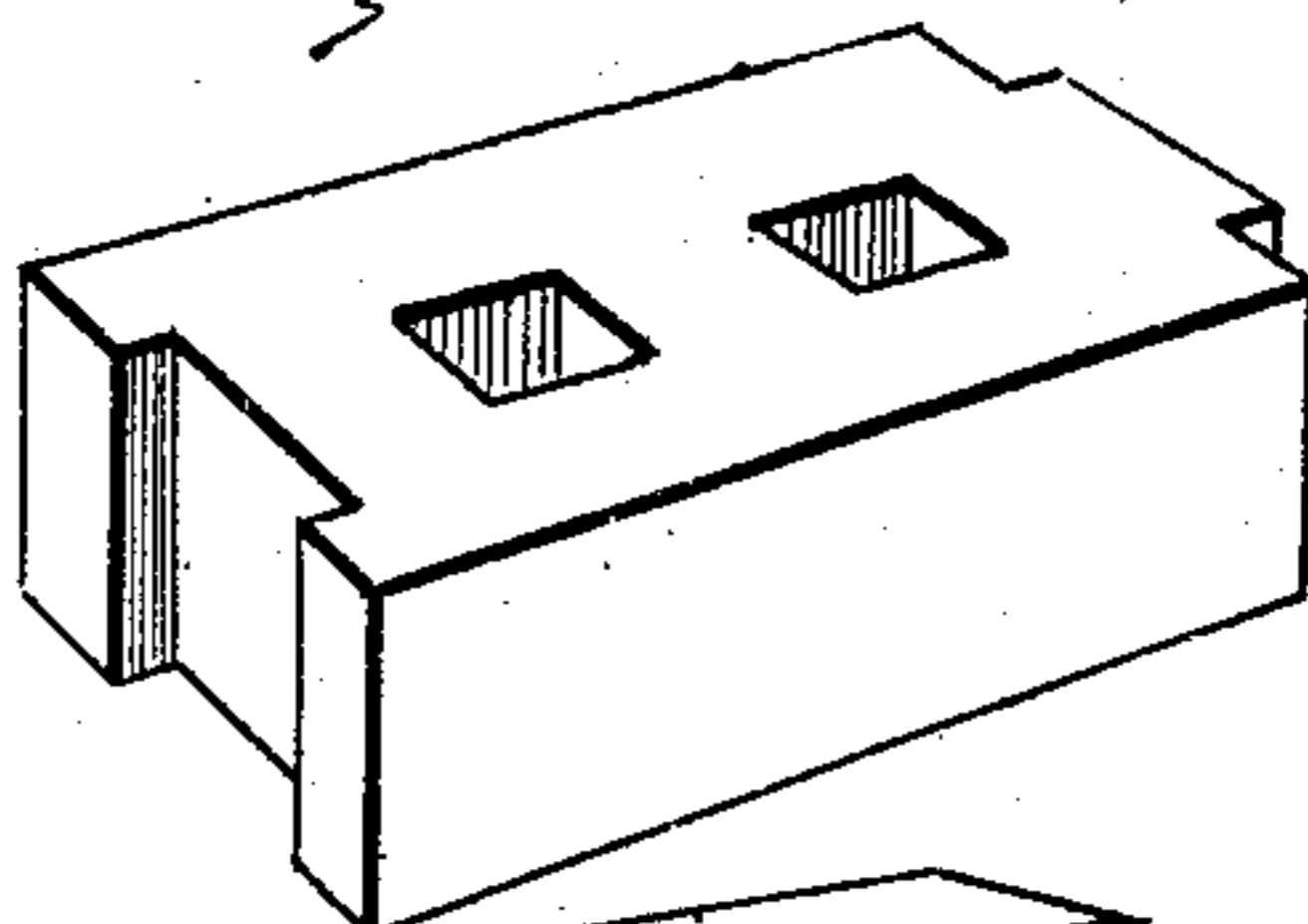
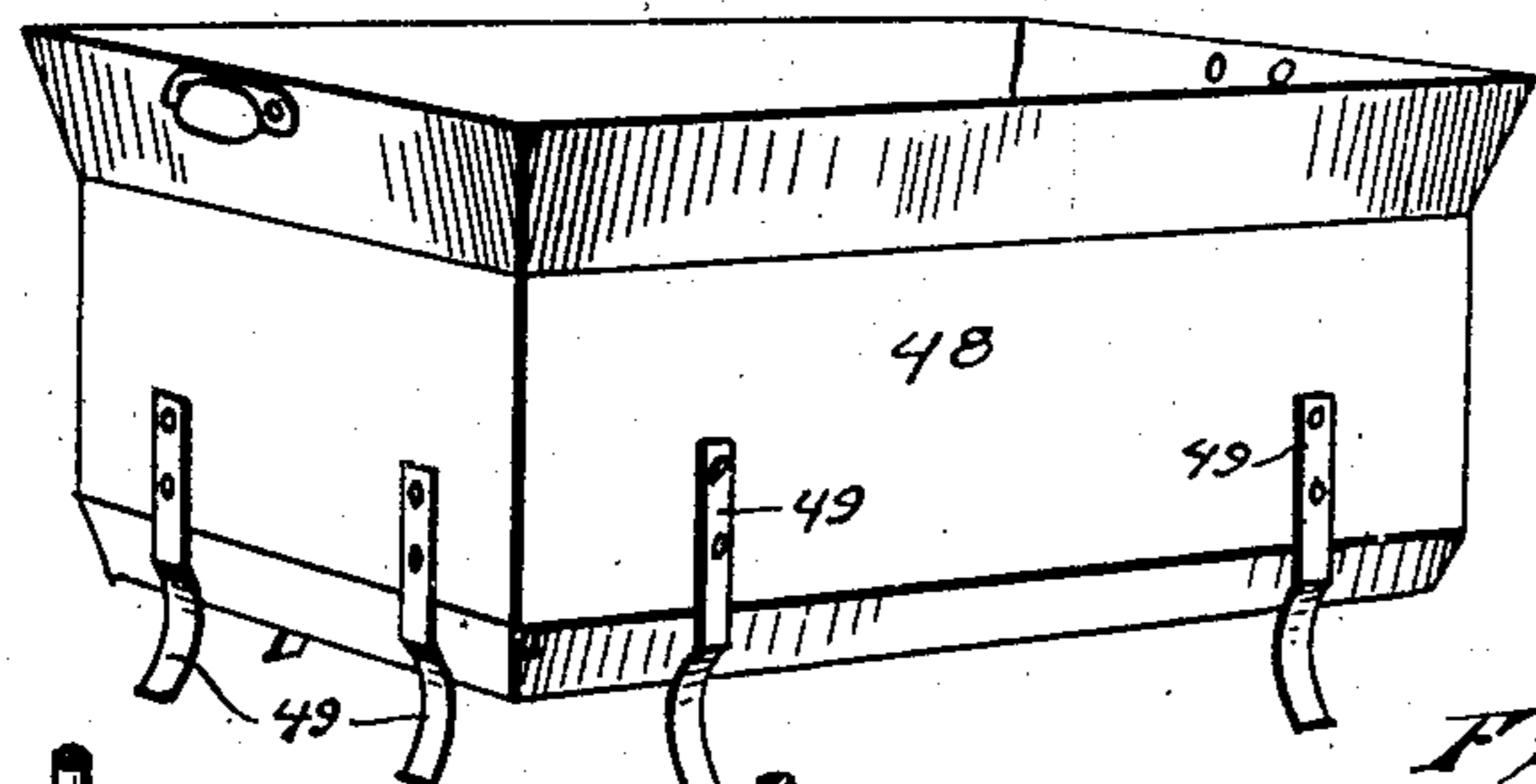
