

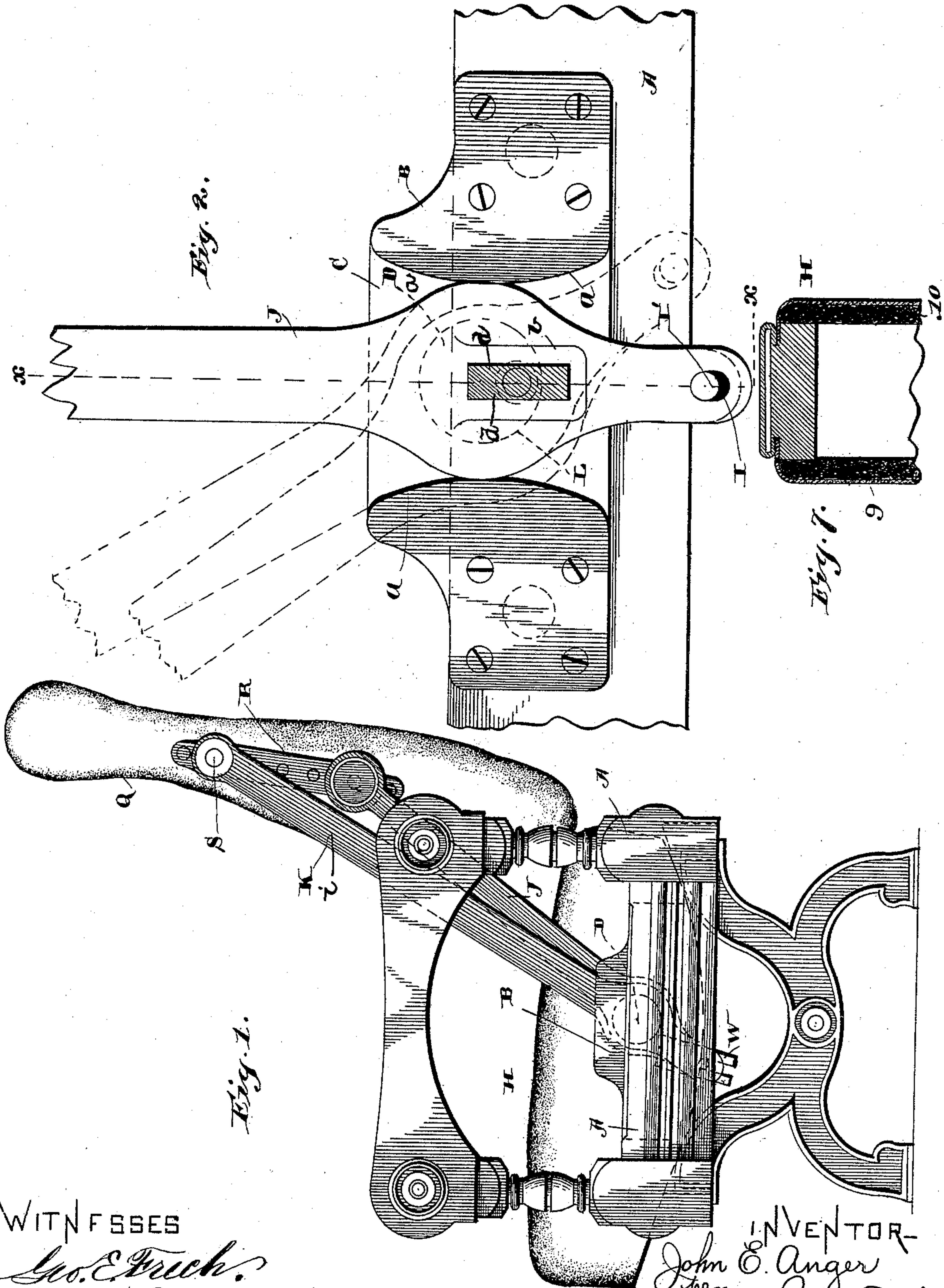
(No Model.)

