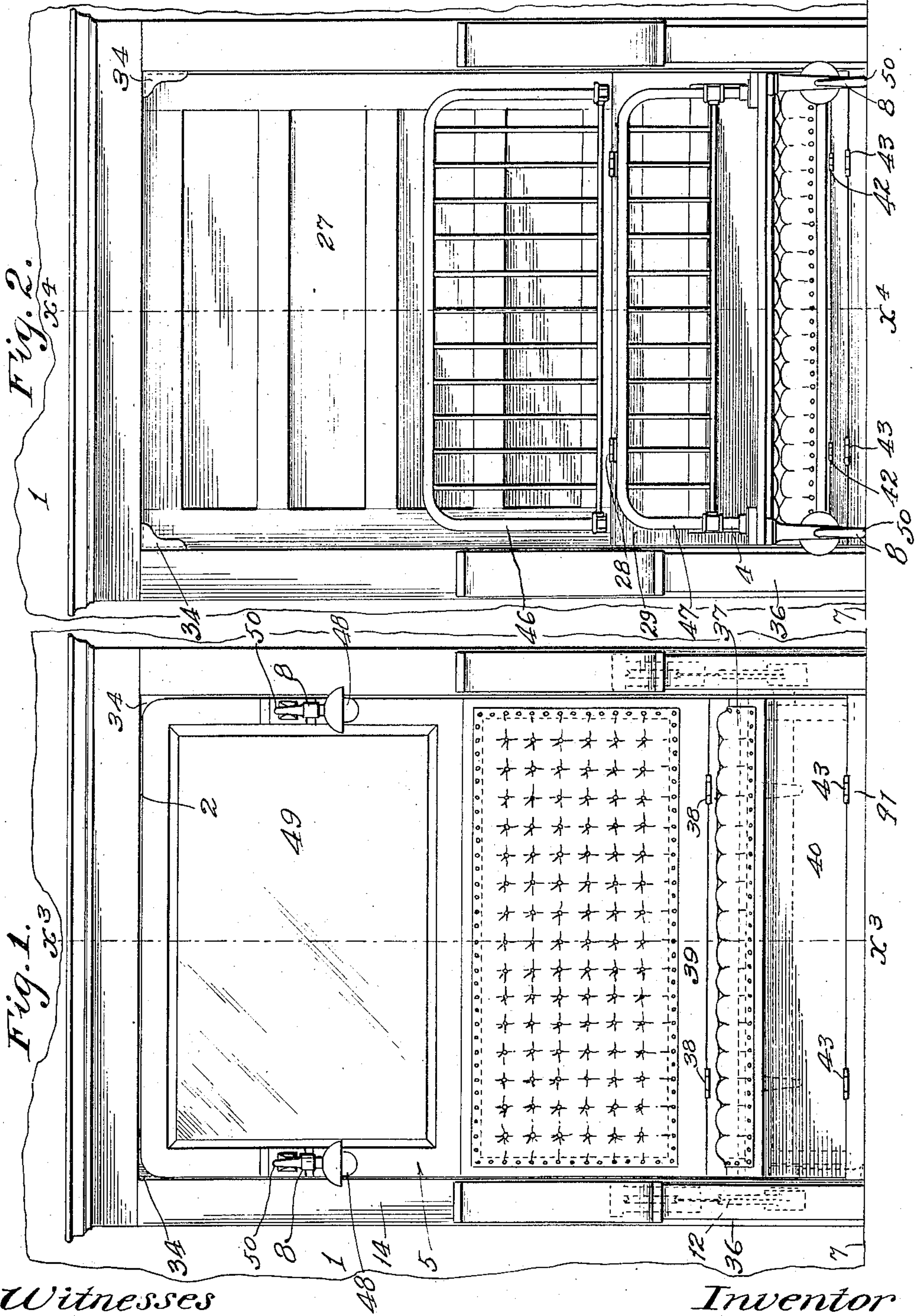


A. L. HALEY.  
WALL SEAT WALL BED.  
APPLICATION FILED JUNE 29, 1908.

956,340.

Patented Apr. 26, 1910.

8 SHEETS—SHEET 1.



Witnesses

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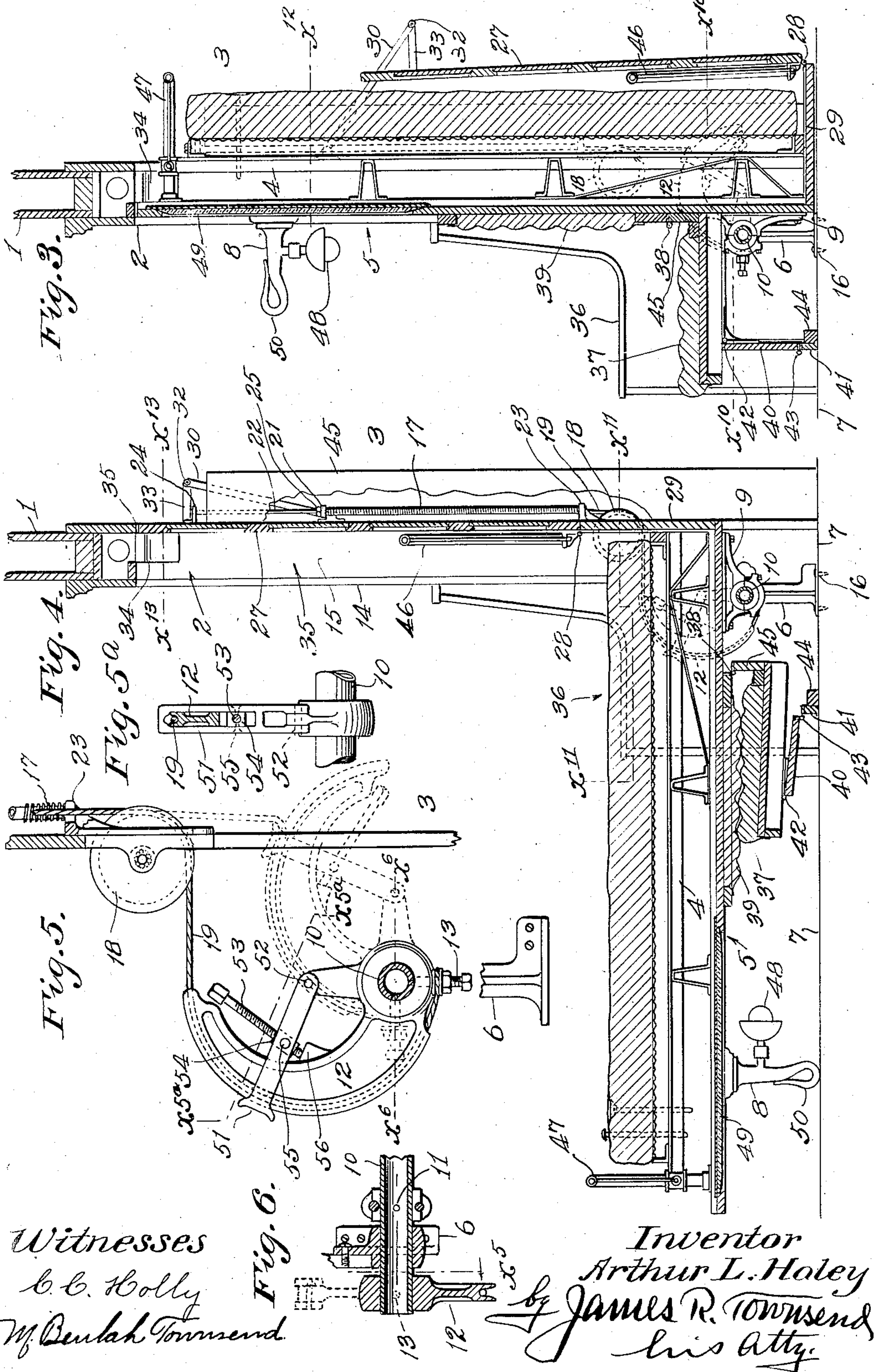
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8 SHEETS—SHEET 2.



Witnesses  
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8 SHEETS—SHEET 3.