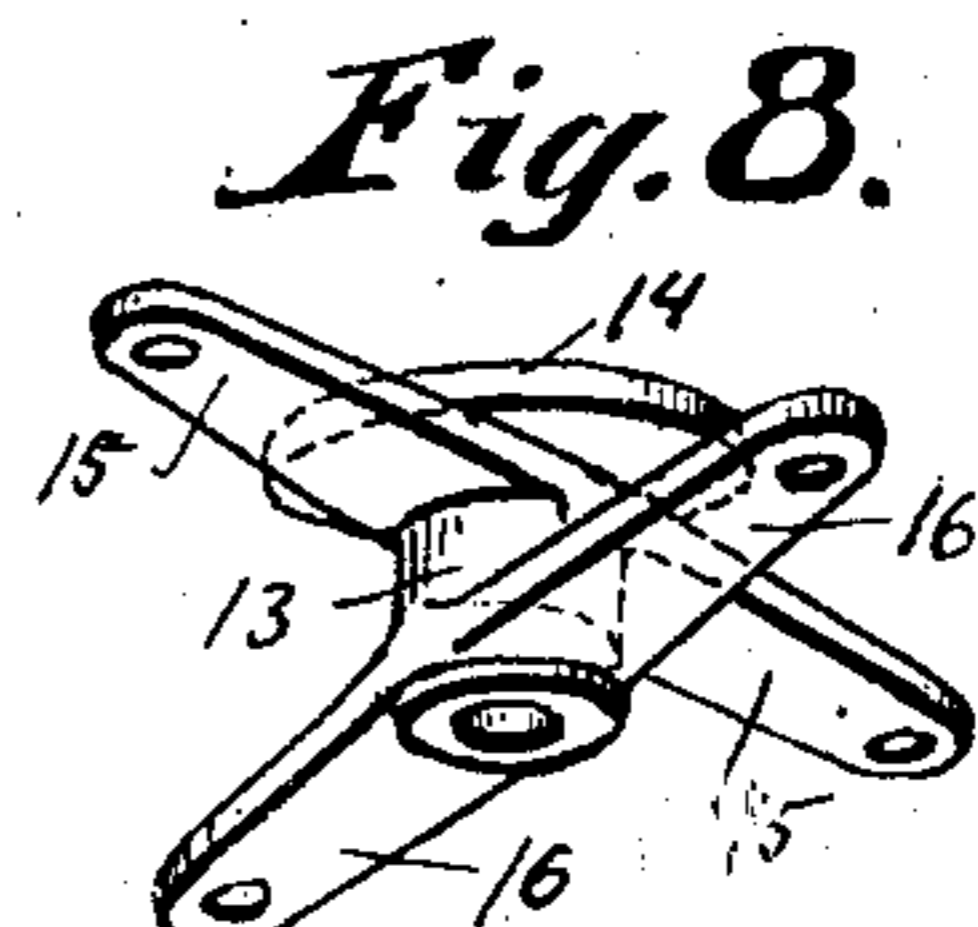
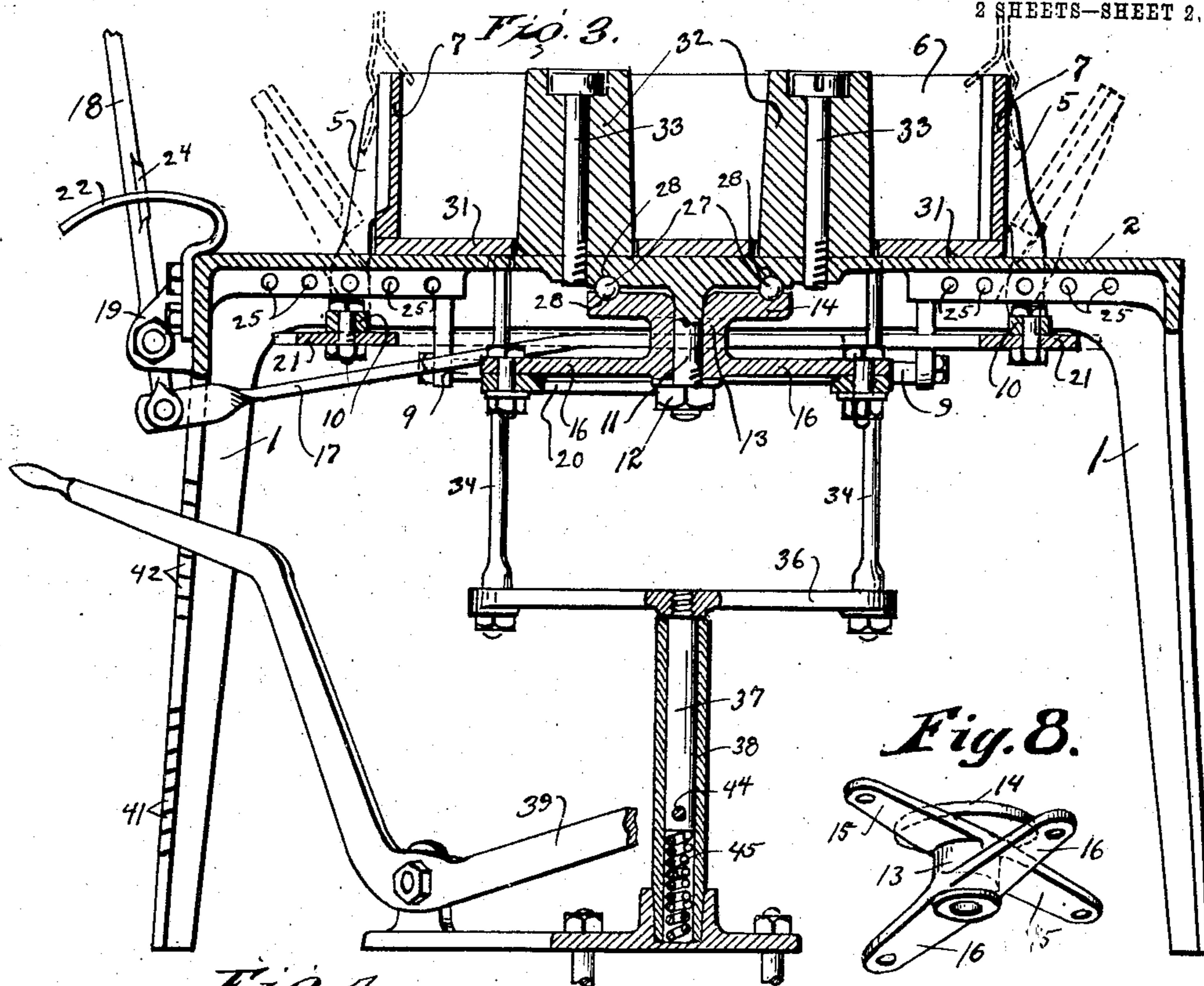
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2 SHEETS—SHEET 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