2 Sheets—Sheet 1.

J. E. ANGER.  
REVERSIBLE CAR SEAT.

No. 497,228.

Patented May 9, 1893.



WITNESSES

*Geo. E. Frick.*  
*Robt. A. Fitzgerald.*

INVENTOR-

*John E. Anger*  
*per*  
*Lehmann Patterson & Co.*  
*Attys*

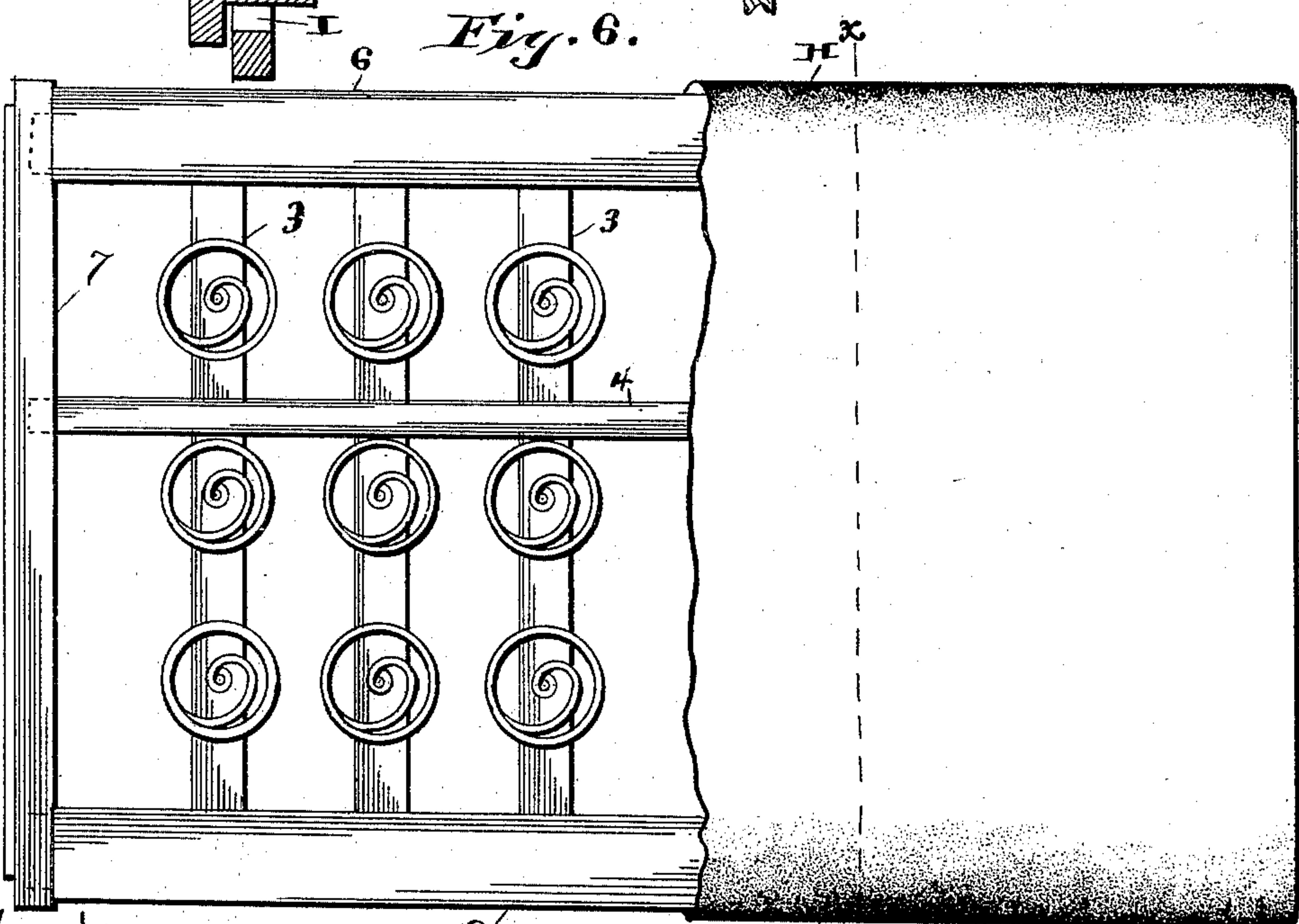
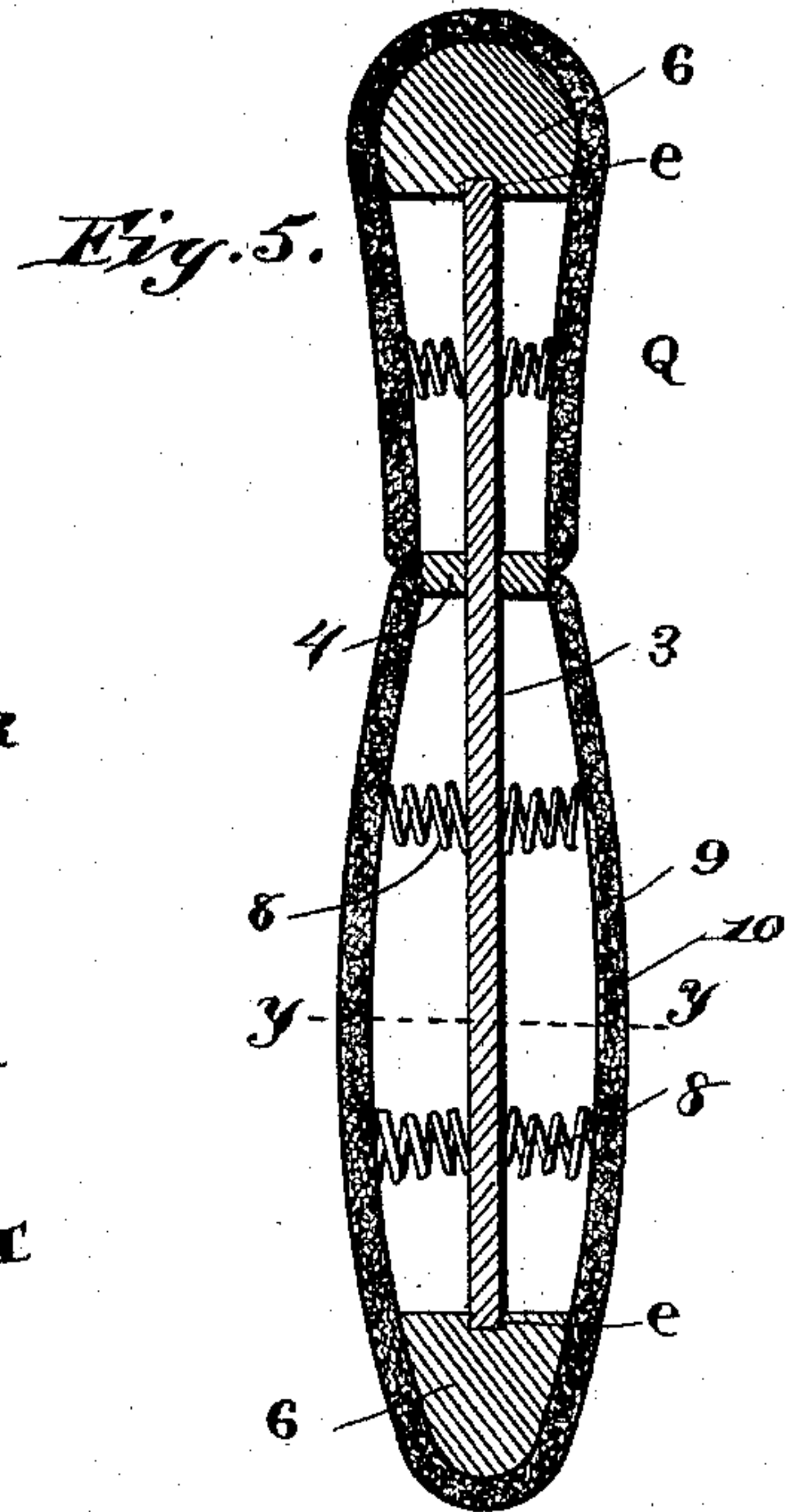
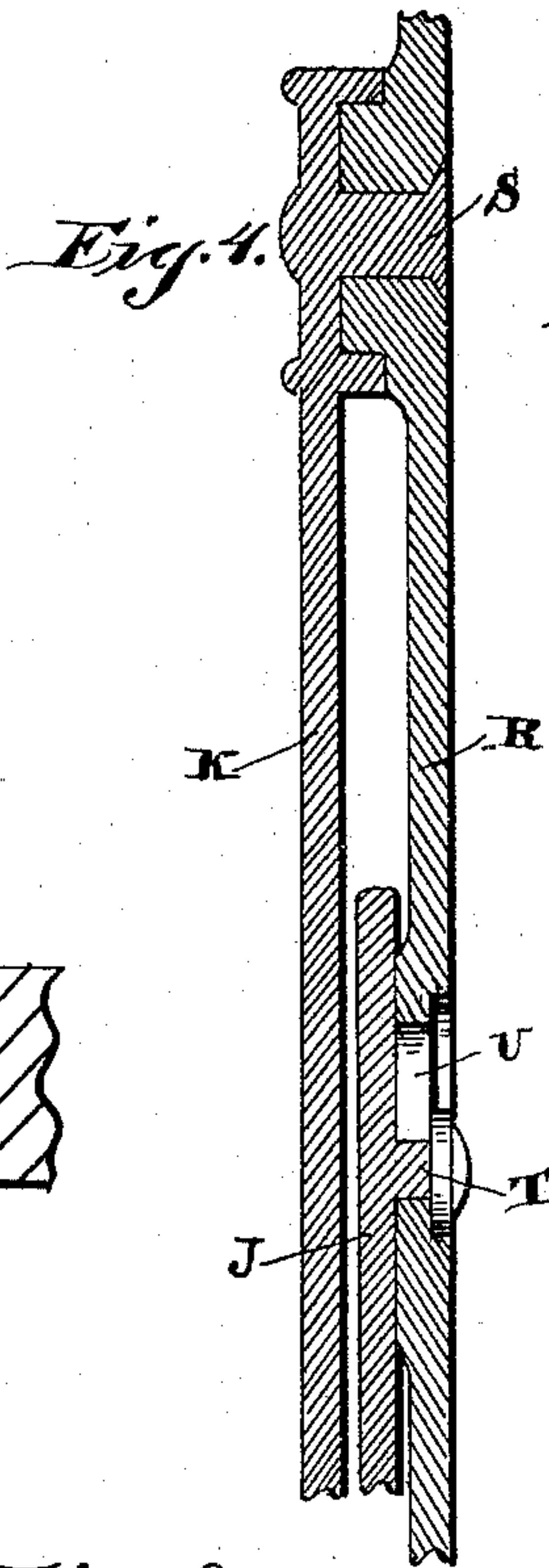