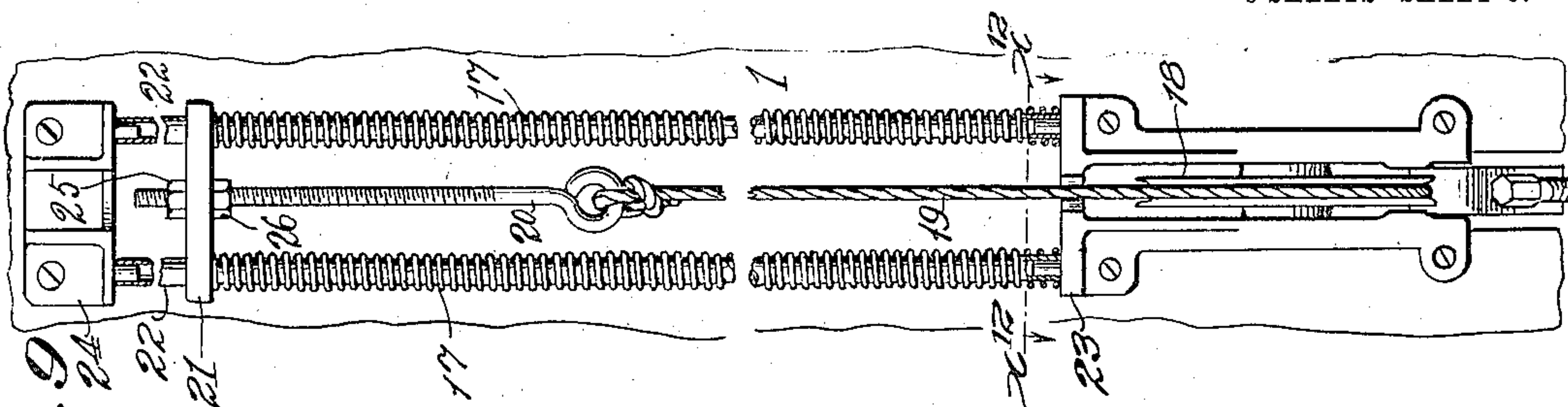


Fig. 9.

Fig. 8.

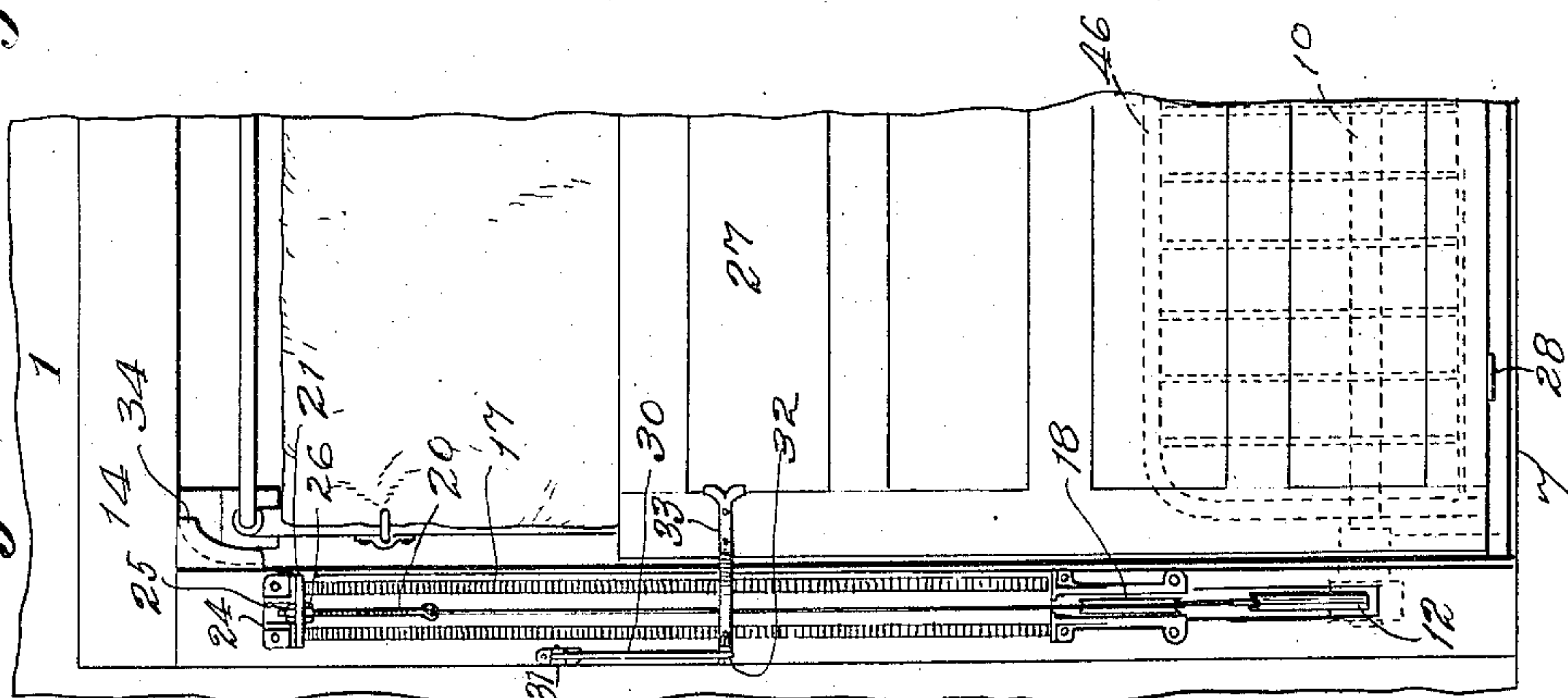
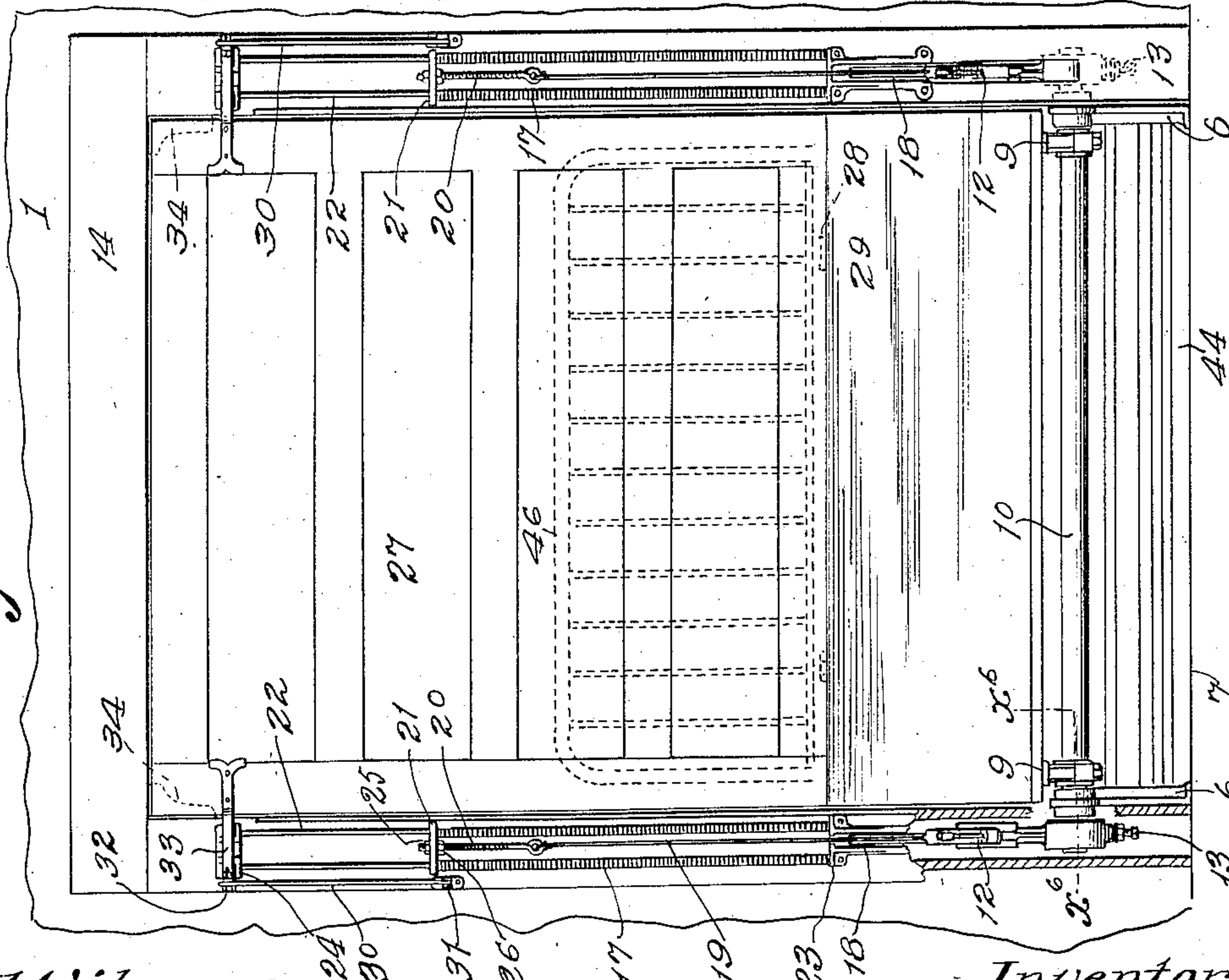


Fig. 7.



