

No 624,008.

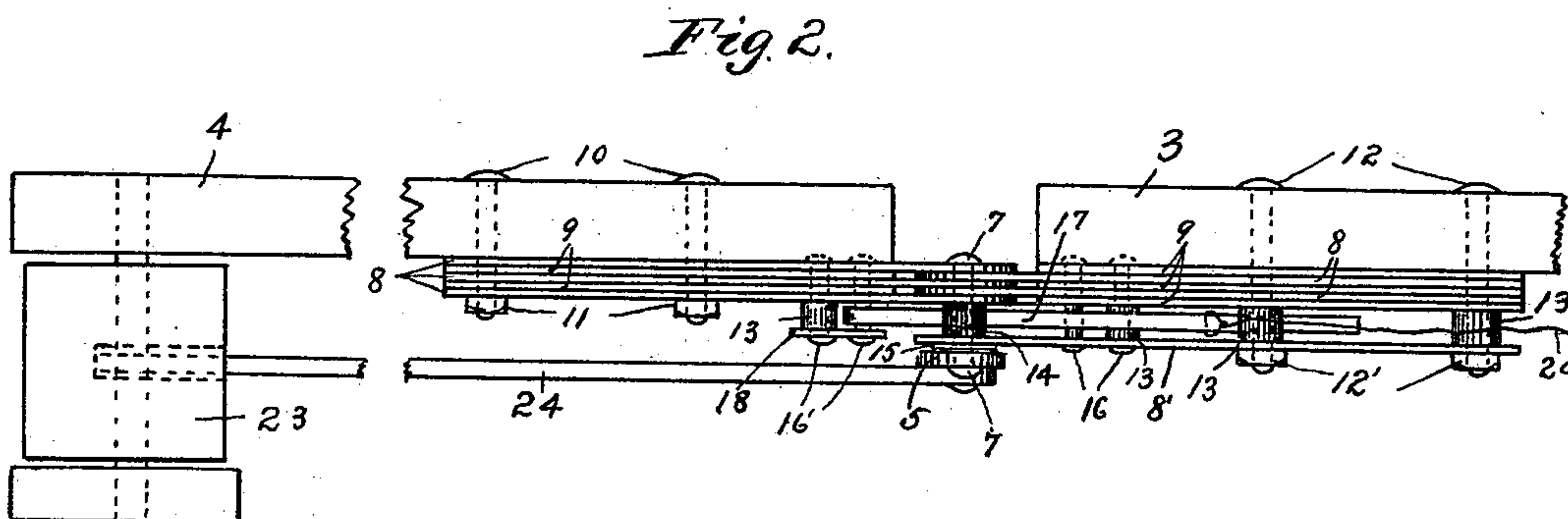
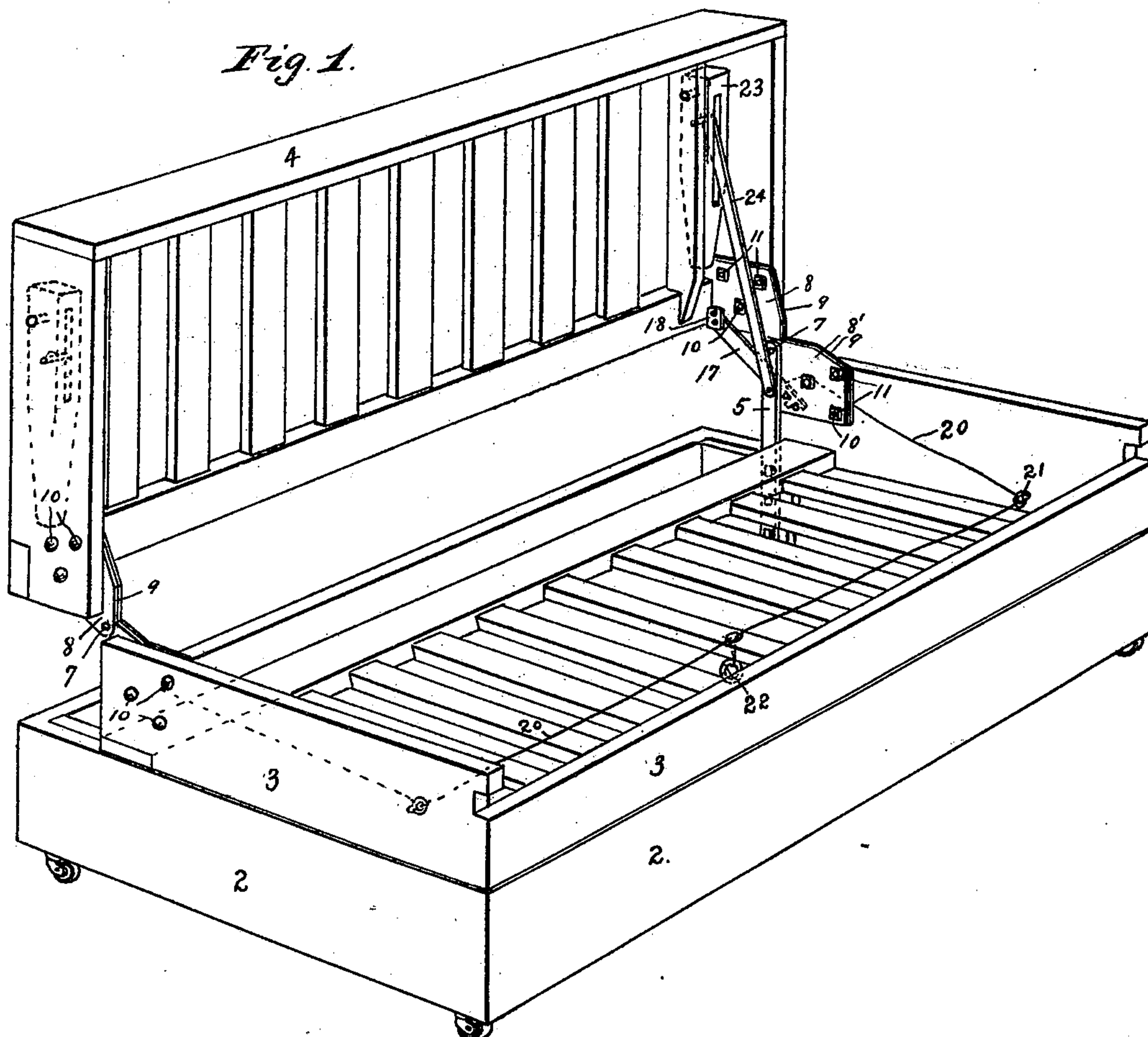
Patented May 2, 1899.

