

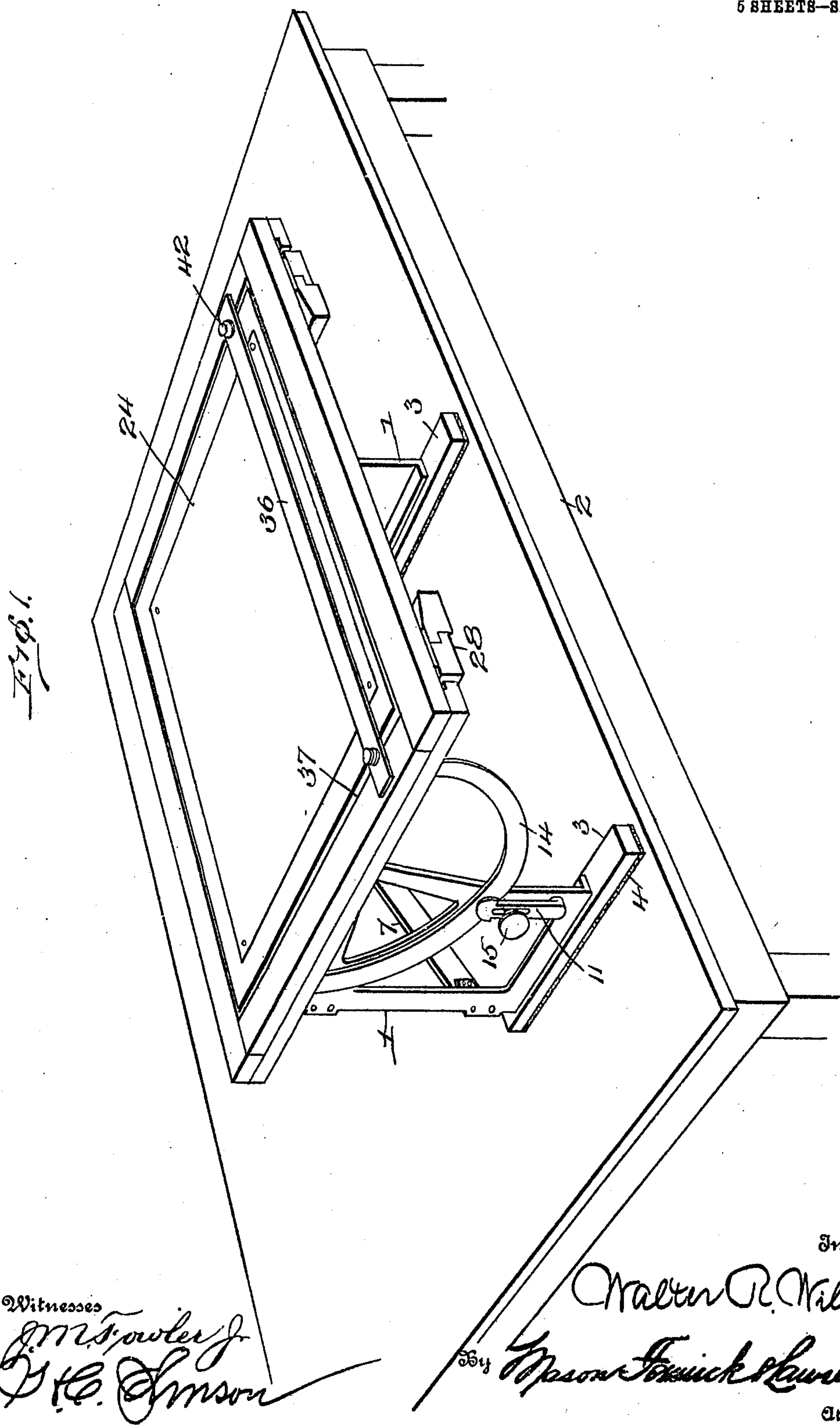
DRAWING RACK.

APPLICATION FILED DEC. 30, 1908.

956,013.

Patented Apr. 26, 1910.