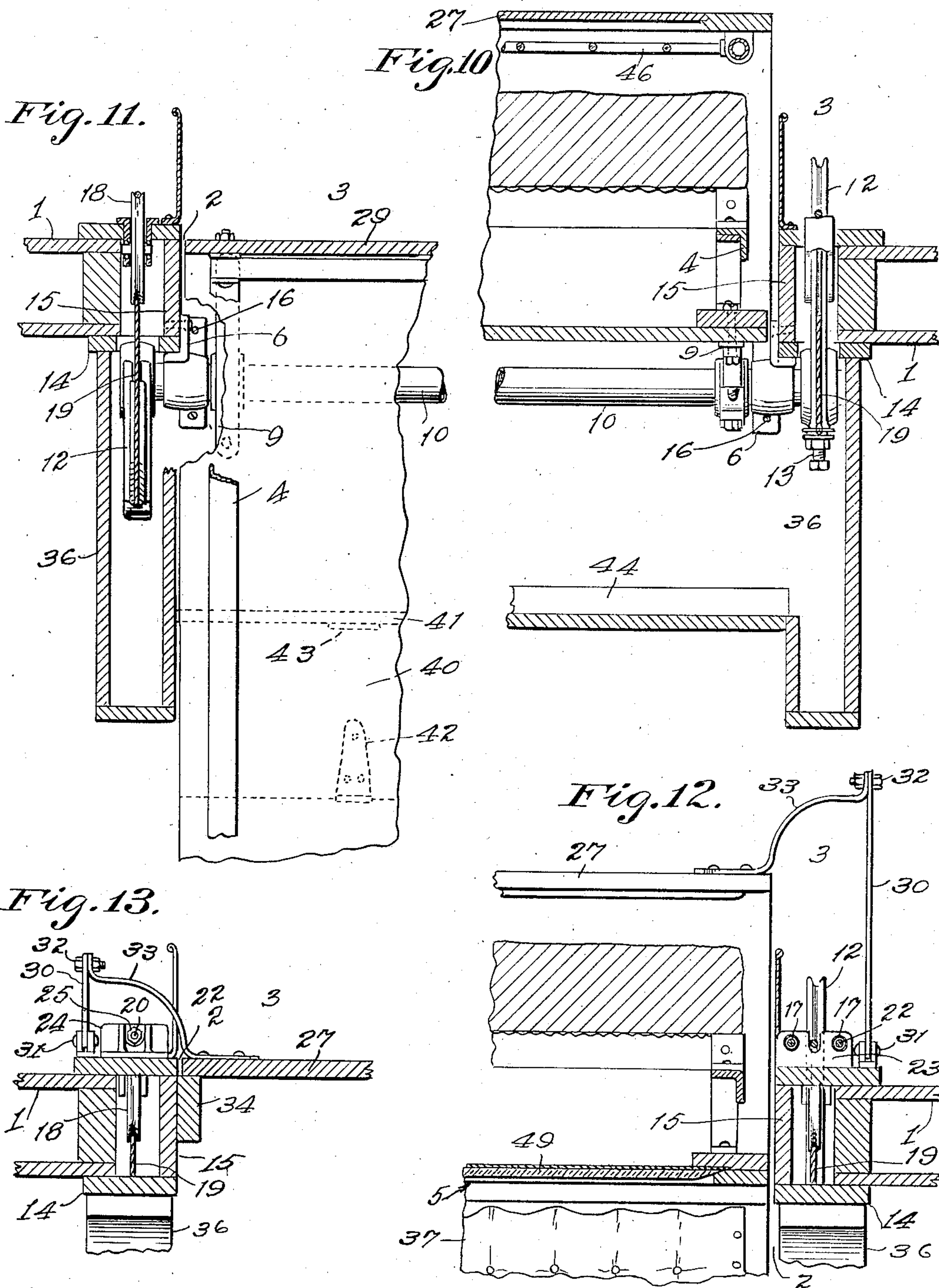
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8 SHEETS—SHEET 4.



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8 SHEETS—SHEET 5.

Fig. 15.

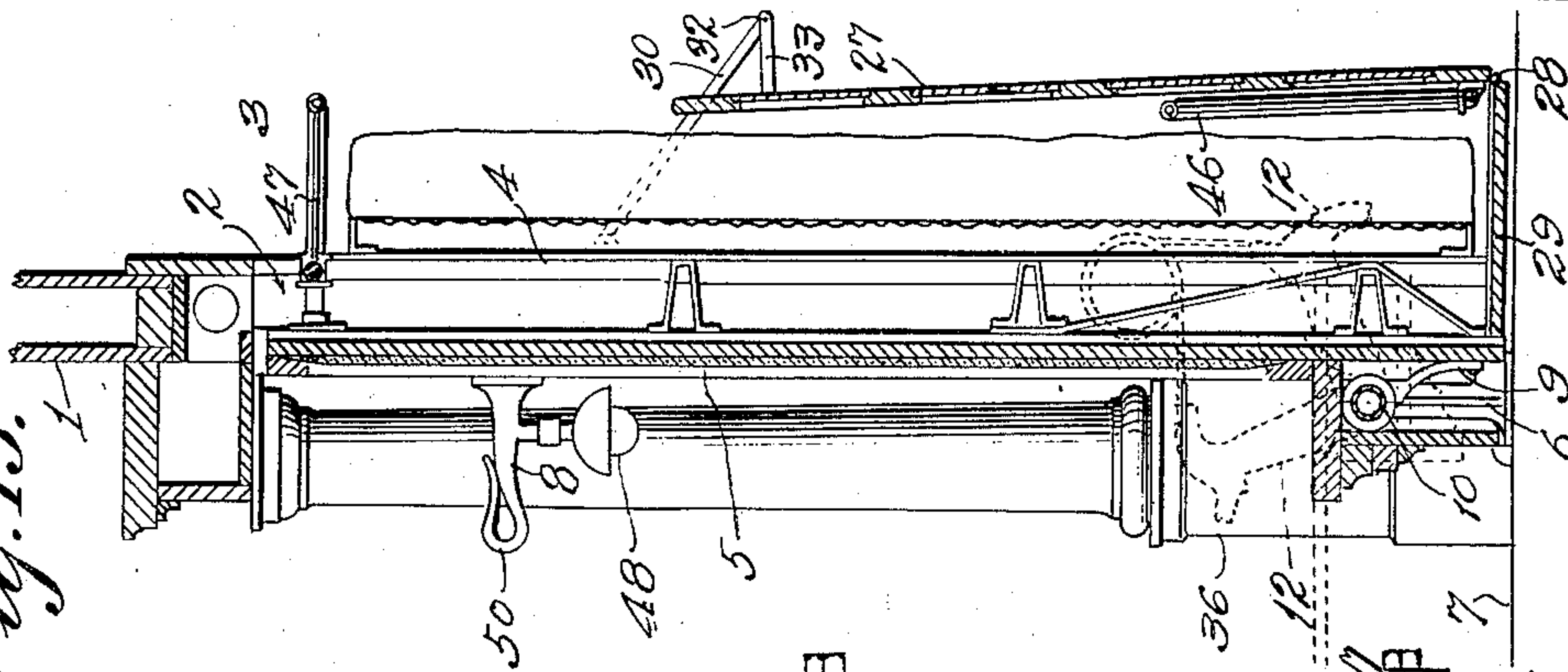


Fig. 16.