F. C. GENGE.  
COMBINED SOFA BED.

(Application filed Dec. 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
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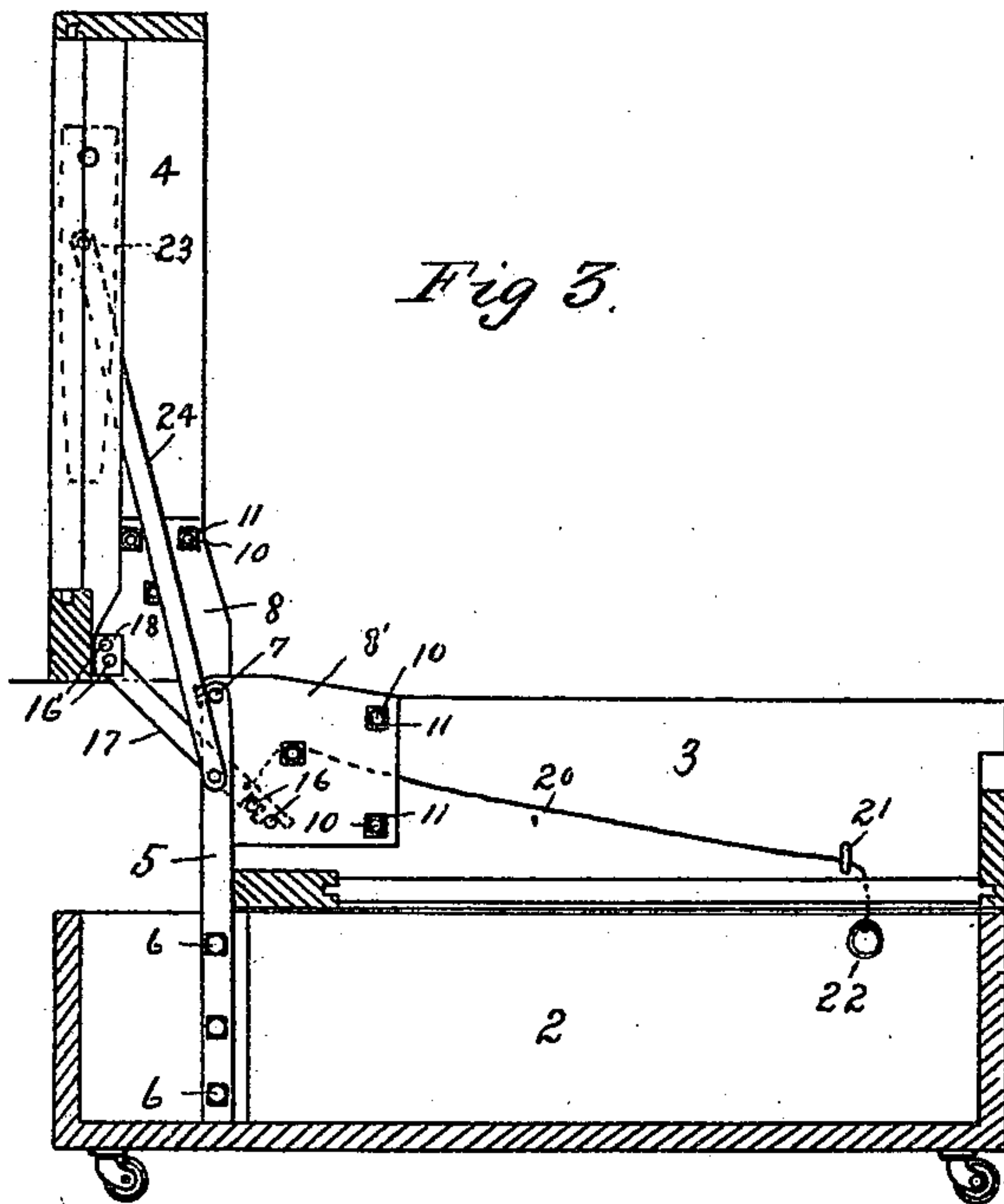


Fig. 3.

