

No. 672,612.

Patented Apr. 23, 1901.

N. P. BRADISH.

SOFA BED.

(Application filed Apr. 13, 1900.)

(No Model.)

Fig. 1.

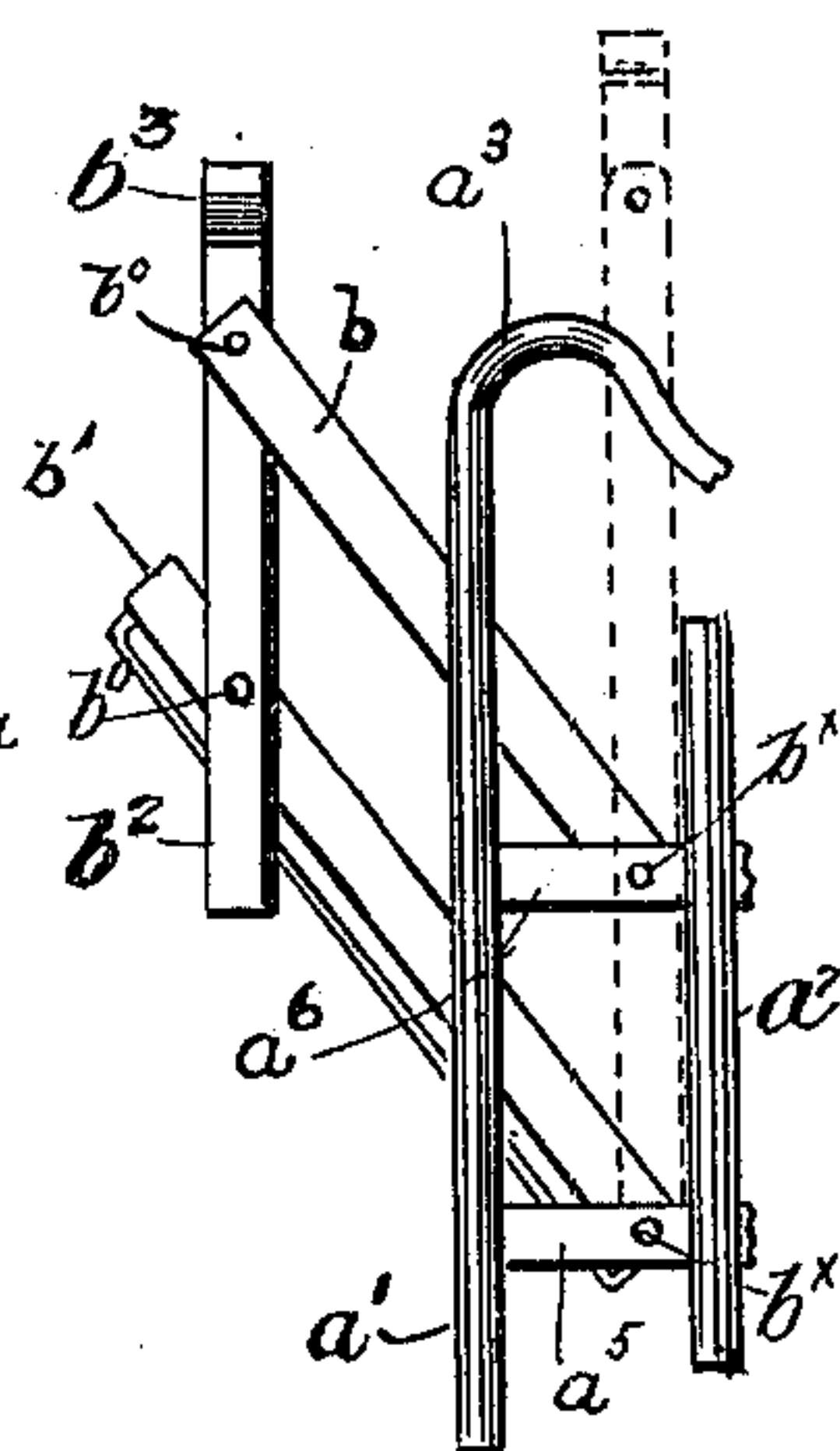
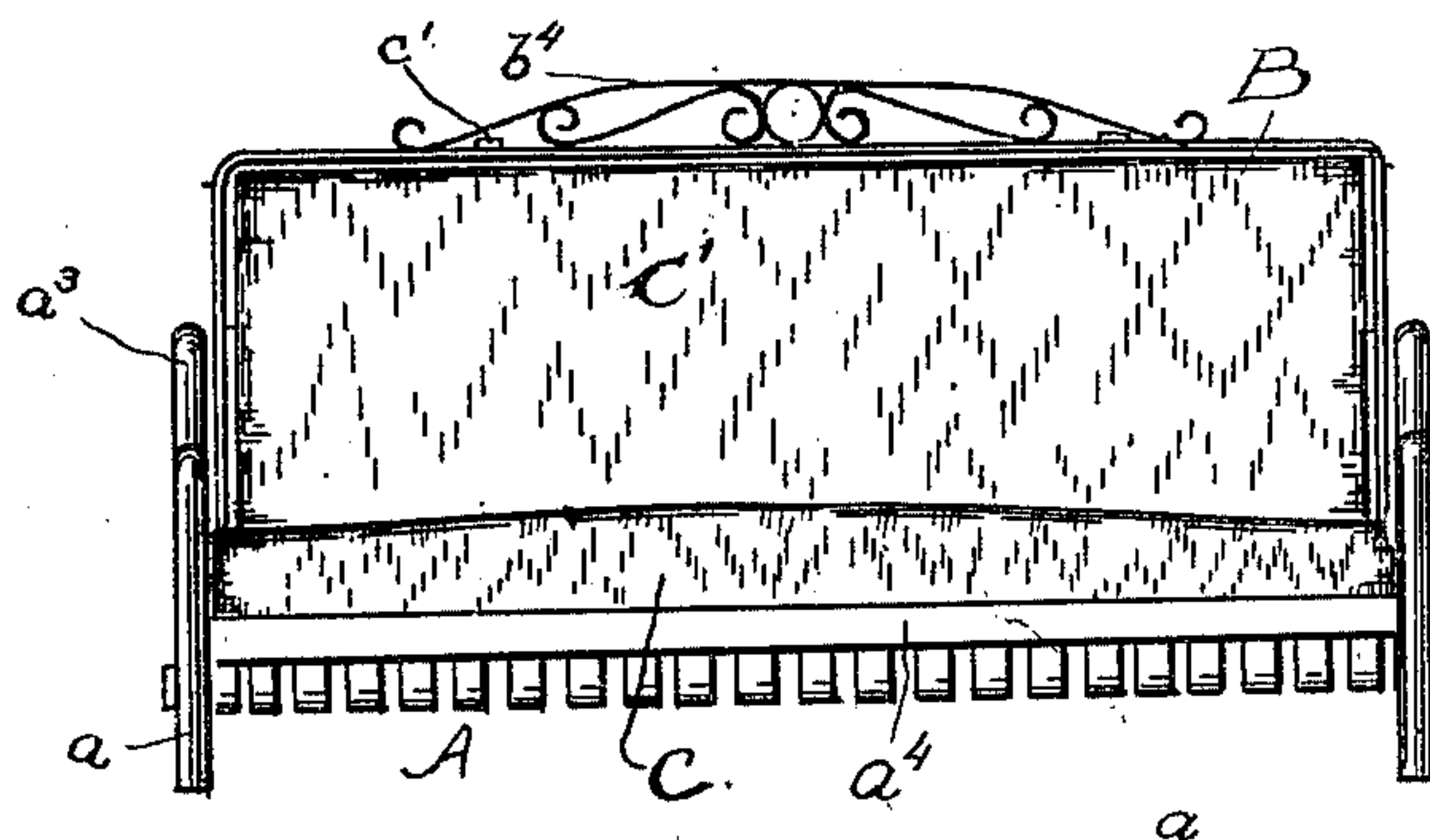


