

No. 639,894.

Patented Dec. 26, 1899.

E. U. GIBBS.
CAR SEAT.

(Application filed Feb. 16, 1899.)

(No Model.)

3 Sheets—Sheet 1.

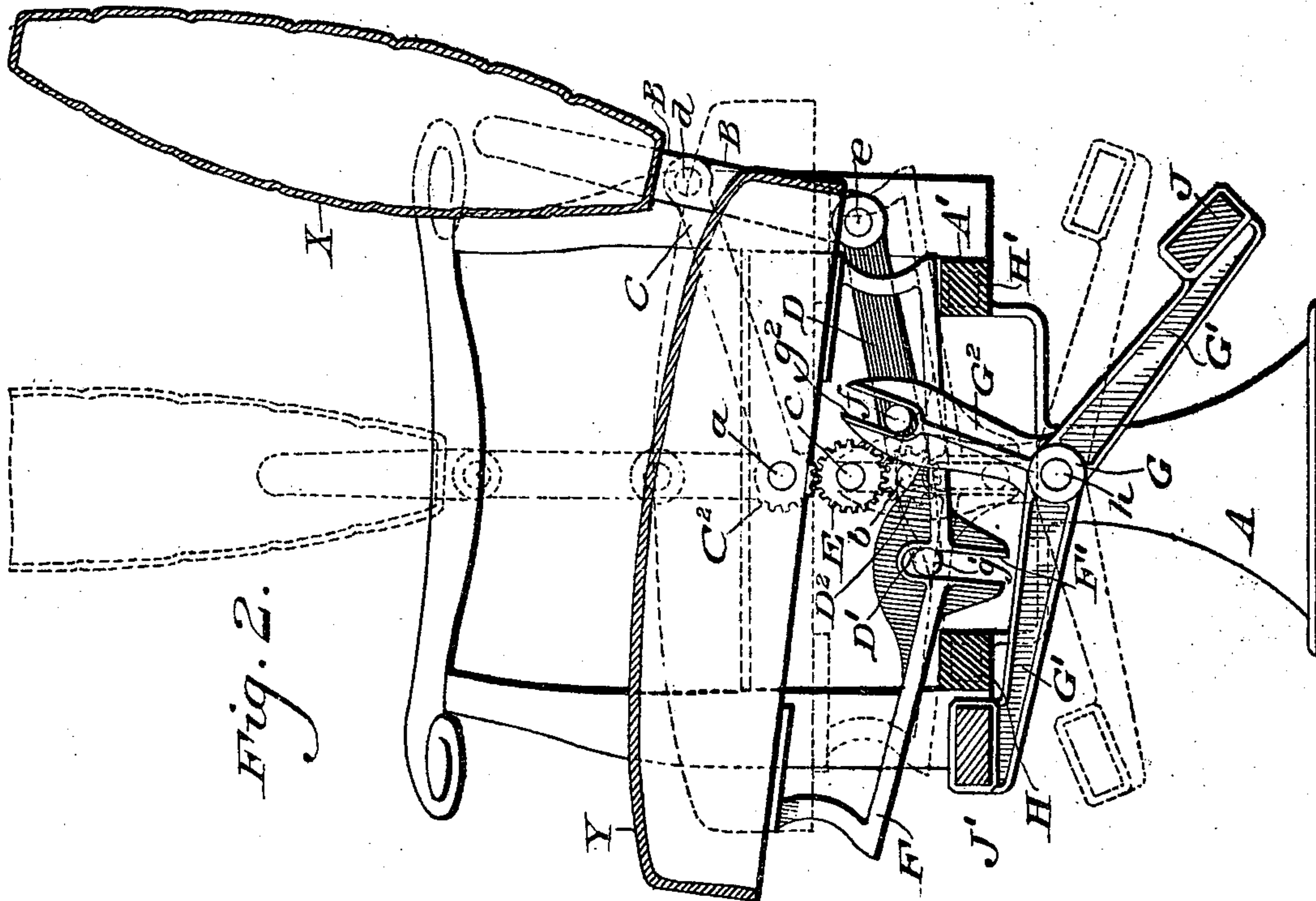


Fig. 2.

