

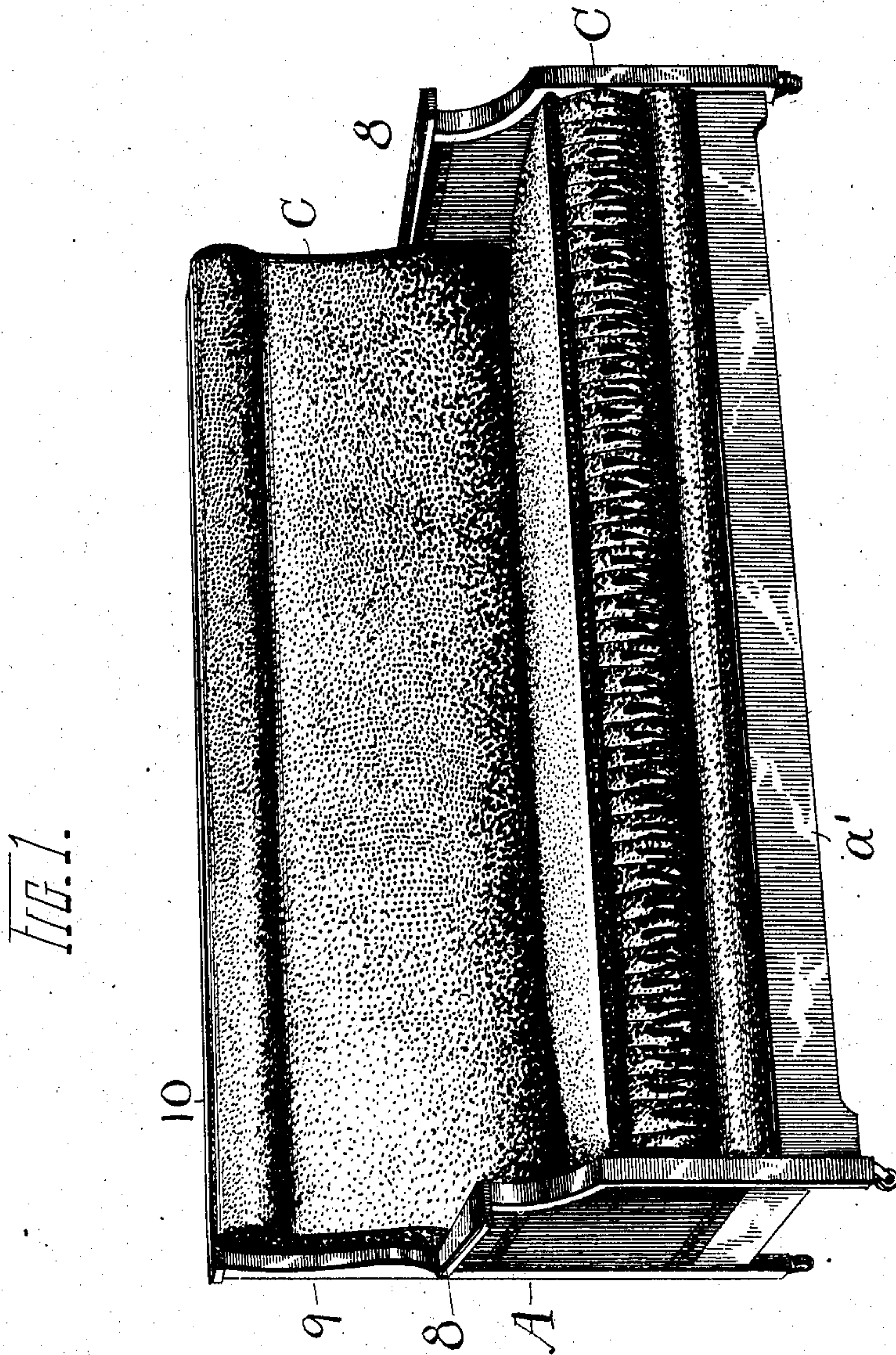
No. 791,720.

PATENTED JUNE 6, 1905.

D. T. OWEN.
COMBINED FOLDING BED AND COUCH.

APPLICATION FILED FEB. 23, 1904.

