

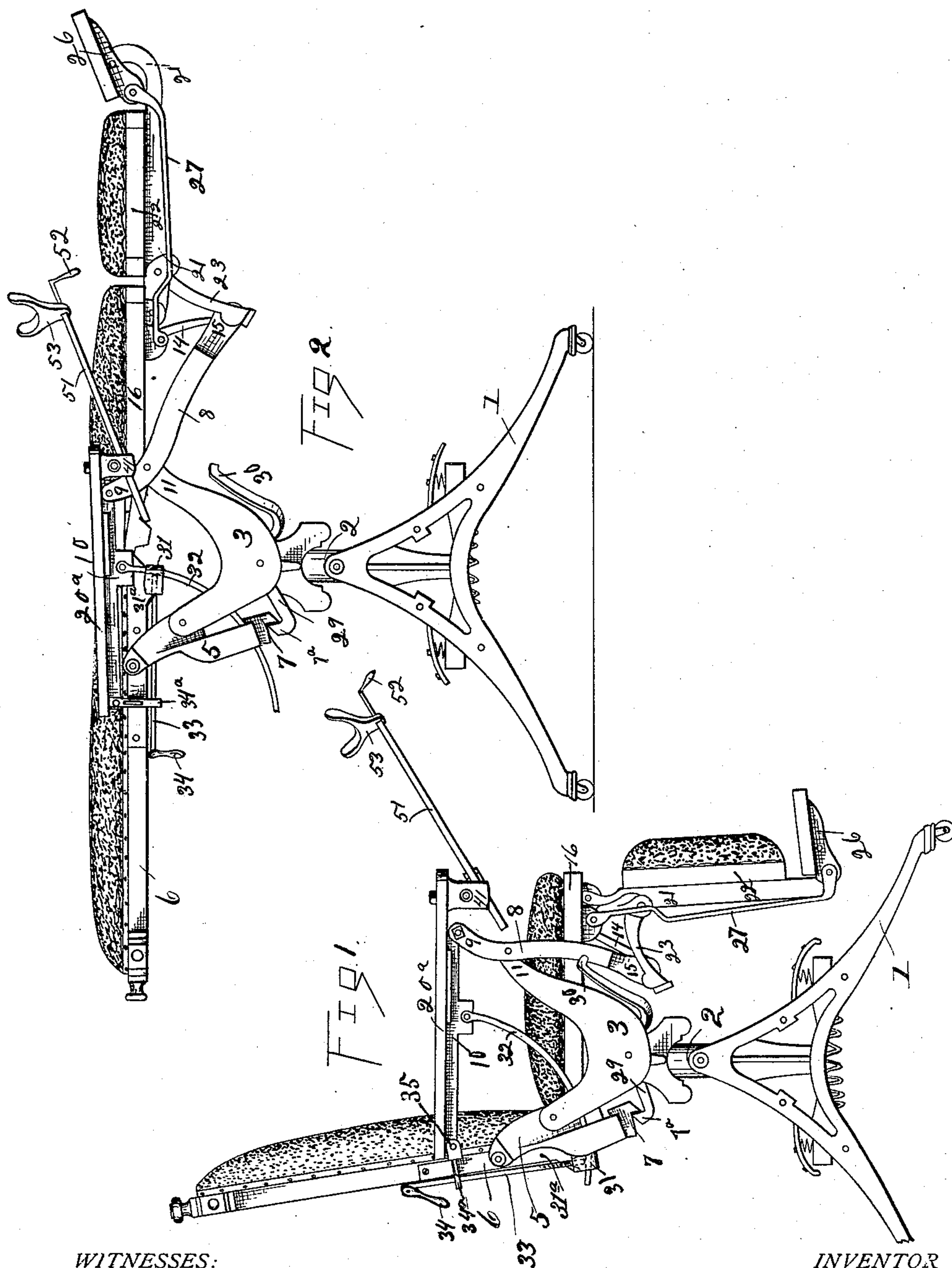
(No Model.)

5 Sheets—Sheet 1.

F. E. CASE.
SURGICAL CHAIR.

No. 483,900.

Patented Oct. 4, 1892.



WITNESSES:

