

Dec. 19, 1939.

D. W. PERIN

2,183,794

FREIGHT CONTAINER

Filed Aug. 17, 1935

4 Sheets-Sheet 1

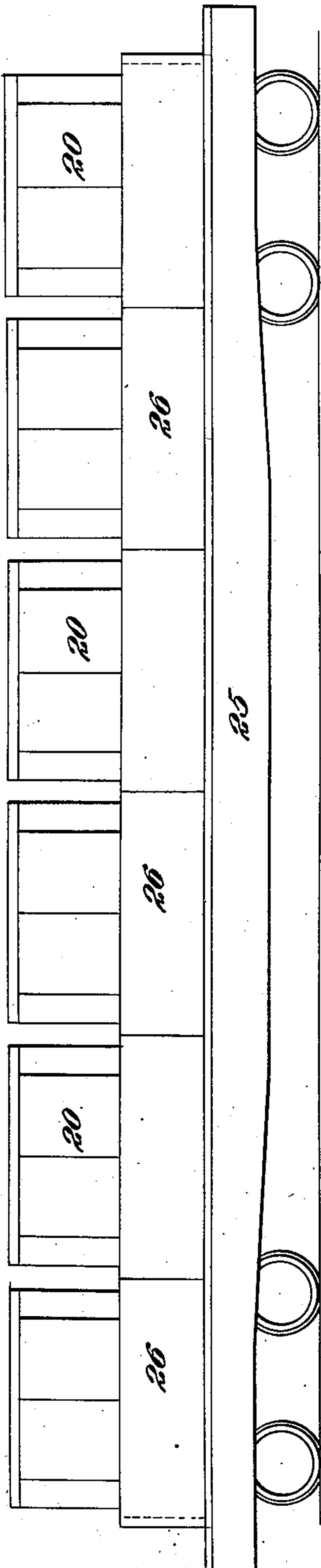


Fig. 1

