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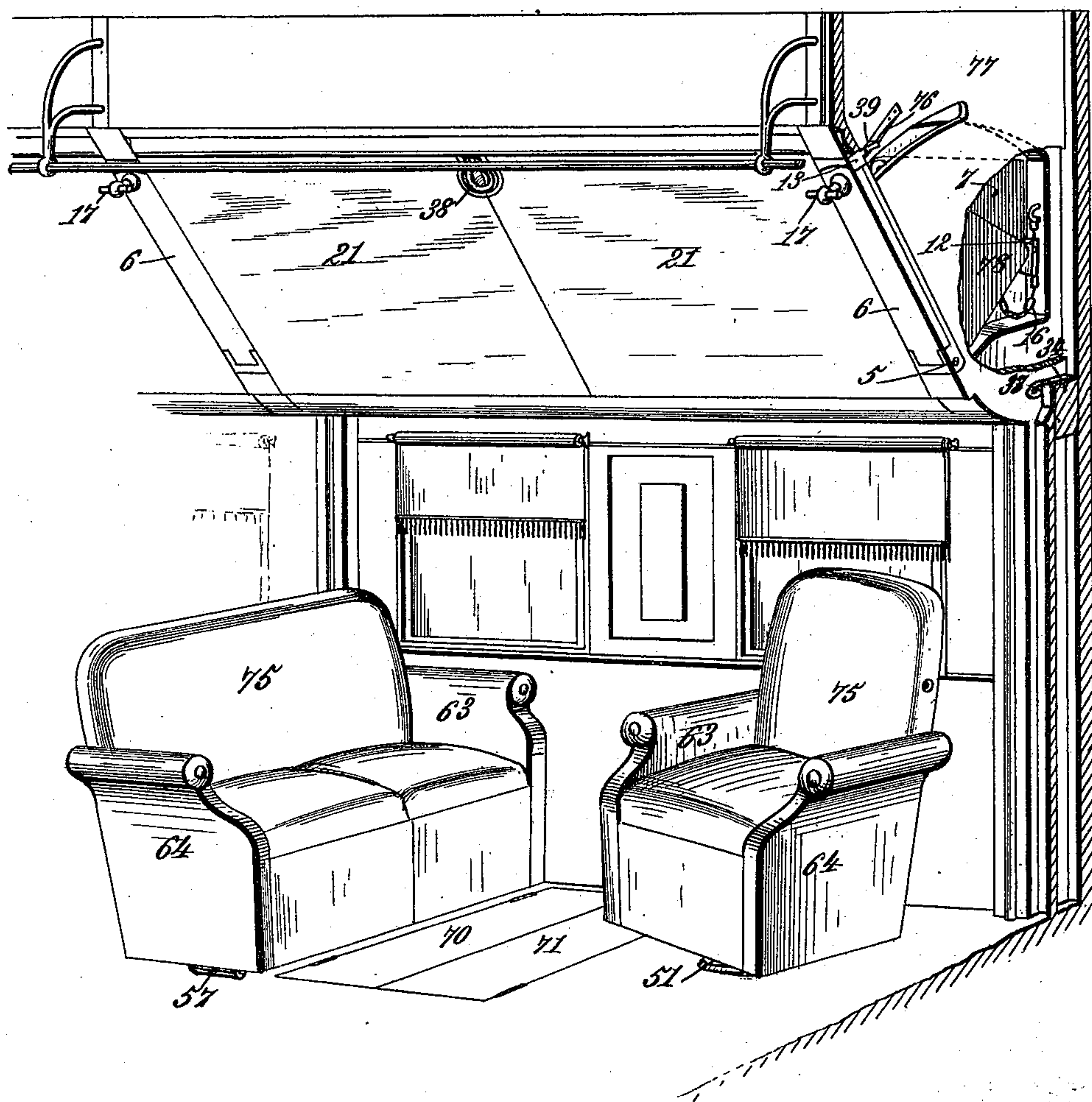
7 Sheets—Sheet 1.

DE WITT C. BREED.  
PARLOR SLEEPING CAR.

No. 533,031.

Patented Jan. 22, 1895.

*Fig. 1.*



*Witnesses.*

*Robert Everett.*

*J. A. Rutherford.*

*Inventor.*

*De Witt C. Breed.*

*By*

*James L. Norris.*

*Atty.*

(No Model.)

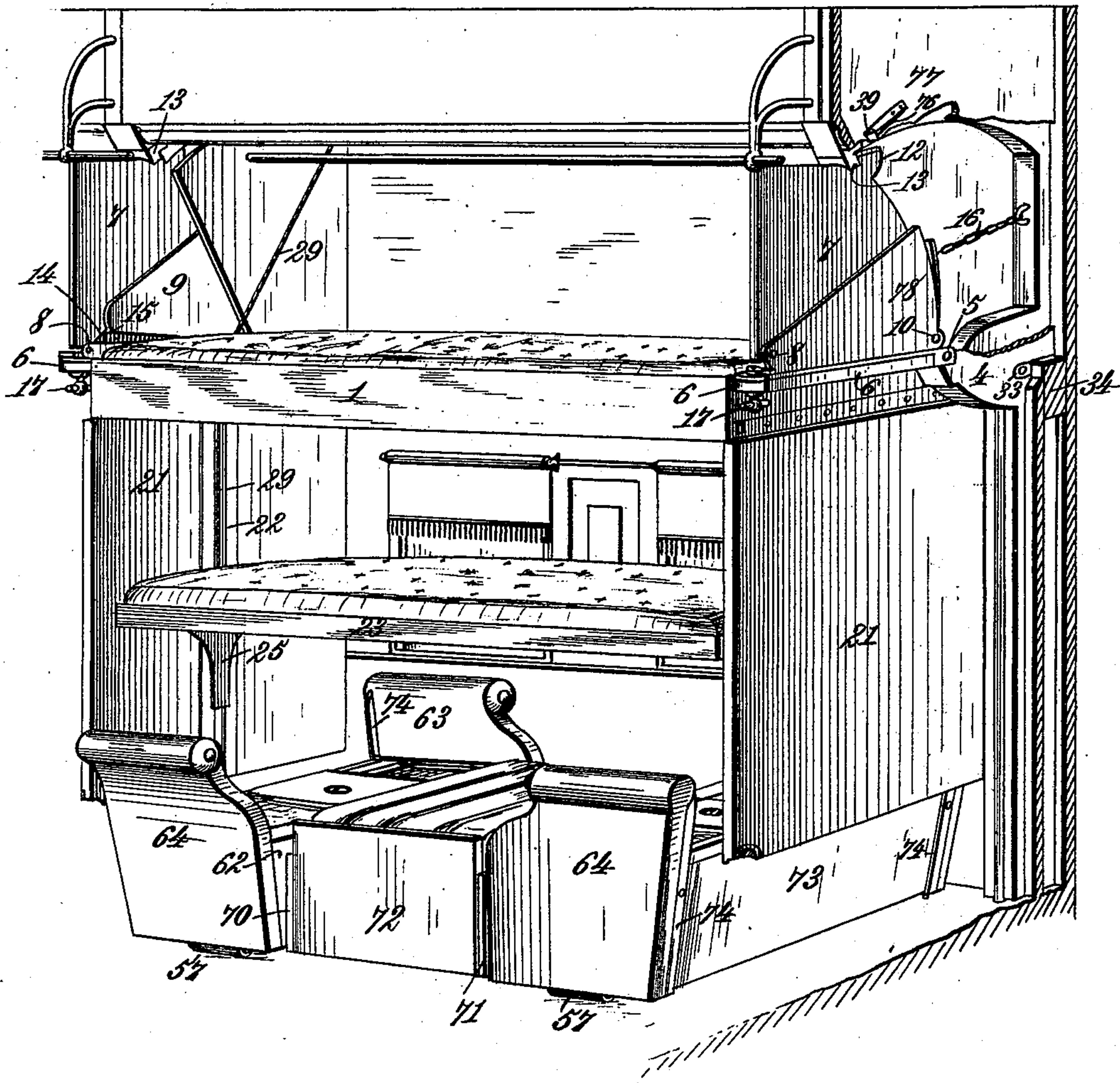
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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

No. 533,031.

Patented Jan. 22, 1895.

*Fig. 2.*



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*J. A. Richeyford.*

Inventor:  
*De Witt C. Breed.*  
By *James L. Norris.*  
Atty.



(No Model.)