4 SHEETS—SHEET 1.



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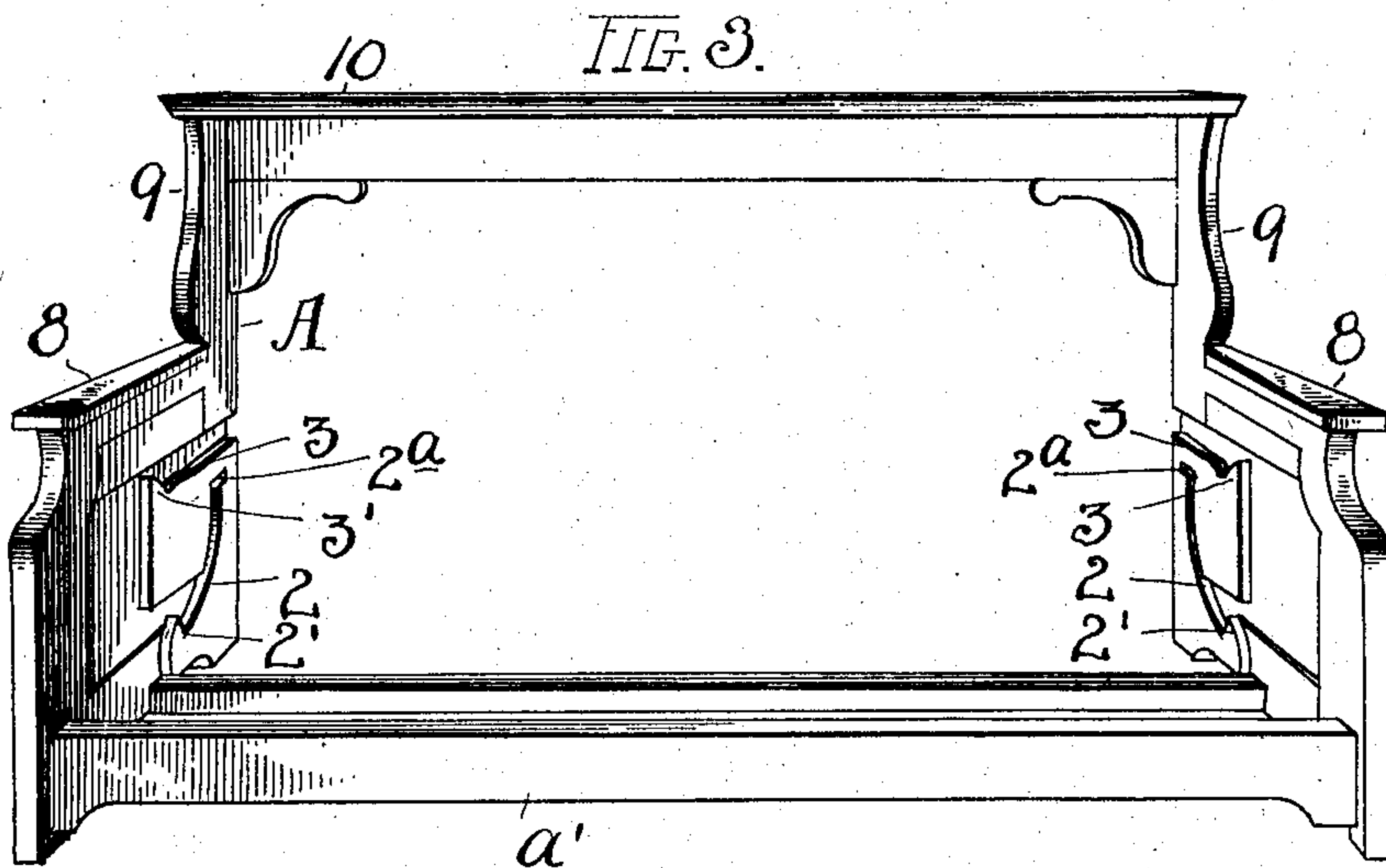
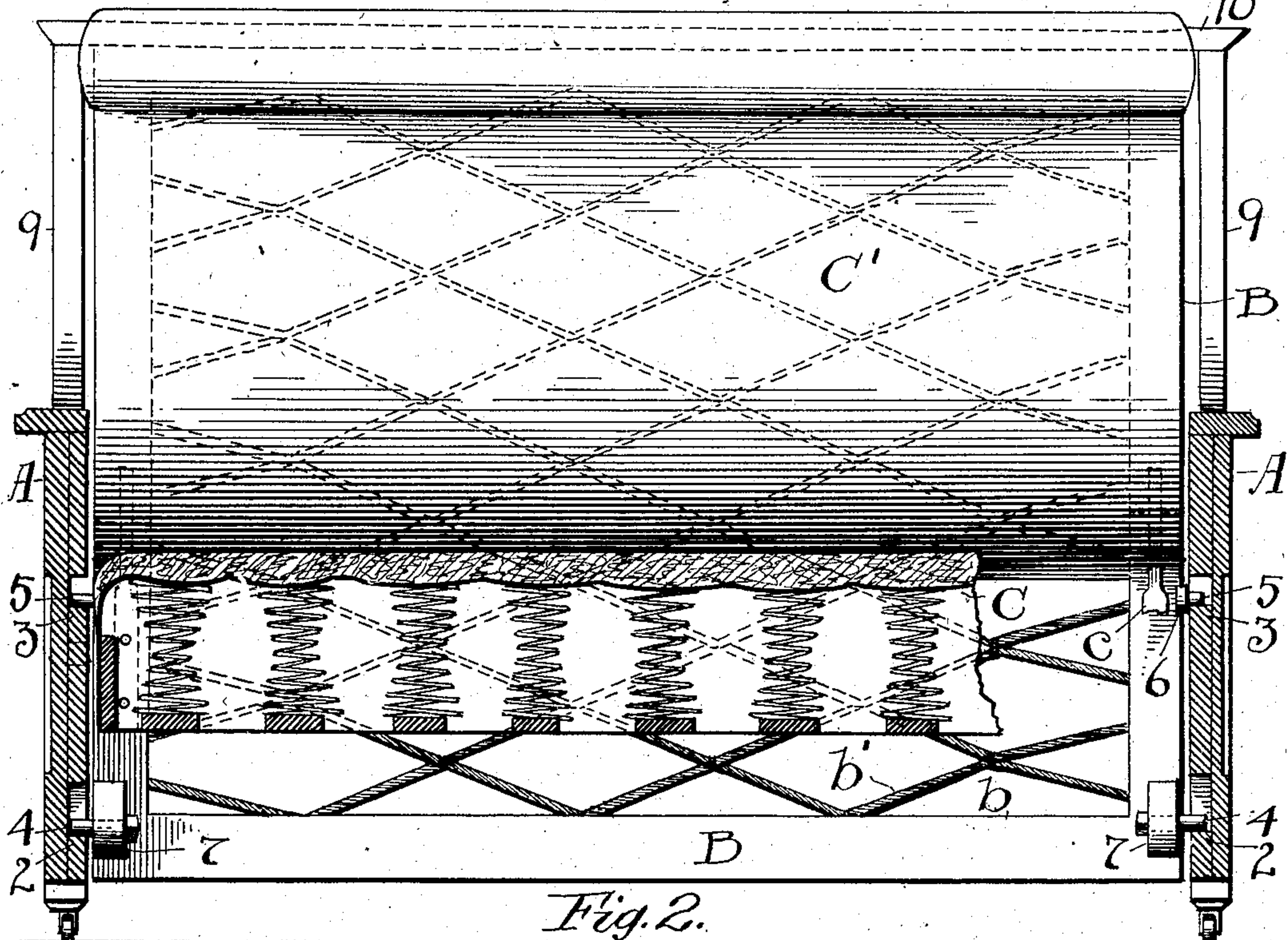
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4 SHEETS—SHEET 2