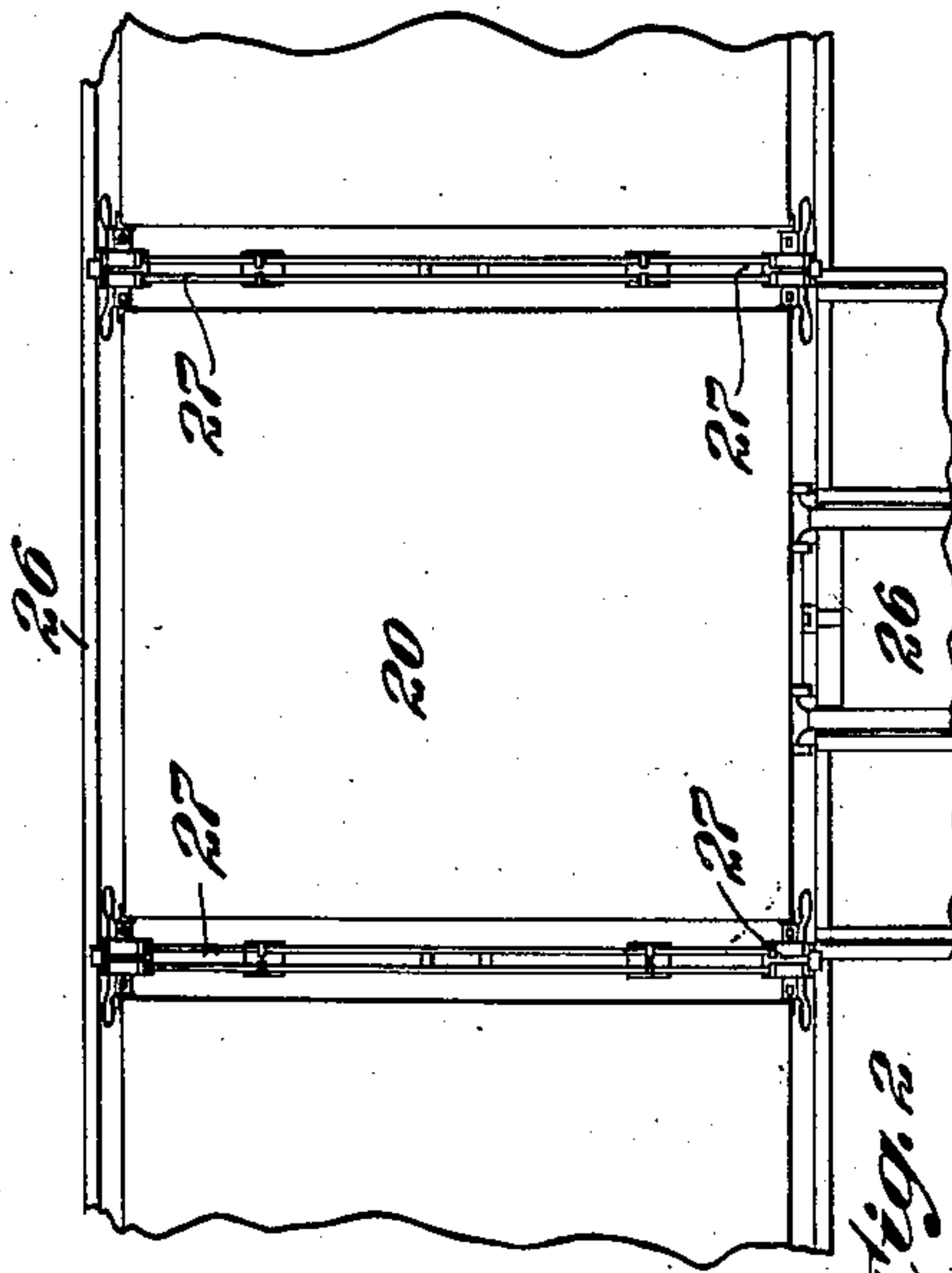


Fig. 2

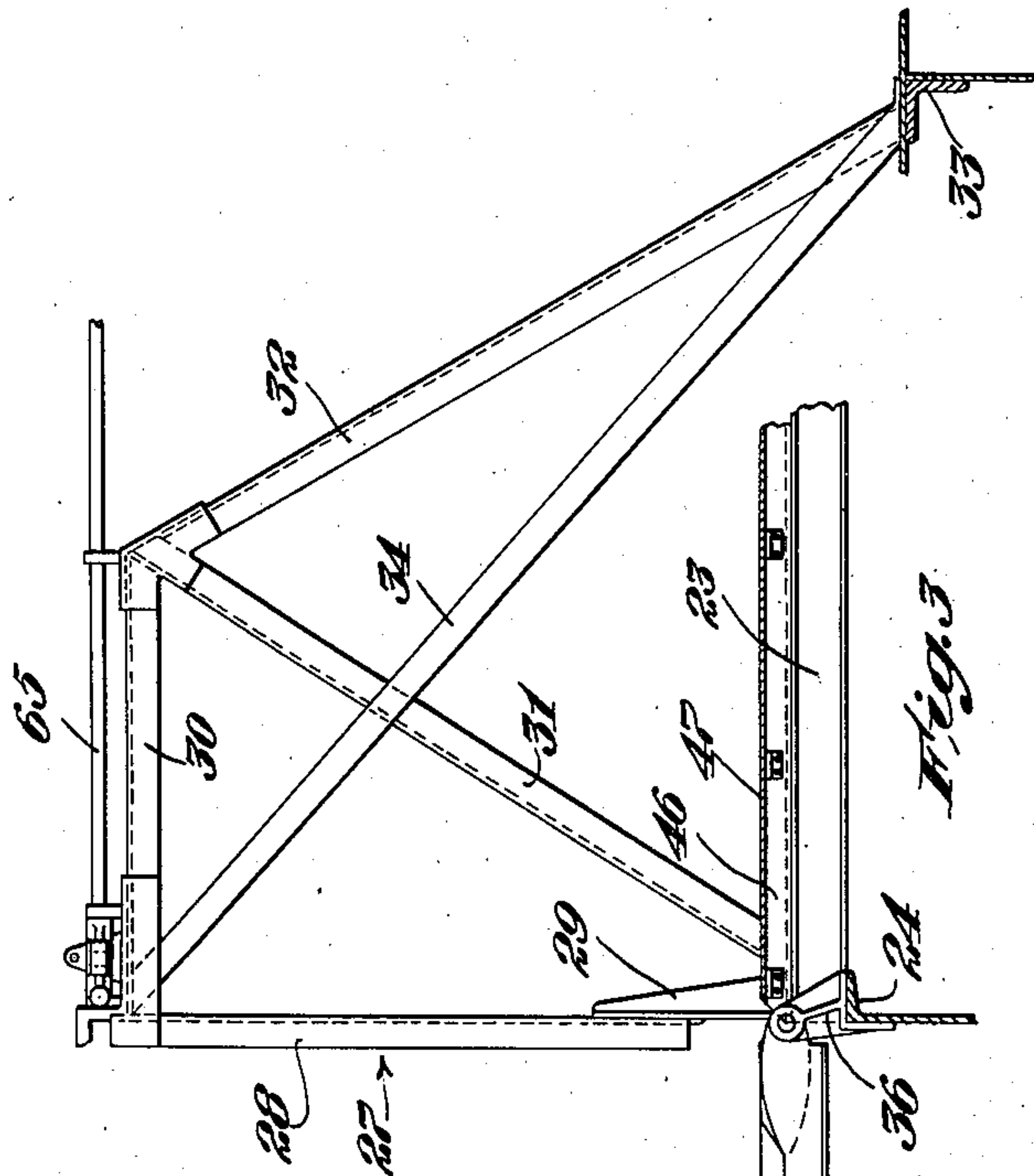


Fig. 3

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