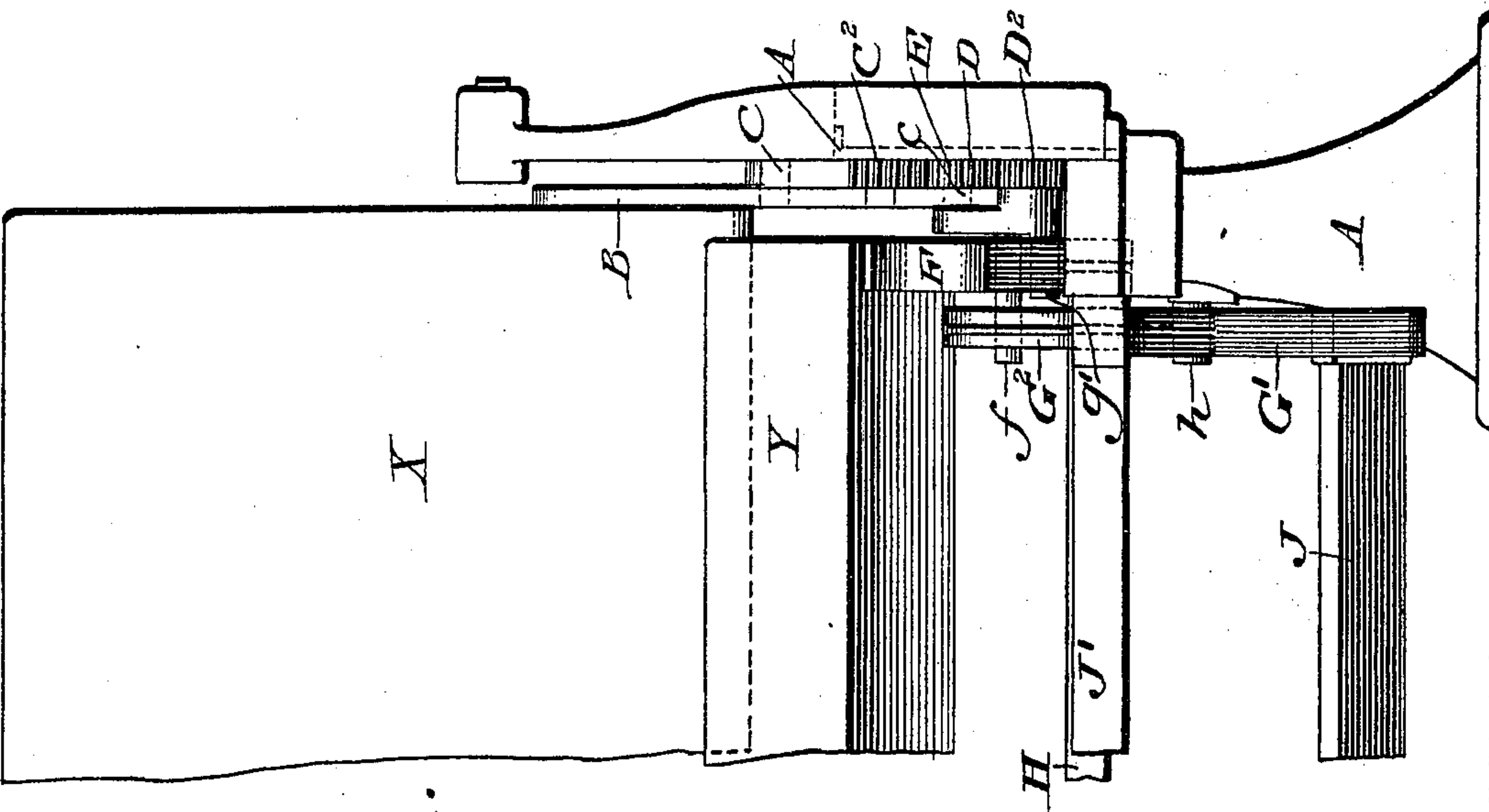


Fig. 1.