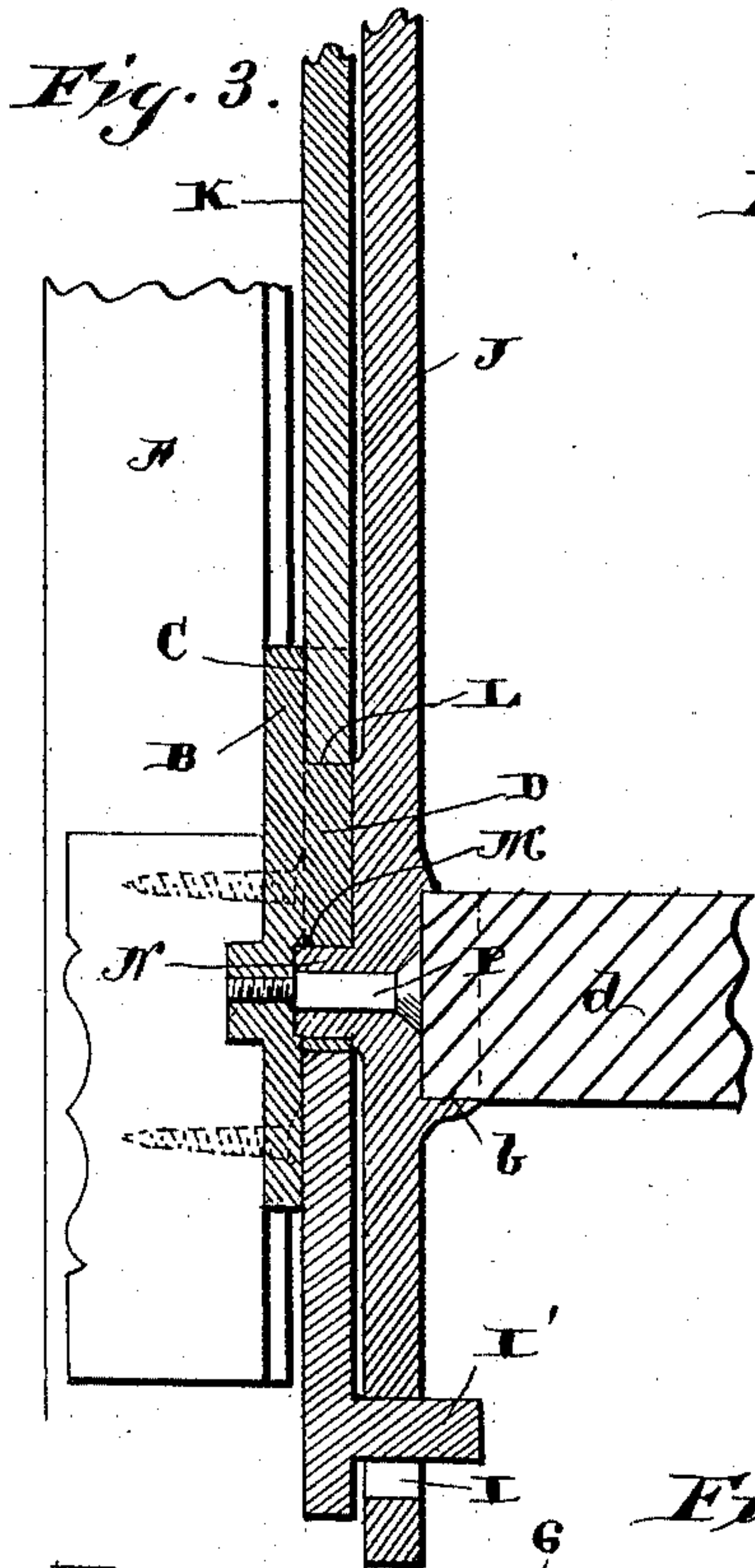
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# UNITED STATES PATENT OFFICE.