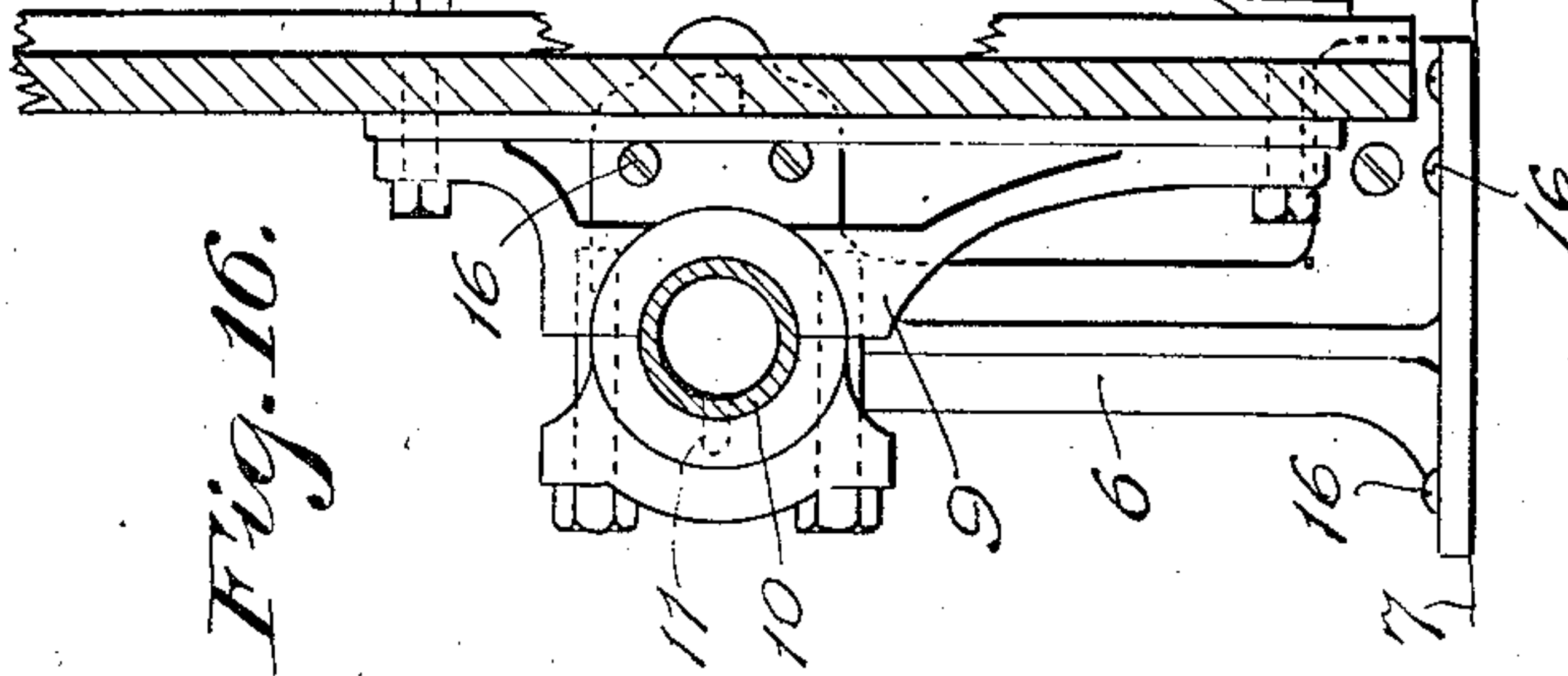
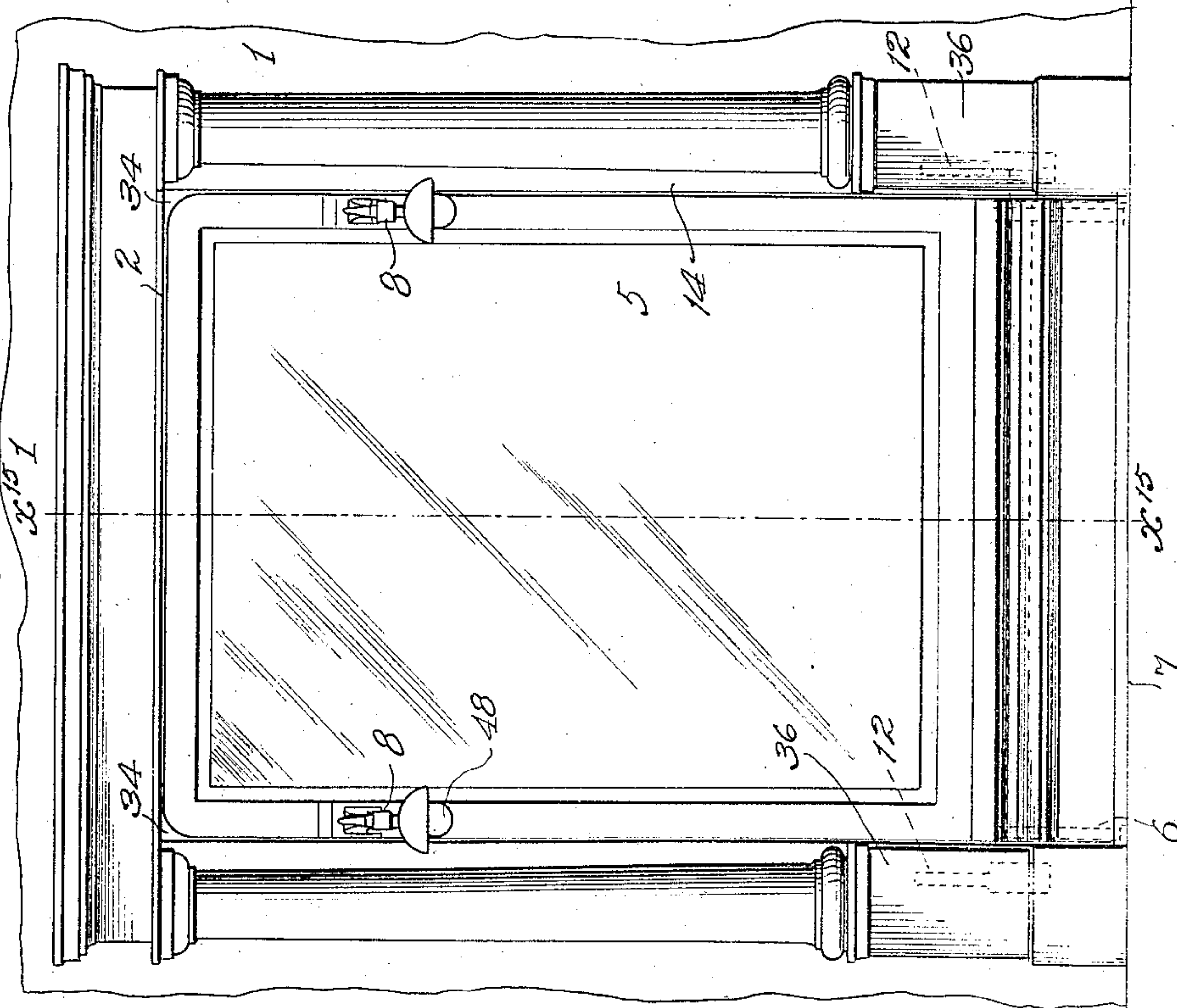


Fig. 14.



Witnesses

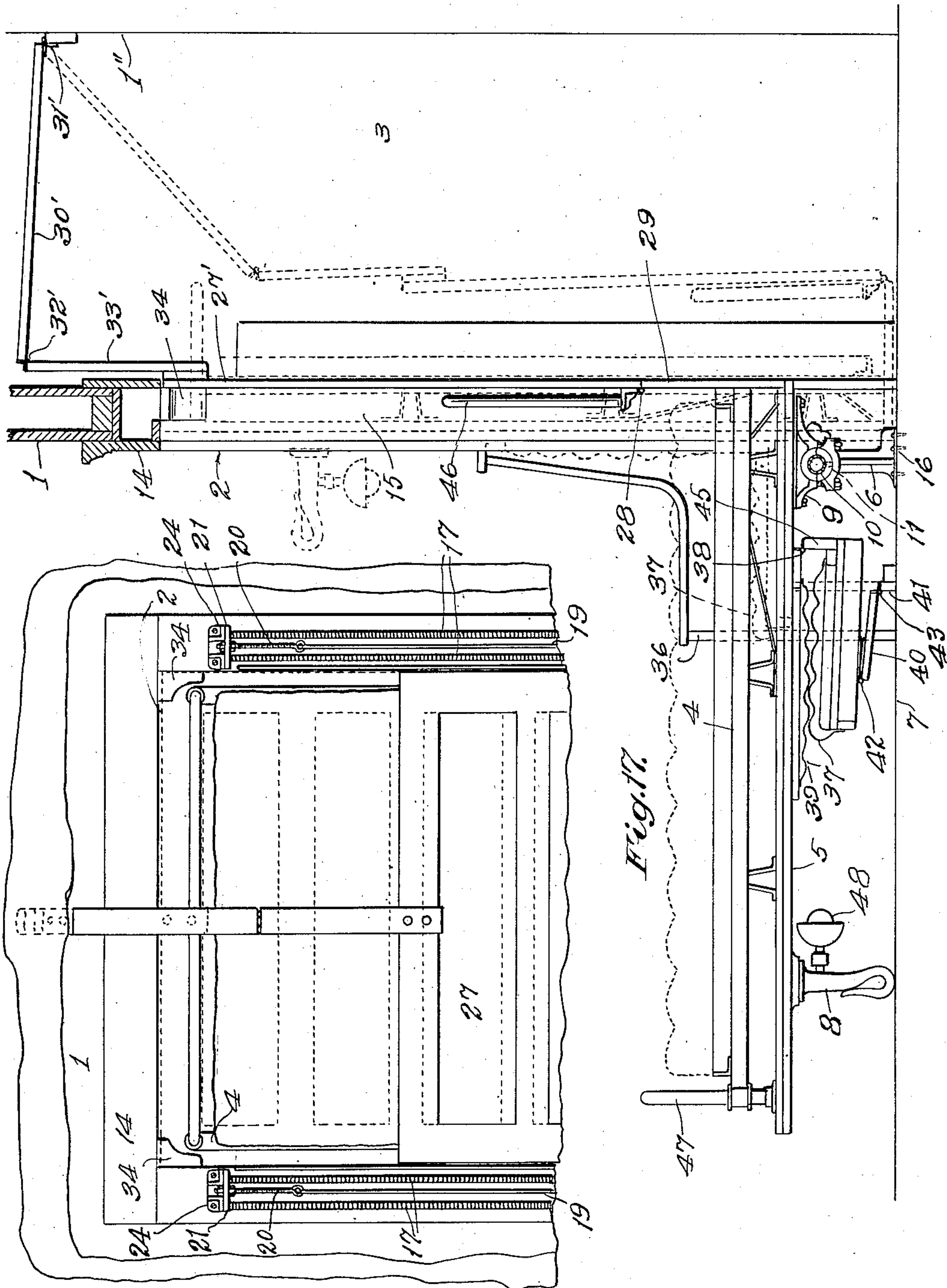
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**956,340.**