Fig. 4.

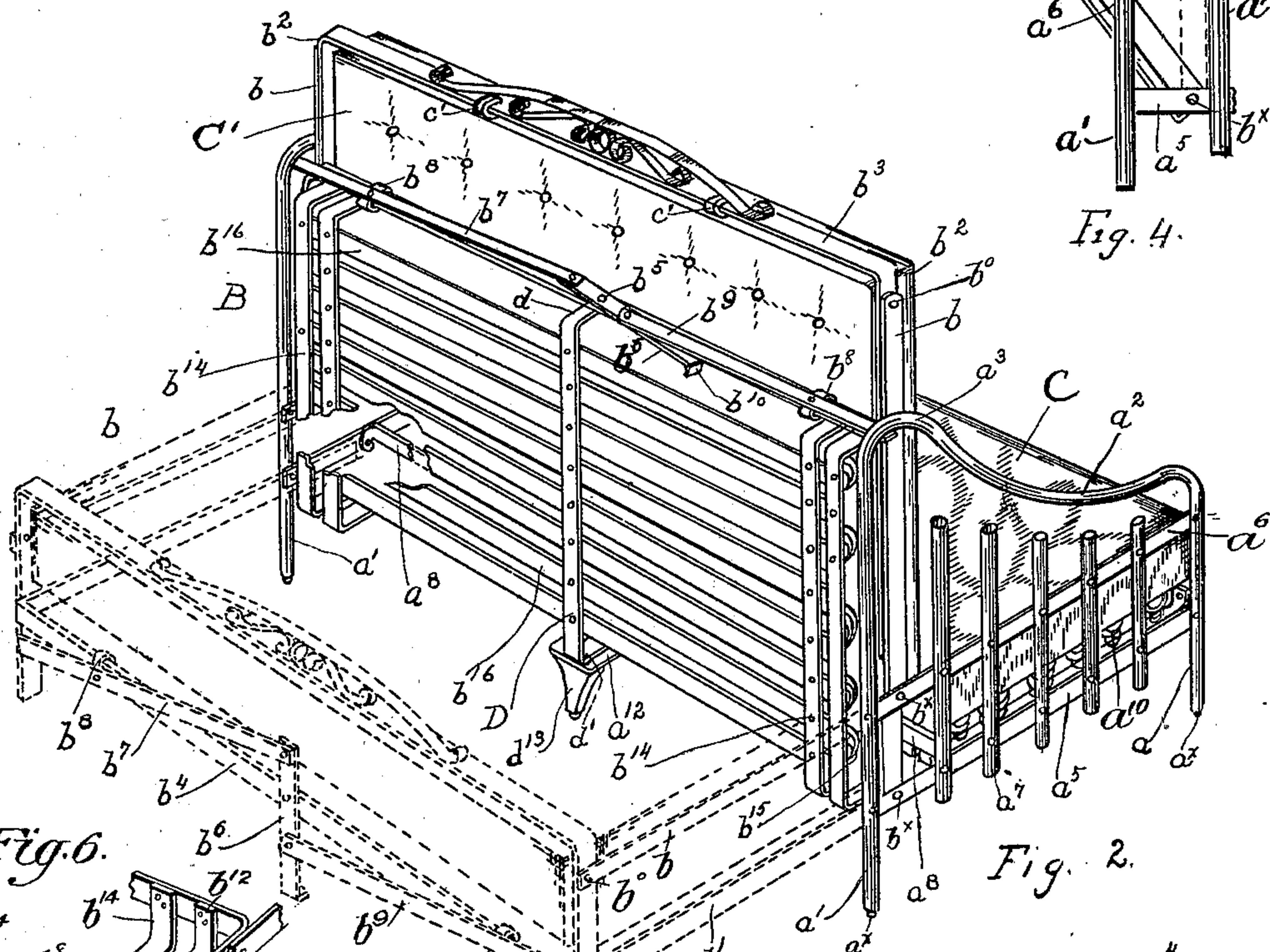


Fig. 2.

Fig. 6.