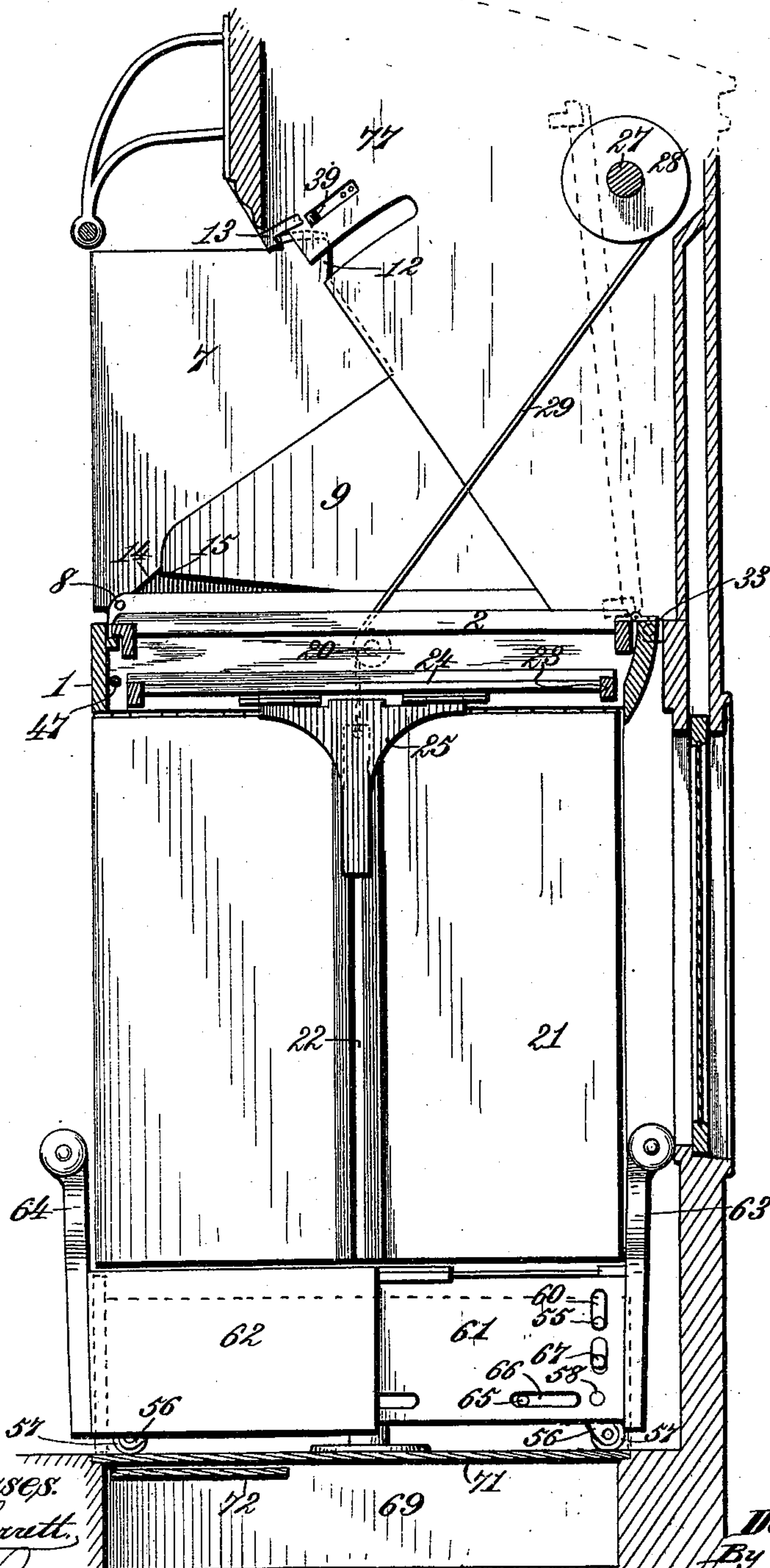
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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

No. 533,031

Patented Jan. 22, 1895.

*Fig. 3.*



*Witnesses:*

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(No Model.)

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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

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Fig. 4.

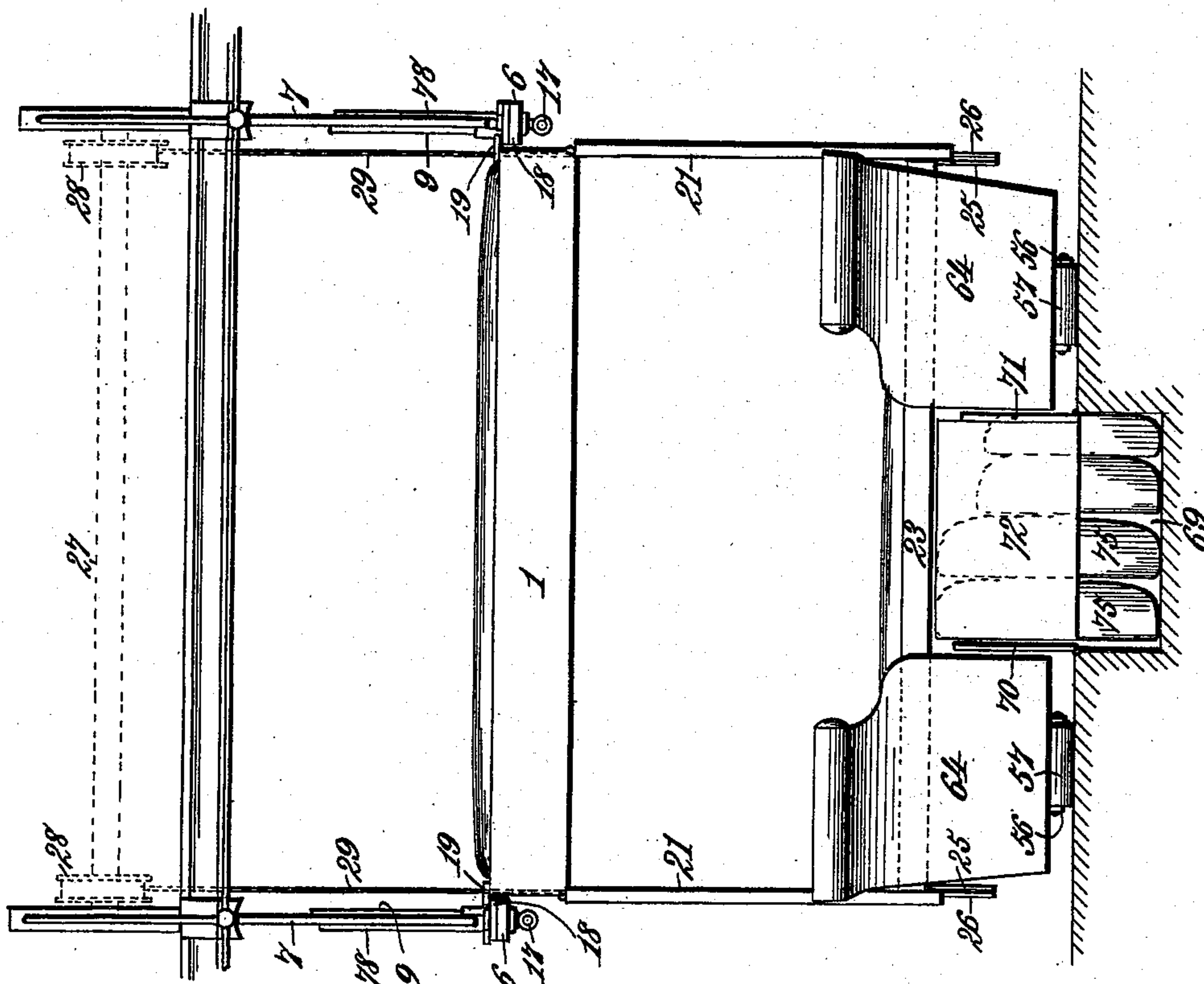
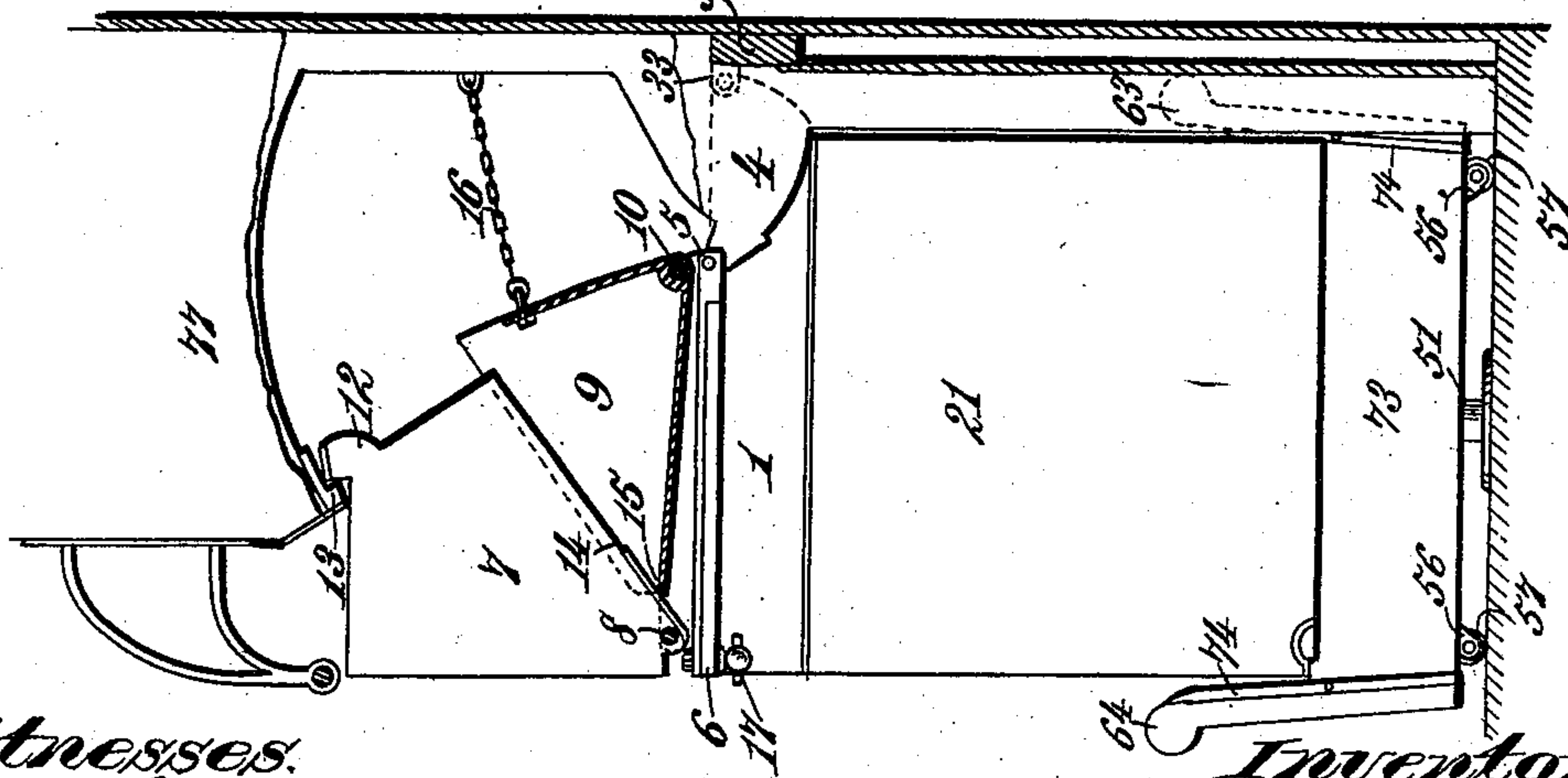


Fig. 5.