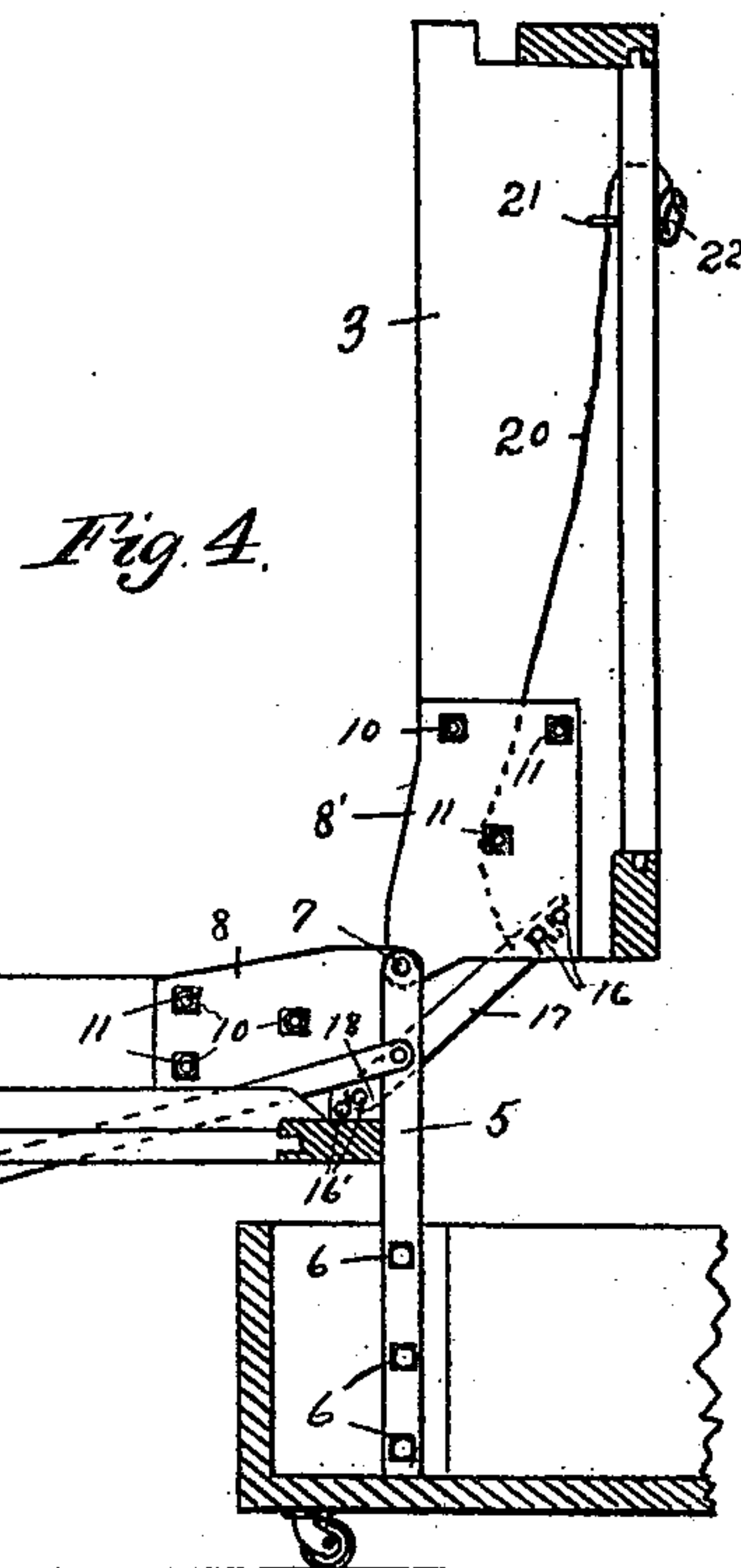


Fig. 4.

Fig. 6.