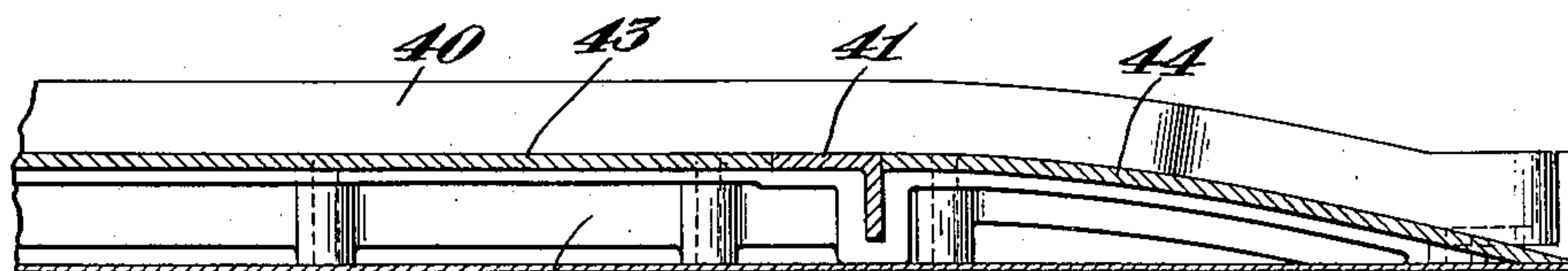
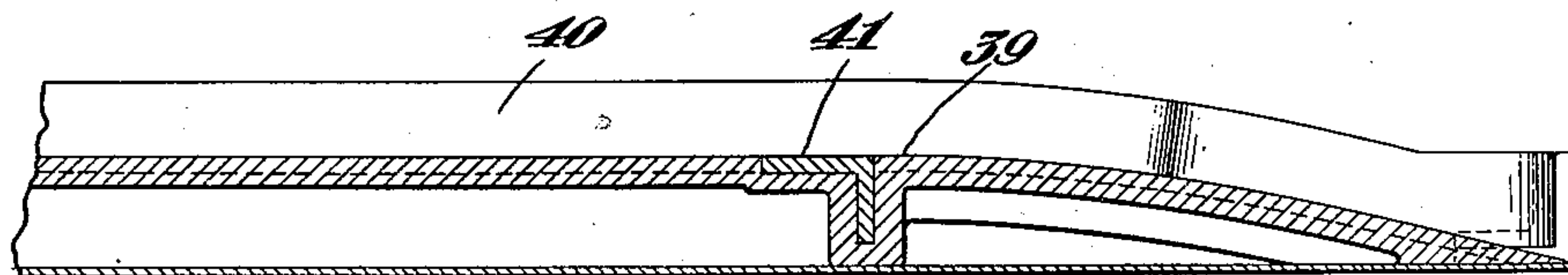
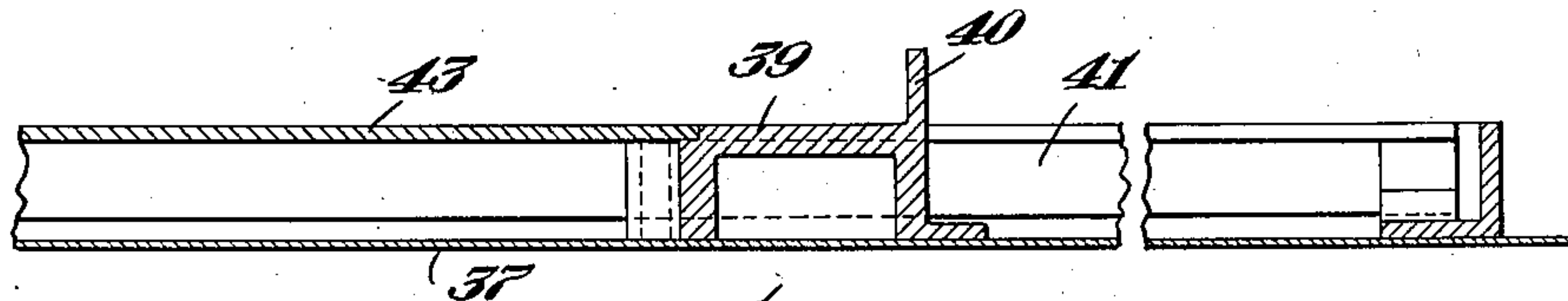
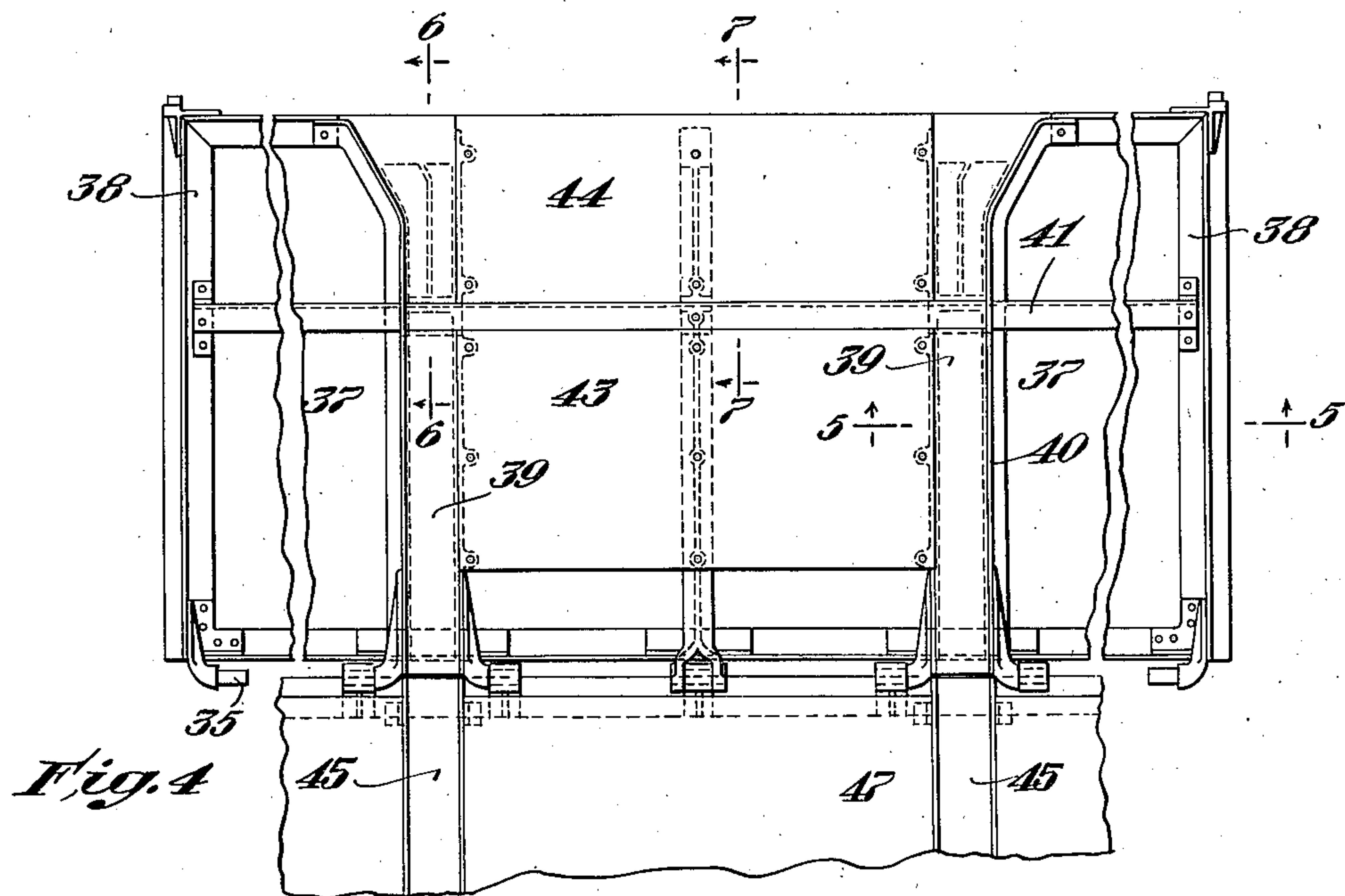