JOHN E. ANGER, OF GREEN ISLAND, ASSIGNOR OF ONE-FOURTH TO  
ETHELBERT A. STANLEY, OF LANSINGBURG, NEW YORK.

## REVERSIBLE CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 497,228, dated May 9, 1893.

Application filed August 30, 1892. Serial No. 444,502. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. ANGER, of Green Island, in the county of Albany and State of New York, have invented certain new and useful Improvements in Reversible Car-Seats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in reversible car seats;—and it consists in the arrangement and construction of parts which will be fully described hereinafter and particularly pointed out in the claims.

The primary object of my invention is to produce a car seat, in which the back does not revolve as is usually the case when it is reversed, but which simply moves from one side to the other of the seat proper, and to at the same time move the seat proper forward and tilt it, to the proper position in relation to the seat back when it is reversed. Owing to this construction, whereby the back is not revolved, but both sides used, the back can be specially and similarly shaped at both sides, so that it will best fit the back of a person, and thereby be more comfortable, which cannot be the case where the back revolves, for then that portion of the back that is at one time the top, when reversed, is the bottom.

The object of my invention further consists in the particular construction and arrangement of parts, whereby the above results and movements are accomplished, automatically, when the back is reversed.

In the accompanying drawings:—Figure 1 is a side view of a seat which embodies my invention complete. Fig. 2 is an enlarged side view of the swinging arms, being shown in a vertical position in solid lines and in an inclined position in dotted lines. Fig. 3 is a vertical section of Fig. 2 taken on the dotted line  $x-x$ . Fig. 4 is an enlarged vertical section taken through the upper ends of the swinging arms when in a vertical position, and through the metal bar or plate which is secured to the ends of the back of the seat, and to which the upper ends of the said arms

are pivotally connected. Fig. 5 is a vertical section taken on the dotted line  $x-x$  of Fig. 6. Fig. 6 is a front view of the seat back, the plush covering thereof being partly broken away to show the interior construction thereof. Fig. 7 is a horizontal section through the seat back, taken on the dotted line  $y-y$  of Fig. 5.

A represents the end frame of the seat, which is secured to the floor of the car in any suitable manner next to the aisle. Screwed to the inner side of this end frame, at the center thereof, is a plate B, which is provided with a central vertical recess C, by means of which the shoulders  $a$ , are formed, for a purpose to be set forth farther on. Within the center of this recess, and projecting inward is a circular lug D, upon which the outer swinging arm K, is pivoted, the latter having an opening L, into which the lug extends as shown in Figs. 2 and 3. Made in the lower portion of this lug D, is a recess M, into which an outwardly projecting lug N, of the inner swinging arm J, extends, which is the pivotal point of the inner swinging arm J, as shown, and which brings the center of the pivotal point of the inner bar J, below the center of the lug D, which is the pivotal point of the outer arm K, for a purpose to be specified presently. A screw P passes through the arm J and its pivotal lug N into the plate B, by means of which the said inner arm is held in position.

The seat frame A is provided with a curved rest or support for the seat H, as shown in dotted lines in Fig. 1, so that when it is shifted as hereinafter described, it will be inclined slightly backward.

Made in the lower end of the inner swinging bar J, is a slot I, into which an inwardly extending lug I' at the lower end of the outer arm K projects, so that when the outer arm is swung, the inner one is also swung. The upper end of the outer arm K is pivotally connected to an outwardly projecting stud S, of a plate R, which latter is secured to the end of the back Q. An elongated opening or slot U is made in the lower end of this plate R, and into this opening a projection T of the inner bar J passes, all of which are clearly shown in Fig. 4. Owing to this construction and connection of the arms K and J, the back



Q is supported in a slightly inclined position, no matter to which side of the seat it happens to be. When the back is shifted the pivotal point of the outer arm being above the pivotal point of the inner arm, and the inner arm moved by the lower end of the outer arm, the upper end of the inner arm moves faster than the corresponding point *i* of the outer arm, whereby it is back of the outer arm, and the back of the seat thereby supported in an inclined position.

In order to move the seat H forward at the same time that the back is shifted, the lug or projection I' which projects from the lower end of the outer arm K extends beyond the inner arm, and into a slotted depending plate W, which is secured to the seat H. It will thus be seen that when the back is shifted, it is raised from the seat H, and the seat H moved forward upon its curved rests; and thus tilted in the proper relative position to the back Q.

So far I have described only the inner end of the seat, but it will be understood of course that arms are provided at the outer end of the seat also, and the plate B is secured to the wall or inner side of the car, there being no necessity for a frame A at the outer end of the seat, for the side of the car serves the same purpose.