Witnesses.

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Inventor.

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*By J. M. L. Norris,*

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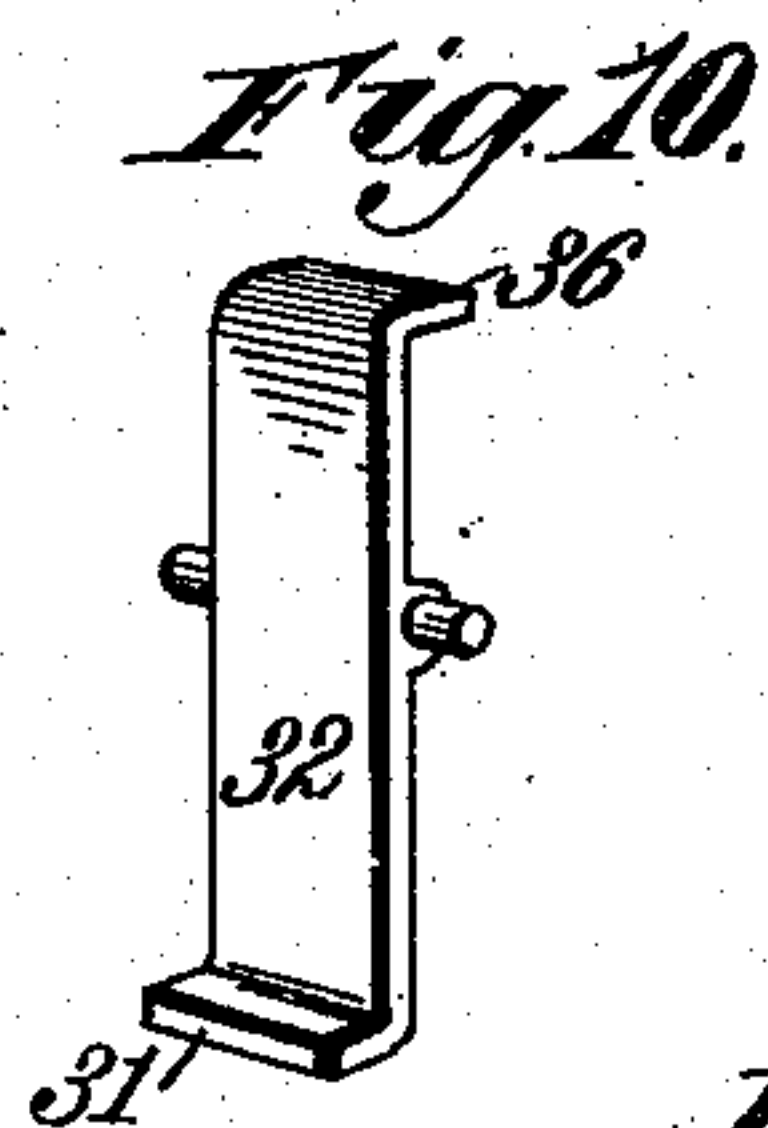
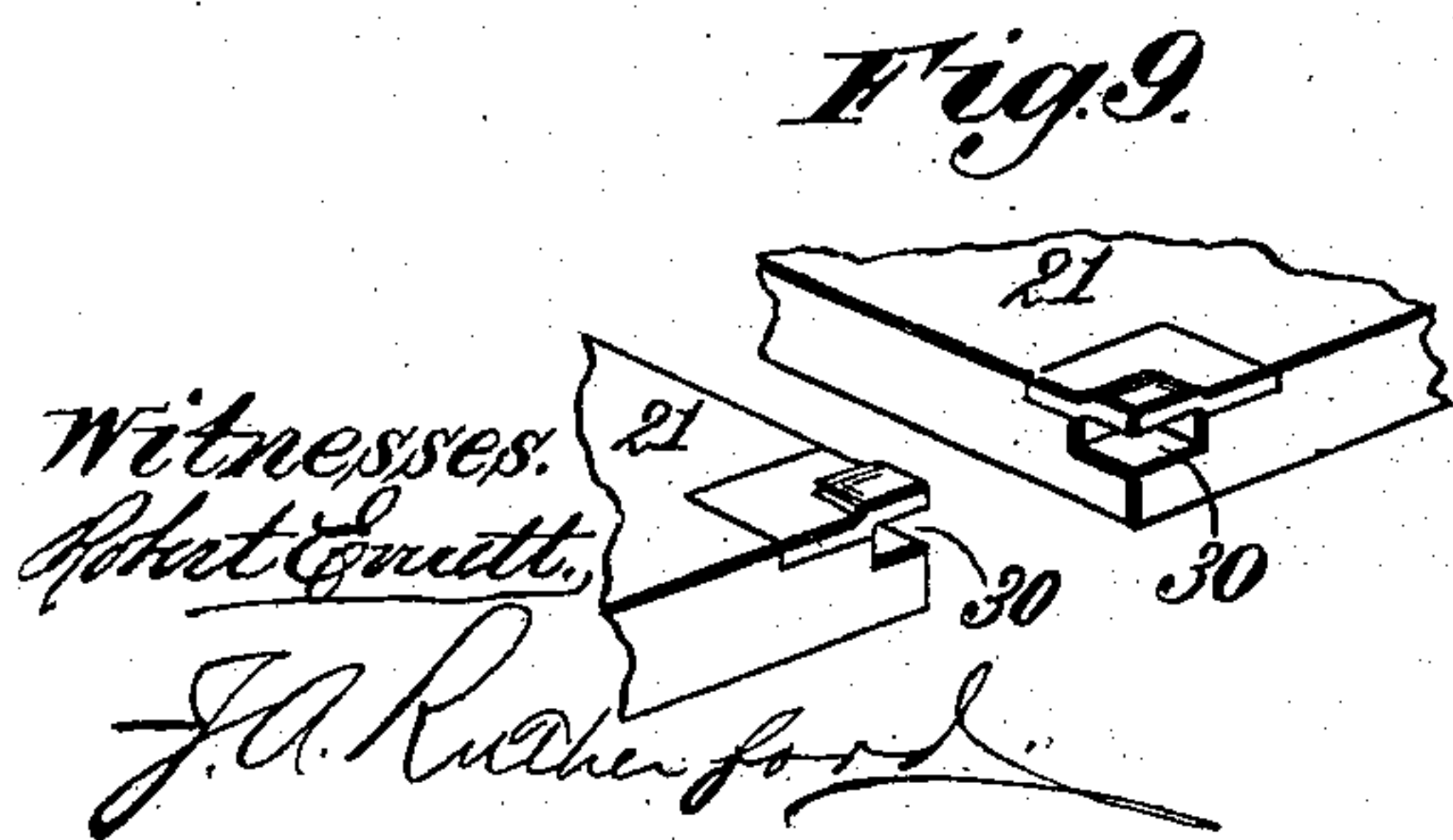
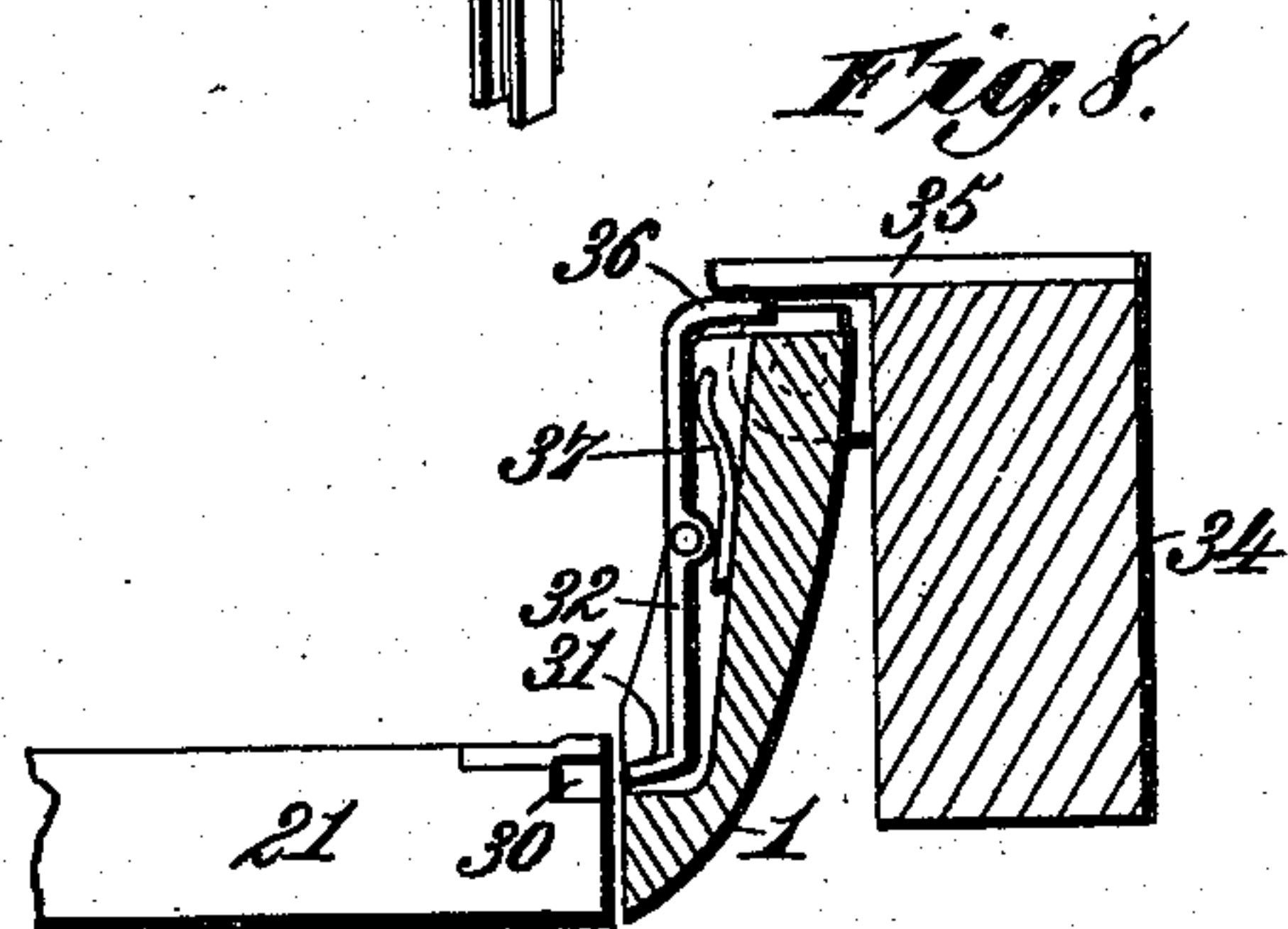
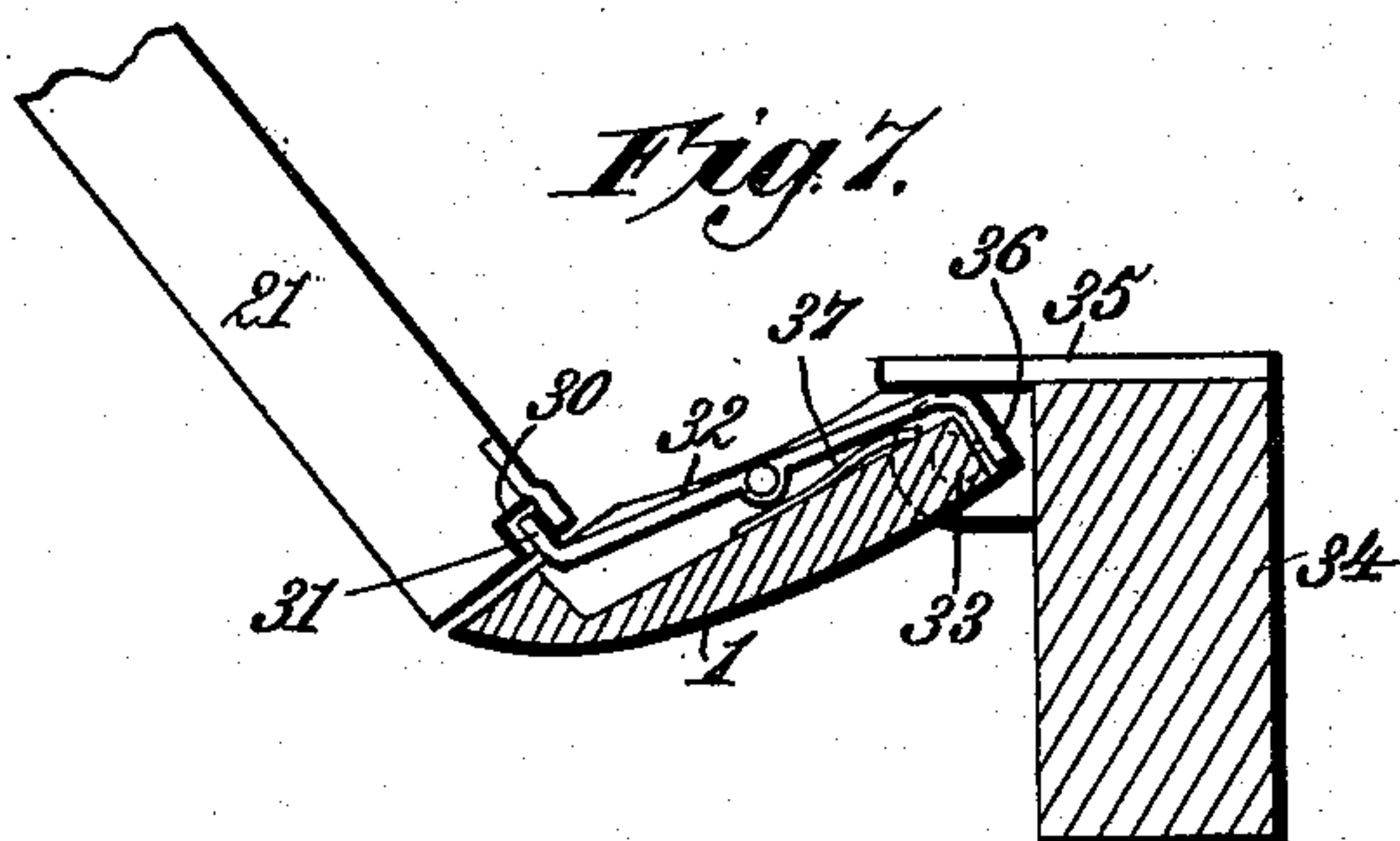
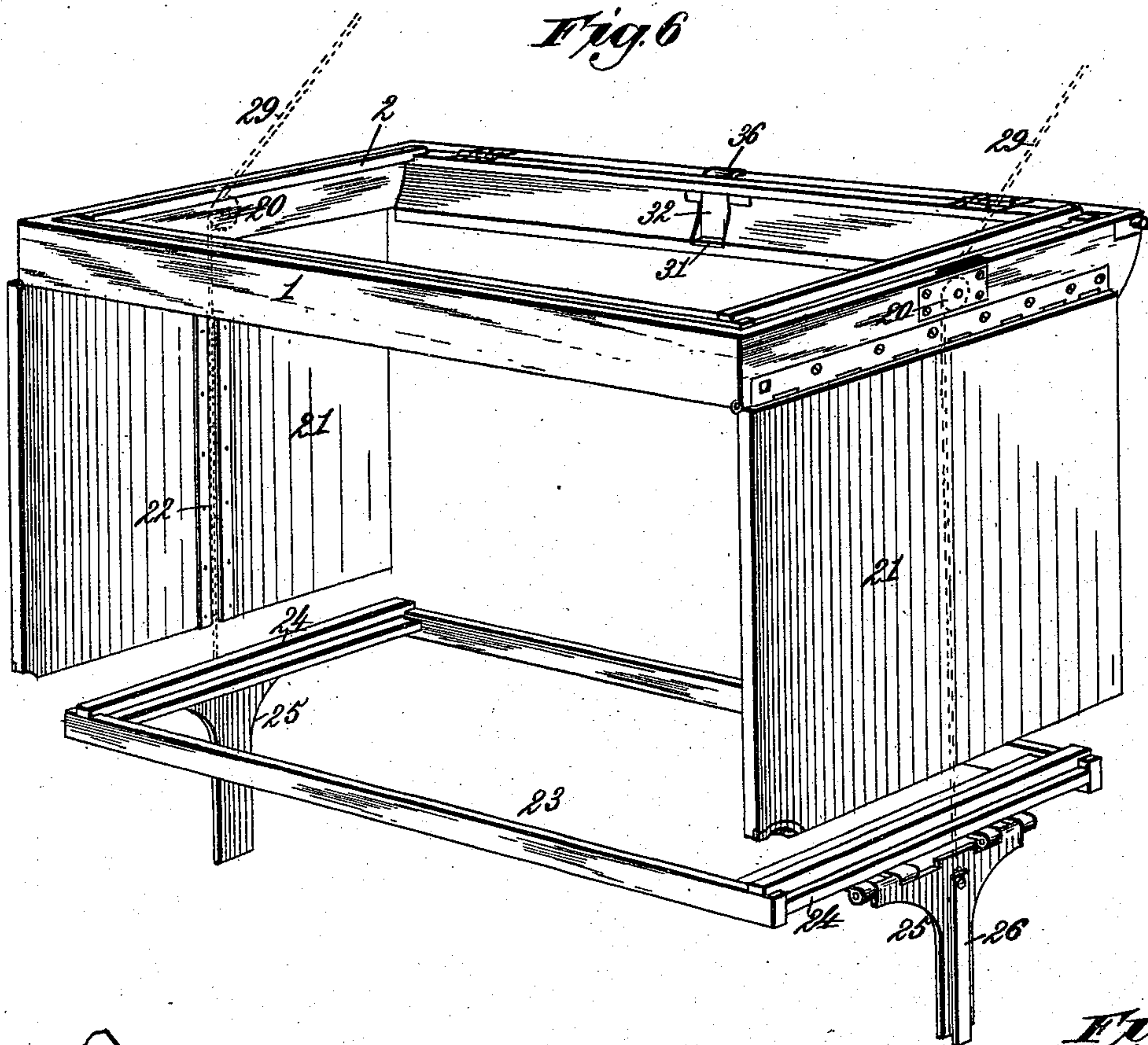
(No Model.)