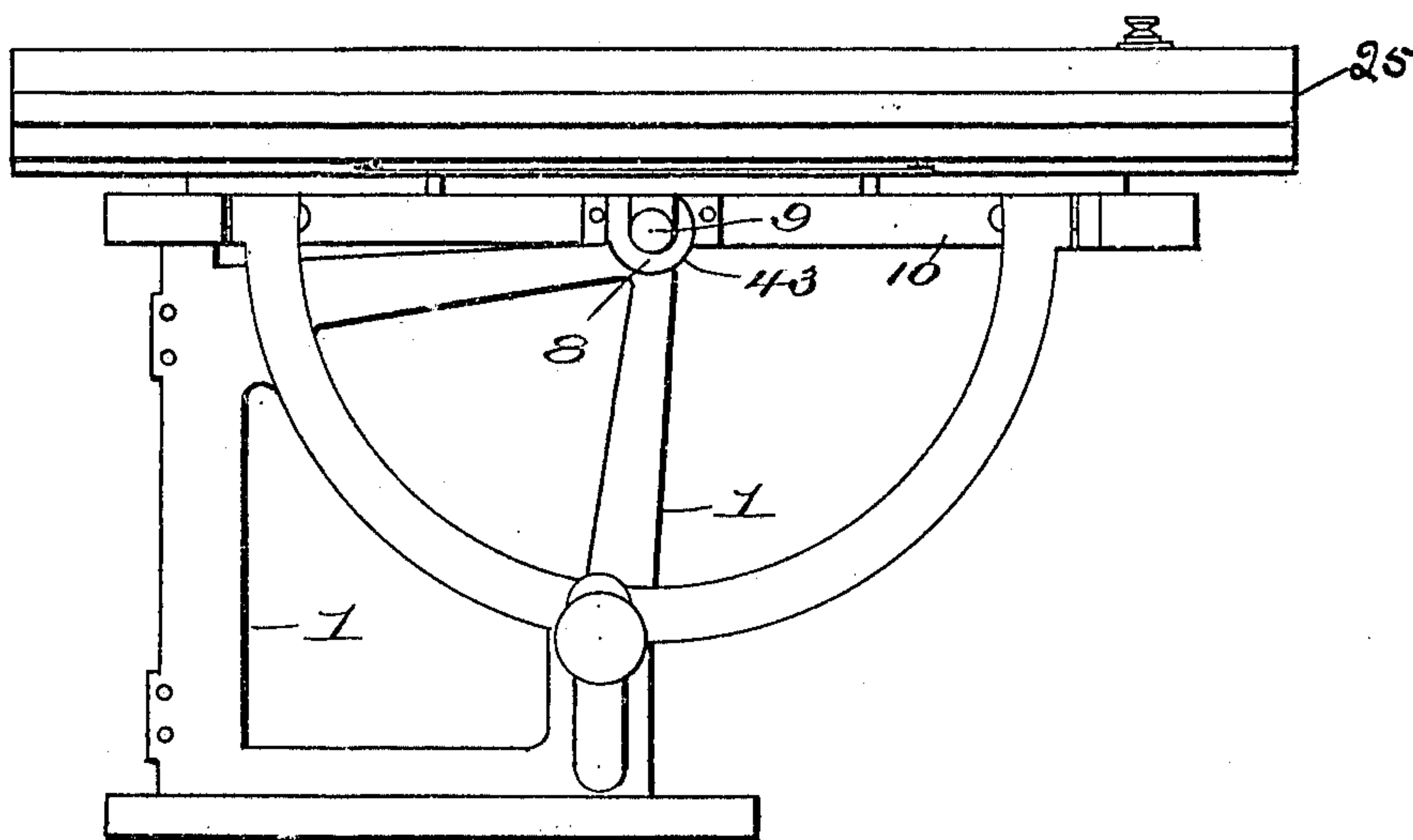
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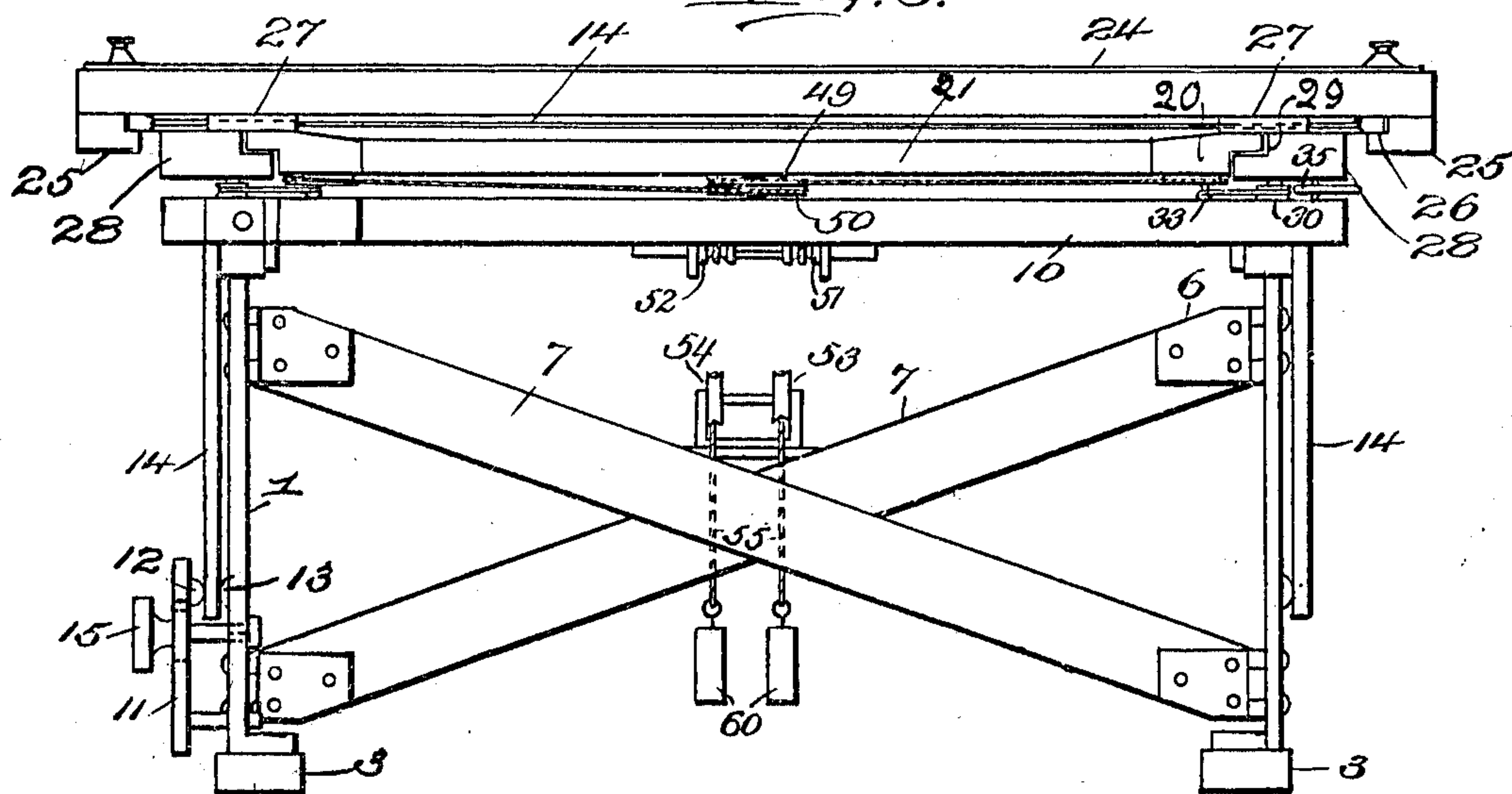
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5 SHEETS—SHEET 2.