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4 SHEETS—SHEET 3.

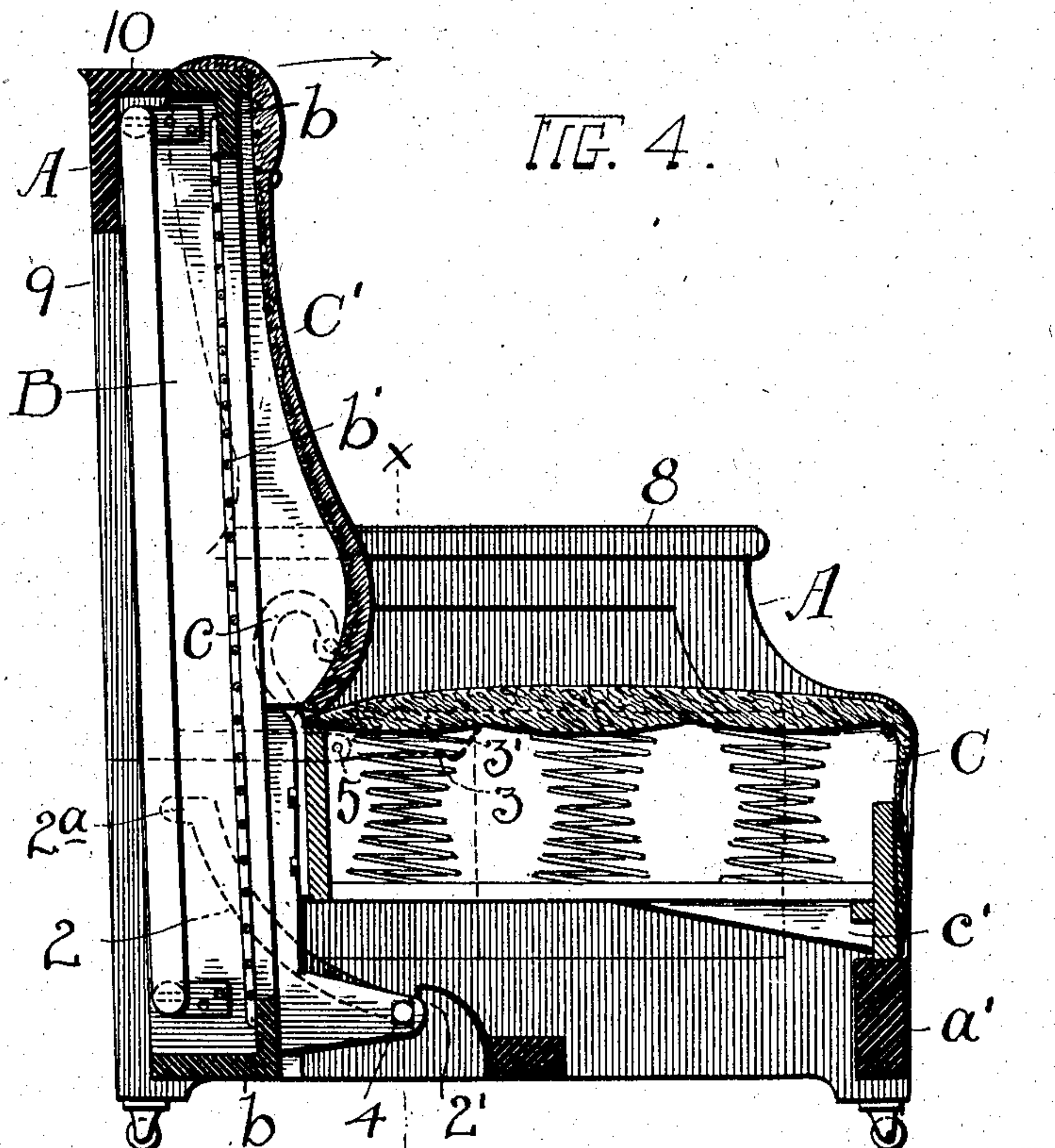
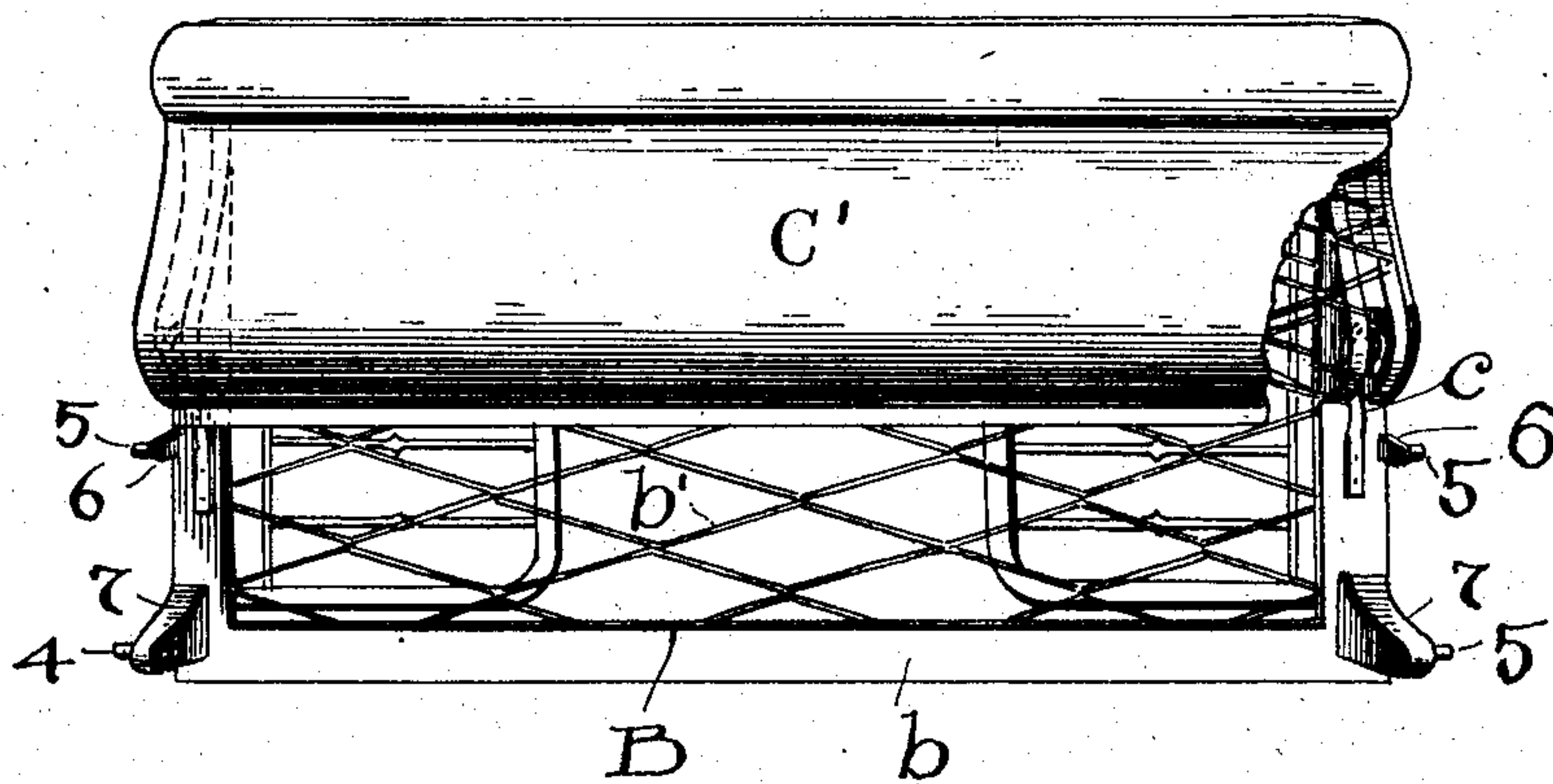


FIG. 5.