8 SHEETS--SHEET 6.



Witnesses  
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*Fig. 18.*

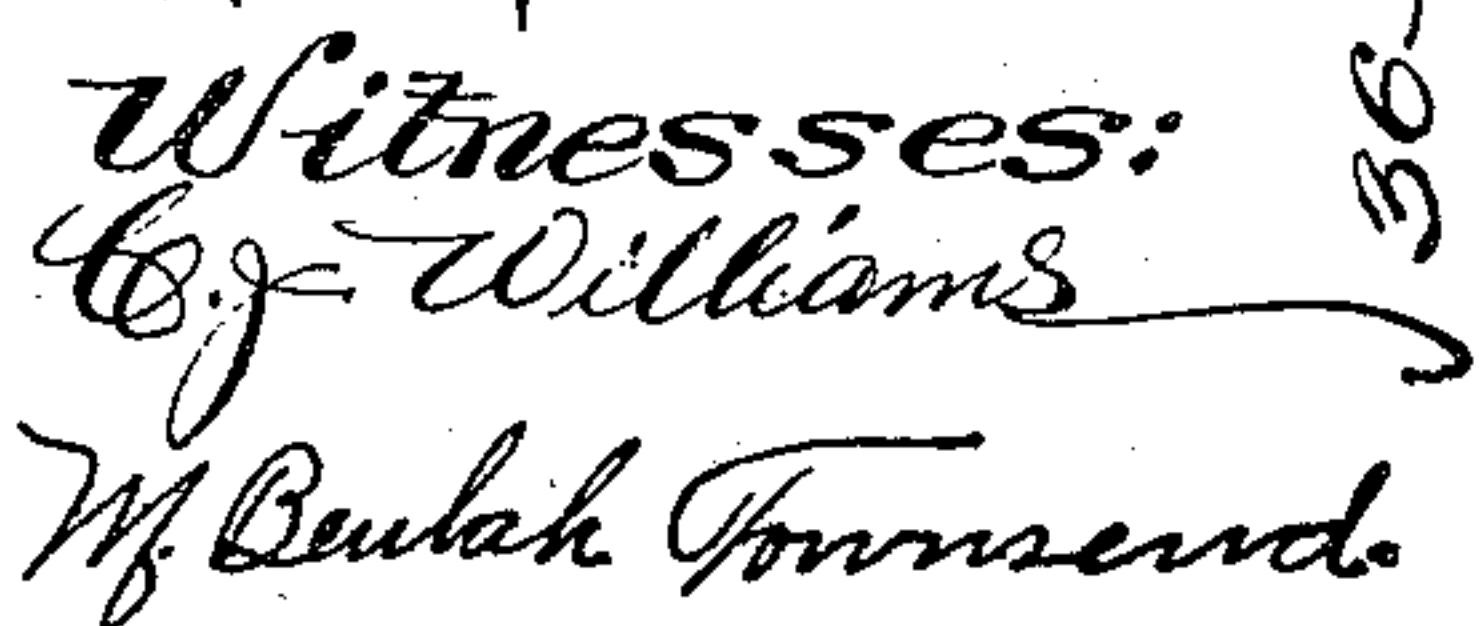
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956,340.

Patented Apr. 26, 1910.

8 SHEETS—SHEET 7.



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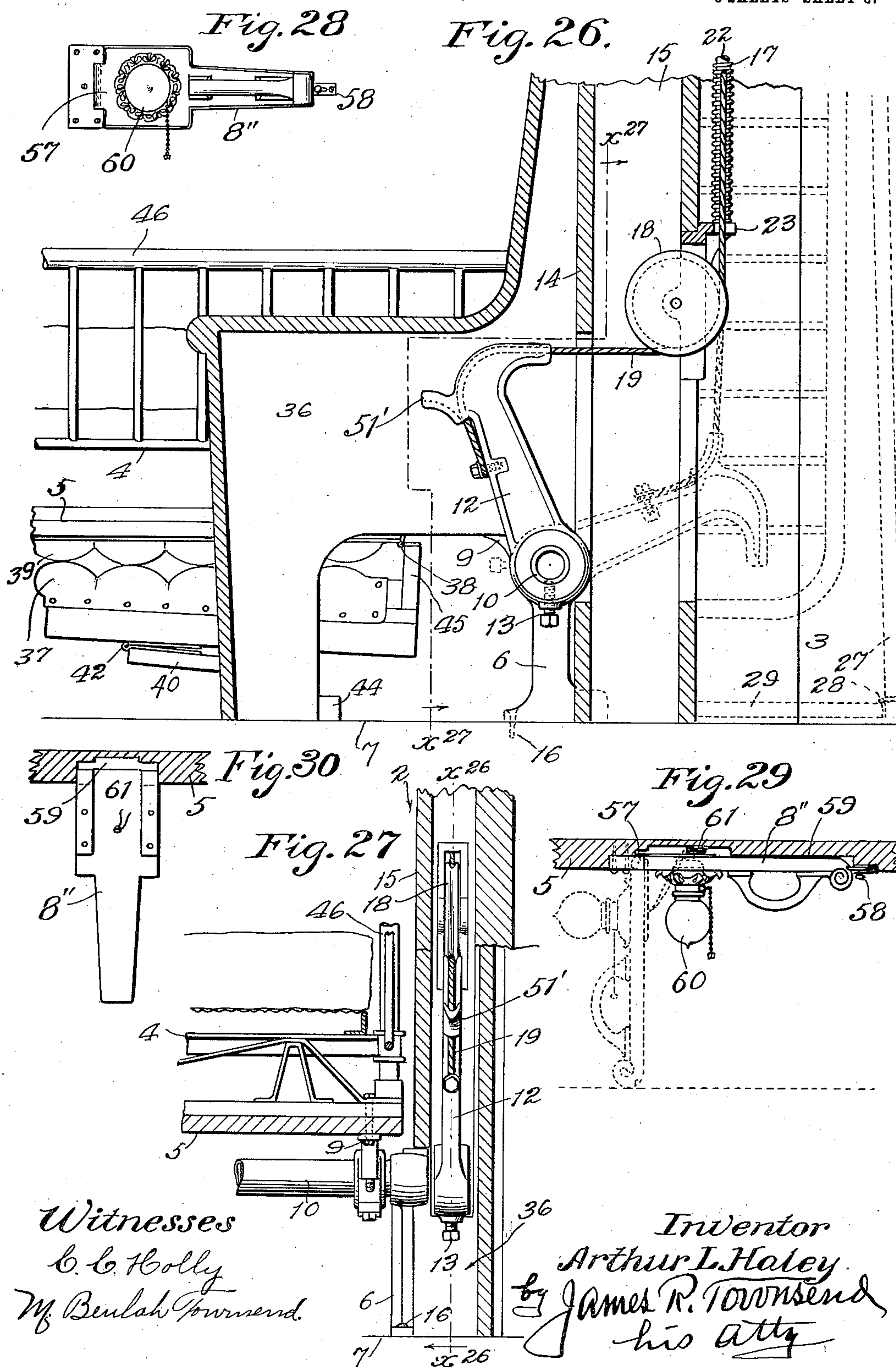


A. L. HALEY.  
WALL SEAT WALL BED.  
APPLICATION FILED JUNE 29, 1908.

956,340.

Patented Apr. 26, 1910.

8 SHEETS—SHEET 8.



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# UNITED STATES PATENT OFFICE.

ARTHUR L. HALEY, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO A. L. HALEY ARCHITECT INCORPORATED, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

## WALL-SEAT WALL-BED.

956,340.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed June 29, 1908. Serial No. 441,021.

To all whom it may concern:

Be it known that I, ARTHUR L. HALEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Wall-Seat Wall-Bed, of which the following is a specification.

This invention relates to a wall-bed provided with a seat that comes into position for occupancy when the bed is upright, and that folds out of the way when the bed is lowered. Portions of the invention are capable of embodiment in a wall-bed devoid of any wall-seat attachment.

The invention relates to the wall-seat wall-bed, and combinations and parts which will be hereinafter more particularly set forth in the detailed description.

Objects of this invention are:—to provide an improved housed bed in combination with a stable seat which stands in position for use when the bed is in upright or closed position in the recess, and which folds forward and down out of the way as the bed is lowered, and means for closing the recess when the bed is down, and also ornamental means for closing the recess when the bed is up; to provide superior, light, simple, compact, adjustable means for tilting the bed up into the recess without the use of counterweights, and in a superior way to provide against the weighting down of the building, and also to provide against the extra expense and against the liability of attracting moisture and frost in cold and inclement weather, which is involved in the use of weights of wall-beds; to provide means whereby the counterbalancing may be adjusted to correspond to the dead weight of the bed which is necessarily different at different seasons of the year, especially in zero climates, where, during the warmer or summer months, the bed-clothes are preferably lighter by a considerable number of pounds than they are in the winter season, and an object of this invention is to overcome by suitable, readily-adjustable means, any unbalancing of the bed as the weight of the bed-clothes varies.