EMERSON C. GLATFELTER, OF NEW PHILADELPHIA, OHIO.

## MACHINE FOR FORMING CONCRETE BLOCKS.

No. 812,336.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed August 23, 1905. Serial No. 275,402.

*To all whom it may concern:*

Be it known that I, EMERSON C. GLATFELTER, a citizen of the United States, residing at New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Machines for Forming Concrete Blocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a perspective view. Fig. 2 is a view showing the bottom or under side of the machine, showing the legs in cross-section. Fig. 3 is a vertical section taken on line 3 3, Fig. 2. Fig. 4 is a detached view of the hopper. Fig. 5 is a view showing a finished block. Fig. 6 is a view showing portions of one of the hinged end plates and side plate, showing one pivoted arm upon each of said end and side plates. Fig. 7 is a detached view of the lifting-head. Fig. 8 is a detached perspective view of the bearing-sleeve.

The present invention has relation to concrete-forming machines; and it consists in the novel construction hereinafter described, and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the supporting-legs, which support in proper elevation the bed-plate 2, which bed-plate is provided with the open recesses 3, which open recesses are for the purpose of receiving the pivoted arms 4 and 5, which pivoted arms are securely fixed in any convenient and well-known manner to the side plates 6 and the end plates 7, which plates when brought into a vertical position constitute and produce a structure, or what might be termed a "box," of the shape and size of the block designed to be formed. The pivoted arms 4 and 5 are each extended downward and below the bottom edges of the plates 6 and 7 and are pivotally connected to the flanges 8 or their equivalents. To the extreme bottom or lower ends of the pivoted arms 4 and 5 are connected the bars 9 and 10, it being understood that there are two sets of bars 9 and 10, or four distinct and separate bars, two for the side plates and two for the

end plates. The bottom or under side of the bed-plate 2 is provided with the bearing 11, which bearing is preferably screw-threaded at its bottom or lower end to receive and hold the nut 12. Upon the bearing 11 is loosely mounted the sleeve 13, the upper end of which is provided with the head 14. To the sleeve 13 are attached or formed integral therewith the bars 15 and 16, which bars are located at right angles to each other and are for the purpose hereinafter described. To the bar 15 is pivotally attached the operating-rod 17, which rod is extended under the bed-plate 2 and beyond the end thereof, and to the outer end of said rod is pivotally attached the bottom or lower end of the operating-lever 18, which operating-lever is pivotally attached to the flanges 19 or their equivalents a short distance above the bottom or lower end of said operating-lever. To the bars 16 are pivotally attached the links 20, which links are connected to the end-plate bars 10. To the bars 15 are attached the links 21, which links are pivotally attached to the side-plate bars 9, said parts being assembled and arranged as best illustrated in Fig. 2, and as arranged in said figure when the lever 18 is moved inward the bottom or lower end of said lever will be moved outward, which by means of the links 20 and 21 will move the plate-bars 9 and 10 inward and of course oscillate or rock the arms 4 and 5 and move the end and side plates outward, after which the block can be removed, as hereinafter described. By an outward movement of the lever 18 a reverse movement of the parts operated by said lever is brought about, which reverse movement places the side and end plates in position to mold or form a block. For the purpose of holding the side and end plates in any desired adjustment, either open or closed, the rack-bar 22 is provided, which is held in fixed position and provided with a series of notches 23, which series of notches receive the extended flanges 24, formed upon the lever 18.