Witnesses

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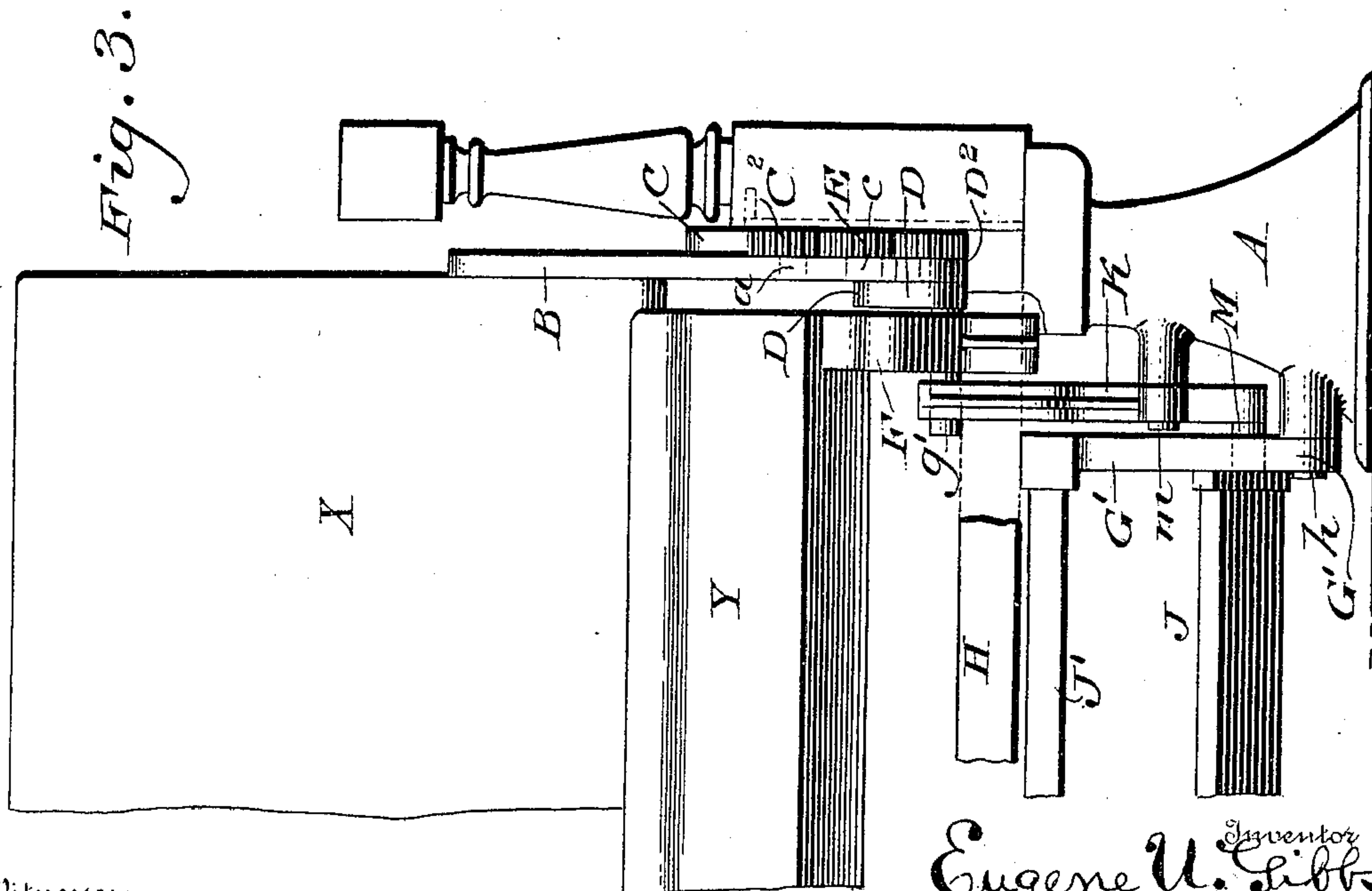