Another object is to avoid liability of slamming the bed at its final closing movement.

An object of the invention is to allow the use of a round-cornered bed-frame without

materially increasing the cost of constructing the frame of the orifice into which it is to close. In this connection, blocks are provided which serve as a stop to prevent the bed from moving too far back into the recess, and to seat the closure-board when it is brought into position for closing the recess when the bed is down.

Another object is to provide means whereby the bed is balanced in every position, and the operation of raising and lowering the bed may be accomplished by the application of uniform pressure on the bed in the appropriate direction, and whereby the bed will remain stationary at any point in its upward or downward movement except when force is applied to raise or lower it.

Another object is to make provision for supporting one end of the bed by means that afford ornamentation and serve a useful purpose in addition to the function of holding the bed up.

Another object is to provide a wall-bed with an ornamented seat which serves as a wall-seat while the bed is up, and which folds down and out of the way whenever sufficient force is applied to the upper part of the bed to break the joint and lower the bed.

Another object is to provide means whereby the bed-clothes will be invariably guided and held in place when the bed is being lowered.

The invention is adapted to allow the beds to be arranged to tilt either endwise or edgewise as may be desired for different services and for different situations, thus to enable the builder to utilize the device as a settee extending the full length of the bed, or to store the bed in a narrower wall space when that is desired.

A feature of the invention relates particularly to the novel means for carrying the bed from its tilted position to its position for occupancy, and vice versa, and in this respect the invention is applicable in beds devoid of any seat arrangement.

The accompanying drawings illustrate the invention.

Figure 1 is a view from the inside of the room showing a lengthwise tilting wall-seat wall-bed in closed position for use as a seat. Fig. 2 is a view from the same position showing the device ready for use as a bed.



Fig. 3 is a section on line indicated by  $x^3$ , Fig. 1. Fig. 4 is a section on line  $x^4$ , Fig. 2. Fig. 5 is a fragmental detail of the adjustable swinging and balancing device. Solid lines show the position when the bed is down, and dotted lines show the position when the bed is up. Fig. 5<sup>a</sup> is a view from  $x^{5a}$ , Fig. 5. Fig. 6 is a plan section on the plane indicated by line  $x^6$ , Figs. 5 and 7. Fig. 7 is an elevation from the inside of the recess when the bed is down. A portion of the wood-work is broken to expose parts otherwise hidden. Fig. 8 is a fragmental view from the inside of the recess when the bed is up. Fig. 9 is an enlarged fragmental elevation of a portion of the adjustable lifting and balancing device viewed from the inside of the recess. Fig. 10 is a fragmental plan sectional detail on plane indicated by  $x^{10}$ , Fig. 3, showing the right-hand side of the bed up. Fig. 11 is a fragmental plan sectional detail on line  $x^{11}$ , Fig. 4, showing the bed down. Fig. 12 is a fragmental, sectional detail of right-hand side of the bed on plane indicated by  $x^{12}$ , Fig. 3, showing the bed up. Fig. 13 is a fragmental sectional plan detail on line indicated by  $x^{13}$ , Fig. 4, showing the bed down. Fig. 14 is a front elevation showing the application of portions of the invention in which the bed is arranged to form a pier-glass mirror, when closed. Fig. 15 is a sectional detail of the same on line  $x^{15}$ , Fig. 14. Fig. 16 is an enlarged detail showing the shaft, one of the standards, and the bracket that fastens the bed to its supporting shaft. Fig. 17 is an elevation partly in section, showing another form of means for operating the closure for the recess. The bed is shown down in solid lines, and up in dotted lines. Fig. 18 is a front elevation of the upper portion of the bed shown in Fig. 17 looking from the inside of the recess toward the left in Fig. 17. Fig. 19 is a view of a bed constructed in accordance with this invention and arranged to tilt edgewise. Said bed is shown as being constructed to form a settee when not in use as a bed. Fig. 20 is a front elevation of the bed shown in Fig. 19, while lowered for use as a bed. Fig. 21 is a sectional elevation from line indicated at  $x^{21}$ , Figs. 19 and 20, showing the edgewise-tilting bed down. Fig. 22 is a view showing one way of concealing the leg and handle for lowering and for supporting the free edge of the edgewise-tilting bed. Fig. 23 is a sectional detail of means for clamping the mattress and bed-clothes to the bed-frame. Fig. 24 is a sectional plan view of the clamp shown in Fig. 23. Fig. 25 is an end and front detail of the hinge shown in Fig. 22. Fig. 26 is a fragmentary view of a bed embodying this invention with a form of duplex cam for balancing the bed and easing it at the end of both its opening and

closing movements. Fig. 27 is a view of the same from line  $x^{27}$ , Fig. 26. Fig. 28 is an enlarged detail of the form of leg, handle and light fixture shown in Fig. 19. Fig. 29 is a view from line indicated at  $x^{29}$ , Fig. 21, to show the handle, leg and light fixture in side elevation as it would appear if the bed were lowered before the leg was released. Dotted lines indicate the position of the leg when in use for supporting the bed. Fig. 30 is an enlarged view of the leg as shown in Fig. 21.

1 designates a wall; 2, an orifice opening therethrough to a recess 3 which may be a closet.

4 designates a bed-frame, and 5 a facing therefor at the bottom thereof which may be of any suitable design to serve as a concealing means to conceal the bed-nature of the device when the bed is stored.

6 designates standards which may be fixed to the floor 7, and to which one end of the bed is pivoted. 8 designates brackets in the form of electric-light fixtures fastened to the free end of the bed-facing to serve as legs for the bed when the same is lowered.

9 designates supporting brackets fastened to the bed-facing 5, and 10 a shaft clamped thereby to the bed-frame and fixed by a pin 11 to the bracket 9 and journaled to rotate in the standards 6.

12 designates cam arms fixed by set-screws 13 on the shaft 10, which for lightness, cheapness and convenience may be constructed of gas-pipe.

14 designates the casing, and 15 the jamb of the orifice through which the bed enters the recess behind the wall. The standards 6 may be attached to the floor and to the jamb 15 by screws 16.

17 designates two sets of compression springs inside the recess behind the casings, to balance the bed.

18 designates tension sheaves fixed to the wall behind the casing.

19 designates flexible connections fastened respectively to the cam-arms 12 at the base thereof and led therearound, and thence around the tension-sheaves respectively, and thence connected to a temper-screw 20 which is adjustably connected to a yoke 21 arranged to compress the springs 17.

22 designates tubular guide-rods fastened to the sheave-frame 23 at their lower ends and to a bracket 24 at their upper ends. The yoke 21 is perforated and the guide-rods 22 extend therethrough so that the yoke is guided as it moves up and down in the process of shifting the bed. The spiral springs 17 preferably fit the guide-rods 22 snugly, thus to avoid buckling.

25 is an adjusting nut, and 26 a lock-nut by which the tension exerted by the temper-screw is adjustable.



27 designates a closure at the back and head of the bed for closing the orifice 2 into the recess which would otherwise be open when the bed is lowered. The same is hinged by a hinge 28 to an end-piece or permanent head-board 29 that is fixed to an end of the bed-frame and is arranged to extend vertically when the bed is down and to extend horizontally when the bed is up, as further seen in Figs. 4 and 3, respectively. The closure 27 is hinged to and forms a vertical upward extension of the end-piece 29 when the bed is down, and is raised and lowered as the bed-frame is lowered and raised.

30 is a radius rod pivoted at one end to the wall by a pivot 31, and at the other end by a pivot 32 to a bracket 33 that is fastened to the closure 27. A radius rod and bracket are provided for each edge of the closure.

34 designates blocks fastened to the jamb and arranged to intercept and support the upper end of the bed-frame when the facing 5 is upright, and also to intercept the closure 27 when it is vertical and in position for closing the orifice. Said blocks are set in the angles between the head-jamb and side jambs, thus allowing the corners of the bed-frame and facing to be rounded without leaving any aperture into the recess at such corners when the bed is up, as will be understood from Fig. 1.

The radius rod, bracket, closure and blocks are so proportioned and arranged that when the bed is down the closure will exactly fill the space above the fixed head-board 29 of the bed and the upper margin of the orifice 2, and the closure will be thereby held firmly against the blocks 34.

36 designates buttresses in front of the casing 14 to house the cam levers 12. In some instances said buttresses may form arms for a wall-seat 37 which is hinged at 38 to the facing 5 through a back piece 39 which is fastened to said facing. Said seat is also hingedly connected with the floor 7 through risers 40, 41, and hinges 42, 43. The riser 41 may be fixed on the floor 7 by a block 44 arranged behind the riser 41 to resist the rearward thrust of the pivot of the hinge 43 when the bed is being lowered. Said seat 37 is provided at its back with a hinge strip 45 which is connected with the back piece 39 by the hinge 38, and the seat 37 is arranged to extend rearwardly beyond the axis 10 of the bed when the bed is up as shown in Fig. 3, thus holding the pivot of the hinge 38 above the level of, and rearwardly of said axis when the bed is upright; and the supporting brackets 9 project forwardly from the bed facing when the bed is up so that in the operation of pulling the bed forward the bed must rise bodily at its initial forward movement while the upper end is swinging forward and downward in the arc of a circle.