It is well understood that in forming blocks of concrete various sized and shaped blocks are required, and for the purpose of providing means for changing the side and end plates and at the same time adjusting said plates in or out the flanges 8 are provided with a series of apertures 25, which series of apertures are for the purpose of changing the position of

the bolts 26, which bolts of course are for the purpose of pivotally connecting the arms 4 and 5.

It is well understood that during the time the plates are moved by means of the lever 18 there should be no rocking or tilting movement of the head 14, and for the purpose of overcoming this tilting movement and at the same time reducing the friction the anti-friction-balls 27 are provided, which anti-friction-balls are located in the grooves 28, formed in the bottom of the bed-plate 2, and the top of the head 14 and the nut 12 turned so as to take up any slack between the head 14 and the bed-plate 2, thereby insuring a true movement of the head 14, together with the bars 15 and 16.

For the purpose of providing adjustment as between the bars 15 and 16 and the various plate-bars 9 and 10 the links 20 and 21 are provided with a series of apertures 29, which apertures are for the purpose of receiving the bolts 30, it being understood that the bolts 30 are to be placed through the proper aperture of the series of apertures 29 to bring about the desired adjustment for the various-sized blocks.

For the purpose of providing a means for allowing the bars 9 and 10 to move back and forth, so as to tilt the mold walls or plates 6 and 7, the bottom or lower ends of the pivoted arms 4 and 5 are pivotally connected to said bars 9 and 10 by means of the bolts 10<sup>a</sup>, by which arrangement there is a pivotal connection between the links 20 and 21, the bars 9 and 10, and the mold-plates 6 and 7 by reason of the pivotal connection of the lower ends of the pivoted arms 4 and 5. It will be understood that no pivotal connection is necessary as between the bars 9 and 10 and the links 20 and 21 except in a horizontal plane, and the horizontal pivotal connection is made by means of the apertures 29 and the bolts 30.

The follower or false bottom 31 is placed upon the top or upper side of the bed-plate 2, as illustrated in Fig. 3, which receives the plastic material from which the block is to be formed, and if it is desired to form openings in the block, such as shown in Fig. 5, or of any other desired form, the cores 32 are provided, which cores are held in proper position by means of the lug-bolts 33. After a block has been properly formed and it is desired to remove the block the side and end plates 6 and 7 are thrown outward, as illustrated in dotted lines, Fig. 3, after which the follower 31 is moved upward by an upward movement of the rods 34, which rods pass through the apertures 35, formed in the bed-plate 2, and come in contact with the bottom or under side of the follower 31. The rods 34 are securely connected to the spider 36, which spider is connected to the reciprocating rod 37, which rod is located in the hollow standard

38, but is formed of a length less than the length of said standard. To the rod 37 is pivotally attached the lever 39, which lever is pivotally attached to the bracket 40 or its equivalent, and extended outward for the purpose of bringing it into position to be operated and at the same time produce the desired amount of leverage.

It will be understood that a downward movement of the lever 39 will elevate the rod 37, together with the different parts carried thereby, and when so elevated the follower 31 will be moved upward, carrying with it the finished block, after which the block can be easily removed.

For the purpose of holding the follower in elevation one of the legs 1, or its equivalent, is provided with a series of notches 41, which notches receive the lever 39 and hold the lever against displacement.

It will be understood that when the follower is placed upon the bed-plate 2 the lever 39 should be locked against a movement, and to so lock the lever the notches 42 are provided.

For the purpose of bringing about a true reciprocating movement of the rod 37 by the movement of the lever 39 said lever is provided with the slot 43, through which slot is located the pin 44, which pin is securely connected to the reciprocating rod 37.

For the purpose of assisting in elevating the follower, together with the block carried thereby, the spring 45 is provided, which spring is located below the reciprocating rod 37, and of course when said rod is lowered the spring will be compressed, and the energy of said spring will be exerted when the lever 39 is freed to be moved to elevate the follower.

In the formation of blocks for buildings it is sometimes desirable to bevel or notch the corner or corners of a block for the purpose of providing for timbers, such as rafters, and in order to so form blocks I provide the detachable block or former 46, which is provided with the hooked flange 47, which hooked flange is designed to be connected to the top or upper side of the side or end plates, as desired, reference being had to the particular point where the beveled portion is to be located.