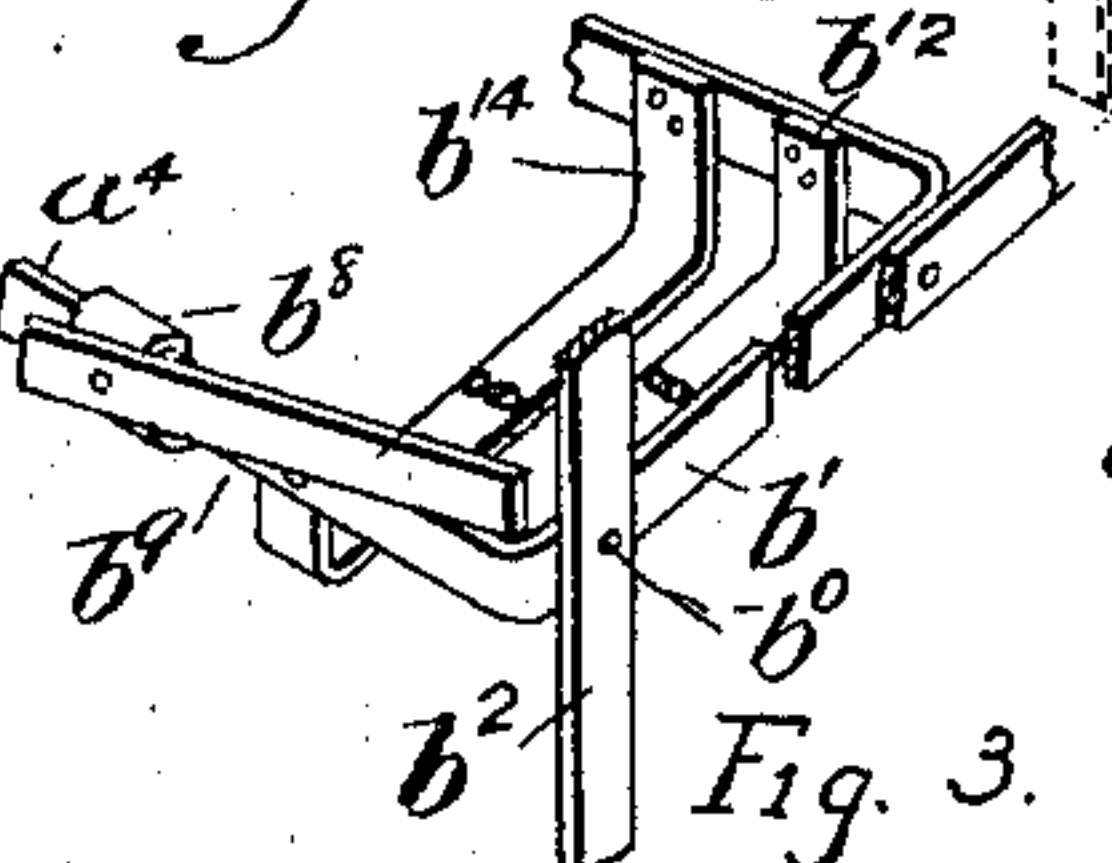


Fig. 3.