The seat 37 and risers 40, 41, and the hinges 38, 42 and 43, and the shaft 10 are so proportioned and relatively arranged that when the bed is up as shown in Fig. 3 the risers 40, 41 form a rigid support for the front of the seat, and the parts serve to prevent the bed from tilting forward except upon the application of considerable force to the upper end of the bed, thereby exerting a leverage to bend the toggle-joint formed by the seat 37, risers 40, 41, and the connected parts. The seat member 37 extends across the pivot axis when the bed is upright, and its weight assists in holding the bed in upright position as does also the weight of the orifice closure 27 and the weight of the bed, all of which come to rest in upright position rearwardly of a vertical line drawn from the axis 10.

46, 47 designate ornamental head and foot boards, respectively, the head-board 46 being fastened to the closure 27 above the hinge 28 by which the closure 27 is connected with the fixed head-board 29. Said head-board 29 is fixed to the facing 5 at right angles thereto, so that when the bed is upright said fixed head-board will extend horizontally just above the floor 7, and when the bed is down the head-board will stand vertically just within the face of the wall. This serves to close that portion of the orifice above the horizontal facing that forms the bottom of the bed and below the upright closure that closes the upper portion of the orifice.

When the bed is up, as shown in Fig. 3, the brackets 8 form ornamental bracket light-fixtures for electric lamps 48 which are thereby held in position at opposite sides of the ornamental means as a mirror 49 which may form a part of the exposed surface of the bed-bottom or facing 5. When the bed is in this position the compression springs 17 are extended and exert a force through the temper-screw 20, flexible connection 19 around sheaves 18, and through the cam-arms 12, shaft 10 and brackets 9, to hold the bed upright. At the same time the hinged portions of the seat are in position from which they can only be moved by the application of considerable force, and the weight of the bed is rearwardly of the pivot 10, thus holding the bed firmly in place. The light brackets 8 are provided at their ends with handholds 50 by which the same may be grasped by the attendant to exert force for lowering the bed.

The axis of the shaft 10 upon which the bed revolves is arranged below the bottom of the lowered bed and below the level of the hinge 38 by which the seat member 37 is hinged to the facing, so that when the bed is drawn forward from upright position shown in Fig. 3, the operation requires that the rear edge of the seat be lifted at the out-



set as well as that the member be drawn forward and the bed be lifted. Therefore, at this stage of the operation it is desirable that the force of the springs 17 exerted on the bed to hold it in upright position, be at the minimum, and this effect is secured by the peculiar construction and arrangement of the connections between said springs and the shaft which is fixed to the bed, so that the springs may be under considerable compression without liability of holding the bed too firmly against force applied to lower it. Said connections comprise lines 19 led under the tension-pulley 18 and over the heel of the cam-arm 12 which is thus engaged at a portion that is close to the shaft.

The curved purchases or arms 12 are spiral so that as the bed is lowered said connection is led thereby farther and farther away from the axis of the shaft 10, thereby drawing the connection and the cross-head downward with an accelerating motion, and compressing the springs in an increasing ratio as the bed is lowered and as the leverage of the bed to compress said springs increases. The spiral arrangement of the arms is so proportioned to the increased leverage of the lowering bed that as the bed is lowered the leverage through which the springs operate is balanced at every stage, and the bed will come to rest at any position to which it may be brought, and can be moved therefrom by very slight application of force.

In case the weight applied to the bed at any time be increased or diminished, as by increasing the number or weights of the coverings on the bed, the tension of the springs may be regulated by screwing the nuts 25 and 26 up or down on the temper-screw 20 as occasion may require. This adjustment may also be called into use to compensate for any weakening of the springs which may result from continued use.

In order to appropriately apply the force of the springs to prevent the bed from slamming into the recess at the close of its upward movement, adjustable stays 51 or fixed stays 51' are arranged to engage the lines 19 when the purchase 12 has swung rearwardly to a determined position. The operation of said stays is apparent from the dotted position in Fig. 5. Said adjustable stay 51 is pivoted at 52 to a portion of, and eccentrically of, the purchase 12, so that said stay 51 may be swung along the purchase 12 to act upon said line 19 to compress the springs 17 at a determined point in the upward movement of the bed.

53 is a set-screw carried by a block 54 pivoted at 55 to the stay 51 and adapted to engage a seat 56 formed on the purchase 12. By screwing the set-screw 53 through the block 54 against the seat 56, the stay 51 may be adjusted toward the free end of the pur-

chase 12, thus to engage the line 19 to compress the spring 17 at an earlier period of the backward movement of the bed. By unscrewing the set-screw 53 the line 19 is engaged at a later period of the closing movement of the bed. When the stay 51 engages the line 19 as the bed tilts backward, it begins to compress the springs 17, thereby easing the bed into the recess and preventing slamming. The force of the springs thus compressed at the end of the closing movement is effective to assist in overcoming the overhang of the bed when it is again desired to lower the bed for use. By adjusting the stays 51 appropriately the effective resistance caused by the overhang of the bed can be adjusted to yield to any desired force, thus making the bed in some instances so easily moved that a child may open and close the same, the full force of the spring that is effective to assist in raising the bed when it is lowered, being also available to assist in starting the bed out of the recess when raised. Immediately the bed has tilted sufficiently forward to bring the line out of engagement with the stay 51, the force of the springs becomes effective to support the bed on its downward movement.

In the form of construction shown in Figs. 17 and 18, the link 30' is hinged at 31' to the stationary support or wall 1'' at one end, and is hinged at 32' to an upper right extension 33' of the closure 27'. The several pivotal points or hinges 10, 28, 38, 42, 43, 31', 32', are neutral centers, the parts being so proportioned and arranged that no binding or cramping occurs in the operation of raising and lowering the bed.

In practical use, the bed may be lowered by the application of force to the handle 50. The amount of force required may be regulated by adjusting the stay. When the bed has moved forward a determined distance so that the weight of the bed begins to operate to lower the bed, then the springs come into action to sustain the weight of the descending bed. By appropriately adjusting the temper-screw, the bed may be so evenly balanced that pressure will be required to move it either down or up from any or all given positions. To raise the bed, a smaller or greater amount of force may be necessary, depending upon the adjustment of the temper screws. In no instance will there be sufficient force to lift the bed when additional weight, as that of an occupant, is thereon, thus making the bed absolutely safe. By the application of force from the springs to lift the bed through a spiral purchase which greatly compresses the springs at the close of the downward movement when the leverage of the foot of the bed is greatest, a more perfect balancing of the bed is secured than is possible with any other construction of which I am aware.



The operation of the fixed stays 51' is practically the same as that of the adjustable stays except that their position is unchangeable relative to the other parts of the purchase. The form of the light-fixture carrying leg may be varied for various situations and styles of facing.

In Fig. 22 a form of combined hinged handle and leg is shown devoid of any light-fixture. 57 designates the hinge for connecting the leg with the facing 5'' that is recessed to receive the leg. 8'' designates a form of hinged leg provided with an electric light fixture. 57 designates the hinge for the same and 58 a latch to hold the fixture folded in a recess 59 therefor. The spring hinges 57 are arranged to hold the legs 8'' extended when the same are not retained by the latches 58. 60 designates the lamp and 61 the electric connections for the same.

I claim:—

1. A recessed support, a bed pivotally mounted in the recess, a facing on the bottom of the bed, upholstery on the lower part of the facing, an upholstered seat, a hinge-strip rigid with the back of the seat, and hinges securing the hinge-strip to the facing so that the seat may fold parallel with the facing without injuring the upholstery.

2. A recessed support, a bed pivotally mounted in the recess, a facing on the bottom of the bed, a seat, a hinge-strip rigid with the back of the seat, hinges securing the hinge-strip to the facing, a riser fixed to the floor, and a second riser hinged to the first riser and to the seat so that the seat may fold forwardly under the bed without injuring the facing.

3. A support, a pivoted bed provided on its bottom with a facing and adapted to stand upright and horizontal, a foldable device comprising a seat member hinged to said facing and adapted to extend horizontally across the bed pivot when the bed is upright, and a foldable support hinged to the front of said seat member and hingedly connected therewith with the first mentioned support and arranged to stand upright when the bed is upright.

4. A support, a pivoted bed adapted to stand upright at one side of the axis of its pivot to move over the pivot in the operation of bringing the bed to a horizontal position, a seat member hingedly connected to the bed and arranged to extend over said pivot when the bed is upright and two risers hinged together, one being hinged to said seat member in front of the pivot and the other being hinged thereunder to said support.