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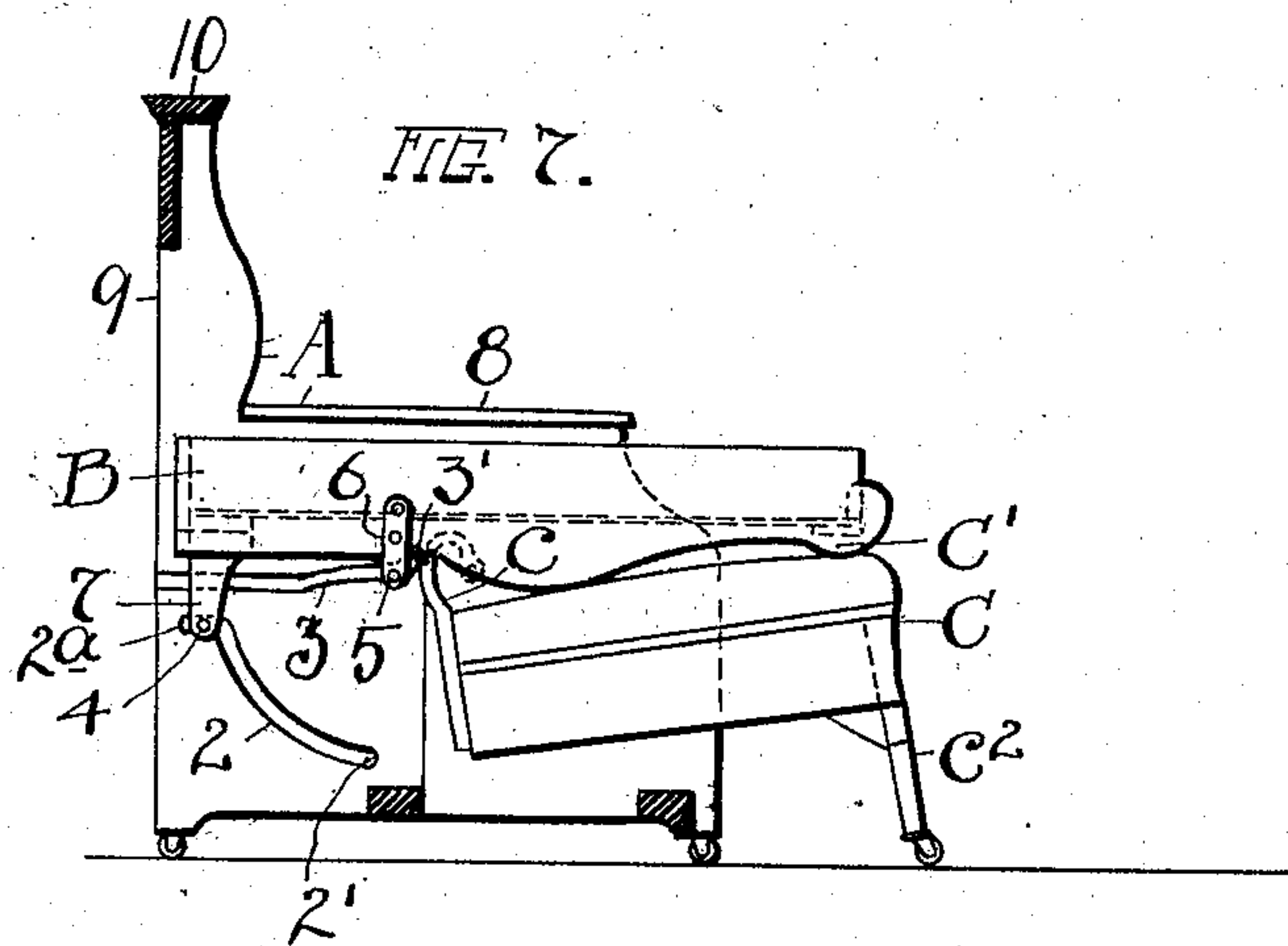
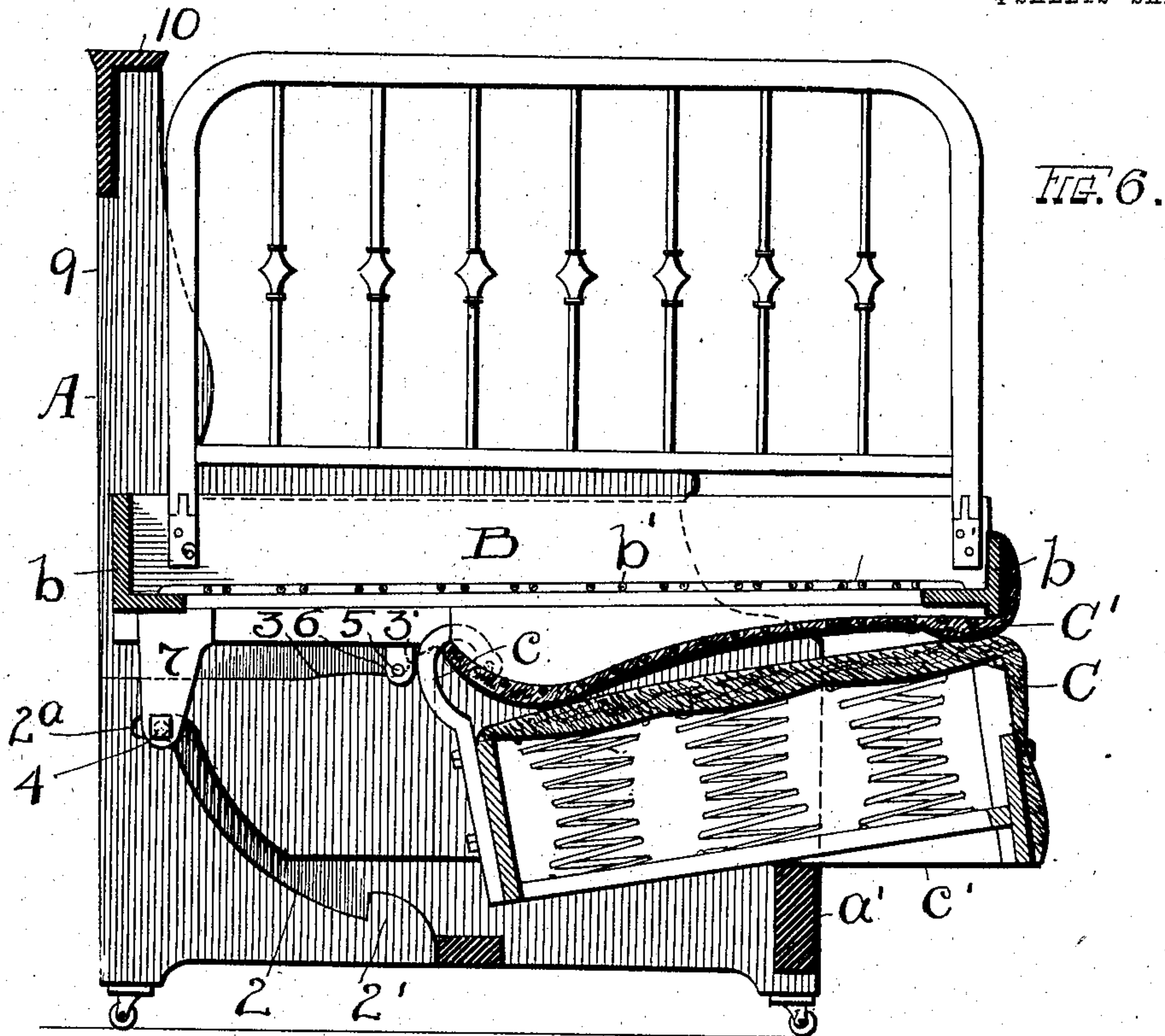
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4 SHEETS—SHEET 4.