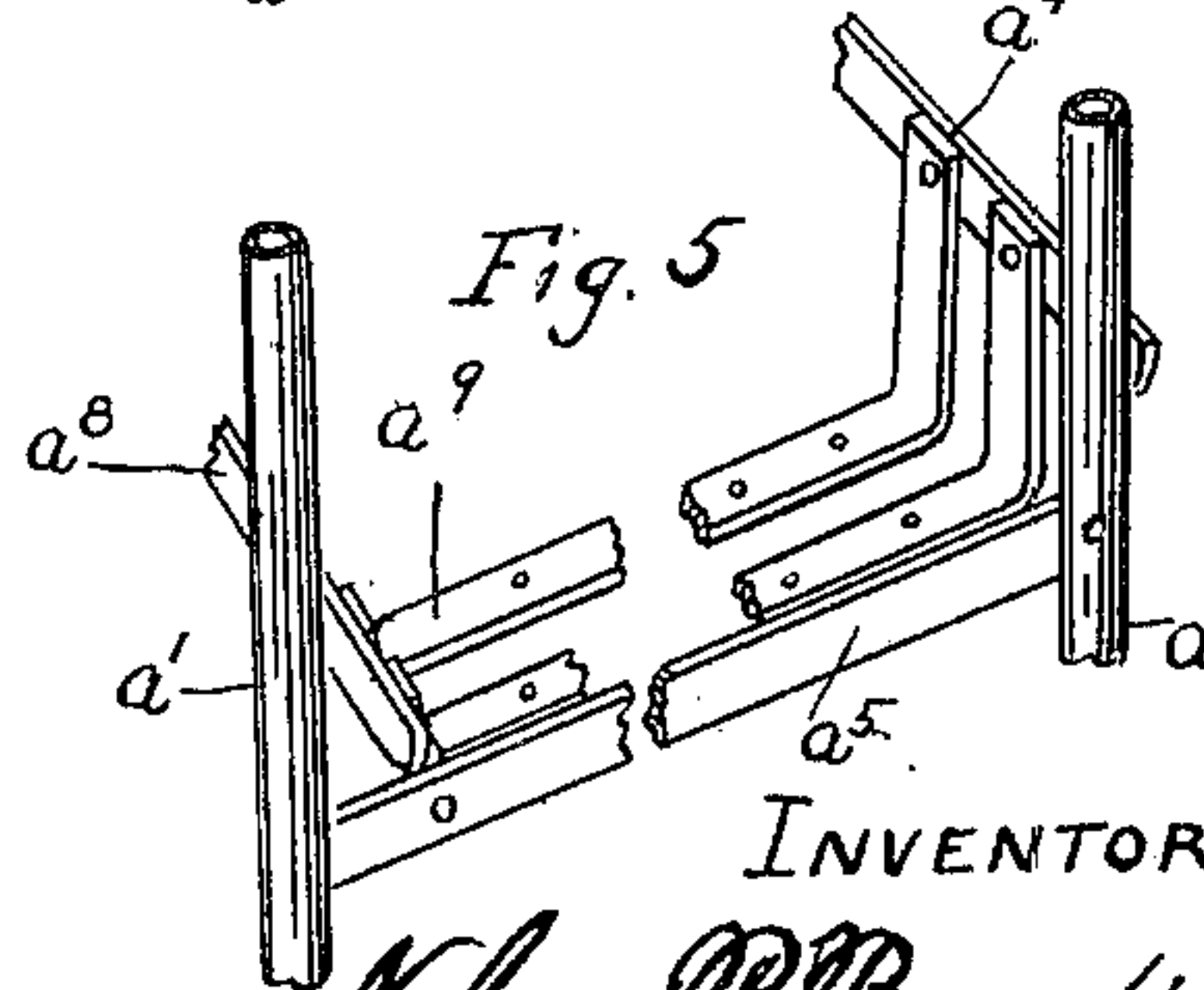
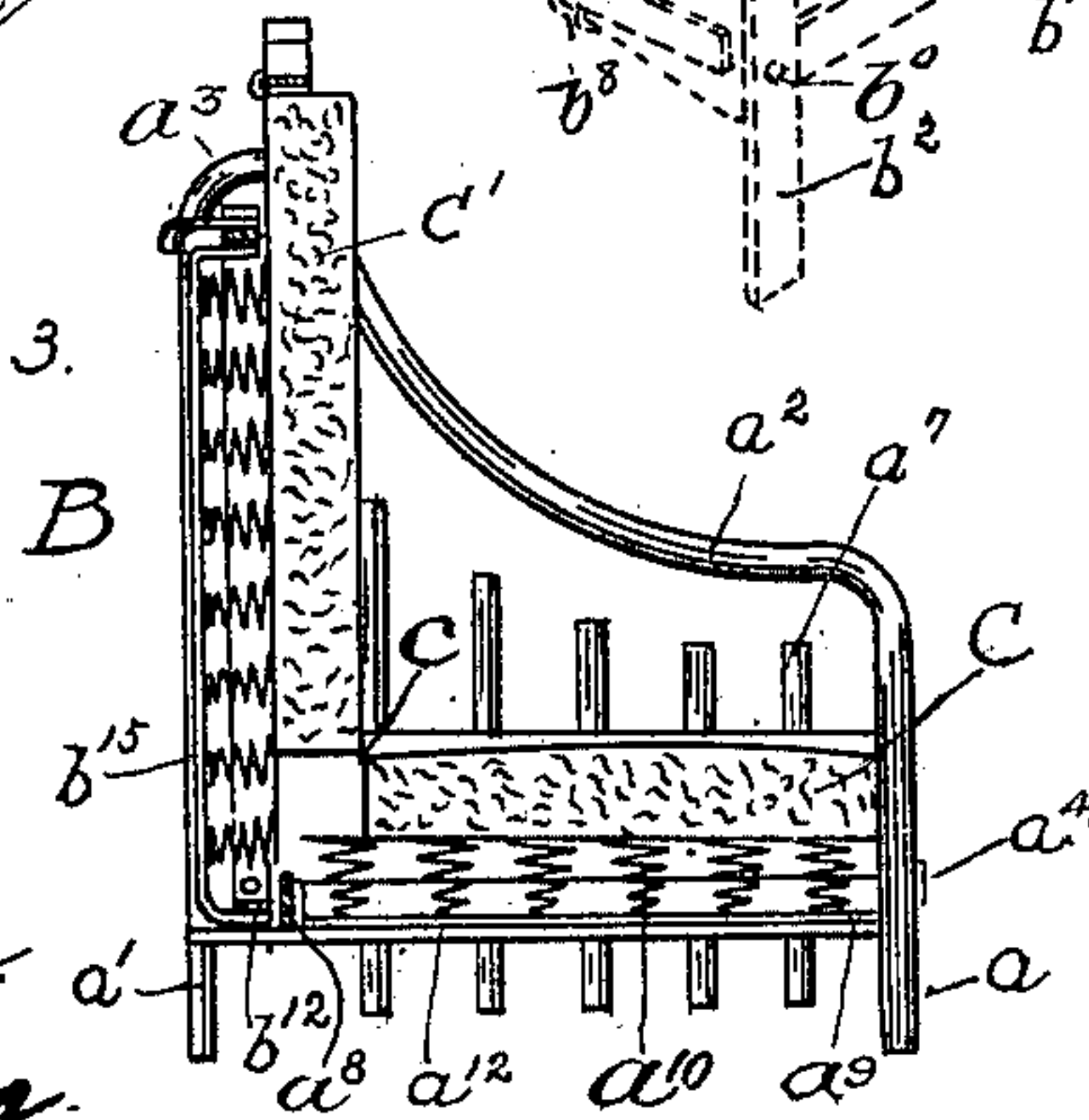