Fig. 7

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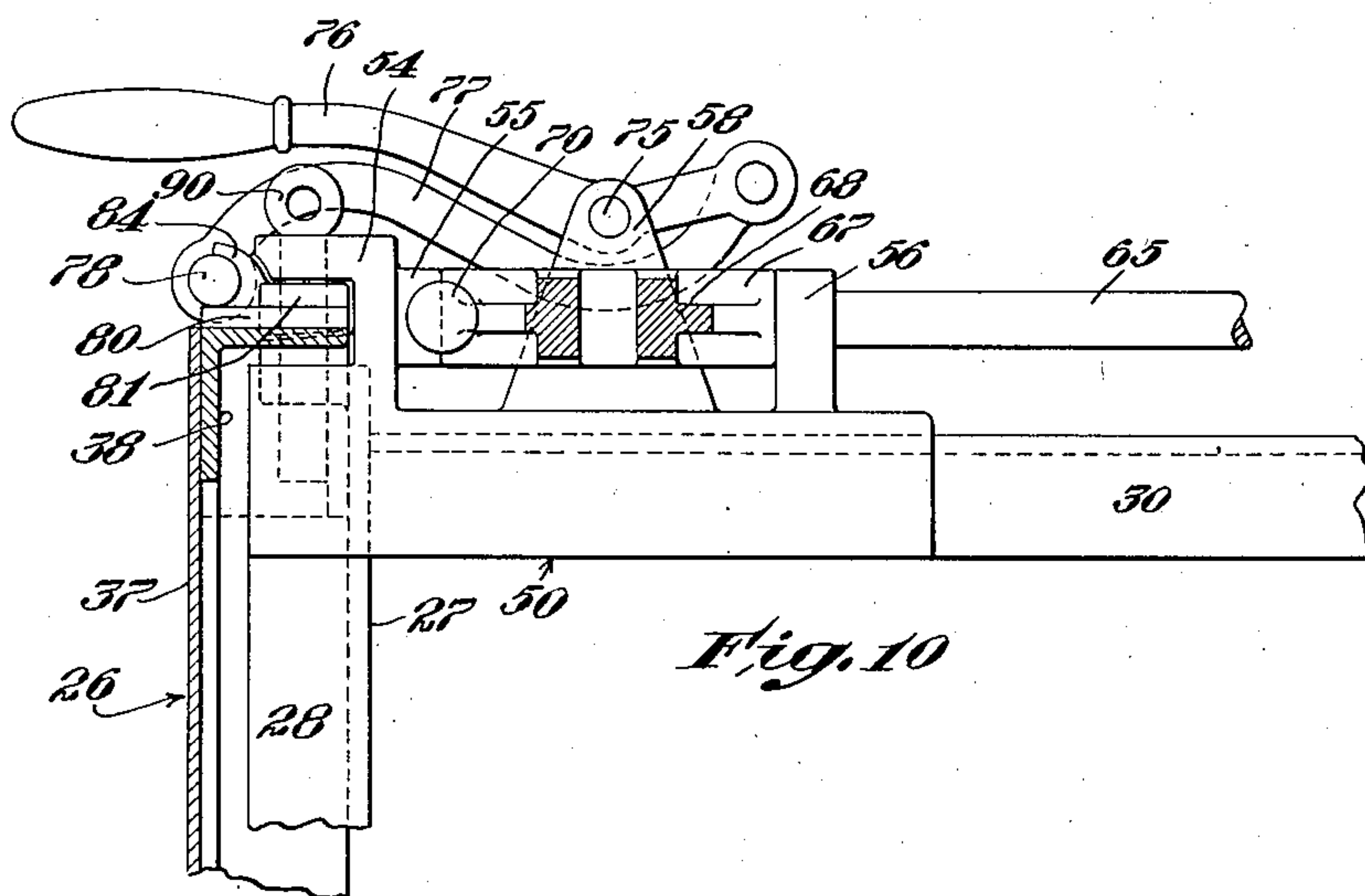
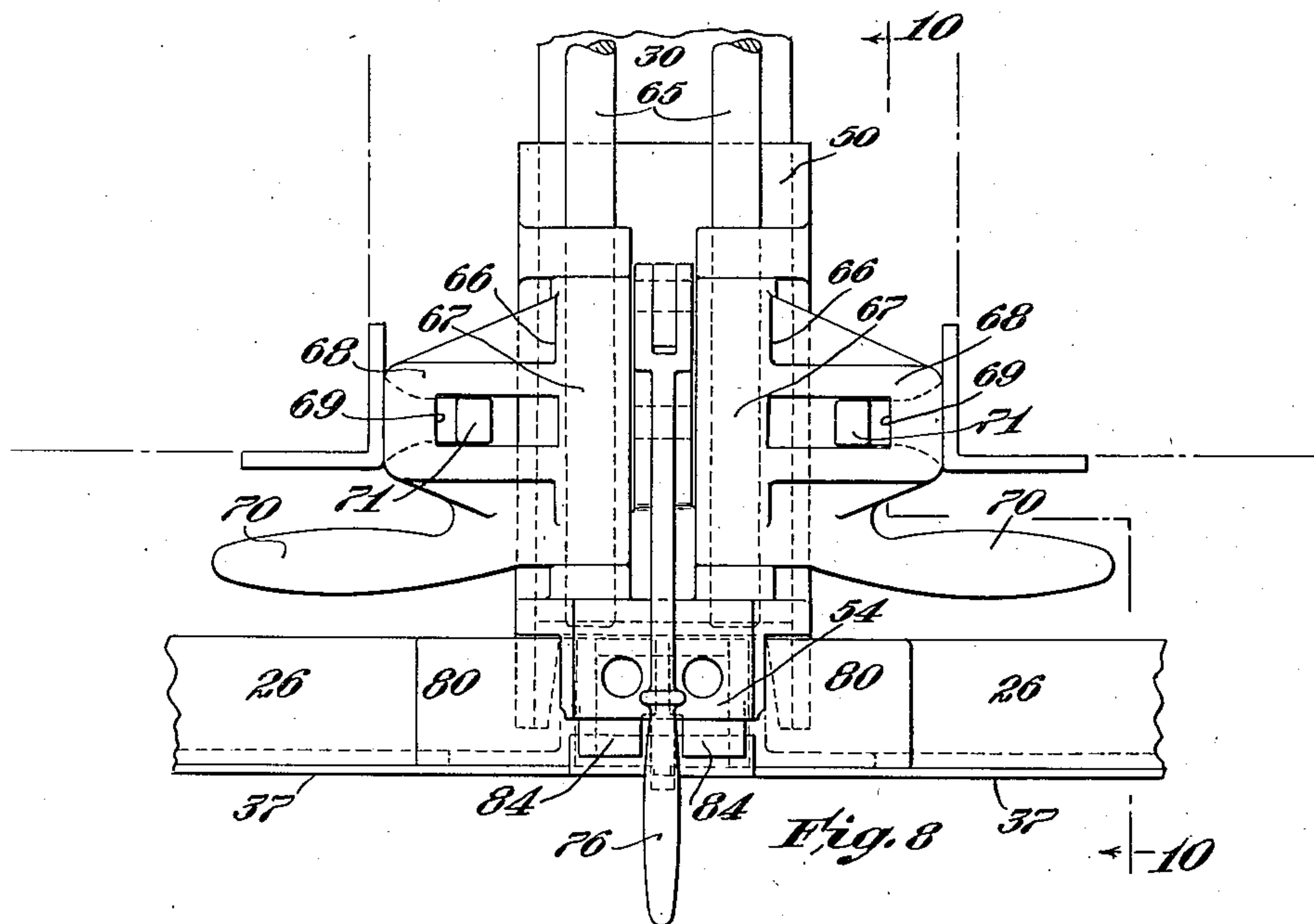
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4 Sheets-Sheet 4