Fig. 2.



F'7φ.3.



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By *Mason Francis Lawrence*  
Attorneys

Witnesses

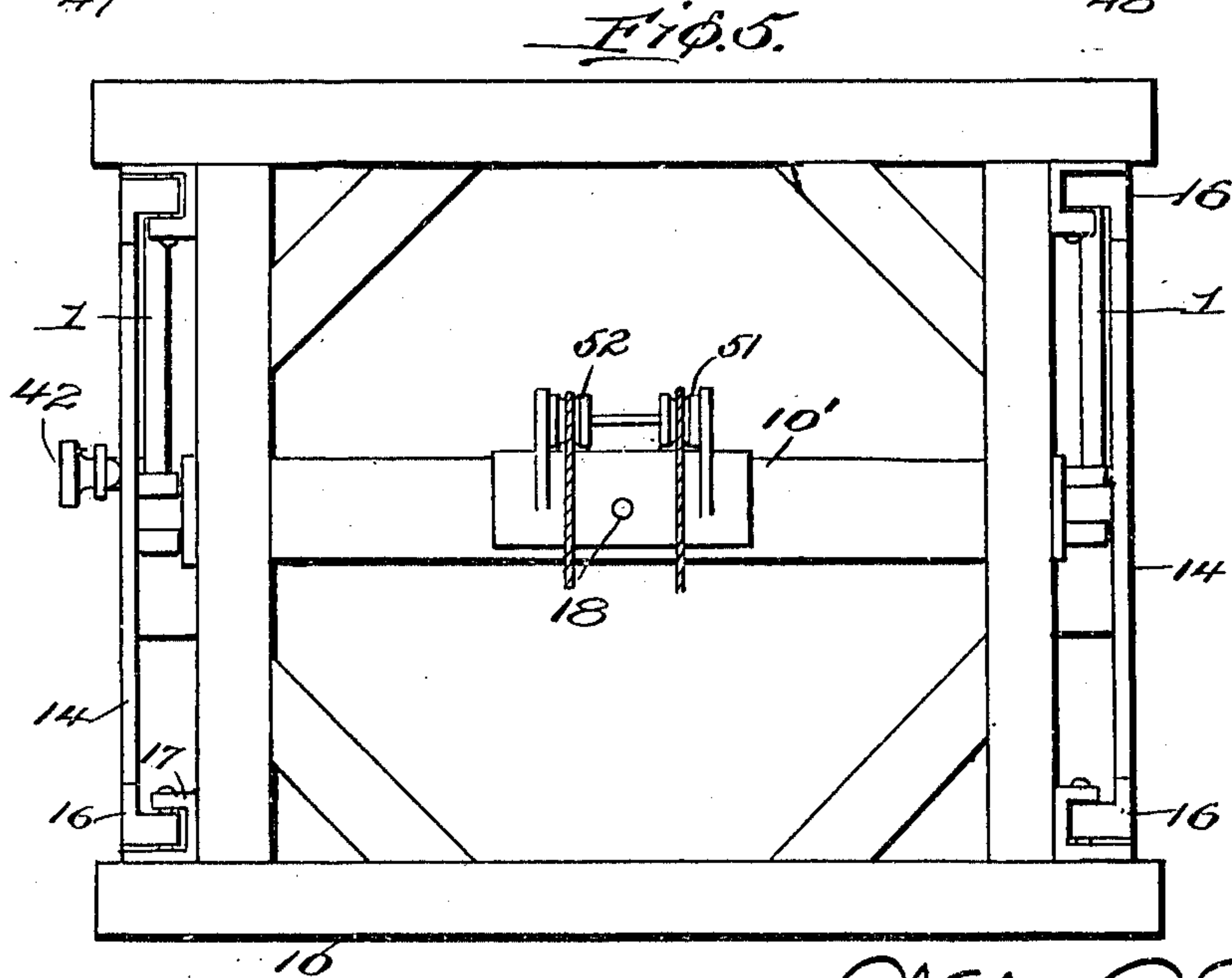
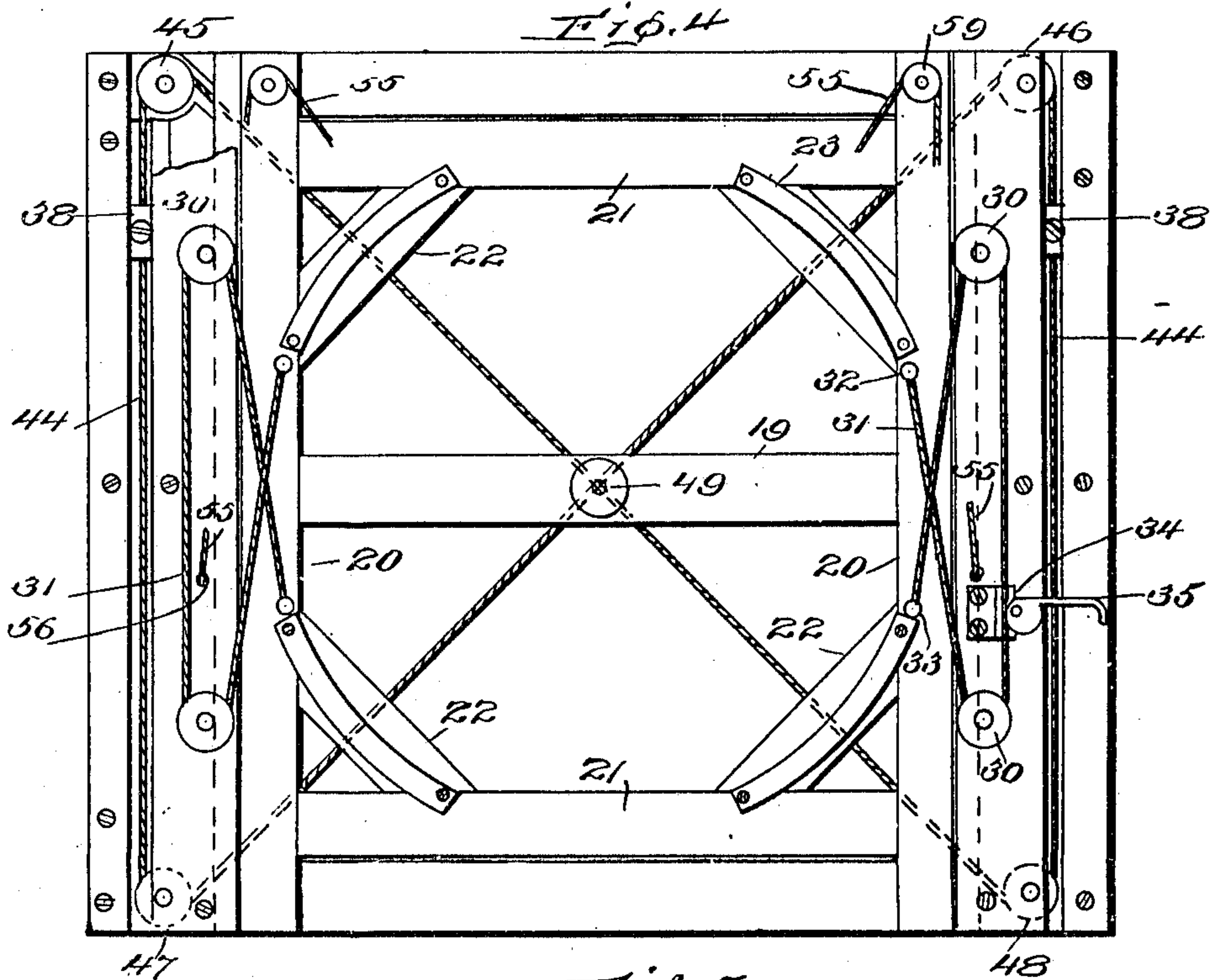
Witnesses  
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5 SHEETS—SHEET 3.