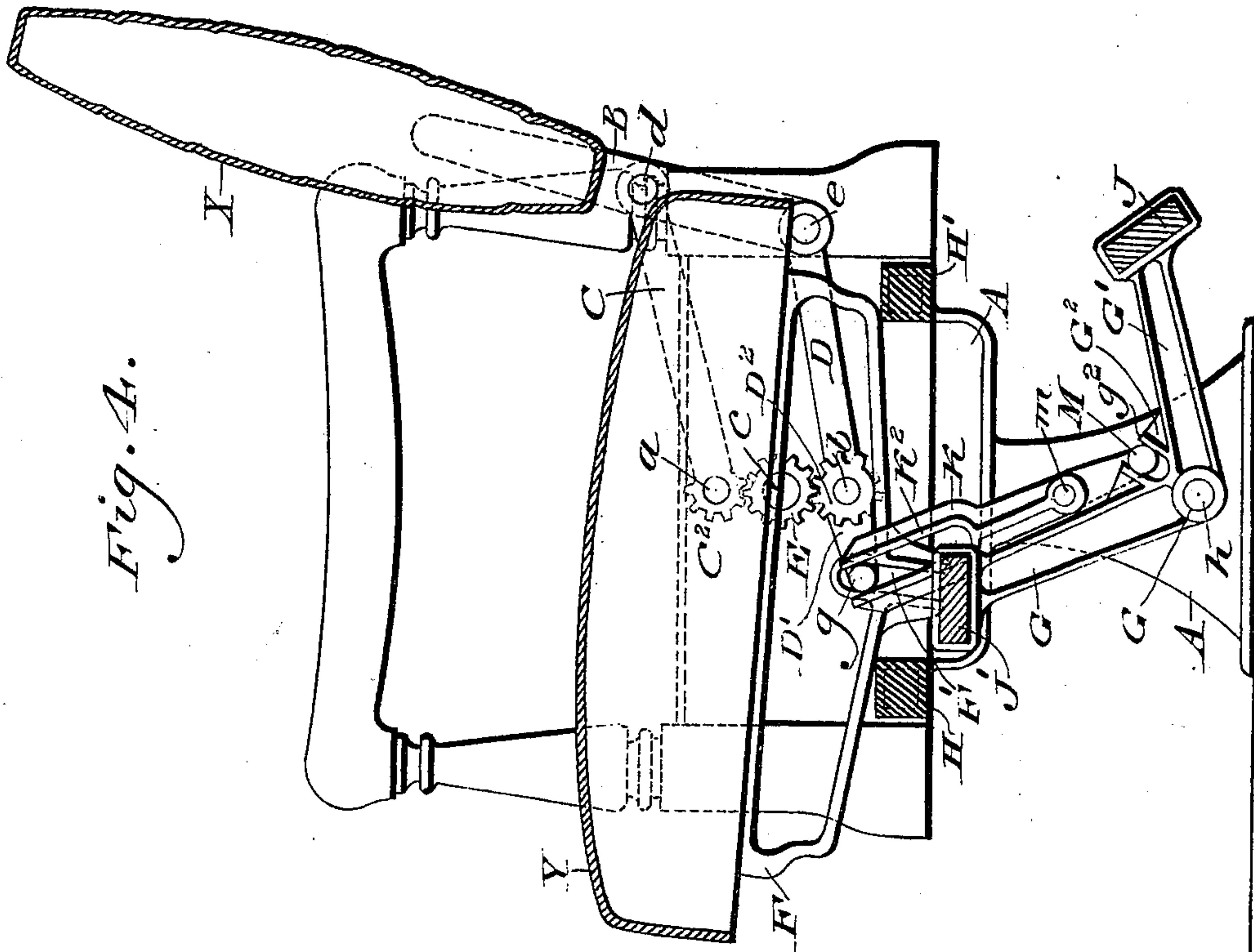
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Fig. 6.