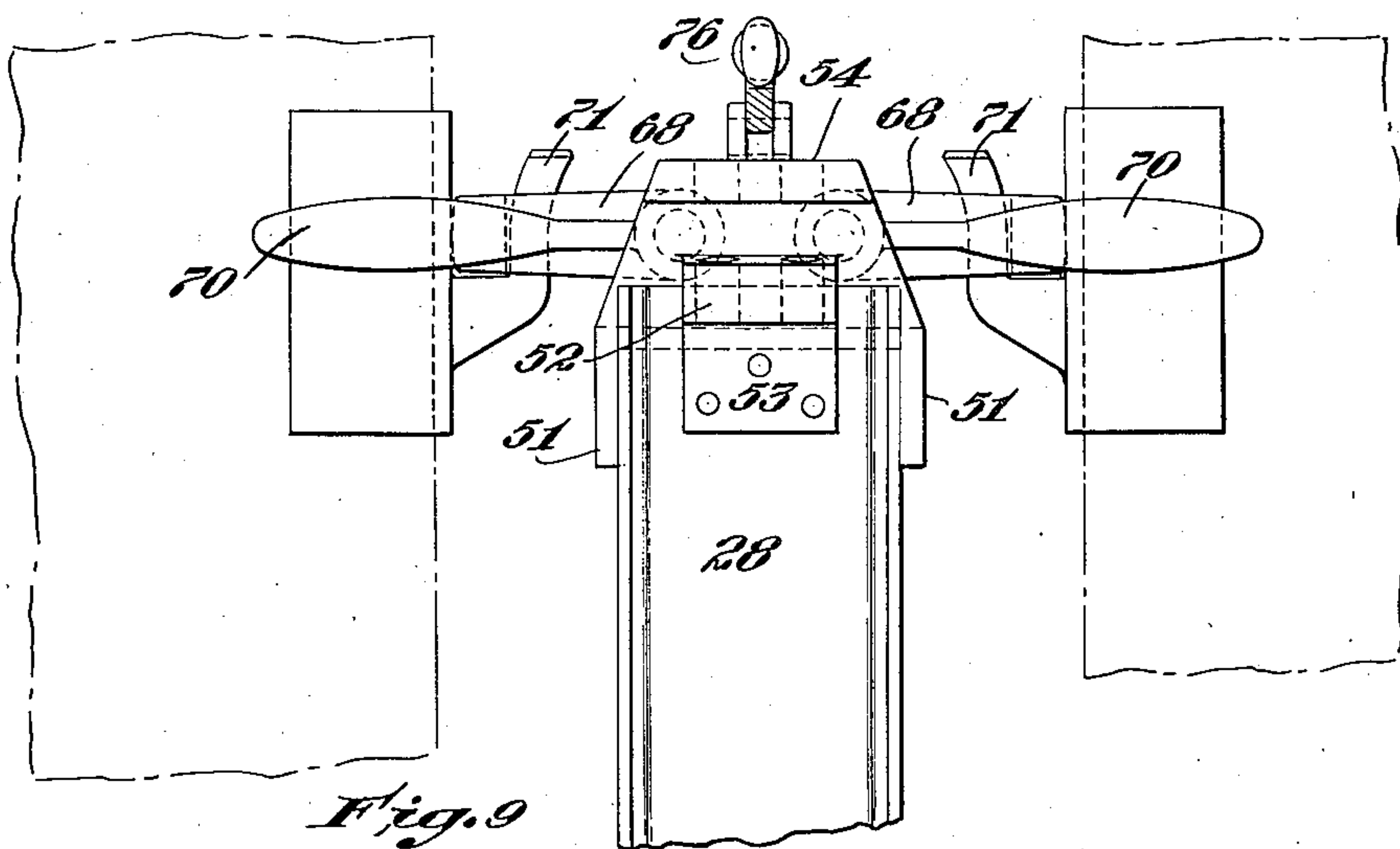


Fig. 9

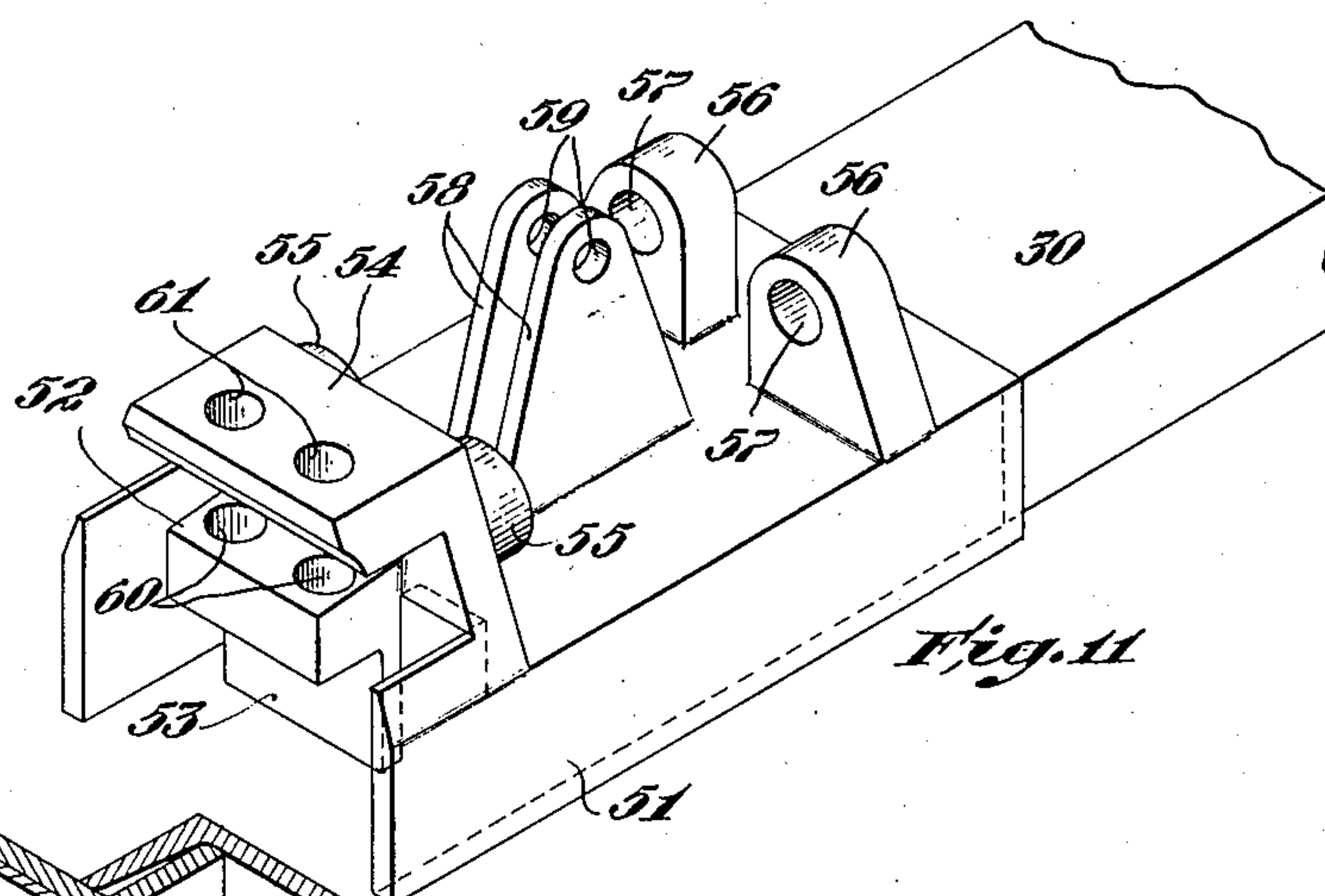


Fig. 11

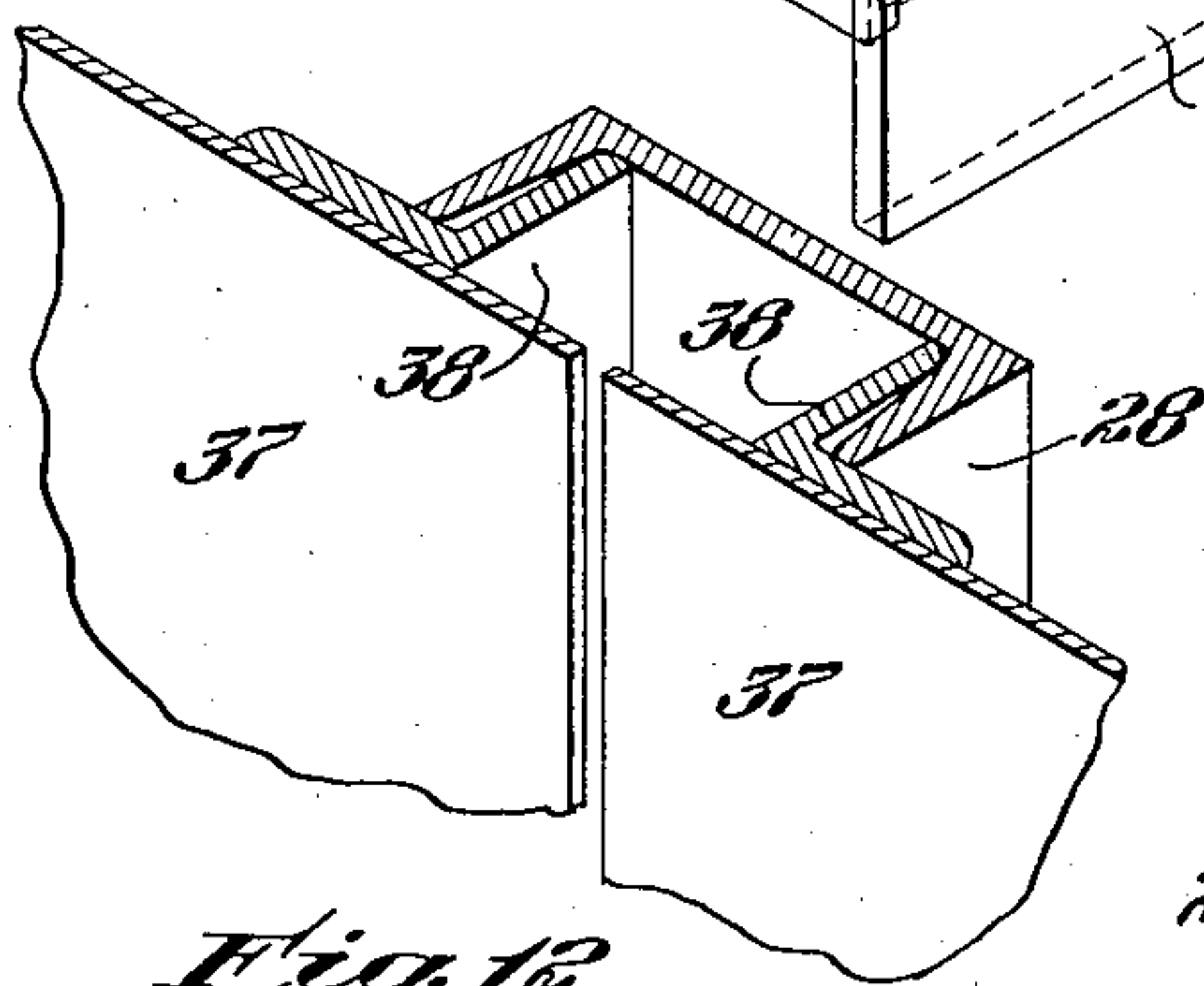


Fig. 12

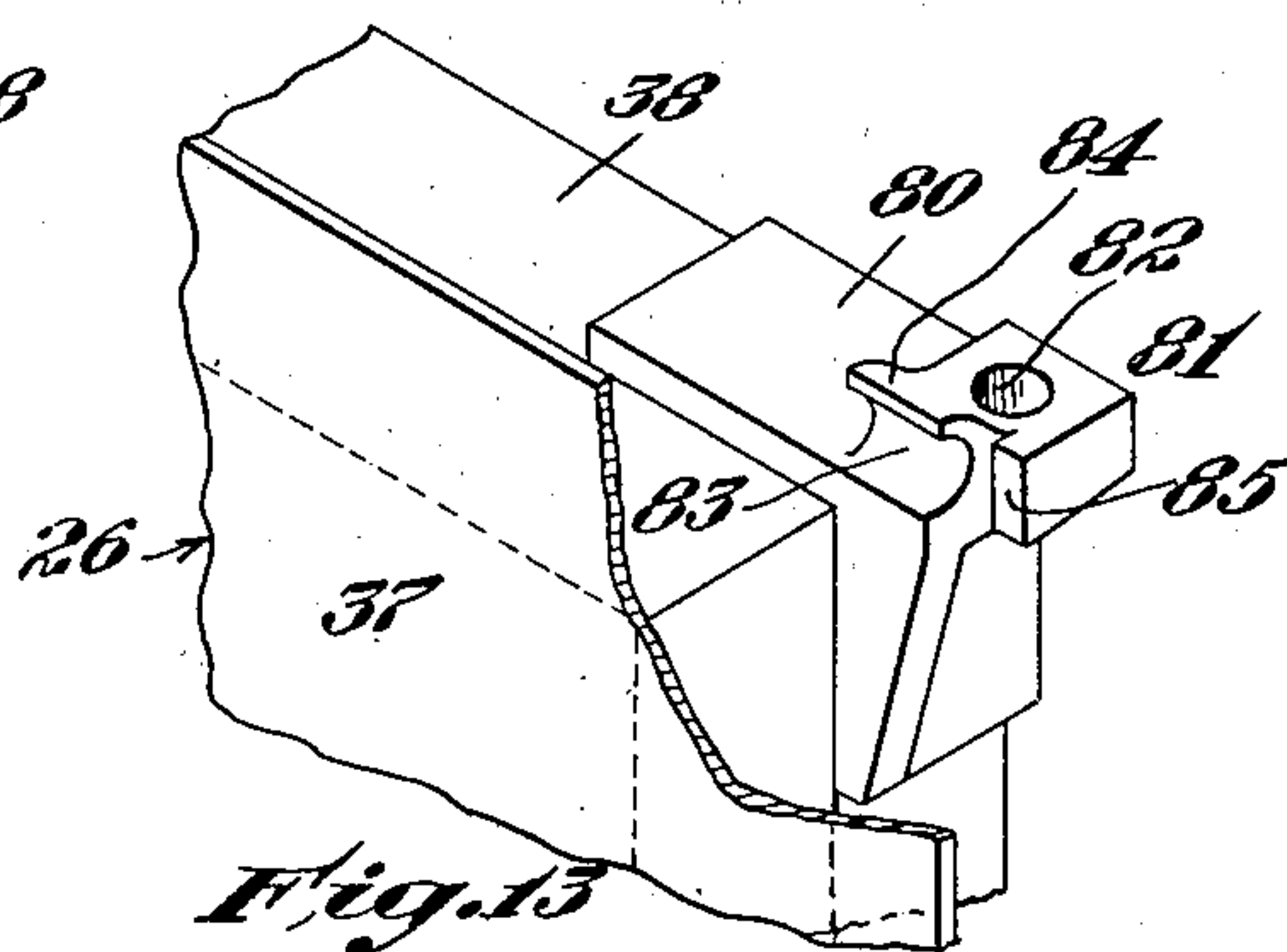


Fig. 13

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## UNITED STATES PATENT OFFICE

2,183,794

## FREIGHT CONTAINER

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Application August 17, 1935, Serial No. 36,665

7 Claims. (Cl. 105—366)

This invention relates to an improvement in freight containers and in freight cars for transporting such containers.

The primary object of this invention is to provide in such cars side gates through which the containers are loaded and unloaded means including posts by which the side gates are secured in place and held against weaving and the containers are locked in position upon the cars, the container locking means being operable from either side of the car.

A further object of this invention is to provide upon the inner faces of the side gates of the cars, tracks by which containers of the castor type are guided during the loading and unloading of the cars.

These and other objects will appear from a consideration of the following description of my invention and an examination of the accompanying drawings which form a part thereof and in which

Fig. 1 is a view in side elevation of a freight car embodying this invention;

Fig. 2 is a plan view of a portion of a loaded car showing the containers locked in place with one of the side gates open;

Fig. 3 is an enlarged side elevation of a locking post and a side gate, the latter being shown open so that containers may be transported thereover;

Fig. 4 is a plan view of the inner face of a typical side gate in the opened position and a portion of the car floor;

Figs. 5, 6, and 7 are enlarged cross sectional views taken respectively along the section lines 5—5, 6—6, and 7—7 in Fig. 4;

Fig. 8 is a plan view of portions of a post, two adjacent side gates and two containers showing the gates locked to the post and portions of two containers locked in position in a car;