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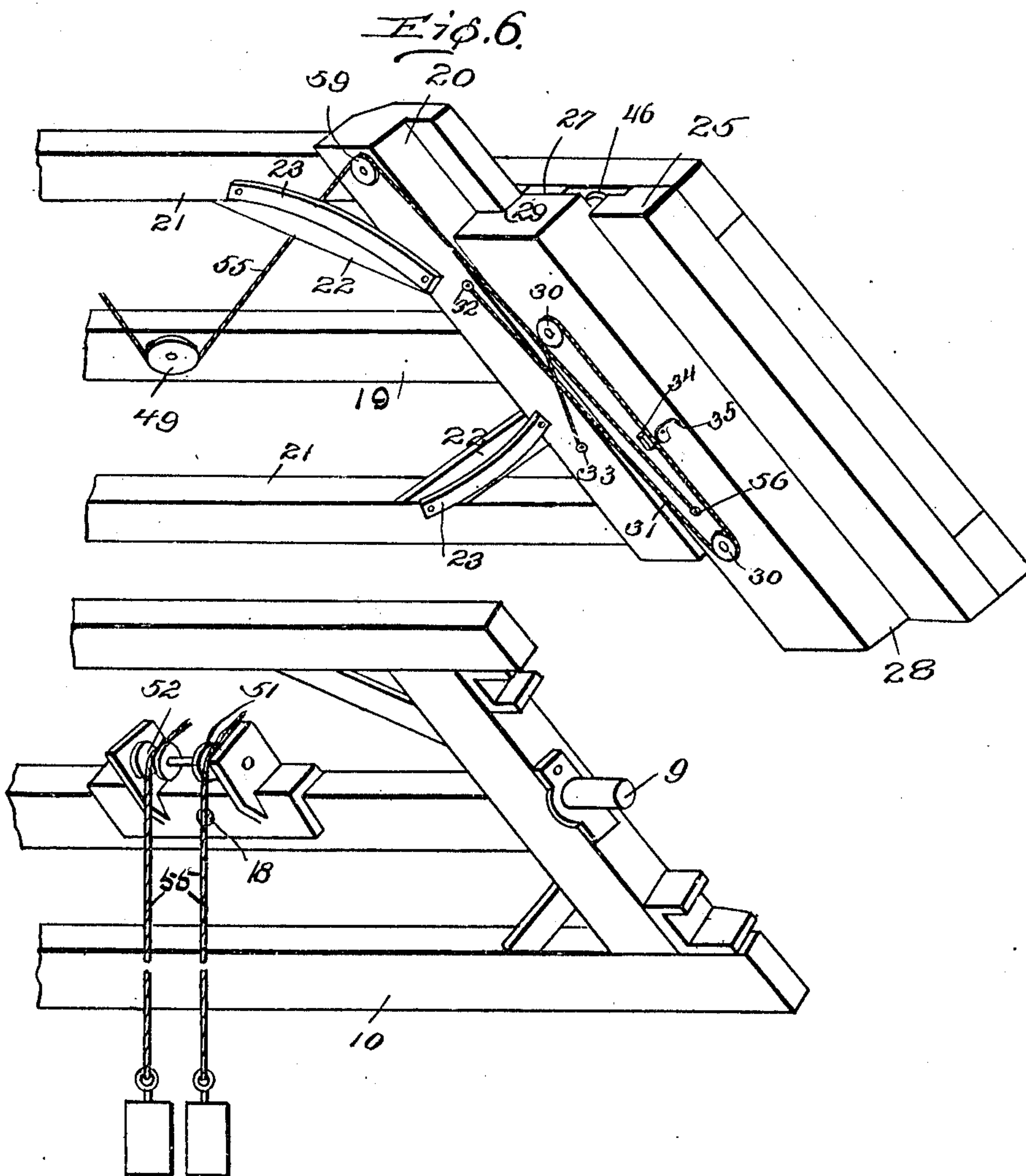
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5 SHEETS—SHEET 4.