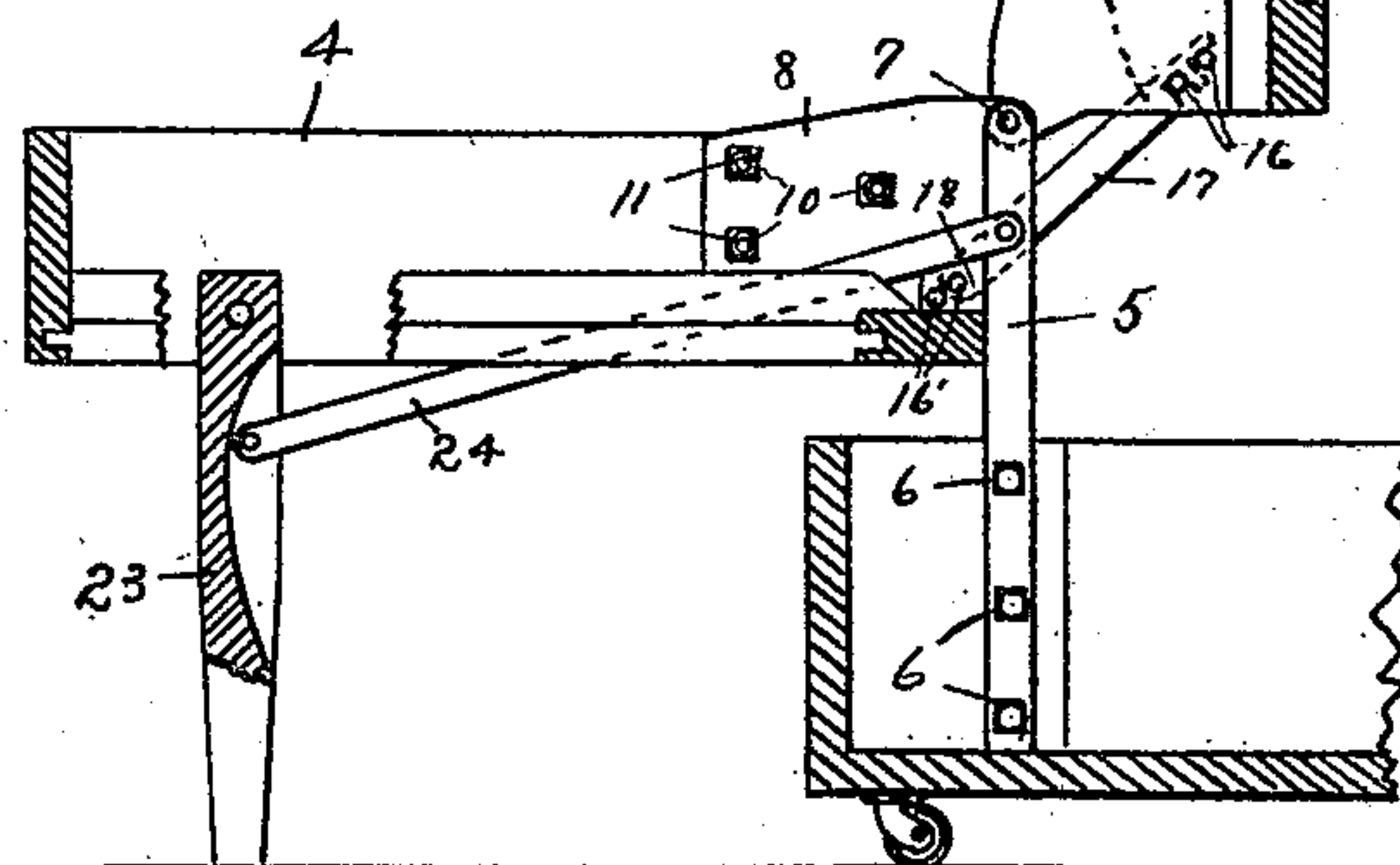
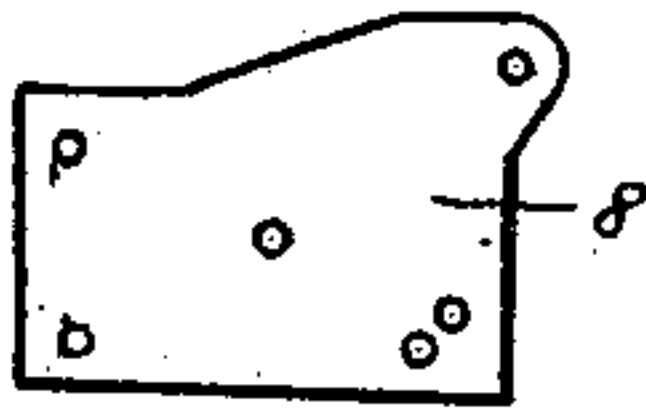