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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

No. 533,031.

Patented Jan. 22, 1895.



Witnesses:  
Robert G. Smith,  
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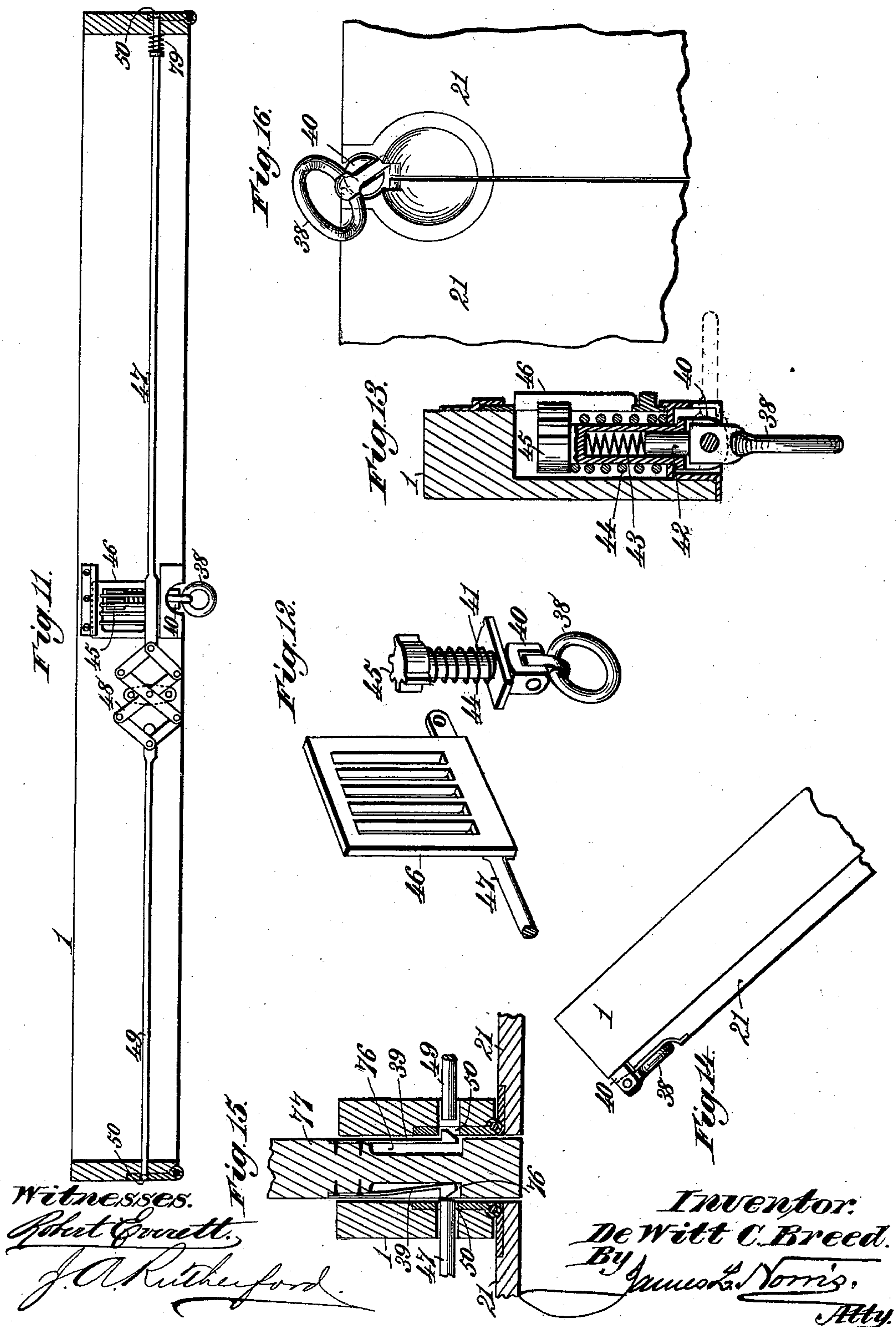
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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

No. 533,031.

Patented Jan. 22, 1895.





(No Model.)

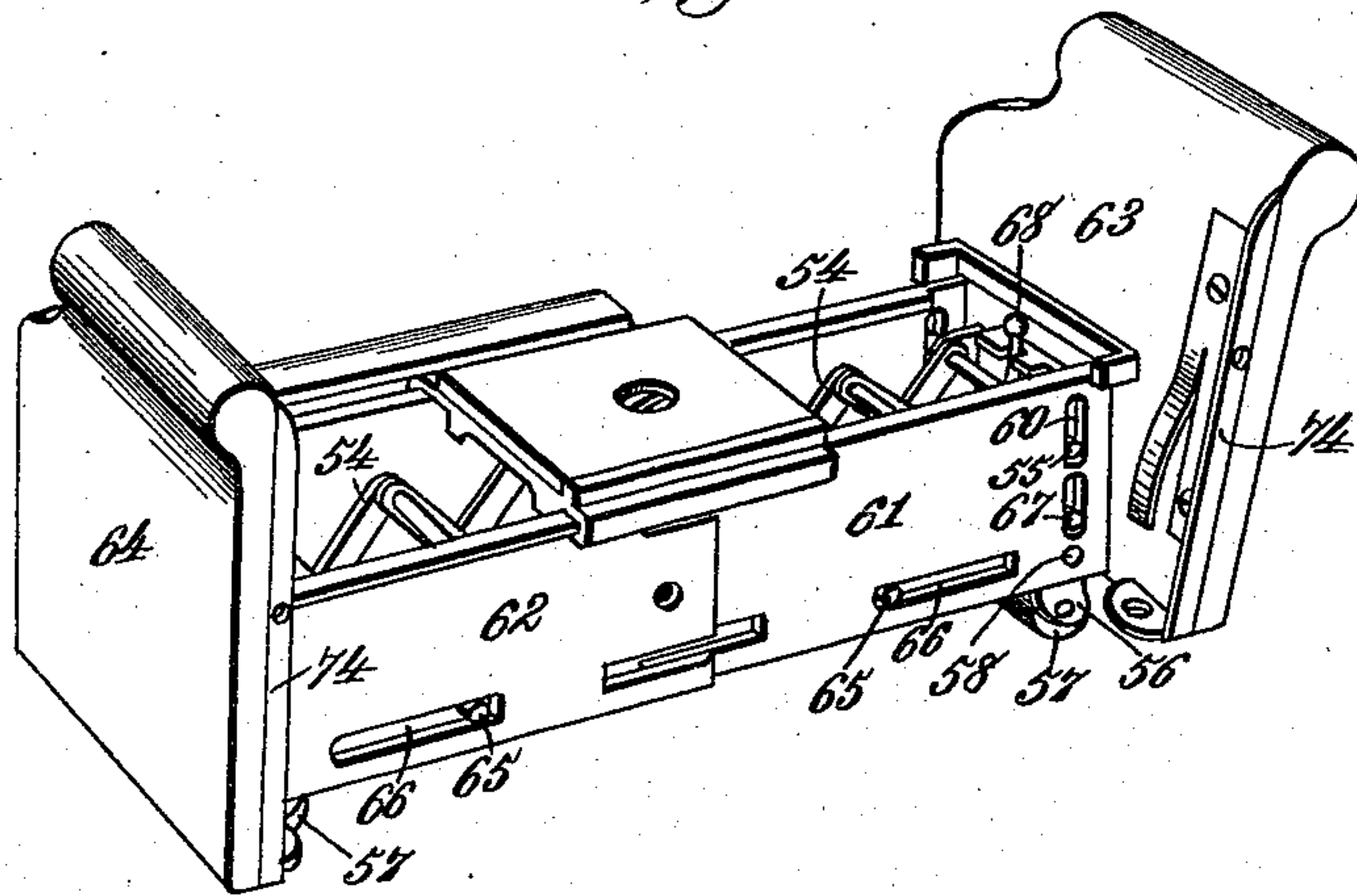
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DE WITT C. BREED.  
PARLOR SLEEPING CAR.