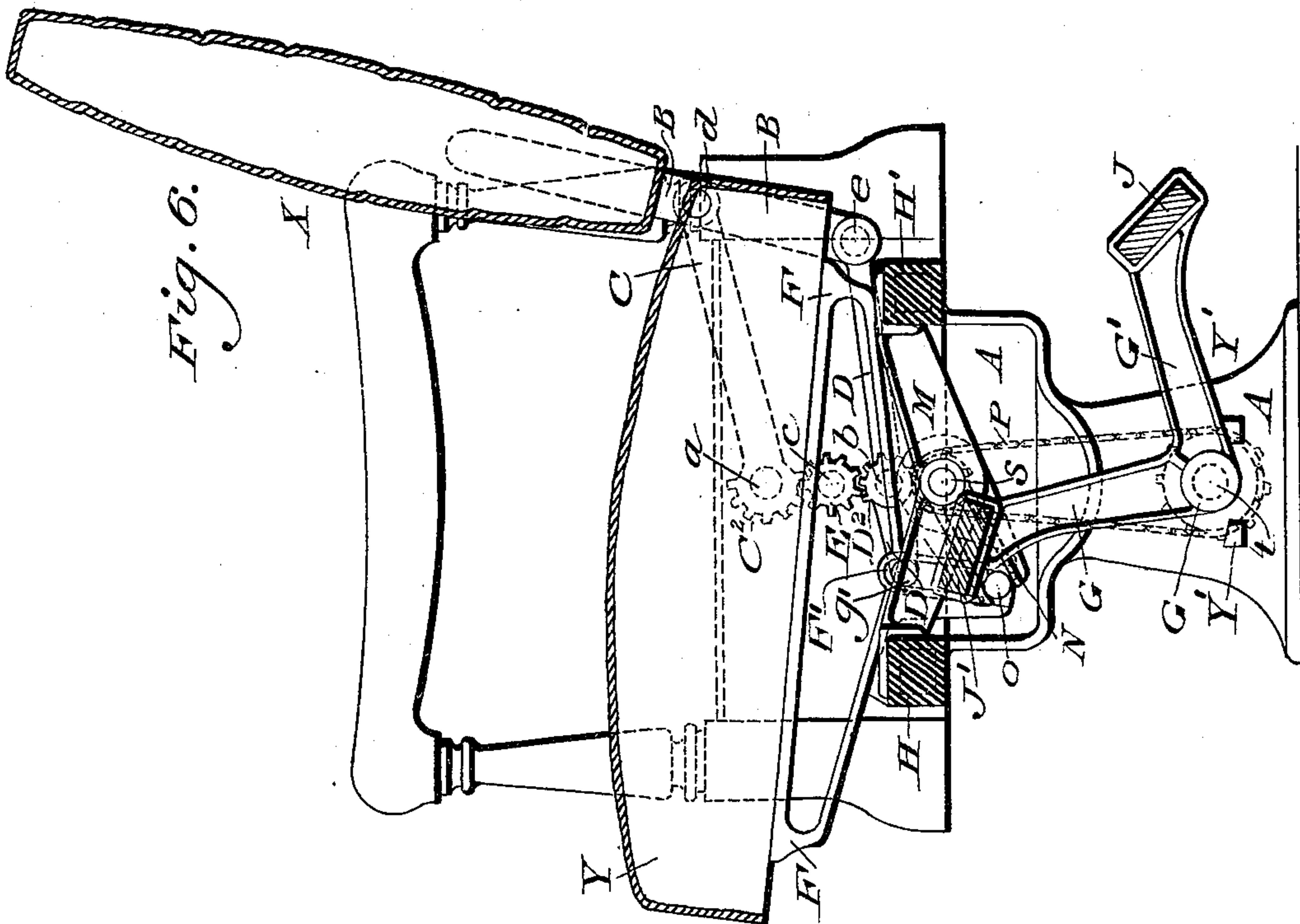