5. A support, a pivoted bed adapted to stand upright at one side of the axis of its pivot and to move over the pivot in the op-

eration of bringing the bed to a horizontal position, a seat member hingedly connected to the bed and arranged to extend over said pivot when the bed is upright, two risers hinged together, one being hinged to said seat member in front of the pivot and the other being hinged thereunder to said support, a curved purchase rigidly connected with the bed and projecting forwardly and upwardly when the bed is lowered and upwardly and rearwardly when the bed is upright, a flexible connection fixedly connected to the bed and extending around said purchase, and yielding means to retract said flexible connection in an upward direction.

6. A frame forming a recessed support, a bed pivotally mounted in the recess, a closure hinged to the head of the bed, pivots fixed to the frame at the sides of the upper part of the recess and extending backwardly, radius rods connected to these fixed pivots; brackets extending backwardly from the closure and connected to the radius rods, so that the closure is held vertical as the bed rises and lowers and so that the closure moves into place to close the recess when the bed is down.

7. A recessed support, standards fixed upon the floor in front of the recess, a shaft rotatably mounted in the standards, supporting brackets fixed upon the shaft, a bed secured to the supporting brackets and adapted to swing upwardly into the recess and downwardly out of the recess, cam-arms adjustably fixed upon the shaft, compression springs mounted vertically upon the inner face of the frame around the recess, tension sheaves fixed to the frame in line with the springs, and flexible connections from the springs around the sheaves over the cam-arms to the bases of the cam-arms so that the tensions of the springs counterbalance the weight of the bed.

8. A recessed support, standards fixed upon the floor in front of the recess, a shaft rotatably mounted in the standards, supporting brackets fixed upon the shaft, a bed secured to the supporting brackets and adapted to swing upwardly into the recess and downwardly out of the recess, cam-arms adjustably fixed upon the shaft, compression springs mounted vertically upon the inner face of the frame around the recess, tension shelves fixed to the frame in line with the springs, flexible connections from the springs around the sheaves over the cam-arms to the bases of the cam-arms so that the tensions of the springs counterbalance the weight of the bed, and means for adjusting the tensions of the springs.

9. A frame forming a recessed support, standards rigidly secured in front of the recess, a shaft rotatably mounted in the standards, supporting brackets clamped upon the shaft and held against rotation, a bed se-



cured to the supporting standards so as to swing upwardly into the recess and downwardly out of the recess, cam-arm bases adjustably fixed upon the shaft, curved cam-arms extending from the bases, compression springs secured to the rear faces of the wall at opposite sides of the recess, tension sheaves in alinement with the springs and with the curved cam-arms, and flexible connections connected to the springs and running under the sheaves over the curved cam-arms and attached to the cam-arm bases.

10. A frame forming a recessed support, standards rigidly secured in front of the recess, a shaft rotatably mounted in the standards, supporting brackets clamped upon the shaft and held against rotation, a bed secured to the supporting standards so as to swing upwardly into the recess and downwardly out of the recess, cam-arm bases adjustably fixed upon the shaft, curved cam-arms extending from the bases, compression springs secured to the rear faces of the wall at opposite sides of the recess, tension shelves in alinement with the springs and with the curved cam-arms, flexible connections connected to the springs and running under the sheaves over the curved cam-arms and attached to the cam-arm bases, and means for adjusting the tensions of the springs.

11. A frame forming a recessed support, standards rigidly secured in front of the recess, a shaft rotatably mounted in the standards, supporting brackets clamped upon the shaft and held against rotation, a bed secured to the supporting standards so as to swing upwardly into the recess and downwardly out of the recess, cam-arm bases adjustably fixed upon the shaft, curved cam-arms extending from the bases, compression springs secured to the rear faces of the wall at opposite sides of the recess, tension sheaves in alinement with the springs and with the curved cam-arms, flexible connections connected to the springs and running under the sheaves over the curved cam-arms and attached to the cam-arm bases, and adjustable stays carried by the curved cam-arms to limit the unwinding of the flexible connections from the cam-arms.

12. The combination with a recessed upright, of a pivoted bed arranged to stand in said upright and to be brought to a horizontal position, foldable means adapted to form a seat in front of the bed when the seat is upright and to fold beneath the bed when the same is lowered, a curved purchase fixed to the bed and extending, when the bed is horizontal, transversely thereof and forwardly of a vertical line drawn from the pivot of the bed and curved upwardly toward said vertical line, a sheave, a flexible connection fixed to and extending around

said purchase and over said pivot and under said sheave, and means to retract said flexible connection to lift the bed.

13. The combination with a recessed upright, of a pivoted bed arranged to stand in said upright and to be brought to a horizontal position, foldable means adapted to form a seat in front of the bed when the seat is upright and to fold beneath the bed when the same is lowered, a curved purchase fixed to the bed and extending transversely thereof in front of a vertical line drawn from the pivot of the bed when the bed is horizontal and curved upwardly toward said vertical line, a sheave, a flexible connection fixed to and extending around said purchase and over said pivot and under said sheave, and springs arranged to retract said flexible connection.

14. The combination with a recessed upright, of a pivoted bed arranged to stand in said upright and to be brought to a horizontal position, foldable means adapted to form a seat in front of the bed when the bed is upright and to fold beneath the bed when the same is lowered, a curved purchase fixed to the bed and extending transversely thereof in front of a vertical line drawn from the pivot of the bed when the bed is horizontal and curved upwardly toward said vertical line, a sheave, a flexible connection fixed to and extending around said purchase and over said pivot and under said sheave, a spring, and means connected with said flexible connection and arranged to compress the spring.

15. The combination with a recessed upright, of a pivoted bed arranged to stand in said upright and to be brought to a horizontal position, foldable means adapted to form a seat in front of the bed when the seat is upright and to fold beneath the bed when the same is lowered, a curved purchase fixed to the bed and extending transversely thereof in front of a vertical line drawn from the pivot of the bed when the bed is horizontal and curved upwardly toward said vertical line, a sheave, a flexible connection fixed to and extending around said purchase and over said pivot and under said sheave, a plurality of coil springs, means to hold said springs upright, and a yoke connected with said flexible connection to compress the springs.

16. A recessed upright provided in front with buttresses on opposite sides of the recessed orifice, a fulcrum shaft, boxes to support said shaft, a bed, brackets fixed to the under side of the bed and fixed to said shaft, purchases in said buttresses and fixed to the shaft and extending transversely of the bed between said shaft and the front of the bed, sheaves in the upright, a flexible connection fixed to the purchase and extending therearound and over the shaft and un-



der said sheaves, and spring means to retract said flexible connections to lift the bed.

17. A bed, a shaft fixed to the bed transversely under the head, spiral purchases 5 fixed to the shaft, bearings for supporting the shaft, compression springs, flexible connections from the compression springs extending around the spiral purchases and attached to the bases thereof, and adjustable 10 stays for limiting the unwinding of the connections from the spiral purchases.

18. A bed, a shaft fixed to the bed near the head end, bearings for supporting the shaft, curved spiral arms fixed upon the 15 shaft, compression springs rigidly mounted, flexible connections attached to the compression springs and extending around the grooved spiral arms and attached to the bases thereof, and adjustable stays for limiting the unwinding of the flexible connections from the grooved spiral arms. 20

19. A recessed upright provided with a block at the top of the orifice of said recess, a bed pivoted to stand upright in the recess 25 and provided with a facing to engage the front side of the block and to close the orifice of the recess when the bed is upright, and a closure for said recess connected with said bed and adapted to engage the rear side 30 of said block and to close the recess when the bed is lowered.

20. An upright provided with a recess having a rectangular orifice, a pivoted bed adapted to stand in said orifice and provided 35 at its foot with rounded corners and blocks at the corners of said orifice to receive said rounded corners of the bed to enable said rounded corners to complete the closure for said orifice when the bed is upright.

40 21. The combination with a recessed upright, of springs at the rear of said upright,

means to hold the springs upright, a yoke to compress said springs, a sheave below the yoke, a bed, a fulcrum in front of the recess, a seat member hinged to the under side of 45 the bed, a jointed support for the seat, a curved purchase fixed to the bed, and a flexible connection fastened to said curved purchase and extending around and over the same and under said sheave and connected 50 to said yoke.

22. The combination with a pivoted bed, of a curved purchase, spring means, means for compressing said spring means, a temper screw adjustably connected with said com- 55 pressing means, and a flexible connection fastened to the purchase and extending therearound and over the same and connected with said temper screw.

23. A recessed upright, a pivoted bed arranged to be moved from horizontal position 60 to upright position and to stand in the recess, and fenders fixed to the opposite sides of the recessed orifice to crowd the bed-clothing toward the bed. 65

24. The combination with a recessed upright, of a bracket provided with two seats, another bracket provided with two seats and with a slot, a sheave journaled in said slot, rods connecting said seats, springs on said 70 rods, a yoke slidable on said rods to compress said springs, a pivoted bed, a purchase on said pivoted bed, a flexible connection fixed to and extending around said purchase and connected with said yoke. 75

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 22d day of June, 1908.

ARTHUR L. HALEY.

In presence of—

JAMES R. TOWNSEND,  
JULIA TOWNSEND.