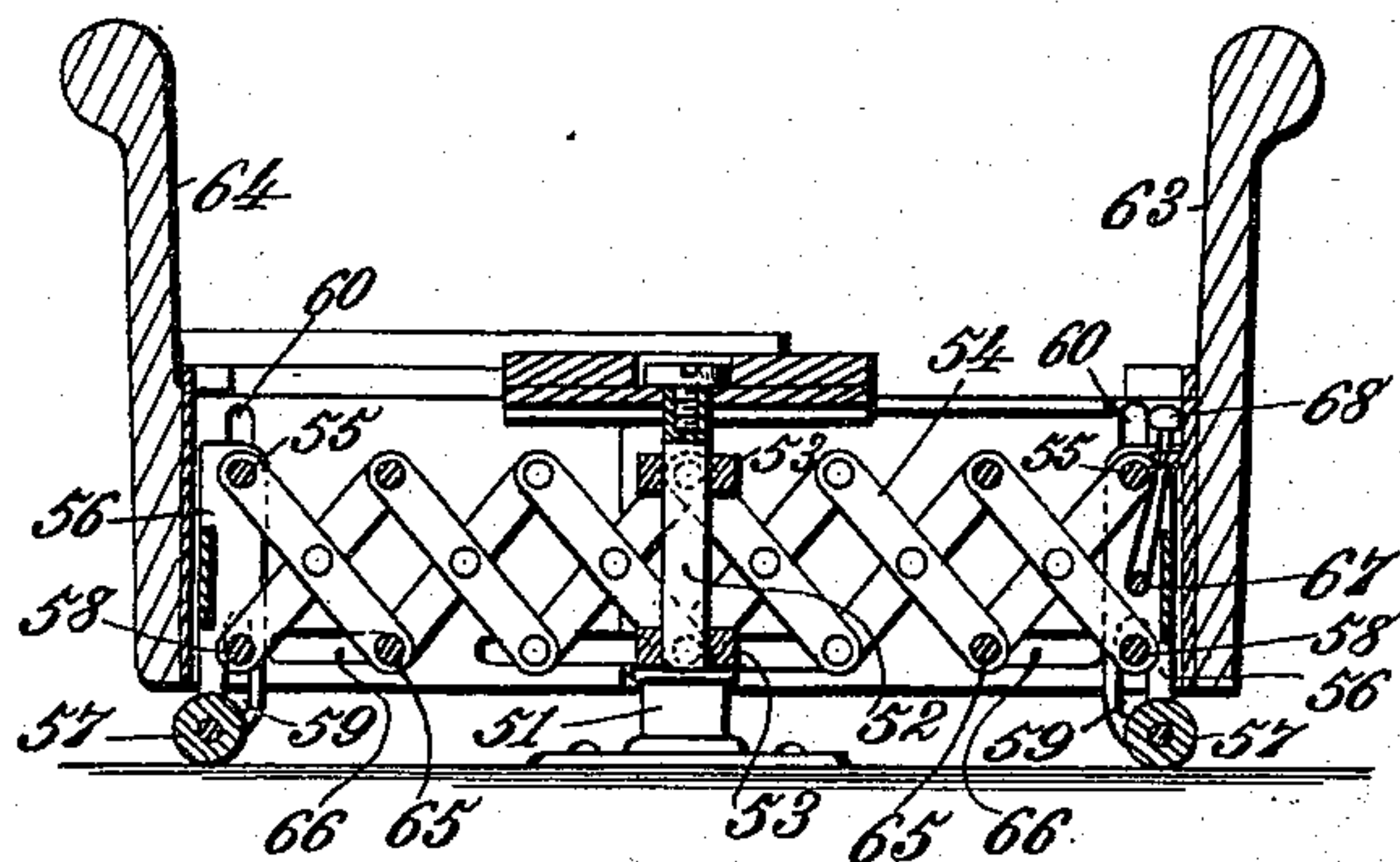
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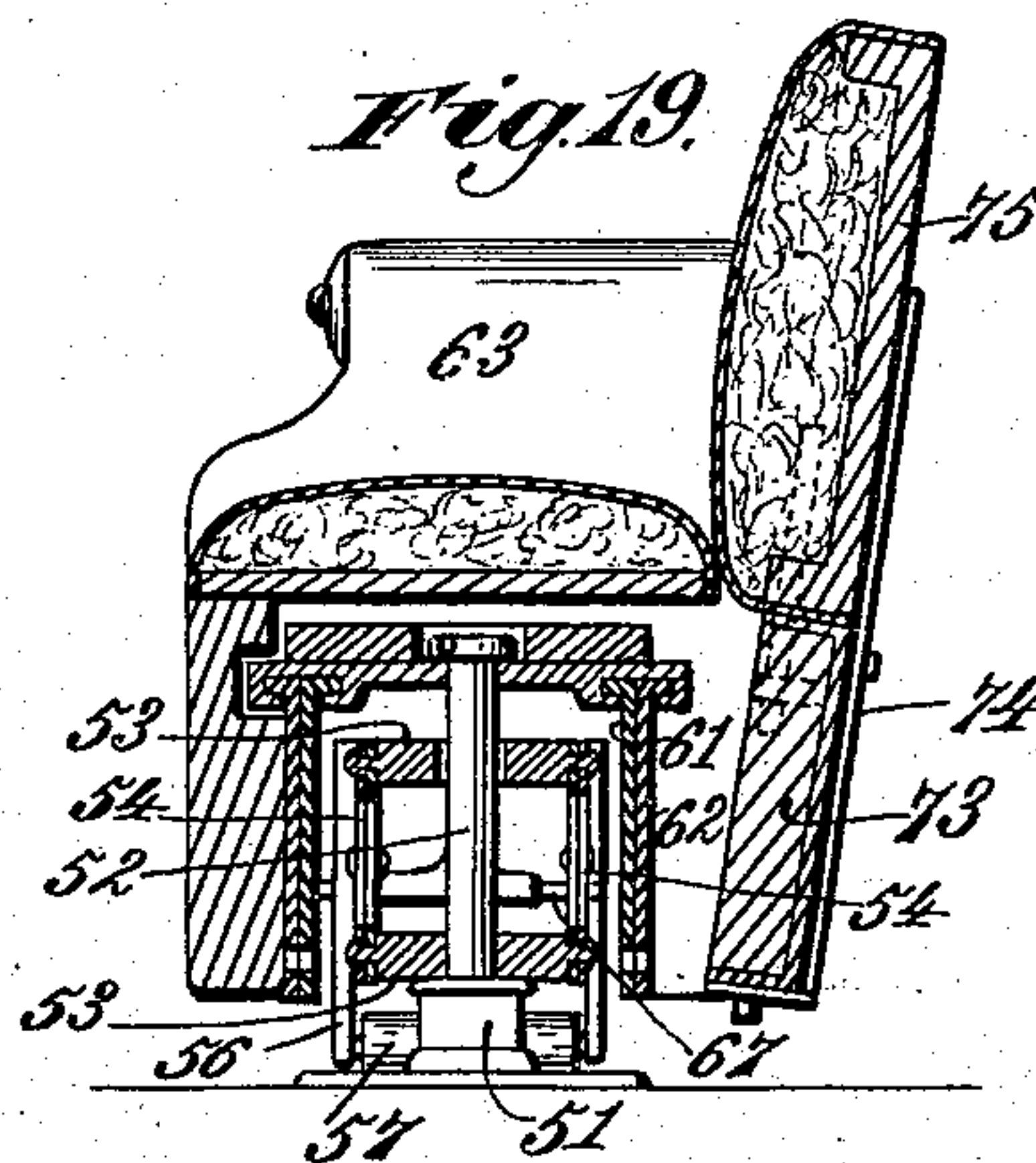
*Fig. 17.*



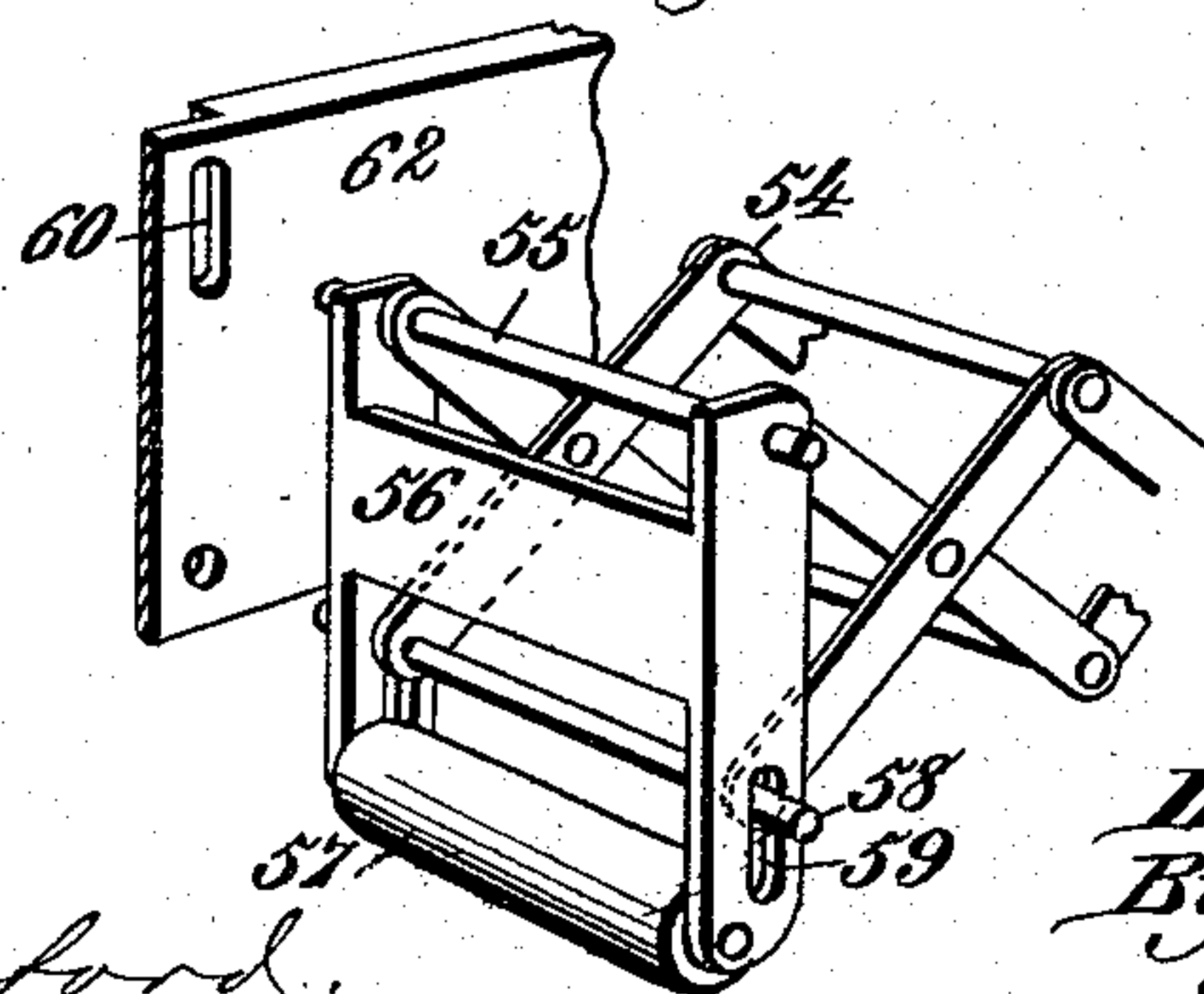
*Fig. 18.*



*Fig. 19.*



*Fig. 20.*



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# UNITED STATES PATENT OFFICE.

DE WITT C. BREED, OF MEDINA, NEW YORK, ASSIGNOR TO MARY BREED,  
OF SAME PLACE.

## PARLOR SLEEPING-CAR.

SPECIFICATION forming part of Letters Patent No. 533,031, dated January 22, 1895.

Application filed April 13, 1892. Renewed June 14, 1894. Serial No. 514,612. (No model.)

*To all whom it may concern:*

Be it known that I, DE WITT CLINTON BREED, a citizen of the United States, residing at Medina, in the county of Orleans and State of New York, have invented new and useful Improvements in Parlor Sleeping-Cars, of which the following is a specification.