Fig. 9 is a front view of the post and containers, the gates being omitted;

Fig. 10 is a sectional view taken along the line 10—10 in Fig. 8 showing the gate locking mechanism;

Fig. 11 is a perspective view of the unit on the post by which the gate and container locking instrumentalities are supported and the gates are secured in closed position;

Fig. 12 is a perspective view illustrating a portion of the interlocking means for positioning the gates; and

Fig. 13 is a perspective view of a portion of a gate and the locking instrumentality carried thereby.

The containers 20 here shown are of the castor

type which can be rolled onto and off the cars 25 without difficulty. It will be understood, however, that containers of other types, e. g., crane or platform handled may be transported by the cars if desired. The containers in the cars are supported upon tracks carried by cross beams 23 mounted at their ends upon side beams 24 (only one such beam being here shown.)

The car 25 is provided with side gates 26 which when opened serve to guide and support the containers as the cars are loaded and unloaded. Mounted upon the side beams 24 at the joiners between each two adjacent gates are locking posts 27. Each post comprises a U-shaped channel beam 28 carried by a base 29 which rests upon a side beam 24; a horizontal beam 30 extending inwardly from the beam 28 and supported at the other end upon a brace 31 extending from the side beam 24 and a brace 32 extending from an inner longitudinal beam 33 parallel to the side beam 24; and a third brace 34 extending from the beam 33 to the joiner of the beam 28 and the horizontal beam 30. Each post 27 forms a support for one of the container and gate securing instrumentalities to be described later.