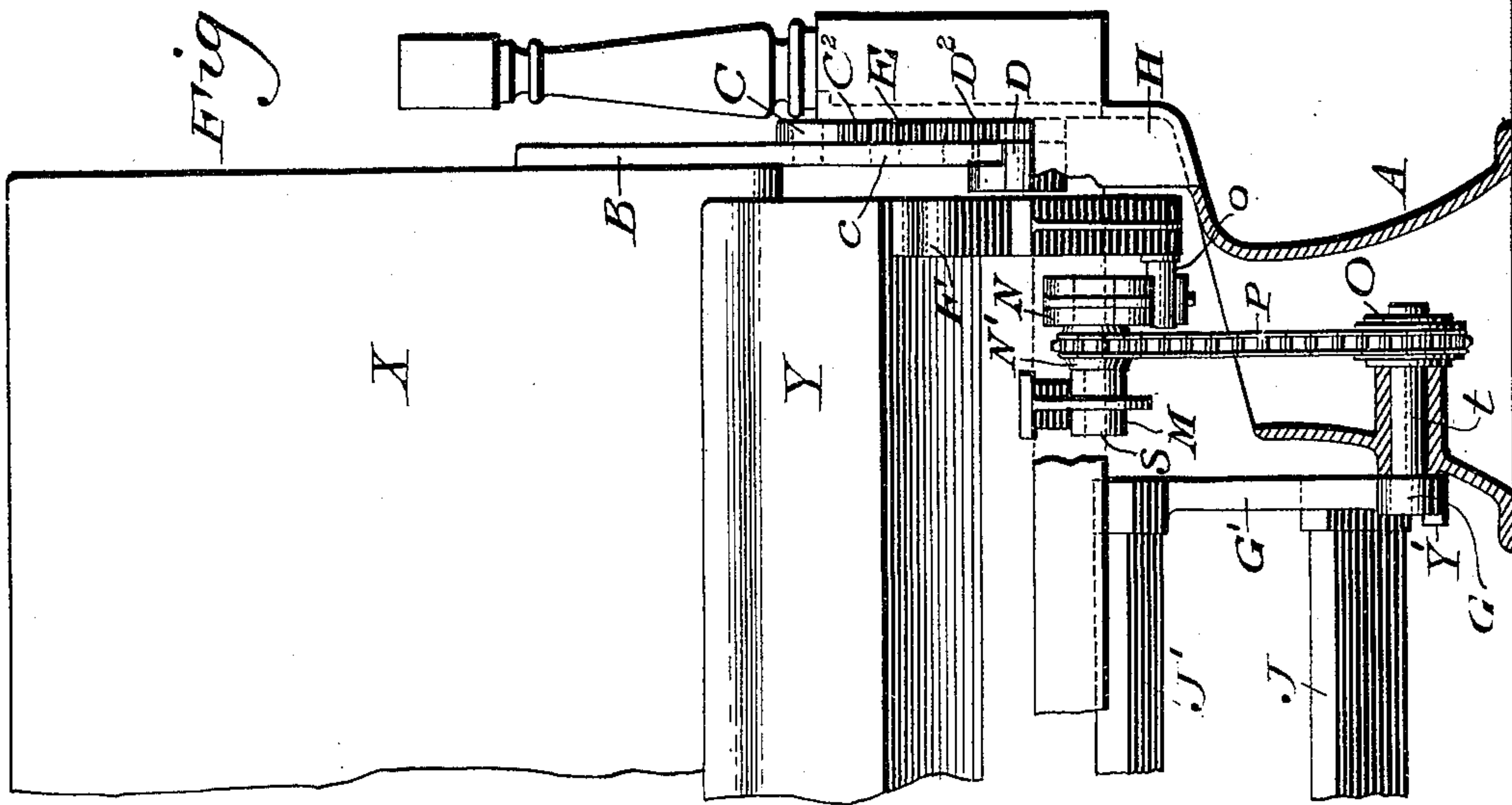