C. J. Cross
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INVENTOR

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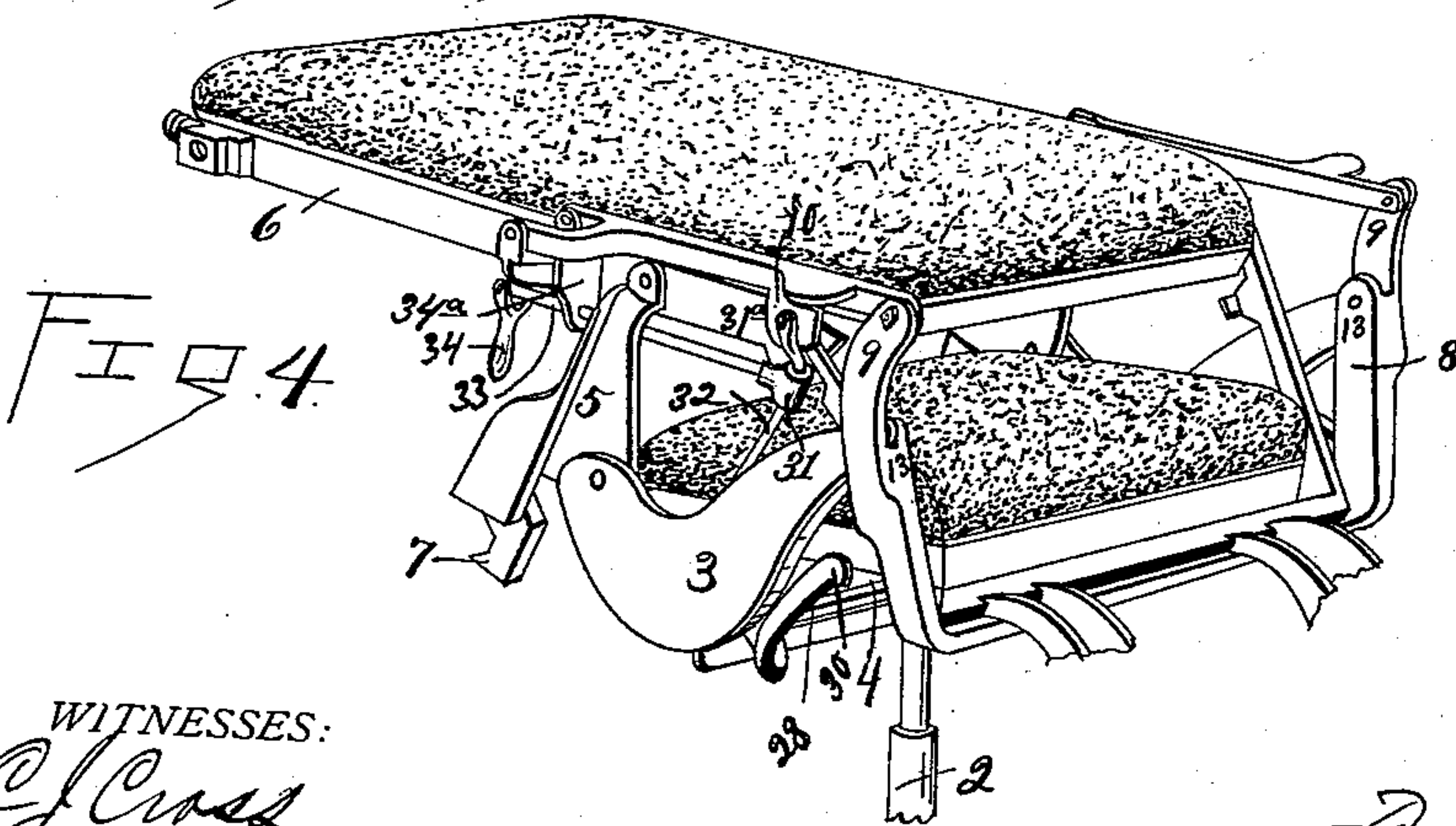
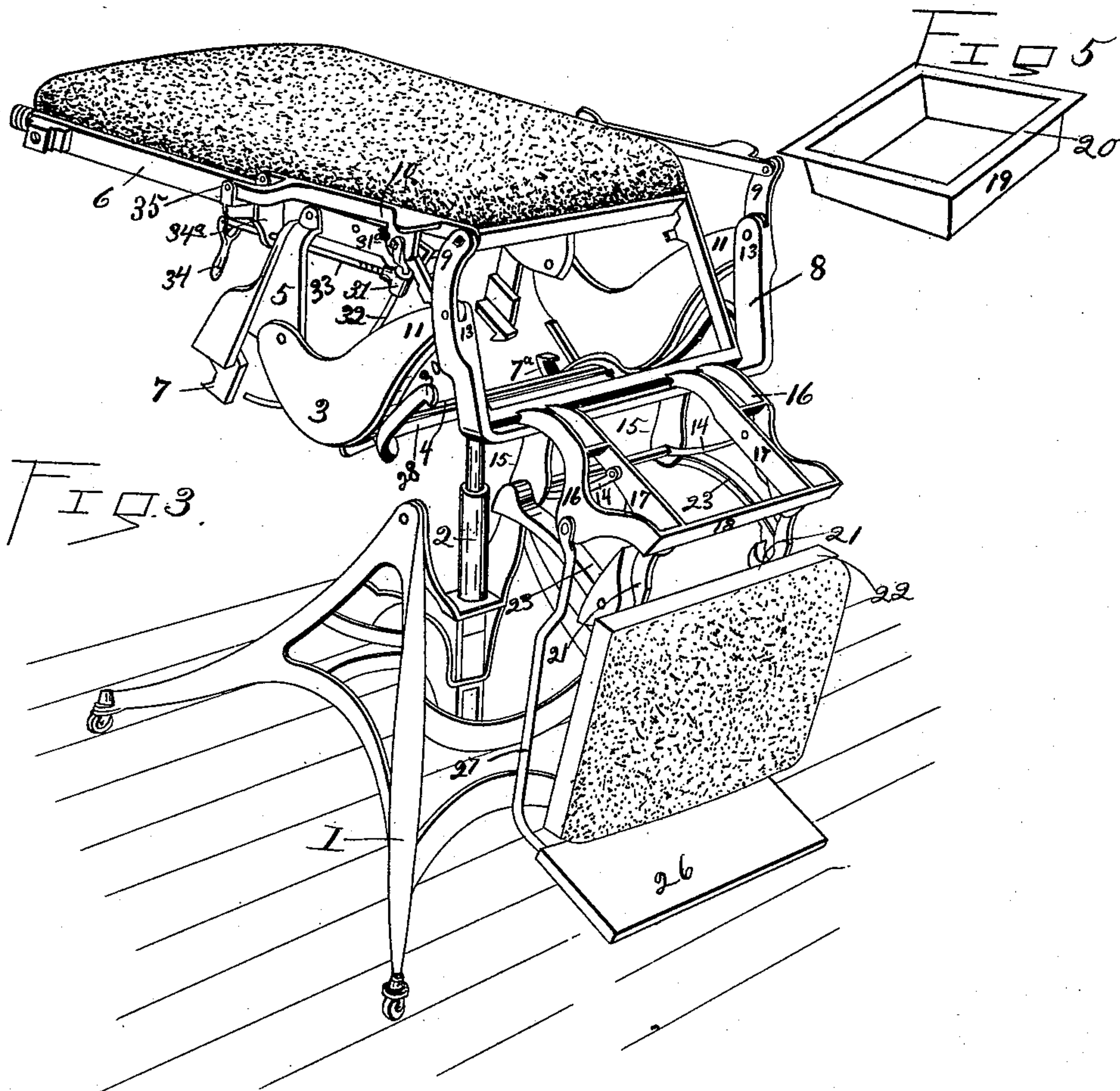