This invention has for its object to provide new and improved means for converting a parlor car, having rotary single seats into a sleeper by extending the seats to support a lower berth frame which can drop down from a hinged upper berth frame; to provide a novel folding partition for supporting the ends of two adjacent upper berth frames and separating them from each other when adjusted for use; to provide a swinging upper berth frame with a drop berth frame connected with and balanced by suspension cables and adapted to rise and fall between end panels pivoted to the upper berth frame; to provide a swinging upper berth frame with a hinged mattress-supporting frame adapted to swing upward when the berth frame is lowered, so that while a lower berth is occupied the mattress frame of the upper berth frame can be moved out of the way of the occupant of the lower berth; to provide novel panels which serve to guide a drop berth frame and to separate the ends of adjacent lower berths, while they are adapted to constitute a front wall to a hinged upper berth frame when the latter is folded; and to provide novel means for locking the panels when the parts are folded and for releasing the spring catches which retain the hinged upper berth frame in its folded position. To accomplish all these objects my invention involves the features of construction, the combination or arrangement of devices and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1, is a broken perspective view looking at the interior of the car and showing the berth frames folded, one of the chairs being extended in a duplex seat and the other being retracted into a single seat. Fig. 2, is a similar view showing the upper berth frame swung down and the lower berth frame partially lowered, both chairs being extended to

support the lower berth frame. Fig. 3, is a vertical sectional view taken on the line 3—3 Fig. 4. Fig. 4, is a detail front elevation showing the upper berth frame lowered, and the lower berth frame dropped down for use. Fig. 5, is an end elevation with parts in the position represented by Fig. 2 and partially broken away to more clearly illustrate the folding partition for separating one upper berth from another. Fig. 6, is a detail perspective view showing the upper berth frame, its hinged panels and the drop berth frame, the suspension cables and their attachment to the drop berth frame being indicated by dotted lines. Fig. 7, is a detail sectional view showing the spring catch for automatically locking the inner corners of the hinged panels when the upper hinged berth frame is folded. Fig. 8, is a similar view showing the corners of the panels released as when the hinged upper berth frame is lowered to a horizontal position. Fig. 9, is a detail perspective view showing the inner corners of the panels. Fig. 10, is a detail perspective view of the spring catch for automatically locking and releasing the inner corners of the panels. Fig. 11, is a detail perspective view showing a portion of the hinged upper berth frame and the devices for pressing the spring catches out of engagement with said berth frame when it is to be lowered. Figs. 12, 13, 14, 15 and 16 are detail views hereinafter explained. Fig. 17, is a detail perspective view of the improved chair for supporting the lower berth frame, the seat and back portions being omitted. Fig. 18, is a longitudinal central sectional view of the same. Fig. 19, is a vertical transverse sectional view showing the seat and back cushions in position, and Fig. 20, is a detail perspective view showing a portion of the lazy-tongs and of one of the sliding chair frames.

In order to enable those skilled in the art to make and use my invention I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a swinging berth frame pivoted at one edge to the side of the car by hinges of any suitable construction so that the berth frame may swing in the arc of a circle to place it in a horizontal position to make up the upper berth. The hinged upper berth



frame 1 is rigid and comprises a rectangular mattress-supporting frame 2 hinged at its inner edge to the inner rail of the upper berth frame, for the purpose of swinging the mattress-supporting frame upward into the position indicated by dotted lines Fig. 3 when the hinged upper berth frame is lowered to the horizontal position represented by full lines in this figure.

The car wall is provided at each end of the hinged upper berth frame with a projecting bracket or portion 4, to the outer extremity of which is pivoted as at 5, a folding partition for separating the ends of adjacent upper berths. This partition is composed of a rail 6, secured at its inner end to the bracket 4, by the pivot 5, a berth section 7 connected by a pivot 8, with the outer end of the rail 6, and a partition section 9, connected by a pivot 10, with the inner end of the said rail.

The partition section 7 carries a rigid arm or projection 12, at its upper end Fig. 5, for abutting the stop 13, rigidly fixed to a part of the car frame, and the inner edge of the partition section 7, is inclined as at 14, and rests against the front free extremity 15, of the partition section 9. The partition section 9 is connected by a chain or cord 16, at a point above its pivot 10, with a part of the car wall, in such manner that when the rail 6, is pulled downward through the medium of its handle 17, the partition sections 7 and 9, are lowered therewith until the chain or cord 16 arrests the partition section, whereupon its front end portion 15 will act upon the inclined edge 14 of the partition section 7, and thereby swing it on its pivot 8 in an outward direction until its arm or shoulder 12 strikes the stop 13. In this position the parts constitute a partition for separating the end of one upper berth from another.

The rails 6, are constructed at each side of the partition sections with a horizontal flange-like portion 18, for the purpose of constituting supports for the flanges 19, at the ends of the hinged berth frames, whereby each one of the arms 6 serve to support adjacent ends of two upper berth frames when the latter are lowered to a horizontal position. The handle 17 of each rail 6, is constructed in any suitable manner so that when the rail is folded up as in Fig. 1, the handle can be turned for locking the rail in its folded position.

The hinged upper berth frame is provided at each end with a guide-pulley and with a hinged panel 21, adapted to swing downward and stand perpendicular for the purpose of separating adjacent ends of lower berths. The panels are also adapted to swing against the upper berth frame to stand parallel therewith and thus constitute a front wall to such berth frame when all the parts are folded as in Fig. 1. The panels 21 are each provided at its inner side with a vertical dovetailed guide-way 22, preferably constructed by grooving the panel and applying metallic plates thereto. The lower drop berth 23 is of rectangular form

as will be clearly understood by reference to Fig. 3, and is suitably constructed to receive and support a mattress. The cross rails 24 at the ends of the drop berth frame are provided with hinged brackets 25, having dovetailed tongue pieces to slide in the dovetailed guide-ways 22 of the panels 21, when the drop berth frame 23 is lowered out of the hinged upper berth frame 1.

The spring roller 27 having grooved wheels or pulleys 28 is suitably journaled in the upper portion of the car and these wheels or pulleys are connected with ropes, chains or other cables 29, of any suitable construction, which cables extend to and round the guide-pulleys 20 and are connected to the dovetailed tongue pieces 26 as will be understood by reference to Fig. 6. The spring roller 27 may be constructed as described in my application for Letters Patent filed June 19, 1890, Serial No. 355,998, so that when the hinged upper berth frame is lowered and the lower berth frame is dropped down the spring of the roller is placed under increased tension. By this means the drop berth frame can be readily manipulated and when raised into the hinged upper berth frame, the two berth frames are balanced by the power of the spring roller and the attendant can conveniently fold the frames into the position represented by Fig. 1.

When the lower berth frame 23 is elevated into the upper berth frame 1, the hinges of the brackets 25 will lie above the hinged lines of the panels 21 and consequently these panels can be folded down upon the upper berth frame to lie parallel therewith and retain the drop berth frame in position.

To lock the panels 21 when folded down upon the upper berth frame, I provide the inner corners of the panels with locking recesses 30, Fig. 9, to receive the locking tongue 31 of a spring latch 32, Figs. 7, 8 and 10, which is pivoted intermediate its ends to the rear rail of the hinged upper berth frame 1. The hinges or pivots 33 of the upper berth frame are carried by a rail or other flat part 34 of the car wall, and this rail or part 34 is provided with a horizontal plate 35, extending over the heel or tail-piece 36, at the upper end of the spring latch 32. A suitable spring 37 is interposed between the upper end portion of the spring latch and the inner horizontal rail of the upper berth frame, the construction being such that when the berth frame 1 is swung upward to its folded position the plate 35 will act on the heel or tail piece 36, of the spring latch 32, and cause its locking tongue 31 to enter the locking recesses 30 at the inner corners of the panels 21 for the purpose of securely holding the inner corner portions of the panels in their properly closed position. When the upper berth frame is lowered to a horizontal position, the heel or tail piece 36 is brought to the position represented in Fig. 8 and consequently the spring 37 can force the upper end portion of the spring latch 32 in an outward direction for



the purpose of retracting its locking tongue 31 from engagement with the locking recesses 30, thereby releasing the inner corner portions of the panels 21.

5 To lock the outer corner portions of the panels 21 I provide the front or outer horizontal rail of the upper berth frame 1 with a pivoted spring actuated handle 38, which can be swung to the position represented by Fig. 14, and thereby engage and hold the outer corner portions of the panels 21.

To release the outer corner portions of the panels 21 and thus permit them to swing downward into the perpendicular position represented by Fig. 6, the handle 38 is swung out of engagement with the panels and while this may be accomplished in any suitable manner, I prefer to so construct the handle 38, that it can be partially rotated as indicated in Fig. 15 to release the outer corner of one panel to permit it to swing downward and then be rotated in the reverse direction to release the outer corner of the other panel to permit it to swing downward. To accomplish this result, and at the same time operate devices to release the spring catches 39, which hold the upper berth frame in its folded position, I pivot the handle 38 to the forked extremity 40 of a sleeve 41, adapted to move lengthwise in a suitable recess in the front or outer rail of the upper berth frame 1.

The sleeve contains a bolt or dog 42, acted upon by a spring 43 to press it in engagement with flat surfaces at the pivoted end of the handle 38 so that this handle will be held by the bolt or dog in the position represented by full lines Fig. 13, or in the position indicated by dotted lines in this figure. The sleeve 41 is acted upon by a suitable spring 44, so that the handle 38 can be drawn outward and when released the spring 44 will retract the sleeve. The inner end of the sleeve is provided with a pinion or toothed portion 45, engaging a rack plate 46 in such manner that while the pinion can rotate with the sleeve when the handle 38 is turned as hereinbefore explained, such pinion can move along the bar of the rack plate and thus remain in engagement therewith. The rack plate is provided with an attached horizontal rod 47 which at its outer end extends through one end of the upper berth frame, and the inner end of this rod is secured to one end of a lazy-tongs 48, the opposite end of which is pivoted to a horizontal rod 49 which at its outer end extends through the end of the berth frame opposite the end through which the rod 47 extends. By rotating the handle 38 the pinion or toothed portion 45 will operate to slide the rack plate 46, and thereby retract or extend the horizontal rods 47 and 49. If the handle 38 be turned in the direction required to extend the rods 47 and 49, their outer end portions will press the spring catches 39, from engagement with the recesses 50, in the ends of the upper berth frame Fig. 11, thereby releasing the upper

berth frame and permitting it to swing downward into a horizontal position. The rotation of the handle 38 in the reverse direction will retract the horizontal rods 47 and 49, and consequently when the upper berth frame is raised, the spring catches 39 can spring into engagement with the recesses 50.

The spring catches 39 for locking the upper berth frame in its folded or closed position, are located in recesses 76 formed in the fixed lateral walls 77, as in Fig. 15 which walls are made as parts of the car body. As here shown, each inner partition section 9, comprises a vertical plate 78, secured rigidly to the rail 6, and this plate, with the partition section 9, pivoted at 10 to the rail, constitutes a case into which the partition section 7 folds when the rail 6 is swung upward. I do not, however, confine myself to this particular construction as the partition may be otherwise formed so long as it comprises sections and is adapted to fold and unfold in the same vertical plane.