Fig. 5.

WITNESSES

L. L. Perrine.
A. L. Green.

INVENTOR

Nelson P. Bradish
Rich & Manning ATTY.

UNITED STATES PATENT OFFICE.

NELSON P. BRADISH, OF KANSAS CITY, MISSOURI.

SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 672,612, dated April 23, 1901.

Application filed April 13, 1900. Serial No. 12,723. (No model.)

To all whom it may concern:

Be it known that I, NELSON P. BRADISH, a citizen of the United States of America, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Sofa-Beds; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is a sofa-bed which for sanitary purposes may be renovated, with a saving in time and labor; second, to secure the movable back to the sofa in an upright position, and enable the parts of said back to be unfolded, in a movement toward a horizontal position; third, to utilize the bolt-operating lever to support the back in a horizontal position, and, fourth, to check the movement of the folding back when the position of the back is changed.

The invention consists in the novel construction and combination of parts, such as will be first fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a front view of the improved sofa-bed with the folding back in an upright position. Fig. 2 is a rear view in perspective of the improved sofa-bed, showing the folding bed in an upright position and the back-securing devices, also showing in dotted lines the folding back in a horizontal position. Fig. 3 is a transverse sectional view of the folding bed, showing the device for checking the rearward movement of the folding back. Fig. 4 is a broken detail view of one end of the sofa-bed, showing the position of the back folding rails or bars in describing a rearward movement. Fig. 5 is a broken detail view in perspective of one end of the main horizontal frame of the sofa-bed, showing the front and rear longitudinal bars and the transverse spring-supporting bars. Fig. 6 is a broken detail view in perspective of one of the lower pivoted folding bars forming part of the back of the sofa-bed, showing broken portions of the longitudinal bars connected therewith and the transverse spring-supporting bars.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A represents the rectangular-shaped main sofa-bed frame, and B the movable hinged back thereto.

The frame A, which supports the seat of the sofa, is constructed as follows: At each end of the sofa-bed are two upright bed supports or posts $a a'$, which are arranged a suitable distance apart or so as to afford, preferably, a space between the posts more than one-half of the full width of the sofa-bed when the movable back is reclined in position. The front post a extends in height a short distance above the plane of the seat of the sofa. The rear posts $a' a'$, however, extend in height to a position so far above the plane of the seat as to be engaged by the locking-bars upon the movable back, hereinafter described. With the respective upper ends of the posts a' is connected one end of the arm a^2 of the sofa, which extends in an outwardly-curved line, as at a^3 , a short distance, and thence extends forward in a downwardly-curved line, and the other end connected with the upper end of the post a . With the outer side portions of the posts $a a'$, a short distance above the lower end of said posts, are connected the respective ends of a longitudinally-extended bar or rail a^4 . With the inner sides of the respective posts $a a'$ at each end of the sofa-bed is connected a transverse bar a^5 , which is arranged in position a short distance below the horizontal plane of the bar a^4 on the posts $a a'$. A short distance above and parallel with the bars a^5 and connected with the inner side of the posts $a a'$ are the bars or rails a^6 . With the outer sides of the bars $a^5 a^6$ at each end of the sofa-bed are the vertical bars a^7 , which are short in length and arranged at short distances apart, said bars serving to retain the pillow in place when the sofa-bed is used. The rear longitudinal bar a^8 of the sofa-bed is connected at the ends with the bars $a^5 a^6$ at a point a short distance from the posts $a' a'$ toward the posts $a a$, so as to afford a clear space for the springs on the movable hinged back, as seen in Fig. 3.