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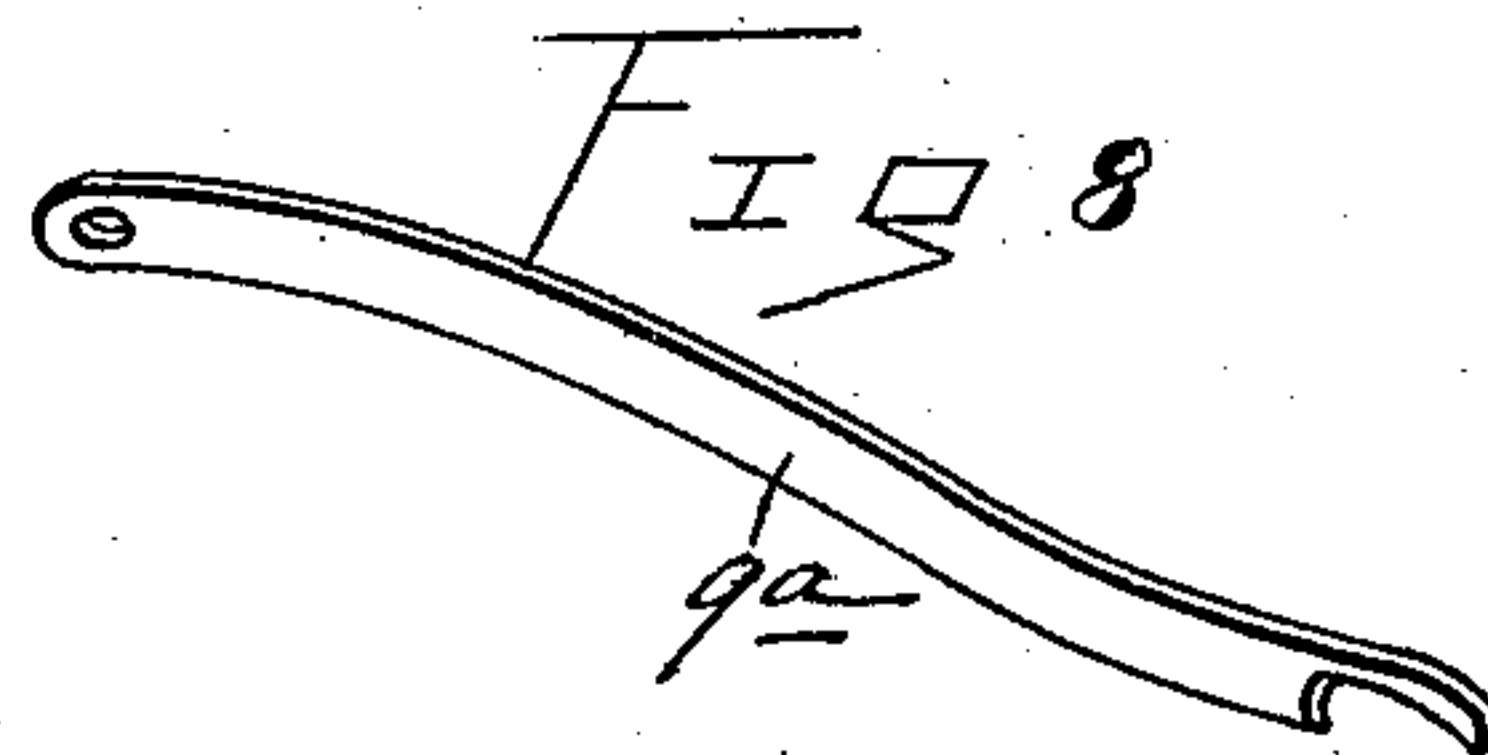
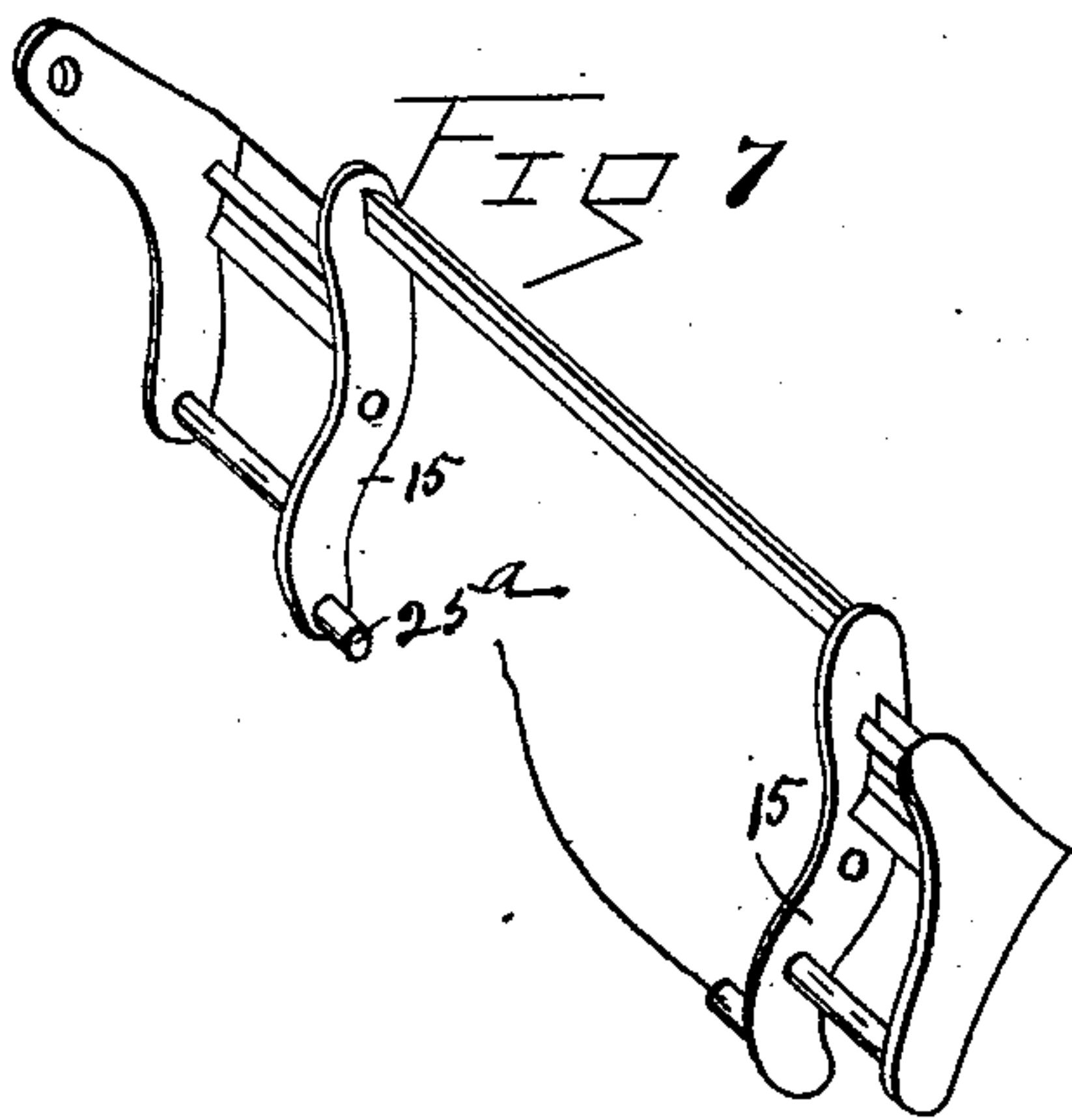
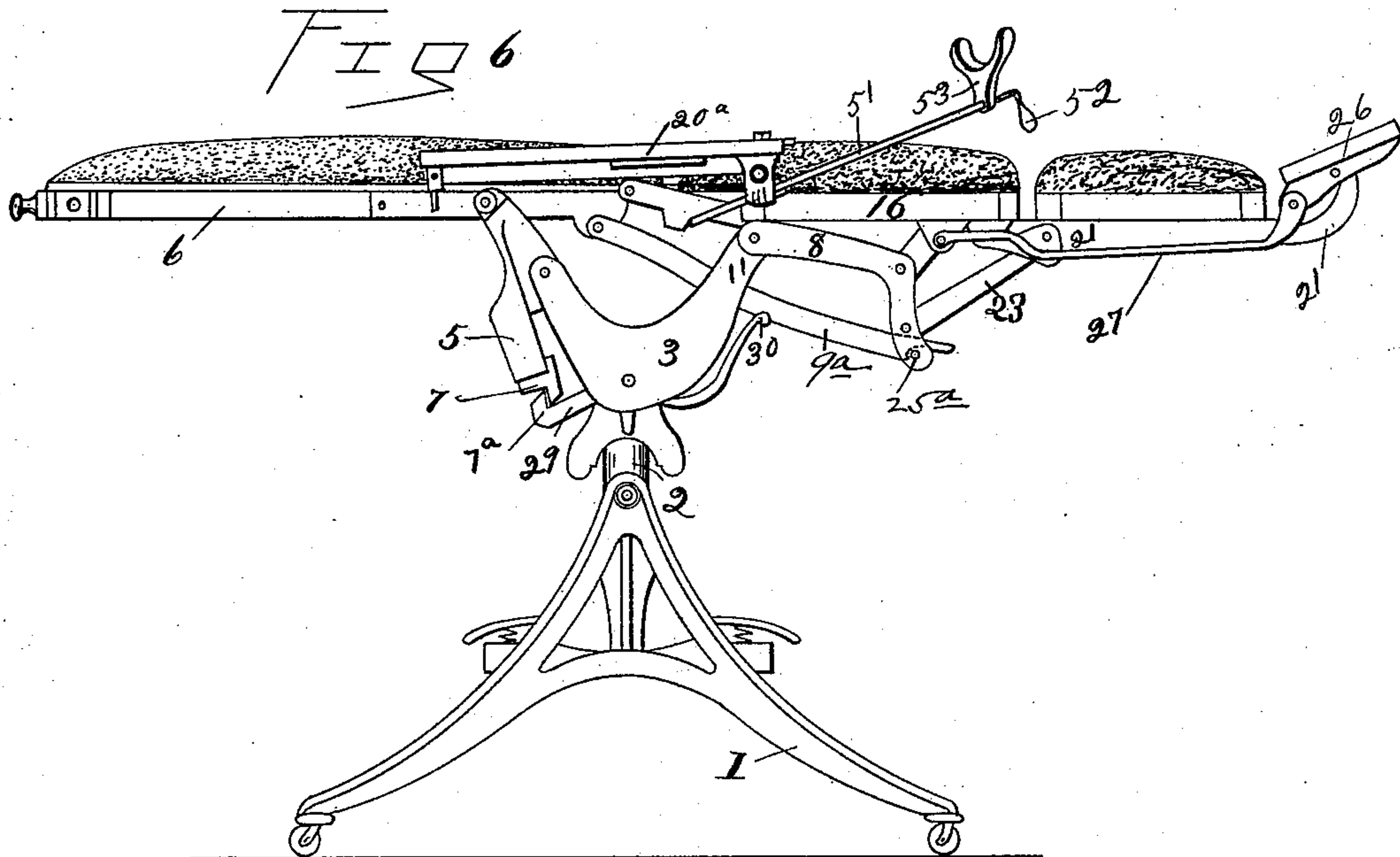
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5 Sheets—Sheet 3.