For the purpose of providing means for placing the plastic material in the former proper the hopper 48 is provided, which hopper is detachably connected to the side and end plates 6 and 7 by means of the springs 49 and of course is to be removed after a sufficient amount of plastic material has been placed in position to properly form or mold a given-sized block.

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

1. In a cement-forming machine, the com-

1 combination of a bed-plate supported in proper  
elevation, side and end plates having secured  
thereto arms, and the arms pivotally con-  
nected and extended below the bed-plate, a  
5 sleeve mounted upon a bearing and its upper  
end provided with a head, and bars located  
at right angles to each other, links secured to  
said bars and plate-bars adapted to be oper-  
ated by the links connected to the right-an-  
10 gled bars, and a lever adapted to oscillate or  
rock the right-angled bars, and means for  
holding the lever in fixed adjustment, and a  
rod connected to the lever and to one of the  
right-angled bars, substantially as and for  
15 the purpose specified.

2. In a machine of the class described, the  
combination of a suitable bed-plate, side and  
end mold-plates, bars secured to said end and  
side mold-plates and extended below said  
20 plates means for adjusting the side and end  
plate bars, and holding said bars in fixed ad-  
justment, means for rocking the side and end  
mold-plates, a follower normally located  
upon the bed-plate, a spider or head, a recip-  
25 rocatng rod adapted to support said spider  
or head, and the spider or head provided with  
pins adapted to engage the bottom or under  
side of the follower, said spider or head secured  
to the reciprocating rod, a hollow standard  
30 adapted to receive the reciprocating rod, a lever  
pivotally attached to the rod, and means  
for holding the lever against movement, sub-  
stantially as and for the purpose specified.

3. In a machine of the class described, the  
35 combination of a bed-plate supported in  
proper elevation, a bearing extended from  
below the bed-plate and a rotating sleeve  
mounted thereon, said rotating sleeve pro-  
vided with a head, grooves formed in the  
40 head and in the bed-plate, antifriction-balls  
located in the grooves and the head of the  
sleeve provided with bars, said bars located  
at right angles to each other, side and end  
mold-plates provided with pivoted arms,  
45 bars pivotally attached to the lower ends of  
the pivoted arms, and links secured to the  
right-angled bars, and the right-angled bars  
secured to the head of the rotating sleeve at  
their inner ends and their outer ends secured  
50 to the bars connected to the pivoted arms, an  
operating-lever having connected at its

lower end an operating-rod, said operating-  
rod connected at its opposite end to one of  
the right-angled bars secured to the head,  
substantially as and for the purpose specified. 55

4. In a machine of the class described, the  
combination of a bed-plate supported in  
proper elevation, a bearing extended from  
below the bed-plate, a rotating sleeve mount-  
ed thereon, said rotating sleeve provided 60  
with a head, grooves located in the head and  
in the bed-plate, antifriction-balls located in  
the grooves and the head of the sleeve pro-  
vided with bars, said bars located substan-  
tially at right angles to each other, side and 65  
end mold-plates provided with pivoted arms,  
bars pivotally attached to the lower ends of  
the pivoted arms, links secured to the bars  
fixed to the head of the rotating sleeve at  
their inner ends, and their outer ends secured 70  
to the bars connected to the pivoted arms  
fixed to the mold-plates, an operating-lever  
having connected at its lower end an operat-  
ing-rod, said operating-rod connected at its  
opposite end to one of the bars fixed to the 75  
rotating head and means for adjusting the  
side and end mold-plates to and from each  
other, substantially as and for the purpose  
specified.

5. In a machine of the class described, the 80  
combination of a bed-plate supported in  
proper elevation, side and end mold-plates  
provided with pivoted arms bars connected  
to the lower ends of the pivoted mold-plate  
arms, means for actuating the pivoted arms 85  
upon their pivotal points, a follower located  
upon the bed-plate, a spider provided with  
pins and the pins adapted for contact with  
the lower face of the follower, said spider se-  
cured to a reciprocating rod, a hollow stand- 90  
ard adapted to receive the reciprocating rod,  
a spring located below the reciprocating rod  
and within the hollow standard and means  
for reciprocating the rod and the spider, sub-  
stantially as and for the purpose specified. 95

In testimony that I claim the above I have  
hereunto subscribed my name in the presence  
of two witnesses.

EMERSON C. GLATFELTER.

Witnesses:

C. A. LEECH,

EDWIN S. DOUTHILL.