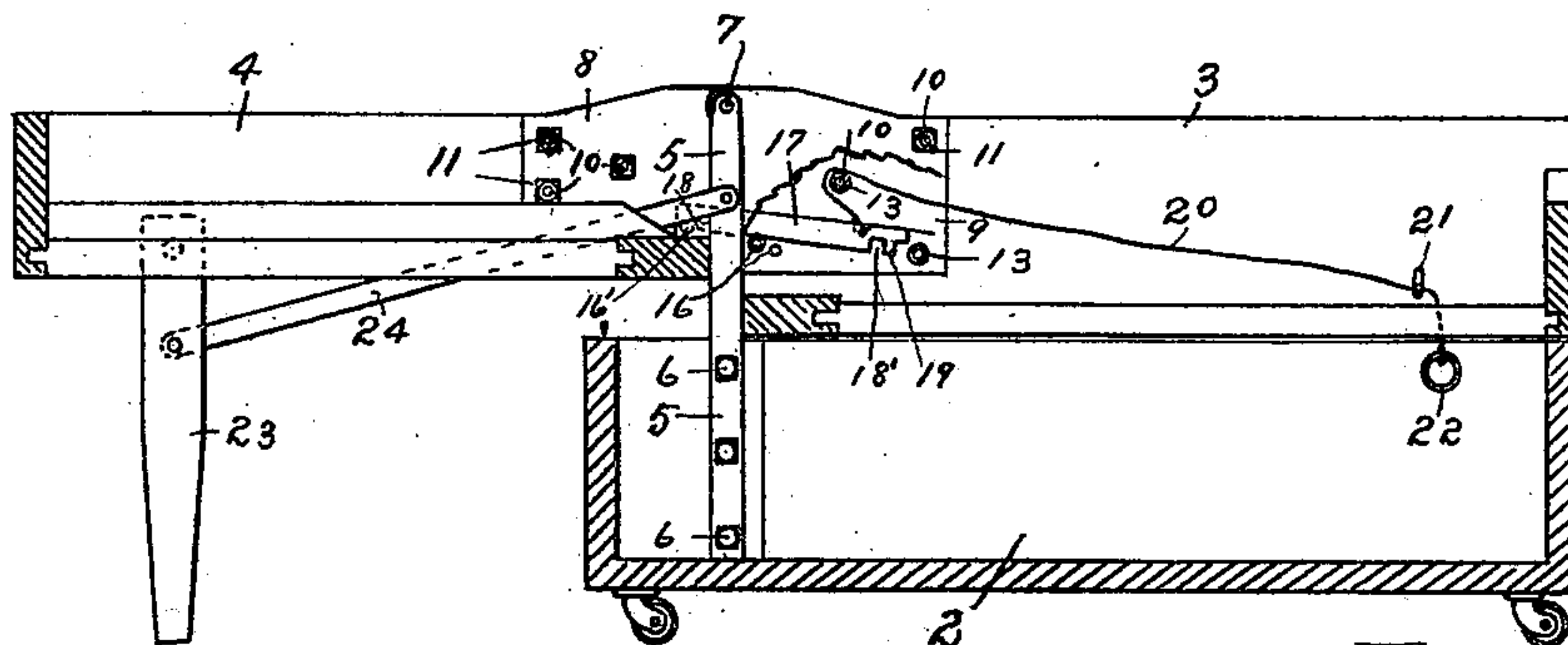