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COMBINED FOLDING BED AND COUCH.

SPECIFICATION forming part of Letters Patent No. 791,720, dated June 6, 1905.

Application filed February 23, 1904. Serial No. 194,772.

To all whom it may concern:

Be it known that I, DAVID T. OWEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in a Combined Folding Bed and Couch; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a combined folding bed and couch; and the invention consists in the construction and combination of parts substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my invention as it appears when converted into a couch. Fig. 2 is a front elevation of the structure with the parts in a position shown in Fig. 1 and the supporting-frame and couch proper sectioned vertically on a line corresponding to *xx*, Fig. 4, so as to disclose the supports in the ends of the frame for the bed-frame. Fig. 3 is a perspective front view of the main frame itself, and Fig. 4 is a transverse section of the structure with the bed raised and out of the way and the couch in position, as in Figs. 1 and 2. Fig. 5 is a front elevation of the combined bed and couch-back frame. Fig. 6 is a cross-section of the couch and bed, showing the bed down and the couch carried forward, as occurs when the bed is in use. Fig. 7 is a cross-sectional elevation of a modification of the invention, particularly of the couch.

As thus shown the invention comprises a bed B and a couch C, and the said parts are supported on main frame A and operatively connected, so that both are actuated when the structure is converted from one use to the other, as will hereinafter more fully appear.

Comprised in the term "bed" as herein used is the bed-frame *b*, its spring or spring-mattress *b'*, and whatsoever may go with these parts and constitute a fixed appurtenance of the bed as such, like folding head and foot frames, and the term "couch" comprises especially the lower or seating portion there-

of (indicated by C) with its springs and upholstery, and C' indicates the couch-back. This latter part is built fixedly upon the front or bottom of the bed-frame and in a very practical sense is a part thereof and is the only part exposed when the bed is raised or folded and out of the way, as shown in Fig. 1.