The gates 26 are hinged upon a plurality of pins 35 carried by the gates which engage brackets 36 mounted on the side beams 24. The outer face of the gate is formed by a plate 37 reinforced by angle beams 38 which extend along the base and side edges and along parts of the top edge. The side edges of the plate 37 extend beyond the beams 38 as shown particularly in Fig. 12. Fixed upon the inner face of the gate are a pair of parallel tracks 39 having guide flanges 40 at the outer edges thereof. A beam 41 extending across the gate from one side to the other and mounted at its ends on beams 38 serves to strengthen the gate and insure that the tracks 39 remain in place. The ends of the tracks 39 are secured by rivets or the like to the angle beams 38. A central beam 42 midway between the tracks 39 is secured to the angle beam 38 at the base edge of the gate and to the cross beam 41. Supported by the tracks 39 and the central beam 42 are plates 43 and 44. The plate 43 extends from the cross beam 41 and, as shown in Fig. 4 terminates short of the base edge although it could if desired be continued to that edge. The tracks 39 and central beam 42 are inclined beyond the cross beam 41 so that the plate 44 meets the edge of the outer plate 37 as shown particularly in Figs. 6 and 7. The tracks 39 are preferably castings and in order to reinforce the outer ends integral



braces indicated in Fig. 4 by dotted lines have been provided.

The tracks 39 (see Fig. 4) of the gates register with tracks 45 carried by the cross beams 23 of the car. Flanges 46 at the inner edges of the tracks serve to position the containers in the cars. Plates 47 carried by the flanges of each pair of the tracks 45 close the spaces therebetween.

Loading or unloading containers provided with castors onto the cars may be carried out by means of the structure thus described as follows. The car being at a platform 48 side gates 26 are lowered to rest thereon (see Fig. 3). The containers guided by the tracks 39 and 45 are thus easily moved between the car and the platform. The plates 43 and 44 being firmly supported by the tracks 39 and central beam 42 form a flooring over which a small tractor can be driven to move the containers.