a^9 represents the spring-supporting bars, which extend in a transverse direction to the sofa-bed, a portion of the outer ends of which

bars are bent at right angles and extended upwardly a short distance and connected with the inner side of the bars a^4 , the rear end portion of the bars extending in a horizontal direction and connected with the inner side portion of the longitudinal bar a^8 . Upon the upper horizontal surface of the bars a^9 are the spiral springs a^{10} , which are held in position with wire or rope in the usual well-known manner. The springs a^{10} are preferably included within a spring bed - bottom of the proper dimensions and placed upon the bars a^9 . Upon the spring a^{10} is a cushion or mattress C of the same width as the spring bed-bottom or the space between the bars a^4 a^8 . With the under side of one of the bars a^9 , located at a point equidistant from the ends of the sofa-bed, is connected a plate or bar a^{12} , (see Fig. 3,) the rear end portion of which bar extends beyond the vertical plane of the bar a^8 , so as to afford a bearing for the check of the movable back B, as hereinafter described.

The movable back B consists of separate upper and lower folding bars b b' at each end of the sofa-bed, which are preferably shorter in length than the bars a^5 a^6 . One end of these bars b is connected by the pivot b^x with the inner side portion of the respective bars a^6 a^6 at points upon a vertical line equidistant from the post a' and the rear vertical bar a^7 of the sofa-bed. With the outer ends and side portions of the upper bars b b are connected by the pivot b^0 the folding upright flat bars or posts b^2 b^2 , the upper ends of which posts extend but a short distance above the pivotal point of the upper bars b and are connected by a horizontal bar or rail b^3 , which serves to keep the clothing upon the movable back when in a horizontal position. The lower bars b' b' at their inner ends are pivotally connected by the pivots b^x with the inner sides of the bars a^5 a^5 at points vertically in line with the pivotal points of connection of the inner ends of the bars b b with the bars a^6 a^6 . The outer ends of said bars b' b' are pivotally connected by the pivots b^0 with the inner sides of the posts b^2 b^2 at the same distance from the pivotal points of their inner ends as is the distance between the pivotal points of the outer and inner ends of the bars b b . Said bars b' b' extend a short distance beyond the outer edge of the posts b^2 b^2 , and the outer ends are bent in a curved line inwardly and the said curved ends connected by a longitudinal bar b^4 , integral with said ends and extending in the longitudinal direction of the back B of the sofa-bed. The inner ends of the bars b' b' extend a short distance from their pivotal point of connection with the bars a^5 a^5 and are bent in a curved line inwardly and the said curved ends connected by the longitudinal bar b^{12} , integral with the bars b' b' and extending in the longitudinal direction of the back B of the said bed. The lower ends of the posts b^2 b^2 extend downwardly from the pivotal point of

said bars b' b' as far as the lower ends of the posts a' a' , below the pivotal inner ends of said bars, so as to form supporting-legs for the back B when in a horizontal position. With the outer side portion of the longitudinal bar b^4 , at the point b^5 , which is intermediate to the length of said bar, is pivotally connected the lever b^6 , the longest portion of which lever extends to the floor and forms a leg or support to the back B when the said back is in a horizontal position. Extending around the bar b^4 are separate slidable loops b^8 b^8 , which are arranged near each end of bar b^4 . With the portion of the loops b^8 b^8 on the outer side of bar b^4 are connected pivotally the outer ends of the respective bars b^7 b^9 , the inner ends of which bars are pivotally connected with the outer side portion of the lever b^6 at equal distances from the pivotal point b^5 of said lever. The outer ends of the bars b^7 b^9 are thrust outwardly in position by the lever b^6 and engage with the inner side of the curved portion a^3 of the arm a^2 of the sofa-bed when the back B is in a vertical position.