While the plate 78 may be rigidly secured to the rail 6, it does not interfere with the swinging motion of the partition section 9 on its pivot 10, when the flexible connection 16 is tightened by the downward swinging movement of the rail 6, so that the front end 15 of the partition section 9 can act on the inclined rear edge 14 of the partition section 7, to swing the latter outward when the rail 6 is lowered. The arm or shoulder 12 engaging the overhanging stop 13, limits the outward swinging motion of the partition section 7 and sustains the rail 6 and berth frame 1 when adjusted to a horizontal position for use as an upper berth.

When the upper berth frame is swung to a horizontal position, and the lower berth frame is dropped to make up a lower berth, this lower berth frame is rigidly sustained through the medium of the car seats, and to accomplish this result, while permitting the car seats to be made as revolving or rotary chairs, I have constructed these chairs in a peculiar manner which I will now proceed to explain.

The car seat or chair comprises a pedestal 51, secured in a stationary position to the car floor and having a cylindrical spindle 52, rising through upper and lower cross bars or plates 53, secured centrally between the extremities of a lazy-tongs 54, which at their extremities are pivoted to cross pins 55, secured at their upper ends to vertical slidable frames 56, which carry the chair casters 57. The lazy-tongs are also secured to cross pins 58 movable vertically in slots 59, formed in the caster carrying frames 57. The extremities of the cross pins 55 extend through vertical slots 60, in frames 61 and 62, secured respectively to the chair arms or sides 63 and 64. The frames 61 and 62 are adapted to slide one upon the other and cross pins 65 of the lazy tongs are adapted to move in horizontal slots 66 of the frames 61 and 62, in such manner that when the chair arms or sides 63 and



64 are slid in a direction away from each other, the caster-carrying frames 56, are caused to descend and rest upon the car floor for the purpose of supporting the chair in a stationary position. When the chair is extended as explained, it constitutes a duplex seat and at the same time serves to sustain the drop frame in making up a lower berth. If the chair arms or sides be moved toward each other to retract the chair and convert it into a single seat, the lazy-tongs operate to elevate the caster-carrying frames and consequently the single seat chair will be solely supported by the pedestal 51 and spindle 52, so that it can freely revolve. When the chair is contracted into a single seat, the sliding frames 61 and 62 may be locked by a suitable catch bolt 67, operated by a handle 68. Inasmuch as the devices for locking the frames 61 and 62 against independent sliding movement may be variously modified, I do not deem it necessary to further explain the locking bolt and handle.

When the seat is extended to sustain the drop berth frame, the seat and back cushions are detached and stored in a well 69, formed in the car floor as will be understood by reference to Fig. 4, and when the chairs are converted into single seats, those portions of the chair not required can be stored in this well. The well is provided with a cover comprising hinged lids 70 and 71, and to the edge of the lid 71 is hinged one end of a plate 72, adapted to fill the space between two outermost chair arms as will be understood by reference to Fig. 2. When the lids are to be closed down for covering the well, as in Fig. 1, the plate 72 is turned against the inner side of the lid 71, and the latter is then swung down into a horizontal position.

For the purpose of making a two cushion seat when the chair is extended into a double seat, I provide a removable upholstered section 73, adapted to fit guideways 74, at the inner portions of the chair arms or sides 63 and 64. The upholstered chair back 75 is adapted to rest down upon the upholstered section 73 and therefore the back portion of the chair will present an upholstered appearance. If the chair is retracted into a single seat the upholstered back sections 73 and those portions of the seat cushions not required for use can be stored in the well 69.

If desired, the spring 79 may be arranged to act on the rod 47 to restore the rack plate 46, lazy-tongs 48, and rods 47 and 49 to their normal position after the spring catches 39 have been released from engagement from the locking recesses 30 of the panels 21.

The rectilinearly extensible seat serves to rigidly sustain the drop berth frame and as this seat is collapsible into a single seat or chair, adapted to revolve, it is possible to conveniently convert a parlor car into a sleeper and conversely.

Having thus described my invention, what I claim is—

1. The combination with an upper berth frame, of an end partition therefor foldable in a vertical plane and composed of a pivoted rail and two sections pivoted thereto at different points, one of the sections having a flexible connection with a part of the car wall and an extremity which acts on the other section to swing it outward when the rail is lowered and the flexible connection is tightened, substantially as described.

2. The combination with a car having an overhanging stop, and a swinging berth frame, of an end partition for the berth frame, foldable in a vertical plane and composed of a swinging rail and inner and outer sections pivoted thereto, the outer section having an arm or shoulder at its upper end to abut the overhanging stop and the inner section having a flexible connection with a part of the car wall and an extremity which acts on the outer section to swing it and cause its arm or shoulder to strike the overhanging stop when the swinging rail is lowered and the flexible connection is tightened, substantially as described.

3. The combination with a car having an overhanging stop, and a swinging berth frame, of an end partition for the berth frame, foldable in a vertical plane and composed of a swinging rail and inner and outer sections pivoted to the rail, the outer section having an arm or shoulder at its upper end and provided with an inclined inner edge, and the inner section having a flexible connection with a part of the car wall and an outer extremity which acts against the inclined inner edge of the outer section to swing the latter and cause its arms or shoulders to strike the overhanging stop when the swinging rail is lowered and the flexible connection is tightened, substantially as described.

4. The combination with a hinged berth frame having a flange at one extremity, of an end partition for the berth frame, foldable in a vertical plane and composed of a hinged swinging rail having a lateral berth supporting flange, and partition sections pivoted to the rail, one of which acts on the other to swing it outward when the rail and partition sections are lowered, substantially as described.

5. The combination with a hinged upper berth frame, of panels pivoted to the ends thereof and adapted to swing to a perpendicular position, and a drop berth frame adapted to swing with the upper berth frame and to rise and fall between the panels when they are perpendicular, substantially as described.

6. The combination with a hinged upper berth frame, of panels pivoted to the ends thereof and adapted to swing to a perpendicular position, a drop berth frame adapted to swing with the upper berth frame and to rise and fall between the panels when they are perpendicular, a spring roller in the upper portion of the car, and cables connecting the



spring roller with the drop berth frame, substantially as described.

7. The combination with a hinged upper berth frame, of panels pivoted to the ends thereof, to swing to a perpendicular position and provided with guideways at their inner sides, a drop berth frame adapted to swing with the upper berth frame and having hinged brackets which engage the guideways of the panels, and means for sustaining the drop berth frame, substantially as described.

8. The combination with a hinged upper berth frame, of panels pivoted to the ends thereof to swing to a perpendicular position and provided with guideways at their inner sides a drop berth frame having hinged brackets provided with tongues which engage the guideways when the panels are perpendicular, a spring roller in the upper portion of the car, and suspension cables connecting the roller with the hinged brackets of the drop berth frame, substantially as described.

9. The combination with a hinged upper berth frame, of a drop berth frame adapted to enter the upper berth frame, panels hinged to opposite ends of the upper berth frame and folding thereupon when the drop berth frame is inclosed within the upper berth frame, and locking mechanism for retaining the panels, in their closed position against the upper berth frame, substantially as described.

10. The combination with a hinged upper berth frame, of panels hinged to the ends thereof to swing to a perpendicular position and provided with guideways at their inner sides, a drop berth frame adapted to enter the upper berth frame and provided with hinged brackets which engage the guideways of the panels when the latter are perpendicular, means for sustaining the upper berth frame, and locking mechanism for retaining the panels in their closed position against the upper berth frame when the drop berth frame is inclosed therein, substantially as described.

11. The combination with a rising and falling berth frame, and panels pivoted to the berth frame, and adapted to swing to a perpendicular position and to fold against the berth frame, of a spring catch which engages corners of the panels when the berth frame is moved upward and automatically releases the corners of the panels when the berth frame is moved downward, substantially as described.

12. The combination with a rising and falling berth frame, and panels pivoted to the berth frame and provided at their inner corners with locking recesses, of a spring catch carried by a fixed part of the car body and automatically engaging the locking recesses of the panels when the berth frame is moved upward, and a device which automatically operates the spring catch and disengages it from the locking recesses of the panels when the berth frame is moved downward, substantially as described.

13. The combination with a hinged swing-

ing berth frame provided with a spring catch pivoted thereto and provided at one end with a tongue and at the opposite end with a heel or tail piece, panels pivoted to the berth frame and provided at their inner corners with locking recesses, and a plate which acts on the heel or tail piece of the spring catch and causes its tongue to engage the locking recesses of the panels when the berth frame is swung upward, substantially as described.

14. The combination with a hinged berth frame, and spring catches arranged on fixed parts of the car body for retaining the berth frame in its folded or closed position, of lengthwise movable rods arranged on the berth frame, and means for operating the rod to press the locking catches free from engagement with the berth frame, substantially as described.

15. The combination with a hinged berth frame, and spring catches arranged on fixed parts of the car body for retaining the berth frame in its folded or closed position, of lengthwise movable rods arranged on the berth frame, a lazy-tongs interposed between the rods, a rack plate secured to one rod, a pinion engaging the rack plate, and a handle for operating the pinion for moving the rods lengthwise to force the spring catches free from engagement with the berth frame, substantially as described.

16. The combination with a hinged berth frame, and spring catches arranged on fixed parts of the car body for retaining the berth frame in its folded or closed position, of lengthwise movable rods arranged on the berth frame, a lazy-tongs interposed between the rods, a rack plate secured to one rod, a lengthwise movable sleeve having a pinion engaging the rack plate, a handle pivoted to the sleeve, and a spring bolt acting on the pivoted handle, substantially as described.

17. The combination with a drop berth frame, and means for raising and lowering the same, of a lengthwise extensible and retractible chair provided with vertically movable caster frames and means for lowering the said frames when the chair is extended to support the drop berth frame, substantially as described.

18. The combination with a drop berth frame, and cable mechanism for raising and lowering the same, of a lengthwise extensible and retractible chair provided with vertically movable caster carrying frames and lazy-tongs connected with said frames for lowering them when the chair is extended to support the drop berth frame, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

DE WITT C. BREED. [L. S.]

Witnesses:

ALBERT H. NORRIS,  
JAMES A. RUTHERFORD.