The main frame A has at each end on its inside two separate ledges or equivalent formations 2 and 3, constituting the means of support on said frame for the bed-frame, and while ledges, ribs, or channels are shown the said formations may be otherwise fashioned and serve my purpose and be in or upon wood or metal, as good mechanics may suggest, the whole idea being to get a set of supports for the bed at different elevations and of such formation and relation to each other as will afford two distinct and different supports and fulcrums for the operation of the bed, as will now appear. Thus the primary ledge or lower channel 2 is shown as curved substantially to the segment of a circle between its ends, with its upper end highest near the rear edge of frame A and its lower end down relatively beneath the rear of the couch, where it has distinct stop 2'. The upper portion or end of channel or ledge 2 has a horizontal end portion 2^a for a purpose which will appear. The ledge or channel 3 runs horizontally from the rear of frame A to a point somewhat forward of the front end of ledge 2 measured perpendicularly, as seen in Fig. 6. Working in conjunction with these ledges, ribs, or the like 2 and 3 are the brackets 6 and 7 on the bed-frame, provided with pins or lugs 4 and 5, which engage upon the ledges 2 and 3, respectively, and constitute the sole support of the bed on the main frame.

The couch-back C' is built permanently upon the front of the bed-frame and is suitably upholstered and otherwise fashioned and finished as comfort and taste may dictate. The depth downward to which the said back extends on frame B is seen in Fig. 5. This brings it down into right working relations with the rear edge of the couch-seat or couch proper and leaves the lower portion of frame B free

to attach the outwardly-projecting supporting-arms or parts 6 and 7 for engagement with the main frame.

Positive pivotal connection of couch C is made with frame B through gooseneck hangers *c*, fixed rigidly on the rear of the couch or couch-frame and pivotally engaged with frame B or with the framework at the front thereof for the couch-back, as seen in Figs. 4 and 6. These hangers constitute the sole rear support for couch C, and the front thereof is supported in two different ways, as shown herein. Thus in Figs. 4 and 6 the couch is shown as resting at its front upon the front rail *a'* of frame A, on which it is adapted to slide on its own end pieces *c'*, and the front of the couch is shown as about flush with the front of frame A when the bed is raised out of the way and the couch is in use.

In Fig. 7 the couch is shown as resting upon front legs *c''* of its own and not upon the main frame, and the bed and couch-back come down over the couch in either case and may rest more or less at the front, though not necessarily.

Now in a structure of this kind several things are essentially necessary to render it acceptable to the public. First, the bed should be so balanced as to be raised and lowered without excessive exertion, thus bringing it within the control of women of ordinary strength; second, the bed should be so supported that it can be raised and lowered while it remains back against the wall and without moving the main frame away from the wall to effect these changes; third, the bed should have the usual height of beds from the floor and the room and comfort of beds ordinarily, so as to be entirely acceptable in these particulars; fourth, the bed should be firm and strong on its supports and devoid of all shakiness or feeling of insecurity which is liable to be found in convertible furniture. To these several ends I provide the bed or bed-frame with two positive engagements at each end with the main frame, and these engagements simply shift position, but do not change their positive character when the bed is changed from one to the other position. Thus assuming that the bed is raised and out of sight, as in Fig. 4, it will be seen that the lugs 5 on the ends of the bed are in or at the rear of channel 3, while lugs 4 are at the front of channel 2 beneath and in advance of lugs 5 perpendicularly, so that the counterbalance upon the bed is to the rear at the top and couch C is back in working position; but it is desirable to have an easy swing of the bed forward to tilt it for use and this without moving the base-frame from the wall. Both these ends are provided for in the construction of the ledges or channels on which the lugs 4 and 5 have their shifting relations, and as the person pulls forward at the mid-

dle and top of the bed the lugs 5 slide forward within channels 3 until the inclined shouldered end 3' of said channels is reached. This brings the bed into a more or less inclined position and makes a tilting fulcrum so far inward from the rear of the bed that the bottom of the bed can be turned up to a horizontal position on a radius from this inner pivot-fulcrum which will not carry it rearward beyond the plane of the main frame and without contacting with the wall. It is also to be noticed that as soon as the bed assumes a more or less forward incline at its top the preponderance of weight is favorable to the forward tilting thereof without much personal assistance, and all this is brought about by simply sliding the bed forward on its pivots in slots 3 in the first instance. In this case the lower lugs 4 become the fulcrum from which the pull is made because they cannot take the arc of slots 2 until the shift has been made from the rear to the front of channels 3.