At each end of the movable back B are separate spring-supporting bars b^{14} . Each bar b^{14} is bent at right angles at the outer ends and said bent portions secured in a transverse direction to the back B to the respective bars b^4 and b^{12} . Upon the inner sides of bars b^{14} are horizontal slats b^{16} , upon which are springs b^{15} on respective opposite ends of the slats b^{16} . Upon the springs b^{15} is placed the cushion or back to the sofa C', the width of which is in excess of the width of the back B of the sofa-bed between the bars b^4 b^{12} . The upper sides and inner edges of the cushions C C' are connected in any suitable manner at c , (see Fig. 3,) so that as the back is moved rearwardly the cushions close together and form a continuous and even surface. With the outer edge of the cushion C' are connected the hooks c' c' , which hook over the bar or rail b^3 and when the back is in an upright position support said cushion in position. The checking device for the rearward movement of the back B consists of a bar D, which is the same in construction as the bar b^{14} , but slightly longer, one end being curved outwardly at d and connected with the inner side of the horizontal bar b^4 of frame B, and the outer curved portion d' , extended beyond the outside of the bar b^{12} , caused to rest upon the upper surface of the end of the bearing plate or bar a^{12} , the weight of the back B also being sustained at this point, the bar also being riveted to the horizontal slats b^{16} . Connected with the under side of the plate a^{12} beneath the end of bar D is a leg d^{13} , which extends to the floor. The lower ends of the parts a a' and the leg a^{13} are provided with casters a^x .

In the ordinary use of the sofa-bed as a sofa the sliding bars b^7 b^9 retain the movable back in a vertical position, the ends of the said bars being concealed by the cushion C'. When required to be used as a bed, the hooks c' c' on cushion C' are detached from bar b^3

and the cushion C' laid upon the cushion C. The end of the lever b^6 is seized by the hand and thrown into a position at right angles to the bar b^4 , thus drawing the inner ends of the sliding bars b^7 b^9 toward each other and releasing the outer ends from engagement with the posts a' a' . The back B is then moved rearwardly and the bearing angular end d' of bar D resists automatically the sudden fall of the back, so that the movement is readily controlled. In the described rearward movement the folding bars b' b' spread apart and the posts b^2 b^2 of the back, which retain an invariable vertical position, are placed upon the floor, the bars b b' and a^5 a^6 of frame A being in the same horizontal plane and the cushions C' placed upon the springs b^{15} in the back B, thus forming an even surface upon which the usual coverlet may be placed, as seen in dotted lines in Fig. 2.

The frame of the back and seat of the bed are preferably constructed of metal, from which the cushions are quickly removed for renovation, thus affording the sanitary requirements of this form of bed. In raising the back to a vertical position, as seen in Figs. 1 and 2, the posts b^2 fold between the folding bars b b' , so that the bars are in a parallel position, as seen in dotted lines in Fig. 4, the posts spacing the bars b b' , so that the inner ends of the bars pass each other without friction. The longitudinal bars may be dispensed with in the back B, if preferred, and the bars b^{14} increased in number, upon which the spring bed-bottom may rest, and other modifications may be made within the scope of the invention.

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

1. In a sofa-bed, a main horizontal frame and a rearwardly-movable hinged back, and a bearing bar or plate connected with said frame, and a supporting-bar for said back having a lower outwardly-curved end bearing upon said bar.

2. In a sofa-bed a main horizontal frame,

and a rearwardly-movable hinged back to said sofa-bed, a transverse bearing-plate connected with the underside of said frame and having its rear end extending beyond the plane of said back, and a supporting-bar connected with said back, having its lower end curved outwardly and resting upon said bearing-plate.

3. In a sofa-bed a main horizontal frame and a rearwardly-movable hinged back to said sofa-bed, a transverse bearing-plate connected with the under side of said frame and having its rear end extending beyond the plane of said back a leg connected with the under side of said rear end of said bearing-plate and a supporting-bar connected with said back having its lower end curved outwardly and resting upon said bearing-plate.

4. In a sofa-bed, the combination with the main horizontal frame to said bed, of corner-posts at the rear end of said frame extending above said frame, and a rearwardly-movable frame for the back of said sofa-bed comprising separate folding longitudinal bars pivotally connected at suitable points on the main frame, one above another, in a vertical plane, and posts pivotally connected with the outer ends of said bars and with the outer side of the upper bar and the inner side of the lower bar, and longitudinal upper and lower bars connecting said posts with each other, a lever pivotally connected with the lower bar at a point intermediate the posts, and adapted to support the back when in a horizontal position, and guides, upon said lower bar, and sliding bars controlled by said guides extending in opposite directions, and adapted to engage with the posts upon the inner frame, when the back is in a vertical position, and having the inner ends of said bars pivotally connected with the said levers upon opposite sides of the pivotal point of connection of said lever with said bar.

NELSON P. BRADISH.

Witnesses:

H. PERRIE HUEYETTE,
HENRY STUBENRAUCH.