For the purpose of strengthening the seat, and insuring the simultaneous movement of the swinging arm at each end of the seat, the inner arms J are provided at their inner sides below the seat H, with pockets *b*, into which the ends of a connecting bar *d*, are placed and firmly held. By means of this construction, it will be seen that this bar *d* has its ends at the center of the pivotal points of the inner arms, and forms substantially an axle therefor, and that when one arm is shifted, or moved, the arm at the opposite end of the side is simultaneously and uniformly moved therewith. This construction greatly strengthens the seat, and prevents any torsional strain or movement of the parts when shifting. When the swinging arms are shifted, the shoulders *a* of the plates B form a stop for the outer arms K and support them in an inclined position as will be understood.

The back H is specially constructed, that is to say, it is composed of the upper and lower end pieces 6, which are connected at their ends by means of the vertical pieces 3. Made in the inner faces of the pieces 6, are the longitudinal grooves *e*, into which vertical pieces 3 have their ends placed. The back is covered with plush 9, and a suitable filling 10, and springs 8 are placed between the pieces 3 and the inner side of the covering. Between the upper and lower pieces 6, a piece 4 extends horizontally across the back, and nearer the upper end thereof, to which the covering is secured by drawing it in at that point as illustrated. This makes both sides of the back, of an outline or shape substantially the same as the outline or shape of a person's back, and as the back is not revolved,

but simply shifted, and both sides used, this special shape is available in either shifted position.

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

1. A reversible seat comprising a seat portion, a back portion, a long and a short arm for the ends of the back portion, the said arms being pivoted a short distance from their lower ends and one eccentric to the other, the upper ends of the said arms pivotally connected to the back and the upper pivotal point of one arm movable in relation to the back, the pivotal point of the long arm being above the pivotal point of the short arm, and the lower ends of said arms directly engaging each other below their intermediate pivotal points, all combined to operate as shown and described.

2. A reversible seat comprising a frame, a movable back, an outer and an inner arm at each end of the seat and each pivotally connected to the frame between their ends, a movable seat, the upper ends of the arms pivoted to the said back the upper pivotal point of one arm movable in relation to the back, the outer arms having inwardly extending projections which pass through the inner arms and engage the seat, all operating substantially as shown and described.

3. A reversible seat comprising a frame, a back, an inner and an outer arm for each end of the seat pivoted between their ends to the frame the upper ends of the arms pivoted to the back the upper pivotal point of one arm being movable in relation to the back, one arm having a longitudinal slot below its pivotal point to the frame, and the other arm a projection fitting and sliding therein, substantially as specified.

4. A reversible seat comprising a seat portion, a back portion, two arms pivotally supported at each side of the back portion and at their lower ends, one of the arms being longer than the other, the longer arm being pivotally connected with the back at its upper end, the upper end of the shorter arm being longitudinally movable upon and pivotally connected with the back below the end of the longer arm, and the arms connected to move together, substantially as specified.

5. A reversible seat comprising a frame, a reversible back, an inner and an outer arm for each end of the back pivoted between their ends to said frame, the upper ends of the arms pivoted to the back the upper pivotal point of one arm being movable in relation to the back, a bar extending lengthwise the seat and rigidly connecting the inner arms at each end of the seat whereby they move together, and the lower ends of the inner and outer arms connected to move together, whereby positive and corresponding movement is insured to the inner and outer arms at each end of the seat, substantially as described.

6. A reversible seat comprising a frame, a



reversible back, an inner and outer arm for each end of the seat pivoted to the frame between their ends, the upper ends of the arms being pivotally connected to the back the upper pivotal point of one arm being movable in relation to the back and their lower ends connected to move together, the inner arms having sockets at their inner sides between their ends and at their pivotal points, and a connecting bar extending lengthwise the seat with its ends secured in said sockets, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN E. ANGER.

Witnesses:

GEORGE A. VAN BERGEN,  
GEORGE ANGER.