Fig. 5.



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# UNITED STATES PATENT OFFICE.

FRED C. GENGE, OF MINNEAPOLIS, MINNESOTA.

## COMBINED SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 624,008, dated May 2, 1899.

Application filed December 20, 1898. Serial No. 699,818. (No model.)

*To all whom it may concern:*

Be it known that I, FRED C. GENGE, a citizen of the United States of America, residing in the city of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Combined Sofa-Beds, of which the following is a specification.

My invention relates to combined sofa-beds, and particularly to that class of sofa-beds which can be operated entirely from the front without the necessity of the operator passing around back of the sofa-bed in order to transform it from sofa to bed, or vice versa.

More particularly my invention relates to sofa-beds in which the seat and back portions are pivotally supported from the base-box and adapted to swing independently of each other or may be locked to each other, so as to be capable of swinging together on their pivot without changing their relative positions to each other; and the object I have in view is to provide an extremely simple, cheap, and durable pivot and locking mechanism for said seat and back portions, so that such portions may be swung on their pivot without change of their relative position to one another or may be swung on their pivot independent of any movement of the other.

To these ends my invention consists in the mechanism, constructions, and combinations of parts hereinafter described, and particularly pointed out in the claims, and will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a combined sofa-bed embodying my invention, showing only the frame thereof, the upholstering being removed to more clearly set forth the mechanical construction. Fig. 2 is a plan view of the pivot-plates, &c., as seen when the device is in the position shown in Fig. 5. Fig. 3 is a transverse sectional view. Fig. 4 is a similar view showing the back and seat portions in the positions they assume when the seat and back are swung back to permit access to the base-box. Fig. 5 is a similar view showing the positions of the parts when the device is in use as a bed. Fig. 6 is a detail view of one of the hinge or pivot plates.