F. E. CASE.
SURGICAL CHAIR.

No. 483,900.

Patented Oct. 4, 1892.



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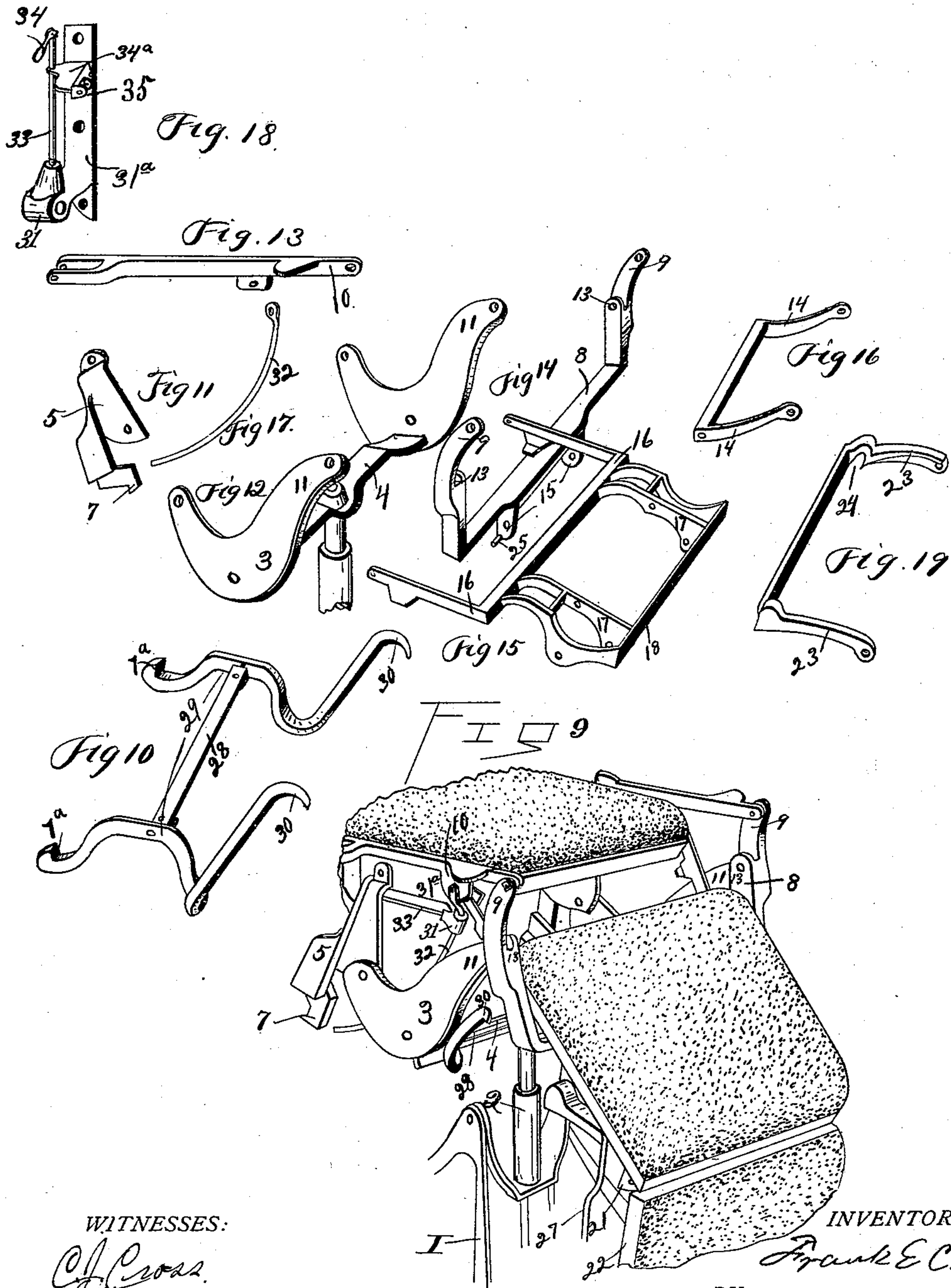
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5 Sheets—Sheet 4.