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 639,894, dated December 26, 1899.

Application filed February 16, 1899. Serial No. 705,655. (No model.)

To all whom it may concern:

Be it known that I, EUGENE U. GIBBS, a citizen of the United States, residing at Gloucester City, in the county of Camden, State of New Jersey, have invented a new and useful Improvement in Car-Seats, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to car-seats of that class having a shifting seat, a shifting foot-rest, and a reversible back; and it consists of novel means for causing said parts to coact, whereby the seat and foot-rest are operated by the back.

The invention also consists in the features of construction hereinafter fully described and specifically claimed.

Figure 1 represents a front elevation of one end of a car-seat constructed in accordance with this invention. Fig. 2 represents a vertical section of the same. Fig. 3 represents a front elevation of one end of a car-seat constructed in accordance with this invention and illustrating another mechanism for shifting the foot-rest. Fig. 4 represents a vertical section of the same. Fig. 5 represents a front elevation, partly in section, of one end of a car-seat with another structure of shifting the foot-rest constructed in accordance with this invention. Fig. 6 represents a vertical section of the same.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the standards of a car-seat, the same being connected by the rails H and H', whose ends occupy the sockets A'. On the under side of the seat Y are the frames F, that rest upon the sockets A' and are provided with depending bifurcations F'.

X designates the back of the seat, the same having the side arms B, pivotally connected with the levers C and D, as at *d* and *e*, said levers being also pivotally connected with the frame of the seat, as at *a* and *b*. The said levers C and D are connected to move in unison, conveniently by the segmental gears C² and D² on the inner ends of said levers, intermeshing with an interposed gear E, mounted upon pivot *c*.

D' designates the short limbs of the levers

D, the same being provided with the studs *g'*, that freely enter the bifurcations F'.

The operation is as follows: Referring to Fig. 2, the parts are shown in full lines in the position they occupy when the seat is facing to the left. In shifting the parts so as to reverse the seat the back is moved toward the left, and in said figure in dotted lines the parts are shown in the position they assume midway between the limits of their movement—that is to say, the back has moved upwardly and stands vertically between the sides of the seat, with the levers C and D vertical, having moved in unison by reason of the gear therebetween, while the short limbs of the levers D have moved the seat Y halfway to the right by means of the studs *g'* and bifurcations F', as shown in dotted lines. It is obvious that by a further movement of the back to the left the reverse of the first motions takes place, accomplishing the reversal of the seat.

The foot-rest before referred to acts in conjunction with the shifting seat or is reversed as the seat shifts by reason of the connection between said parts. The foot-rests carried by the seat are for the use of the occupant of the seat in the rear, and I employ a shifting two-part foot-rest, supported by the standards, with a part projecting on each side thereof. The rails forming the foot-rests proper move only up and down from a position near the floor at the rear of the seat to a position just under the forward edge of the seat, the same being moved by the shifting of the seat and back. This leaves considerable space just below the front of the seat to receive bundles, &c., while the heating arrangements below the seat are not affected nor displaced.

The foot-rest consists practically of two frames G, mounted upon pivots *h*, upon the standards and comprising arms G', carrying the foot-rails J and J', and the levers G². The framework thus formed is movable upon the pivots *h*, and when the rails J are lowered in operative position, as at the right in Fig. 2, the other rail J' is raised and lies closed under the front of the seat or out of the way, or it may be made to serve as a rest for the feet of people of short stature.

The levers G² are bifurcated, as at *g*², and re-

ceive the studs *f* upon the long limbs of the levers D.

In Figs. 3 and 4 the foot-rest-shifting mechanism comprises the frames G, having arms G', the rails J and J', and the bifurcated levers G². The angular relation of said parts is changed, however, the pivots *h* being nearer the base of the standard A. In this embodiment there are levers K, pivoted upon the standards, as at *m*, the same being provided at their lower ends with studs M, entering the bifurcations *g*² of the levers G². The upper ends of the levers K are bifurcated and receive the studs *g'* upon the short limbs D' of the levers D, said studs *g'* being a little longer than is shown in Figs. 1 and 2 to extend through the bifurcated portions of the seat-frame F and the lever K. The operation of this structure is obvious, since the swinging of the studs *g'* of the levers D while shifting the seat also swings the levers K to shift the foot-rest, as described.