As shown in the drawings, 2 represents the

base-box, 3 the seat portion, and 4 the back, of my sofa-bed. These are preferably made of the same length and rectilinear in form. The seat 3 is adapted to normally rest on the base-box 2 and is of slightly less width than the seat.

The standards or rods 5 are secured by bolts 6 on the inner side of the respective end panels of the base-box 2, their location on the panels being such that the standards rise above the base-box just at the rear of the seat portion, as shown best in Fig. 3. A short rod or rivet 7 passes through each standard 5 near its upper end and the inside, and the rod 7 is riveted on the standard 5 to prevent any play of the rod thereon. The outer end of the rivets or rods 7 is headed, as shown. Three hinge or pivot plates 8, separated by two spacer-plates 9, are secured on the inner side of each end panel of the back by bolts 10 and nuts 11, as shown best in Fig. 2. On the inner side of each end panel of the seat three spacer-plates 9 and two hinge or pivot plates 8 are secured by bolts 12 and nuts 12'. The bolts 12, however, extend for a short distance beyond the last spacer-plate 9 and bear small sleeves or ferrules 13, which bear against the outer spacer-plates 9. On the bolts 12, between the ferrules 13 and the nuts 12', a third hinge or pivot plate 8' is fastened. The form of the hinge-plates 8 is shown best in Fig. 6, and the spacer-plates are square in form, not being provided with the extensions forming the hinge or pivot points. Before riveting the rod 7 to the standard 5 the respective plates 8 are passed over the rod or rivet 7, which thus forms the pivot or hinge pin. Between the hinge-plate 8' and the other plates 8 and 9 a ferrule or sleeve 14 is provided on the rod or rivet 7, as shown best in Fig. 2. A washer 15 is provided between the plate 8' and the standard 5. Two smaller rivets or bolts 16 pass through the respective plates 8, 8', and 9 on the panels of the seat, and the front bolt 16 is also provided with a sleeve or ferrule 13. Two rivets or bolts 16', similar to the rivets or bolts 16, pass through the plates 8 and 9 on the panels of the back. The rear rivet 16' is provided with a spacer ferrule or sleeve 13. On the front bolt or rivet 16 a pawl or dog 17 is pivoted. A retaining and guard plate 18 is provided at the inner ends



of the rivets 16', as shown in Figs. 1 and 2. This pawl or ratchet 17 extends under the rod or rivet 7, between the plate 8' and the outer spacer-plate 9 on the end pawl of seat.

5 The pawl 17 is cut away, as shown, to form the notch 18' and tooth 19. It is thus seen that when the back and seat are in the relative positions to each other shown in Figs. 1, 3, and 4 the tooth 19 slips between the bolts 10 16, the rear bolt 16 thus engaging in the notch 18', and all movement of the pawl or ratchet, and consequently of the seat and back on their pivot independent of each other, is prevented. An operating-cord 20 runs from 15 each pawl 17 along the respective end panels through a loop or eye 21, thence along the front panel of the seat to the middle slat and through this slat to a metallic loop 22 thereunder. The respective cords 20 are fastened 20 in this loop 22, and by pulling on the cords 20 the pawls or ratchets 17 are disengaged from the rivets or bolts, so as to each be capable of movement on their pivot independent of the other.

25 The back is provided with legs 23, pivoted between the end respective panels and the nearest slat, as shown. These legs are slotted, as shown best in Fig. 1, and an operating rod or bar 24 pivoted to each leg, as shown. Each 30 of these six rods 23 has its other end fixed, one of the standards 5 being riveted thereto, so as to be capable of swinging.