F. E. CASE.
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No. 483,900.

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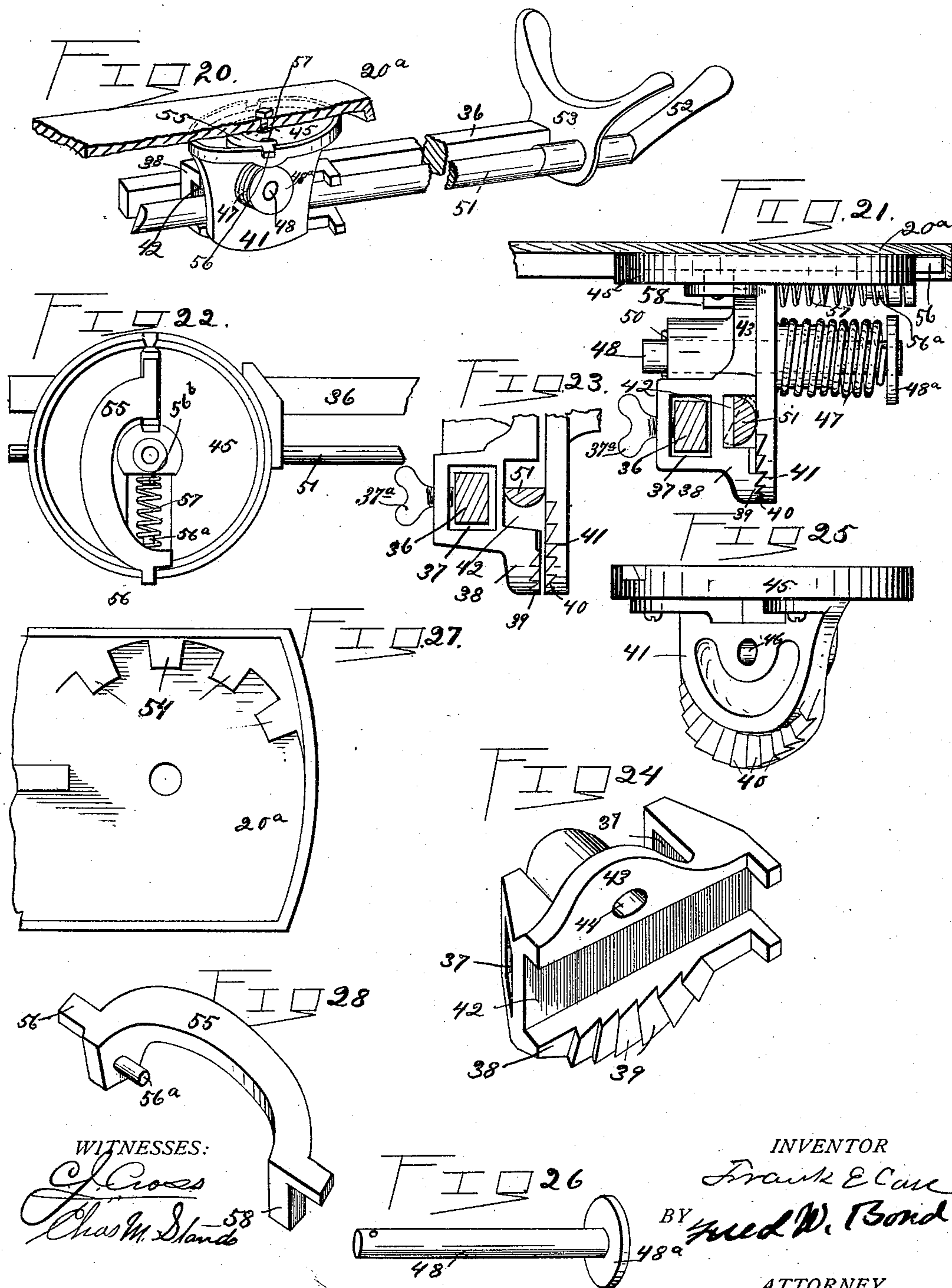
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5 Sheets—Sheet 5.

F. E. CASE.
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No. 483,900.

Patented Oct. 4, 1892.



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UNITED STATES PATENT OFFICE.

FRANK E. CASE, OF CANTON, OHIO.

SURGICAL CHAIR.

SPECIFICATION forming part of Letters Patent No. 483,900, dated October 4, 1892.

Application filed June 13, 1891. Serial No. 396,202. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. CASE, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Surgical Chairs, of which the following is a full, clear, and exact specification.

This invention has for its object to improve surgical chairs whereby they are rendered more useful, efficient, and satisfactory; and to this end it consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side view showing the chair in an upright position and the leg-rest dropped or lowered. Fig. 2 is a side view showing the chair-back, seat, and leg-rest frame in a horizontal position. Fig. 3 is a perspective view showing the chair-back lowered to a horizontal position, also carried forward and elevated, the upholstered part of the seat being removed, exposing to view the seat-frame with the leg-rest dropped or lowered. Fig. 4 is a perspective view showing the chair-back lowered to a horizontal position and shifted forward, the upholstered part of the seat being under the back. Fig. 5 is a detail view of the tray or pan designed to be placed upon the seat-frame. Fig. 6 is a side view showing the chair-back, seat-frame, and leg-rest frame in a horizontal position and illustrating a modified device for supporting and holding the leg-rest frame in a horizontal position. Fig. 7 is a detached view of the swinging frame for supporting the front end of the seat-frame in a modified construction shown in Fig. 6. Fig. 8 is a detached view of the brace-frame for acting on the swinging frame in the modified construction, Fig. 6. Fig. 9 is a detail perspective view showing a portion of the back lowered to a horizontal position and shifted forward and elevated, also showing the seat tilted or dropped downward. Fig. 10 is a detail perspective view of the lock-frame or braces for the oscillatory bars which support the chair-back. Fig. 11 is a detail perspective view of one of the oscillatory bars for supporting the chair-back. Fig. 12 is a detail perspective view of the rotary supporting-frame. Fig. 13 is a detail perspective view

of one of the connecting-bars between the swinging frame and the chair-back. Fig. 14 is a detail perspective view of the swinging frame exhibited in Figs. 1, 2, 3, and 4 for carrying and holding the seat-frame and leg-rest supports. Fig. 15 is a detail perspective view of the seat-frame, omitting the upholstered part of the seat and the pan or tray. Fig. 16 is a detail perspective view of the duplex brace or link for connecting the seat-frame with the swinging frame. Fig. 17 is a detail perspective view of the segmental rod for locking and holding the chair-back at any desired angle of adjustment. Fig. 18 is a detail perspective view of the bracket for connecting the side arms with the chair-back, also showing the set-screw for engaging the segmental rod and locking the chair-back at any desired angle. Fig. 19 is a detail perspective view of the brace for supporting the leg-rest. Fig. 20 is a detail sectional perspective view showing the stirrup, the locking and releasing bar, and a portion of the chair-arm. Fig. 21 is a sectional end view of the same. Fig. 22 is a detail top plan view of the turn-table showing its locking-dog for locking and holding the stirrup at any desired point of lateral adjustment. Fig. 23 is a detail view of the stirrup clamp or head, showing the same open and released for vertical and lateral adjustment of the stirrup. Fig. 24 is a detail perspective view of the pivoted clamp head or section for holding and retaining the stirrup and the releasing-bar. Fig. 25 is a detail view of the clamp-section attached to the turn-table. Fig. 26 is a detail view of the stirrup-head-connecting bolt. Fig. 27 is a detail view showing a portion of the under side of the chair-arm with its teeth or notches for retaining and holding the stirrup at any desired point of lateral adjustment. Fig. 28 is a detail perspective view of the locking dog or bar for retaining the stirrup at any desired point of lateral adjustment.

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

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 the base of the chair, which may be substantially of the form shown and constructed in accordance with the base of the surgical chair for which Letters Patent of the United States were granted to me on the 29th day of March, 1887, and numbered 360,279, and reissued March 6, 1888, No. 10,906.

To the center post 2 is pivotally attached or connected the rotary supporting-frame 3, and to the rear portions of the latter are pivotally connected the oscillatory bars 5, the top or upper ends of which are pivotally attached to the chair-back frame 6. The bottom or lower ends of the oscillatory bars 5 extend a short distance below the bottom or lower end of the chair-back frame and are provided with hooked ends or extensions 7, for a purpose hereinafter described.

To the front or forward portions of the rotary supporting-frame 3 is pivotally attached the swinging frame or yoke 8, provided with the upwardly-extending arms 9, preferably formed integral with the swinging frame or yoke 8. The swinging frame is pivotally connected to the front extensions 11 of the rotary supporting-frame 3 by means of the short arms 13, and to the lower end or portion of the swinging frame is pivotally attached a pair of standards 14, which are for the purpose of supporting the front of the seat-frame, said standards being preferably attached to the arms 15 of the swinging frame, and for the purpose of causing said standards to act together they are connected together, as in Fig. 16. The standards 14 are pivoted at their top or upper ends to the seat-frame 16, and the rear end portion of the latter is pivotally connected to the lower end portion of the chair-back. The seat-frame may be substantially of the form exhibited by Fig. 15, and, as shown, it is provided with an opening between the bars 17 and 18, into which is adapted to loosely fit a tray or pan 19, having a flange 20 at its upper edge to rest upon the bars 17 and 18.