When loaded onto a car each container is located between the posts 27. Supported upon the top of each post 27 at the forward end of the horizontal beam 30 is a base 50. The base is channular having flanges 51 which extend at the sides of the beams 28 and 30. At the forward end of the base between the flanges 51 is a block 52 having a flange 53 which extends into the channel of the beam 28 and an angle member 54 which extends over the block 52. Carried by the member 54 are a pair of sockets 55. A pair of brackets 56 at the rearward end of the base are provided with holes 57 which register with the interior of the sockets 55. Mounted on the base midway between the angle member 54 and the brackets 56 are a pair of parallel plates 58, spaced a suitable distance apart and provided with holes 59 in register with each other. Similarly holes 60 provided in the block 52 register with holes 61 provided in the angle member 54. As shown particularly in Fig. 11 the base 50 is cast with the flanges 51, block 52, flange 53, member 54, sockets 55, brackets 56 and plates 58 all integral therewith. It will be understood of course that if desired any or all of these elements may be formed independently and secured to the base in any suitable manner.

Shafts 65 which extend across the car are mounted at their ends in the sockets 55 and brackets 56 of the bases. Suitably fixed at the ends of each shaft between a socket and a bracket is an arm 66 here shown as comprising a sleeve 67, through which the shaft passes, a latch 68 having an aperture 69 therein and a handle 70. Mounted at the corners of the containers are upwardly and outwardly projecting tongues 71. The shafts can thus be operated from either side of the car and when moved to the position shown in Figs. 8 and 9 the apertures 69 of the latches 68 engage the tongues 71 of an adjacent container to secure it in position upon the car. The containers 20 are full sized extending across the car and the tongues 71 at all four corners are engaged by the latches of the two adjacent shafts 65. If half size containers should be used the outer ends only would be engaged but in view of the fact that the containers are also positioned by the tracks this engagement will be found sufficient particularly if the full size container is replaced by two half size containers.

Pivotally supported on a pin 75 carried by the holes 59 of the plates 58 is a handle 76 which passes between the plates 58. Pivoted at one end to the inner end of the handle 76 is a curved bar 77 which passes between the plates 58 below the pin 75. At the free outer end of the bar 77

is mounted a short rod 78 the ends of which project beyond the sides of the arm. At the upper corners of each gate are fixed angle plates 80 each of which carries a block 81 projecting beyond the edge of the gate and having a hole 82 therethrough. The outer edge of the block 81 is provided with a depression 83 defined in part by a curved lip 84 which terminates short of the corner to form a recess 85 (see Fig. 13).

The gates are positioned and locked in place as follows. The flanges 38 at the sides of the gate enter the hollow of the channel beam 28 (see Fig. 12) and the blocks 81 at the corners of the gates enter the space between the block 52 and the angle member 54 (see Fig. 10). The lips 84 of the blocks 81 are received in a curved recess at the lower edge of the angle member 54 and the holes 82 in the blocks register with the holes 60 of the block 52 and the holes 61 of the member 54. The gates having been so located are locked in place by the ends of the rod 78 which are located in the depressions 83 by the lowering of the handle. The end of the bar 77 enters the pocket formed by the adjacent recesses 85. As a further precaution pins 90 may be inserted in the registering holes 61, 82 and 60 to lock the gates to the posts.

From the foregoing description it will be apparent that the posts 27 and the base 50 serve to lock both the containers and the side gates of the car in place and to prevent weaving of the gates, and that the gates are provided with tracks by which containers of the castor type are guided to the tracks on the car. It will also be apparent as shown particularly in Figs. 6 and 7 that the tracks 39 and plates 44 are inclined so that they terminate at the edge of the gate. The containers, if of the castor type, and tractors can thus be loaded onto the cars without difficulty and without the use of a skid or other supplementary guiding means.

While one embodiment of this invention has been shown and described I am not limited thereto since other embodiments thereof may be made without departing from the spirit and scope of the invention as set forth in the following claims.

I claim:

1. In a car having side gates and adapted to transport a plurality of freight containers, means for locking said gates in closed position comprising a plurality of posts mounted within the car, elements mounted on the corners of the gates and locking means carried by said posts for engagement with said gate elements, said elements including blocks and said means including blocks and angle members, spaced apart to form pockets which receive the blocks of the gate elements, and pins which secure the gate blocks in the pockets, and means carried by said posts for securing the containers in position in the car.

2. In a car having side gates and adapted to transport a plurality of freight containers, means for locking said gates in closed position comprising a plurality of posts mounted within the car, elements mounted on the corners of the gates and locking means carried by said posts for engagement with said gate elements, said elements including blocks each having a depression therein and said means including blocks and angle members spaced apart to form pockets which receive the blocks of the gate elements, and arms pivotally mounted on the posts and carrying rods, which rods enter the depressions of the blocks of the gates elements when the gates are closed



and secure the gates in place, and means carried by said posts for securing the containers in position in the car.

3. In a car having side gates and adapted to transport a plurality of freight containers, means for locking said gates in closed position comprising a plurality of posts mounted upon the floor of the car at the joiner of each two adjacent gates, angle beams projecting from the inner faces of the gates, each of said posts including a U-shaped beam so arranged that the flanges of the two gate beams, enter the beam of the post, a locking arm carried by the post, and blocks projecting from the upper corners of the gates, and a handle for actuating said arm and causing it to engage said blocks and secure both the gates in the closed position.

4. In a car having hinged side gates and adapted to transport a plurality of freight containers, tracks transversely extending across the car on which tracks the containers are supported and tracks carried by the inner faces of the gates in a plane spaced therefrom by which when the gates are opened the containers are guided to the tracks on the car when the containers are loaded thereon.

5. In a car having hinged side gates and adapted to transport a plurality of freight containers, tracks transversely extending across the car on which tracks the containers are supported, tracks carried by the inner faces of the gates in a plane

spaced therefrom by which when the gates are opened the containers are guided to the tracks on the car when the containers are loaded thereon and flooring between the tracks on the gates supported by the inner faces of the gates and in the plane of the tracks adapted to support a tractor or other loading means.

6. In a car having hinged side gates and adapted to transport a plurality of freight containers of the castor type, tracks transversely extending across the car which receive the castors of the containers, and tracks carried by the inner faces of the gates in a plane spaced therefrom by which, when the gates are opened, the castors of the containers are guided to or from the tracks on the car when the containers are loaded upon or unloaded from the car.

7. In a car having hinged side gates and adapted to transport a plurality of freight containers of the castor type, tracks transversely extending across the car which receive the castors of the containers, tracks carried by the inner faces of the gates in a plane spaced therefrom by which, when the gates are opened, the castors of the containers are guided to or from the tracks on the car when the containers are loaded upon or unloaded from the car and flooring between the tracks on the gates supported by the inner faces of the gates and in the plane of the tracks adapted to support tractor or other loading means.

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