It will thus be seen that by this means I provide an extremely simple, cheap, and durable mechanism, the operation of which is as follows: The device having been in use as a sofa, to convert it into a flat bed the operator, standing in front of the sofa, pulls it out away from the wall, takes hold of the seat, and swings 40 seat and back to position shown in Fig. 4. It will be noted that as the back is swung from the position of Fig. 1 or from a perpendicular to a horizontal position the connecting or operating rods 24 will throw out the legs, so 45 that when the back reaches the horizontal position it rests on these legs. The bedclothes are then taken out and the strings or cords 22 given a pull. The pawls or ratchets 17 thus rise out of engagement with the bolts or rivets 16 and the seat will swing down to position shown in Fig. 5. When it is desired to convert the bed back to a sofa, the seat is swung up to a perpendicular position, as shown in Fig. 4. The pawls then slip into engagement 55 with the rivets or bolts 16, locking seat and back together. The seat and back are then swung to the positions shown in Fig. 1 by pulling down on the seat.

Any desired style or manner of upholstering may be used, and I do not confine myself to any particular construction, dimensions, form, or material for any of the various parts and am aware that various slight modifications will readily suggest themselves to one 65 seeing my sofa-bed as herein set forth and do not wish to be understood as confining myself to the particular construction or devices

shown or described, as I may use many equivalents therefor.

Having thus described my invention, I 70 claim as new and desire to secure by Letters Patent—

1. The combination, in a sofa-bed, of base-box, seat and back portions, standards or rods rising from said base-box and whereon said 75 seat and back portions are independently pivoted, gravity-pawls carried by one of said pivoted portions, engaging means carried by the other pivoted portion, said gravity-pawls operated by their own weight to engage said 80 means and lock said pivoted portions together when said pivoted portions assume a position substantially at right angles to each other and thereby lock said pivoted members against independent pivotal movement and permit 85 said pivoted portions to move together on their pivots, and means operated from the front of said sofa-bed whereby said pawls may be disengaged from said means to permit the independent pivotal movement of said pivoted seat and back portions, substantially as 90 described.

2. The combination, in a sofa-bed, of base-box, seat and back portions, rods or standards rising from said base-box and provided with 95 inturned arms or rods, hinge-plates 8 whereby said seat and back are independently pivoted on said standards and adapted to swing independent of each other, gravity-pawls 17 carried by one of said pivoted portions engaging means carried by the other pivoted 100 portion said gravity-pawls operated by their own weight, when said pivoted portions assume a position at substantially right angles to each other, to engage said means and thereby lock said pivoted portions together against independent pivotal movement and adapt 105 said pivoted portions to pivotal movement in said fixed relation to each other, and means operated from the front of said sofa-bed 110 whereby said pawls may be disengaged as desired to permit the independent pivotal movement of said pivoted seat and back portions, substantially as described.

3. The combination, in a sofa-bed, of base-box, seat and back portions, rods or standards rising from said base-box and provided with 115 inturned arms or rods, hinge-plates 8 whereby said seat and back portions are independently pivoted on said standards and adapted to swing independent of each other, gravity-pawls 17 carried by one of said pivoted portions, engaging means carried by the other 120 pivoted portion, said gravity-pawls operated by their own weight, when said pivoted portions assume a position at substantially right angles to each other, to engage said means and thereby lock said pivoted portions against independent pivotal movement and adapt said pivoted portions to pivotal movement in said 125 fixed relation to each other, spacer-plates provided in connection with said pawls and plates 8, and cords extending from said pawls to the front of the sofa-bed whereby said 130



pawls may be disengaged to permit the independent pivotal movement of said seat and back portions, respectively, substantially as described.

- 5 4. The combination, in a sofa-bed, of base-box, seat and back portions, rods or standards rising from said base-box and provided with intumed arms or rods, hinge-plates 8 whereby said seat and back portions are independently  
10 pivoted on said standards and adapted to independent pivotal movement, gravity-pawls 17 carried by one of said pivoted portions, rods or bolts 16 carried by the other pivoted portion, said pawls 17 adapted to engage said

rods 16 and fix said pivoted portions against 15 independent pivotal movement at substantially right angles to each other, and means operated from the front of said sofa-bed whereby said pawls may be disengaged to permit the independent pivotal movement of 20 said seat and back portions, substantially as described.

In testimony whereof I have hereunto set my hand this 31st day of May, A. D. 1898.

FRED C. GENGE.

In presence of—

R. J. BENGLEHAUS,  
FREDERICK S. LYON.