It will be understood that the tray or pan 19 is to be used only when the upholstered part of the seat is removed, said tray or pan being for the purpose of receiving and holding liquids. The upholstered part of the seat is adapted to set on the seat-frame 16, as shown in Figs. 1 and 2, so that it may be removed and placed aside so as to be entirely out of the way, or, if desired, it may be placed under the chair-back and supported upon the cross-bar 4 of the rotary supporting-frame, as in Fig. 4.

To the front or forward end of the seat-frame 16 are pivotally attached leg-rest bars 21, securely attached in any convenient and well-known manner to the leg-rest frame 22, and a short distance below the pivotal connection between the bars 21 and the seat-frame 16 are pivoted the brace-arms 23, having their lower ends provided with notches or recesses 24 to fit loosely over lugs 25, at-

tached to or formed with the arms 15 of the swinging frame or yoke 8. The bars 21 are bent or curved at their lower ends, and to the latter is pivotally attached the step-frame 26, which step-frame is located and arranged substantially as illustrated in Figs. 1, 2, and 6.

The seat-frame 16 is pivotally connected to the step-frame 26 by means of the braces or bars 27, and this pivotal connection of the braces or bars 27 with the step-frame 26 is a short distance back of the pivotal connection between the step-frame 26 and the leg-rest bars 21, while the pivotal connection of the upper end of the braces or bars 27 is a short distance back of the pivotal connection between the seat-frame 16 and the leg-rest bars 21. The object and purpose of connecting the braces or bars 27 back of the pivotal connection of the step-frame 26 and the seat-frame 16 are to cause the step-frame to continue to remain at or nearly at a horizontal position, as in Fig. 2, when the seat-frame and leg-rest frame are brought to an elevated or horizontal position, as shown in said Fig. 2.

The oscillatory bars 5, as before stated, are pivotally attached to the rear arms of the rotary supporting-frame 3 and to the chair-back 6 a short distance above the lower end of said back 6, and the hooks 7 are for the purpose of engaging corresponding teeth 7^a, located upon the ends of the lock-frame or braces 29, said teeth 7^a being best shown in Fig. 10.

The lock-frame or braces 29 are rigidly bound together and held the desired distance apart by means of the connecting-bar 28 and are pivotally supported between the side pieces of the rotary frame 3, as in Figs. 1, 2, and 6, and the handles 30 are preferably formed by continuing the braces 29 beyond their pivotal connection.

To the lower end of the back 6, at one side thereof is rigidly attached a plate 31^a, having at its lower extremity a bracket 31, Fig. 18, provided with an orifice for the passage of a segmental rod 32, the upper end of which is pivotally attached to one of the connecting-bars 10. The bracket 31 is provided with a set-screw 33, having an operating-handle 34 at its upper end and held in proper position by the lug 34^a, formed on the plate 31^a. The lower end of the set-screw 33 is designed to bear against the segmental rod 32 when said set-screw is rotated in one direction to securely hold the chair-back 6 at any desired angle of adjustment and to release the chair-back when said set-screw is rotated in the opposite direction. The lug 34^a of the plate 31^a is provided with ears 35, to which is pivoted the rear end of one of the connecting-bars 10, the front ends of the latter being pivoted to the extensions or arms 9 of the frame or yoke 8.

For the purpose of supporting the feet of the patient when in a reclining position, I provide a stirrup substantially of the form shown in Fig. 20, which is provided with a shank 36, preferably formed square or angu-

lar, and designed to slide back and forth in the mortise or opening 37, formed in the stirrup-head or toothed segment 38. The toothed segment 38 has a series of teeth 39 pointing rearwardly to engage a corresponding series of teeth 40 on a clamp-section or toothed segment 41. The stirrup-head or segment 38 is provided with a longitudinal recess or opening 42 and with a circular rim or flange 43 in proximity to an aperture 44, extending laterally through the stirrup-head or segment 38. The clamp-section segment 41 is rigidly attached to the under side of a turn-table or disk 45, Figs. 20, 21, and 25, and is provided with an opening 46 for receiving a pin 48, which binds the segments 38 and 41 together. The pin 48 is provided at one end with the head 48^a, bearing against one end of a helical spring 47, as in Fig. 21, and to secure said pin in place a cross-pin or cotter 50 passes through the pin, as in Fig. 21. The spring 47 is located on the pin 48 and bears against the head 48^a and the segment 41, respectively, and is for the purpose of normally holding or locking the segments 38 and 41 together by means of the teeth 39 and 40, which teeth interlock, as illustrated in Fig. 21. A locking and releasing bar 51 passes through the mortise or recess 42 and is oval or half-round in cross-section, as shown in Figs. 20, 21 and 23.

For the purpose of supporting the outer end of the releasing bar or rod 51, it is passed through an aperture in stirrup 53, and the forward end of this releasing bar or rod is provided with an operating-handle 52, preferably formed by laterally bending a portion thereof; but this handle may be otherwise constructed.

The turn-table or disk 45 is provided at its periphery with a rim or flange and is pivoted at its center to the lower side of side arm 20^a in Fig. 20. The side arm 20^a is secured to connecting-bar 10 and is provided with teeth 54, for a purpose hereinafter described.

The top or upper side of the turn-table is provided with a locking-dog 55, which rests loosely on the turn-table and is provided with a tooth or extension 56, to engage the teeth 54 on the under side of the side arm 20^a, for locking the turn-table 45, together with its different attachments, at any desired point of lateral adjustment. The locking-dog 55 is provided with a stud or pin 56^a, for receiving one end of a helical spring 57, as in Fig. 22, the opposite end of said spring being held by a pin 56^b on the turn-table, and the locking-dog is provided with a downward extension or arm 58, extending through the turn-table and bearing against the outer edge of the segment 38. (Best shown in Fig. 21.) It will be understood that the helical spring 57, with one end bearing against the lug 56^a of a locking-dog 55, presses the tooth 56 into engagement with the teeth 54, located on the side arm 20^a, and as the bar 51 is turned, by means of the handle 52, one-fourth around—or, in other words, a quarter-turn is given to the bar 51, as in Fig. 23—the teeth of the segments 38 and

40 are forced apart or disengaged from each other, the segment 38 bearing with its upper rim or flange 43 against the lower lug 58 of the locking-dog 55 to force the same laterally and disengage its tooth 56 from the teeth 54, so that the stirrup-shank 36 is free to swing either laterally or vertically, as the operator may desire. When the stirrup has been properly adjusted, the handle 52 is again turned so as to bring the releasing-bar 51 to its normal position, as shown in Fig. 21, at which time the spring 47 automatically forces the segmental blocks 38 and 40 into engagement, so that their teeth will interlock, as in Fig. 21, and at the same time the spring 57 automatically forces the locking-dog endwise, so as to engage the teeth 56 with the teeth 54, thereby securely holding the stirrup at any desired angle, both vertically and laterally, as conditions may require.