Witnesses

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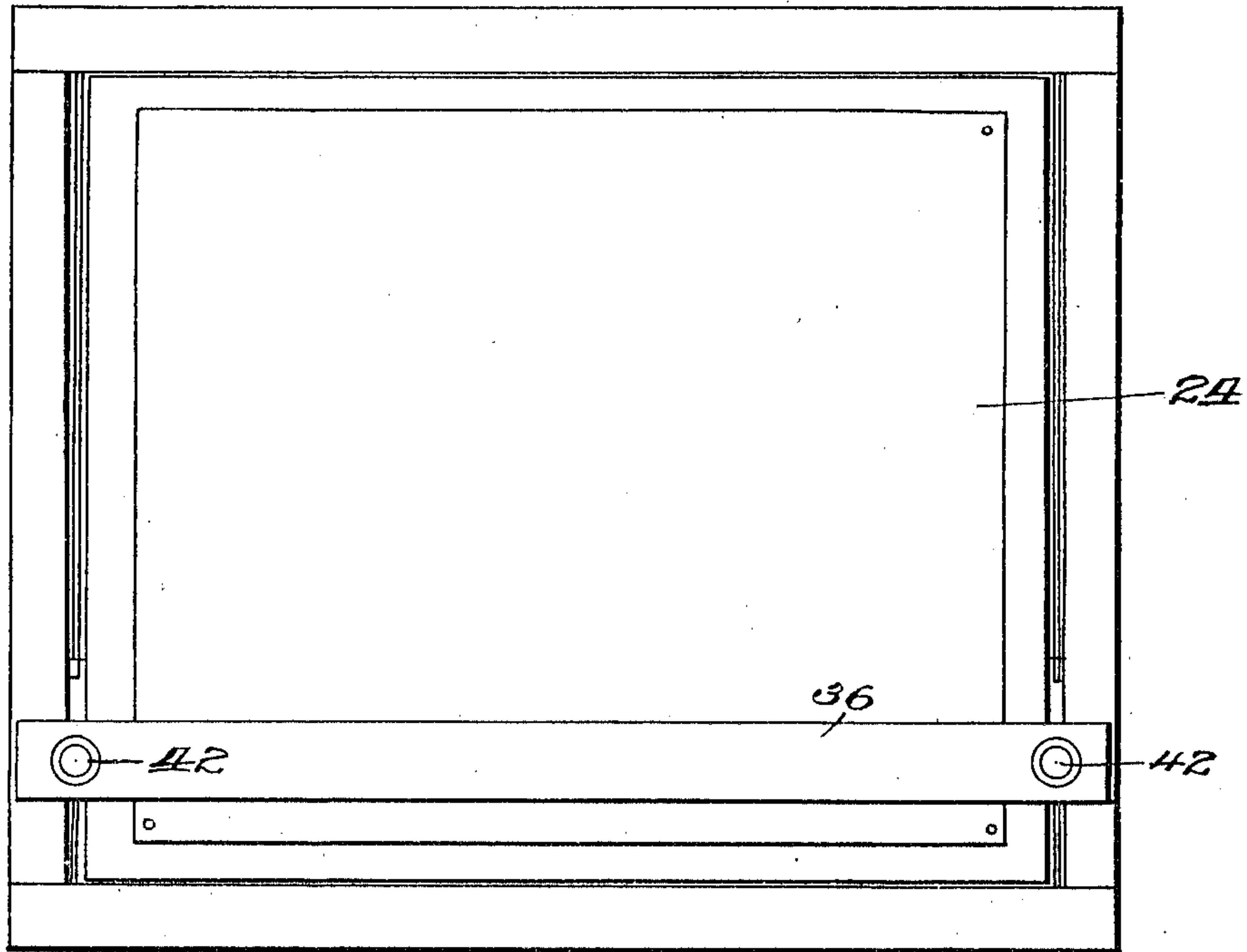
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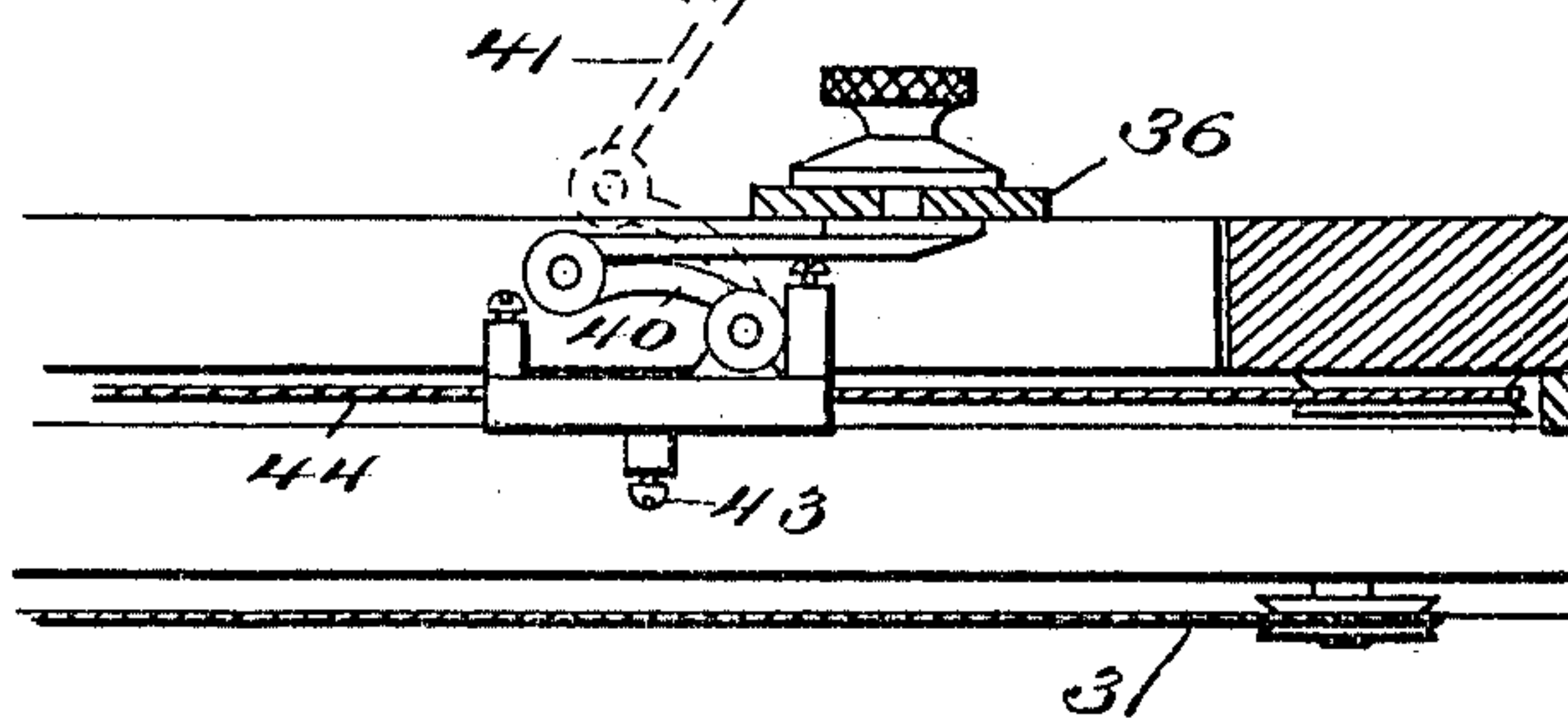