In Figs. 5 and 6 I have shown still another mechanism for shifting the foot-rest. In this structure the foot-rest G is carried by rock-shafts *t*, mounted near the base of the standards A and geared to shafts S, near the upper ends thereof, the latter carrying bifurcated crank-arms N. The crank-arms N engage the studs *o* upon the seat-frames F to rock the shaft S as the seat shifts. The gearing between the rock-shafts S and *t* may consist of sprocket-wheels N' and O and a sprocket-chain P. It is seen that as the seat moves the shafts S and *t* are rocked and the foot-rails are raised and lowered alternately. To limit the downward movement of the foot-rests, the standards A are provided with stops Y', situated to engage the arms G' of the frames G, and to thus relieve the seat-shifting mechanism of strain when the foot-rests are subjected to pressure. It is further noted that the arrangement of the pivots and shifting mechanism in Figs. 1 to 4 also relieves the seat of strain when the lowered foot-rails are subjected to a downward pressure.

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

1. In a car-seat, the seat-frame, the shifting seat, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers engaging said seat for shifting the same in opposite directions.

2. In a car-seat, the seat-frame, the shifting seat, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers having a sliding engagement with the seat for shifting the same in opposite directions.

3. In a car-seat, the seat-frame, the shifting

seat, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers being provided with a stud having a sliding connection with said seat for shifting the same in opposite directions.

4. In a car-seat, the seat-frame, the shifting seat having a bifurcated portion, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers being provided with a stud that is situated within said bifurcated portion of the seat for shifting the same in opposite directions.

5. In a car-seat, the seat-frame, the shifting seat, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers being provided with a short limb extending beyond its pivotal connection with the seat-frame and engaging said seat for shifting the same in opposite directions.

6. In a car-seat, the seat-frame, the shifting seat, the back, and a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers being provided with a short limb extending beyond its pivotal connection with the seat-frame and provided with a stud having a sliding connection with the seat for shifting the same in opposite directions.

7. In a car-seat, the seat-frame, the shifting foot-rest extending on both sides of the same and having a bifurcated arm rigid therewith, a shifting seat, a swinging back, levers mounted upon fixed pivots upon said seat-frame and connected with said back and seat, and a stud carried by one of said levers and situated within said bifurcated portion.

8. In a car-seat, the seat-frame, the shifting foot-rest extending on both sides of the same and provided with a bifurcated arm rigid therewith, a shifting seat, a swinging back, levers connected with the swinging back and seat-frame, said levers being pivotally connected with said parts by means of fixed pivots, a connection between one of said levers and the shifting seat, and a stud upon one of said levers situated within the bifurcated portion of said arm.

9. In a car-seat, a seat-frame, a shifting foot-rest extending on both sides of the same, a swinging back, levers pivotally connecting said back with said seat-frame, the pivots between said levers and seat-frame being fixed relative to the latter, and a connection between said foot-rest and one of said levers for shifting the former.

10. In a car-seat, a seat-frame, a shifting

foot-rest extending on both sides of the same, a swinging back, levers pivotally connecting said back with said seat-frame, the pivots between said levers and the seat-frame being fixed relative to the latter, and one of said levers having a sliding connection with a member of said foot-rest for shifting the latter.

11. In a car-seat, a seat-frame, a shifting foot-rest extending on both sides of the same, a swinging back, levers pivotally connecting said back with said seat-frame, the pivots between said levers and seat-frame being fixed relative to the latter, and a connection between said foot-rest and one of said levers for shifting the former, said connection embracing a member connected with said foot-rest that is connected with said lever by a pin-and-slot connection.

12. In a car-seat, the seat-frame, the shifting seat, the back, a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected

by independent pivots with the seat-frame and geared together to move in unison, one of said levers engaging said seat for shifting the same in opposite directions, a shifting foot-rest extending on both sides of the seat-frame, and means for shifting said foot-rest simultaneously with said seat.

13. In a car-seat, the seat-frame, the shifting seat, the back, a plurality of levers pivotally connected at one end with said back, the other ends of said levers being connected by independent pivots with the seat-frame and geared together to move in unison, one of said levers engaging said seat for shifting the same in opposite directions, and a shifting foot-rest extending on both sides of the seat-frame, and connected with said lever to be shifted thereby.

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Witnesses:

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