In the modification Figs. 6, 7, and 8 the extended arms 9 of the swinging frame 8 are dispensed with and the upper extremities of the said frame are pivoted to the extensions 11 of the rotary supporting-frame 3. In this construction the frame 8 is swung by a brace 9^a, pivoted at one end to the lower end of the chair-back frame 6 and at the opposite end detachably engaging the rods 25^a, Fig. 7, substantially as in my Letters Patent hereinbefore alluded to.

As shown in Figs. 21 and 23, the stirrup-head or toothed segment 38 is provided with a set-screw 37^a, adapted to bind against the stirrup-shank 36 for locking the latter to the stirrup-head or toothed segment, while permitting the stirrup-shank to be adjusted lengthwise.

I have described and shown a pivoted locking-frame comprising braces 29 for holding the lower ends of the oscillatory bars 5 stationary when the chair-back is perpendicular, as in Fig. 1, or horizontal, as in Fig. 2; but I do not confine myself to this particular locking-frame, as other forms and constructions of locks for the oscillatory bars may be employed.

Having thus described the construction and adjustment of the various parts of the chair, it only remains to describe the manner of operation and the method of operating the same.

In use the chair is preferably placed in the position illustrated in Fig. 1, which is an upright position, and the patient is seated in the chair. The operator turns the set-screw 33 to release the segmental rod 32 and then grasps the chair-back at its upper end and swings it backward and downward, whereby the chair-back, seat, leg-rest, and step are caused to assume the position indicated in Fig. 2. The feet of the patient may then be placed in the stirrup, the latter being adjusted to the proper position to suit the conditions required. As the chair-back is lowered, the seat-frame is moved forward and elevated by reason of its connection with the chair-back and with the swinging frame and the leg-rest frame and

step are raised by the action of the swinging frame on the brace-arms 23, while the step is turned to stand in the position shown in Fig. 2 by means of the brace or arms 27, which are

5 pivotally connected with the seat-frame.

For the purpose of a more convenient manipulation and treatment of the patient, it is frequently desirable that the seat, leg-rest, and step be lowered out of the way of the operator, so that the patient shall lie or rest upon the back of the chair with his hips at or near the lower end of the back and the feet elevated and sustained by the stirrups. To accomplish this purpose the operator with one

10 erator, so that the patient shall lie or rest upon the back of the chair with his hips at or near the lower end of the back and the feet elevated and sustained by the stirrups. To accomplish this purpose the operator with one

15 hand slightly raises the step of the chair to remove the pressure where the locking-frame 29 engages and holds the oscillatory bars 5 and then with the other hand raises one of the handles 30 until the hooks 7 and teeth 7^a

20 are disengaged from each other. If the step 26 be now lowered, the swinging frame 8 operates on the connecting-rods 10 and shifts the chair-back forward, and as the chair-back moves forward it will be elevated by the forward motion of the extensions 9 and the upper ends of the oscillatory bars 5. The movements described cause the lower end of the swinging frame 8 to descend and the seat-frame and leg-rest frame to drop downward,

25 as indicated in Figs. 3 and 9.

To prevent soiling the upholstered part of the seat, the same may be removed either by taking the same entirely from the chair or by passing it backward and resting it upon the cross-bar 4 of the rotary frame 3, as shown in

35 Fig. 4. The chair may be brought back to its normal adjustment by simply raising upon the step until the teeth 7 and 7^a are brought to locking engagement, then by lifting upon the chair-back at its free end the patient is brought to a sitting or upright position and the chair adjusted, as shown in Fig. 1. It will be seen that as the chair-back is elevated or depressed the bracket 31 has a sliding

40 movement along the segmental rod 32, and by means of the set-screw 33 the back of the chair can be rigidly set at any desired angle. When the upholstered part of the seat is removed, the pan 19 is exposed in proper position for use, after which it can be conveniently

45 lifted out of the seat-frame, cleaned, and replaced. In this respect my present invention differs from a prior construction wherein the pan is permanently secured by fastening devices in the seat-frame.

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

1. The combination, with a base-frame, a

60 supporting-frame carried thereby, and a seat-frame, of oscillatory bars pivotally connected with the supporting-frame, a chair-back pivotally connected with the oscillatory bars and adapted to be lowered to a horizontal position

65 and then shifted forward and elevated by the forward-swinging motion of the oscillatory bars, and means for holding the oscillatory

bars and chair-back stationary when required, substantially as described.

2. The combination, with a base-frame and

70 a supporting-frame carried thereby, of oscillatory bars pivoted to the supporting-frame, a chair-back pivoted to the oscillatory bars and adapted to be lowered to a horizontal position and then shifted forward and elevated

75 by the forward-swinging motion of the oscillatory bars, a swinging seat-frame adapted to drop downward when the chair-back is lowered to a horizontal position and shifted forward and elevated, and means for holding

80 the oscillatory bars, the chair-back, and the seat-frame stationary when required, substantially as described.

3. The combination, with a base-frame and

85 a supporting-frame carried thereby, of oscillatory bars pivotally connected between their ends with the supporting-frame, a chair-back pivotally connected with the upper ends of the oscillatory bars and adapted to be lowered to a horizontal position and then shifted forward

90 and elevated by the forward-swinging motion of said bars, a suspended seat-frame adapted to drop downward when the chair-back is lowered to a horizontal position and shifted forward and elevated, and a lock for engaging

95 the lower ends of the oscillatory bars and connecting them with the supporting-frame, substantially as described.

4. The combination, with a base-frame and

100 a supporting-frame carried thereby, of oscillatory bars pivotally connected with the supporting-frame, a chair-back pivotally connected with the oscillatory bars and adapted to be lowered to a horizontal position and then shifted forward and elevated by the forward-swinging motion of said bars, a suspended swinging seat-frame pivotally connected with the lower end portion of the chair-back and adapted to drop downward when the latter is lowered to a horizontal position and

105 shifted forward and elevated, and means for holding the oscillatory bars, the chair-back, and the seat-frame stationary when required, substantially as described.

5. The combination, with a base-frame and

115 a supporting-frame carried thereby, of oscillatory bars pivotally connected between their ends with the supporting-frame, a chair-back pivotally connected with the upper ends of the oscillatory bars and adapted to be lowered

120 to a horizontal position and shifted forward and elevated by the forward motion of the bars, a lock for connecting the lower ends of the oscillatory bars with the supporting-frame, a seat-frame pivotally connected with the

125 lower portion of the chair-back, a swinging frame carried by the supporting-frame and sustaining the forward portion of the seat-frame, and connections between the swinging frame and the chair-back, substantially as

130 described.

6. The combination, with a base-frame and a supporting-frame carried thereby, of oscillatory bars pivotally connected between their

ends with the supporting-frame, a chair-back pivotally connected with the upper ends of the oscillatory bars and adapted to be lowered to a horizontal position and then shifted forward and elevated by the forward-swinging motion of said bars, a pivoted locking-frame carried by the supporting-frame and detachably engaging the lower ends of the oscillatory bars, and a suspended swinging seat-frame adapted to drop downward when the chair-back is lowered to a horizontal position and shifted forward and elevated, substantially as described.