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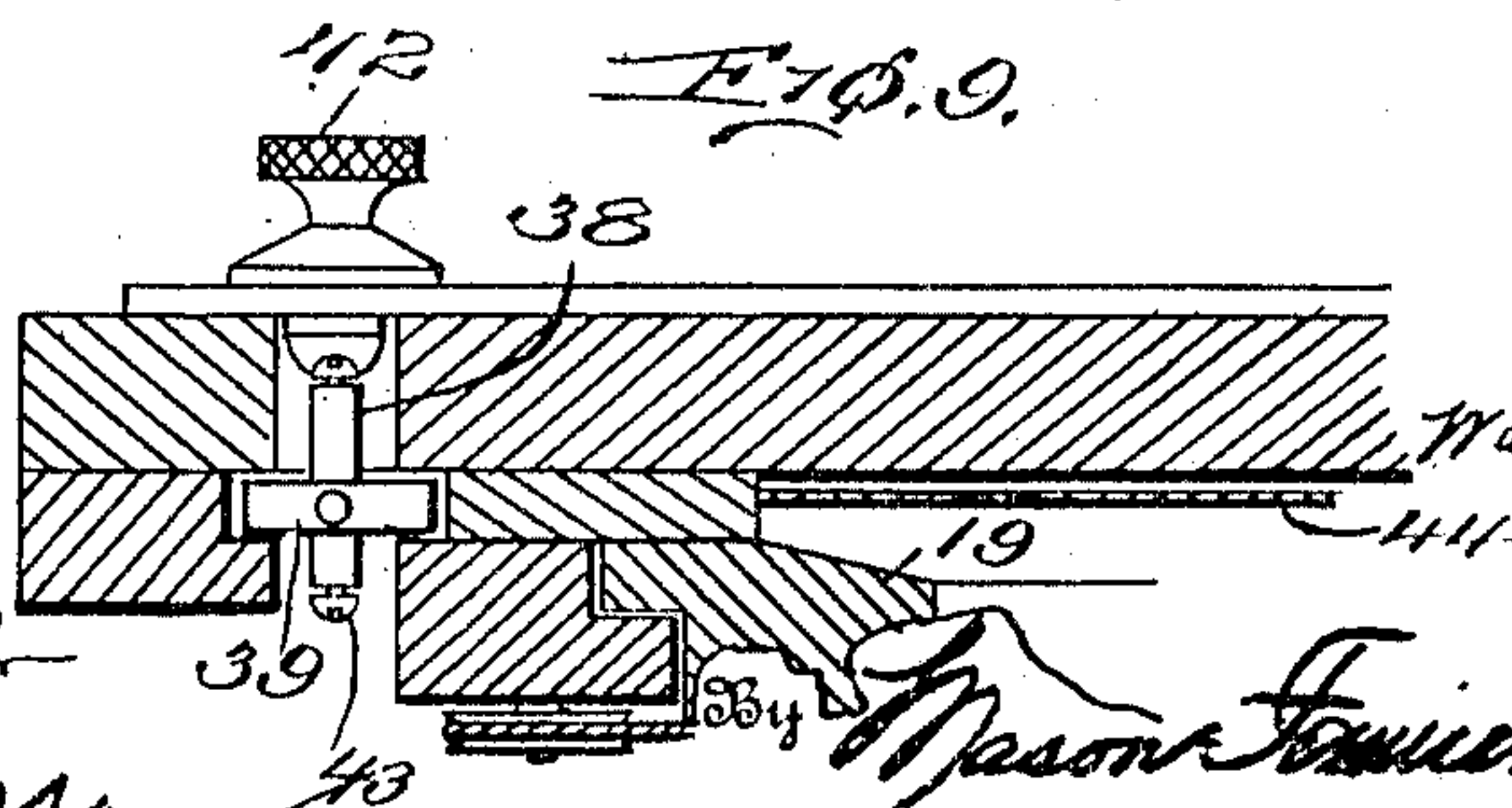
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