If folding of the bed be desired, the reverse of the foregoing conditions obtains. In that case the portion of the bed behind pivots 5 becomes a counterbalancing portion to help raise the bed at the front, and lugs 4 run down in their grooves to the ends thereof against stops 2'. These stops being reached, the lugs 4 become the fulcrum from which the bed is pushed back to place, the frame *b* being supported entirely by said lugs. Both sets of lugs 4 and 5 can be provided with suitable rollers for easier operation. The slots or channels 3 are at such elevation as will give the bed the desired height, and with the double supports of the bed at both ends perfect steadiness and firmness is assured when the bed is down in use. This is promoted by the short rear straight portion 2^a of the slots 2, in which the lugs rest and are held both above and below and rearward by the weight of the bed. In raising the bed a slight forward pull relieves from this fixed position.

Each set of lugs or pivot-pins 4 and 5 becomes in its turn both fulcrum and pivot for the bed-frame, the first action of this kind coming to lugs 4 when the bed is drawn forward at its top to be tilted and the second action coming on lugs 5 above when said lugs have reached the inclined ends 3' of their channels or ways 3 in the main frame and become the pivots about which the bed is turned to its horizontal position. The said ways or channels 2 and 3 have the said lugs in constant engagement therewith in one portion or other, according to the position of the bed.

The main frame A as shown herein is of the sofa or davenport pattern, having cabinet-finished ends, with arm-rests 8 and standards 9 at the rear, connected by a finished portion 10, under which the front edge of the bed swings, and is covered from view when the

bed is folded. The channels or guideways 2 and 3 for the pivot points or lugs of the bed-frame are formed directly in or upon the inside of the ends of the main frame and where the entire mechanism is out of sight.

The channels, grooves, slots, or ledges 2 and 3 are preferably referred to in the claims as "guideways," for the reason that the term carries the idea of travel or movement along said ways as occurs in the operation of the bed from either of its positions to the other position.

What I claim is—

1. The main frame and the bed-frame provided with two different fulcrum-pivots at each end and rests therefor upon the main frame, in combination with a couch-seat adapted to slide within the main frame and provided with gooseneck hangers pivotally connected with said bed-frame.

2. The main frame and the bed-frame having a set of brackets extending at right angles beneath the plane of the bed-bottom and provided with pivot projections and a plurality of rests on the ends of the main frame at different elevations on which said projections are movably engaged, in combination with a couch-seat pivotally suspended at its rear from the bottom of said bed-frame substantially midway between the front and rear sides thereof.

3. The main frame having elongated ways with rests at different elevations upon the ends of said frame, and the bed-frame having a set of projections at each end arranged beneath the plane of the bed-bottom and pivotally engaging said rests, one set of said projections arranged at the rear side and the other set substantially midway between the front and rear sides of said bed-frame.

4. The main frame having at each end a horizontal guideway with an inclined rest end and a segmentally-curved guideway beneath the same with rests at both ends, and a bed-frame having projections at its ends engaged upon said rests within said guideways, in combination with a couch-seat having rigidly attached gooseneck hangers pivotally suspended from the bottom of said bed-frame.

5. The main frame having at each end a horizontally-disposed guideway with an inclined stop at one end and a downwardly and forwardly extending segmentally-curved guideway on a lower plane with stops at both ends, in combination with a bed-frame having brackets on its bottom and provided at each end with pivot members located beneath the

plane of the bed-bottom and engaged on said ways.

6. The main frame having one straight and one segmentally-curved guideway at each end on its inside and a bed-frame having two sets of brackets projecting beneath the plane of the bed-bottom and provided with pivot projections engaged in said ways, one set of brackets mounted at the rear side and the other set of brackets midway between the sides of said bed-frame, in combination with a couch-seat having gooseneck hangers rigidly secured thereto and said hangers pivotally connected with the bottom of said bed-frame.

7. In a combined bed and couch, a main frame having two differently-constructed guideways transversely at each end, a bed-frame having a set of projections at each end arranged one at the rear side beneath the plane of the bed-bottom and the other substantially midway between the sides of said bed-frame and engaged in said ways, and a couch-back on the upper portion of the bottom of said bed-frame, in combination with a couch pivotally supported at its rear from the bottom of said bed-frame substantially midway between its sides, said pivot being nearer to the plane of the bed-bottom than said rear projection to prevent collapsing of the bed when folded.

8. In a combined bed and couch, a main frame having arm-rests at its ends and a substantially horizontal guideway on its inside at each end and a segmentally-curved guideway beneath each of said horizontal guideways, in combination with a bed-frame provided at each end with two fulcrum-pivots engaged on said guideways respectively, and a couch-seat supported at its rear from said bed-frame and having a front support independent of said bed-frame, substantially as described.

9. In a combined bed and couch, a couch-frame provided at each end with bed-rests at different elevations, a bed-frame provided at each side with a set of fulcrum projections supported by said rests, and a couch-seat within said frame provided with a set of gooseneck hangers pivotally connected with said bed-frame, substantially midway between its sides.

In testimony whereof I sign this specification in the presence of two witnesses.

DAVID T. OWEN.

Witnesses:

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C. A. SELL.