7. The combination, with a base-frame and a supporting-frame carried thereby, of oscillatory bars pivotally connected with the supporting-frame, a chair-back pivotally connected with the oscillatory bars and adapted to be lowered to a horizontal position and then shifted forward, a suspended seat-frame, a swinging frame carried by the supporting-frame, connections between the swinging frame and the chair-back, whereby the latter is elevated as it is shifted forward, and means for holding the oscillatory bars, the chair-back, and the seat-frame stationary when required, substantially as described.

8. The combination, with a base-frame and a supporting-frame carried thereby, of oscillatory bars pivoted between their ends to the supporting-frame and having their lower end portions provided with hooks, a chair-back pivoted to the upper ends of the oscillatory bars and adapted to be lowered to a horizontal position and shifted forward and elevated by the forward motion of the bars, a locking-frame pivoted to the supporting-frame and having teeth to engage the hooks of said bars, and a suspended seat-frame, substantially as described.

9. The combination, with a base-frame, a supporting-frame carried thereby, a chair-back pivotally connected with the supporting-frame, a suspended seat-frame, and connecting-rods carrying the side arms of the chair, of a bracket-plate secured to the lower end of the chair-back and having an orifice and a lug or support, a set-screw engaging the lug or support and adapted to enter the orifice in the bracket-plate, and a segmental rod pivoted to one of said connecting-rods and entering the orifice in the bracket-plate for engagement with one end of the set-screw, substantially as described.

10. The combination, with a base-frame and a supporting-frame carried thereby, of a swinging frame or yoke pivoted to the supporting-frame and having upwardly-projecting extensions, a suspended seat-frame, a chair-back pivotally connected with the supporting-frame, connecting-rods pivoted to the chair-back and to the upwardly-projecting extensions of the swinging frame or yoke, a bracket-plate secured to the lower end of the chair-back and having an orifice, a set-screw carried by the bracket-plate, and a segmental rod pivoted to one of the connecting-rods and

entering the orifice in the bracket-plate for engagement with one end of the set-screw, substantially as described. 70

11. The combination, with a base-frame and a supporting-frame carried thereby, of oscillatory bars pivoted to the supporting-frame, a chair-back pivoted to the oscillatory bars, a suspended seat-frame pivotally connected with the chair-back, a swinging frame or yoke pivoted to the supporting-frame and having upwardly-projecting extensions, and connecting-rods connected to the chair-back and to the upwardly-projecting extensions of the swinging frame or yoke, substantially as described. 75 80

12. The combination, with a base-frame and a supporting-frame carried thereby, of oscillatory bars pivoted to the supporting-frame, a lock for rigidly connecting the oscillatory bars with the supporting-frame, a chair-back pivotally connected with the upper ends of the oscillatory bars, a suspended seat-frame pivotally connected with the lower portion of the chair-back, a swinging frame or yoke pivoted to the supporting-frame and sustaining the forward portion of the seat-frame, and connections between the swinging frame or yoke and the chair-back, substantially as described. 85 90 95

13. In a chair, the combination of a base-frame, a supporting-frame carried thereby, oscillatory bars pivoted to the supporting-frame, a chair-back pivoted to the oscillatory bars and adapted to be lowered to an approximately-horizontal position and then shifted forward and elevated by the forward motion of the bars, an open seat-frame pivotally connected with the chair-back, having a removable upholstered top section, and a removable and replaceable pan or tray sustained by the open-seat frame and adapted to be covered and concealed by the upholstered top section, and means for holding the oscillatory bars, the chair-back, and the seat-frame stationary when required, substantially as described. 100 105 110

14. In a chair, the combination of a base-frame, a supporting-frame carried thereby, a chair-back pivotally connected with the supporting-frame and adapted to be swung to a reclining position, a stirrup having a shank, locking devices for holding the shank in different positions of adjustment, and a locking and releasing bar extending parallel with the stirrup-shank and adapted to be rotated axially for actuating the devices which secure the stirrup-shank in its adjusted position, substantially as described. 115 120 125

15. The combination, with a surgical chair, of a support carried by a part of the chair, a stirrup having a shank carried by the support, devices for locking and releasing the stirrup-shank, and an axially-rotating releasing-bar extending parallel with the stirrup-shank and operating when turned axially to actuate the locking and releasing devices, substantially as described. 130

16. The combination, with a surgical chair, of a support carried by a part of the chair, a stirrup having a shank carried by the support, toothed locking devices for holding the stirrup-shank in any position of adjustment, and an axially rotatable releasing-bar extending parallel with the stirrup-shank and operating when turned to disengage the toothed parts of the locking devices, substantially as described.

17. The combination, with a surgical chair, of a turn-table supported by a part of the chair and having a toothed segment, a vertically-oscillatory toothed segment pivotally engaged with the toothed segment of the turn-table, a foot-supporting stirrup having a shank adjustable in the toothed segment of the turn-table, an axially-rotatable releasing-bar extending parallel with the stirrup-shank and operating when turned to disengage the toothed segments, and locking devices for holding the turn-table in a fixed position, substantially as described.

18. The combination, with a surgical chair, of a turn-table supported by a part of the chair and having a toothed segment, a vertically-oscillatory toothed segment pivotally engaged with the toothed segment of the turn-table, a foot-supporting stirrup having a shank adjustable in the toothed segment of the turn-table, an axially-rotatable releasing-bar operating when turned to disengage the toothed segments, and locking devices operated by the oscillatory segment when the releasing-bar is rotated for locking and releasing the turn-table, substantially as described.

19. The combination, with a chair having a side arm provided with teeth, of a turn-table pivotally engaged with the side arm and having a toothed portion and a locking-dog, a pin carried by the toothed part of the turn-table, the oscillatory-toothed segment mounted on the pin, a stirrup having a shank adjustable on the toothed part of the turn-table, and an axially-rotatable releasing-bar for disengaging the toothed segment from the toothed portion of the turn-table, substantially as described.

20. The combination, with a chair having a part provided with teeth 54, of a turn-table pivotally engaged with such toothed part of the chair and having a rigidly-attached toothed segment 41, a locking-dog mounted on the turn-table for engaging and disengaging the toothed part of the chair, an oscillatory toothed segment 43, a pin 48, passing through the toothed segments, a stirrup having a shank adjustable on the toothed segment of the turn-table, and a releasing-bar adapted to axially rotate for moving the toothed segments out of engagement with each other, substantially as described.

21. The combination, with a chair having a part provided with teeth 54, of a turn-table pivotally engaged with such toothed part of the chair and having a toothed segment 41, a spring-actuated locking-dog mounted on the turn-table for engaging and disengaging the toothed part of the chair, a spring-pressed pin 48, supported by the toothed segment of the turn-table, a toothed segment 43, journaled on the pin and having a part adapted to move the locking-dog of the turn-table, a stirrup having a shank adjustable on the toothed segment of the turn-table, and a releasing-bar adapted to axially rotate for disengaging the toothed segments, substantially as described.

22. In a surgical chair, a foot-supporting stirrup having a shank and adapted to support the foot of a patient, and an axially-rotatable releasing-bar extending parallel with the stirrup-shank, in combination with a pair of toothed segments, one of which is moved laterally by the releasing-bar when turned axially, substantially as described.

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

FRANK E. CASE.

Witnesses:

F. W. BOND,
CHAS. M. STANDS.