Witnesses

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Attorneys



# UNITED STATES PATENT OFFICE.

WALTER R. WILLIS, JR., OF SCRANTON, PENNSYLVANIA.

## DRAWING-RACK.

956,013.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed December 30, 1908. Serial No. 469,976.

*To all whom it may concern:*

Be it known that I, WALTER R. WILLIS, Jr., citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Drawing-Racks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to drawing racks.

The object of the invention is to mount a drawing board in such manner that it can be tilted to the desired angle, rotated on a central pivot or moved laterally with reference to the supporting means.

A further object is to provide a rule for such a board, so arranged that it can be shifted along the surface of the latter while maintaining at all times a position parallel with the edge of the board.

A still further object is the production of a supporting frame from which the board and associated members may readily be removed, permitting the frame to be folded and packed for storage or shipment.

With these objects in view the invention consists, briefly, in mounting a tilting member upon trunnions having their bearings in the end sections of the folding framework, in mounting a rotatable device on the tilting member, and in supporting the drawing board itself on such device.

The invention consists further in certain novel means for securing the board in a given position after the rotatable member has been turned through the required angle, and in the construction herein set forth whereby the rule is so guided that it will maintain at all times the same relation to the edge of the board.

The invention consists still further in providing a counterbalance for equalizing the movement of the board with reference to the rotating device.

In the accompanying drawings, Figure 1 is a perspective view of the device, mounted on a suitable table. Fig. 2 is an end elevation. Fig. 3 is a front elevation. Fig. 4 is a bottom plan view of the upper portion of the device, the tilting member being removed. Fig. 5 is a bottom plan view of the tilting member. Fig. 6 is a perspective view of the drawing board mounted on the rotatable device, and showing also the tilting

member detached. Fig. 7 is a top plan view. Fig. 8 is a detail view of the device for guiding the rule. Fig. 9 is another view of the same device, taken at right angles to that shown in Fig. 8.

Referring to the drawings in detail, 1 indicates the end sections of a suitable supporting frame, 2 a table on which the device may be mounted, 3 strips forming base pieces for the end sections 1, and 4 strips of felt or other suitable material designed to serve as a cushion between the numbers 3 and the table. The end sections 1 are connected by means of hinges 6 with cross pieces 7, forming the rear section of the framework. These cross pieces may be secured together at the point of intersection. Each end section is provided with a suitable socket 8 in which the trunnions 9 have their bearing, these trunnions being secured to the tilting frame 10 in any suitable manner.

A clamping device 11 is attached to each of the end sections and carries device 12, located opposite a device 13 similarly formed and projecting from the frame, for clamping the sector 14 which is connected with the tilting frame. A set screw 15 closes the jaw of the clamp. The sectors 14 are provided with the members 16, which latter are secured by pivots to brackets 17 connected with the tilting frame. This construction of the base portion of the device permits the removal of the tilting frame from the sockets 8, and the folding together of the end sections upon the rear section 7, thus facilitating the operation of arranging the device for packing or storage. The tilting member 10 carries the drawing board proper and all of the mechanism directly connected therewith.

The pin 18 which is carried by the central portion of the tilting member 10, supports a revoluble frame consisting of a central cross piece 19, side pieces 20, end pieces 21, and members 22 extending diagonally across the corners from the side pieces to the end pieces. A segment 23 is mounted on each of the members 22 for the purpose of presenting a suitable bearing surface.

The under side of the drawing board 24 carries on opposite edges a strip 25 provided with a rabbet at 26 for the purpose hereafter explained. Another strip 27, also on the under side of the drawing board, lies parallel with each of the strips 25 and is arranged at a slight distance therefrom in order to



form a channel between such strips. Secured to each of strips 27 is a strip 28 provided with a rabbet at 29, and each of the strips 28 engages a correspondingly formed portion of strip 20 of the rotatable frame.

It will be observed that the drawing board may be moved laterally upon the rotatable frame by means of the construction just described. Two pulleys 30 are mounted on each of the strips 28 and a cord 31 secured at the point 32 on the member 20 passes diagonally to one of the pulleys 30, thence to the other pulley on the same side, and from that point diagonally to the point 33, where it is again secured. Similar cords and pulleys are mounted on the opposite side of the device. A bracket 34 carries an eccentrically mounted clamping device 35 arranged to engage a cord 31 and hold the latter in any desired position, thus providing for the retention of the sliding frame with reference to the rotating frame when suitable adjustment has been secured.

A rule 36 is mounted in such manner that it may be moved over the surface of the drawing board, and will always retain a position with its edges parallel with the edges of the board. Slots 37 are provided for the accommodation of guides 38, to which the rule is secured. Each guide 38 carries a cross-piece 39 arranged to operate in the groove formed by means of the rabbet 26 and the manner of mounting strips 27 and 28 with reference to each other and to the drawing board. This construction is clearly shown in Fig. 9.

Each of the guides 38 has pivotally connected thereto an arm 40, which in turn is pivotally connected with an arm 41, to which one end of the rule is secured by means of thumb screw 42. The rule may therefore be lifted into the position shown in dotted lines in Fig. 8, and may be moved across the board in the manner described above.

Each of the guides 38 is connected by means of a set screw 43 with a cord 44 which passes over pulleys 45, 46, 47 and 48, at each of the four corners of the drawing board. The cord 44, extending from the guide 38 shown at the left in Fig. 4, passes over pulley 45, thence diagonally across to pulley 48, through the slot formed on the right hand side to the pulley 46, thence diagonally across to the pulley 47, and back to the guide 38. By means of this connection, the even, forward and backward parallel movement of the rule is assured. The cord 44 passes through apertures in the strips which lie in its path. I have also provided a counterbalance for the drawing board, the connections for which are shown more especially in Fig. 6. Between the tilting member 10 and the cross-piece 19 of the rotating frame, two pulleys 49 and 50 are loosely mounted on pin 18. Two pulleys 51 and 52 are mount-

ed in a suitable manner on the central cross piece 10' of the tilting frame, and pulleys 53 and 54 are mounted on the rear section 7 of the frame work. The cord 55 is secured to one of the strips 28 at the point 56 and in such manner that it will not interfere with the cord 31. The device to which the cord 55 is attached projects to a suitable distance from strip 28 and thus obviates such interference. Pulley 59 mounted on the under side of the rotating frame near the rear edge serves to carry the cord 55, from the point of attachment, to one of the pulleys 49 on the central pivot 18, from which pulley the cord passes to pulley 52, and thence to pulley 54, and from the pulley last mentioned to the weight 60. A similar cord from the other side of the rotating frame passes to the pulley 50, thence to pulley 51, pulley 53, and to another weight corresponding with the weight 60.

I have shown and described my invention in considerable detail, but do not wish to be understood as limiting myself to the exact construction set forth, reserving the right to make such changes, alterations or additions as fall within the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a drawing rack, a collapsible supporting frame, a tilting member mounted in the end sections thereof, sectors pivoted to and foldable upon the tilting member, a clamping device carried by one of the end sections and arranged to engage one of the sectors, a pivotal support carried by the tiltable member, a rotatable device mounted on the pivotal support, a drawing board slidably mounted on the rotatable device, pulleys carried on the under side of the drawing board, a cord having its end connected with the rotatable device, said cord passing around the pulleys, and a clamping device engaging said cord.

2. In a drawing rack, a supporting frame, a tiltable member carried thereby, a rotating member pivotally mounted on the tiltable member, a slidable drawing board carried by the rotating member, a guiding and holding member for guiding the drawing board on the rotating member, said guiding member being spaced from the drawing board at one edge, a plurality of pulleys mounted on the rotating member and on its pivotal support, pulleys mounted on the tiltable member, pulleys carried by the supporting frame, and a flexible device connected with the drawing board, and passing around the pulleys, and a weight secured to the end of the cord for equalizing the movement of the board with reference to the rotating member.

3. In a drawing rack, a supporting frame, a tiltable member removably carried thereby,



means for securing said member, a bracket  
carried by such member, pulleys mounted in  
the bracket, a rotatable member pivotally  
mounted on the tiltable member, a slidable  
5 drawing board carried by the rotatable mem-  
ber, a guiding and holding member for hold-  
ing the drawing board on the rotatable mem-  
ber, said guiding member being secured to  
the drawing board near one edge, pulleys  
10 mounted on the rotatable member and on its  
pivotal support, a flexible device connected  
with the drawing board and passing around  
all of said pulleys, and a weight connected  
with the end of the flexible device.

15 4. In a drawing rack, a supporting frame,  
a tiltable member removably carried thereby,  
means for securing said member, a bracket  
carried by such member, pulleys mounted in  
the bracket, a rotatable member pivotally  
20 mounted on the tiltable member, a slidable

drawing board carried by the rotatable  
member, a strip constituting a guiding and  
holding member for holding the drawing  
board on the rotatable member, said guid-  
ing member being secured to the drawing 25  
board near one edge, pulleys mounted on  
the rotatable member and on its pivotal  
support, a flexible device connected with the  
drawing board and passing around all of  
said pulleys, a weight connected with the 30  
end of the flexible device, a cord secured at  
each end to the rotatable member, pulleys on  
the guiding strip, said cord passing around  
such last mentioned pulleys.

In testimony whereof I affix my signature 35  
in presence of two witnesses.

WALTER R. WILLIS, JR.

Witnesses:

C. A. BATTENBERG,

H. U. MUMFORD.