

(No Model.)

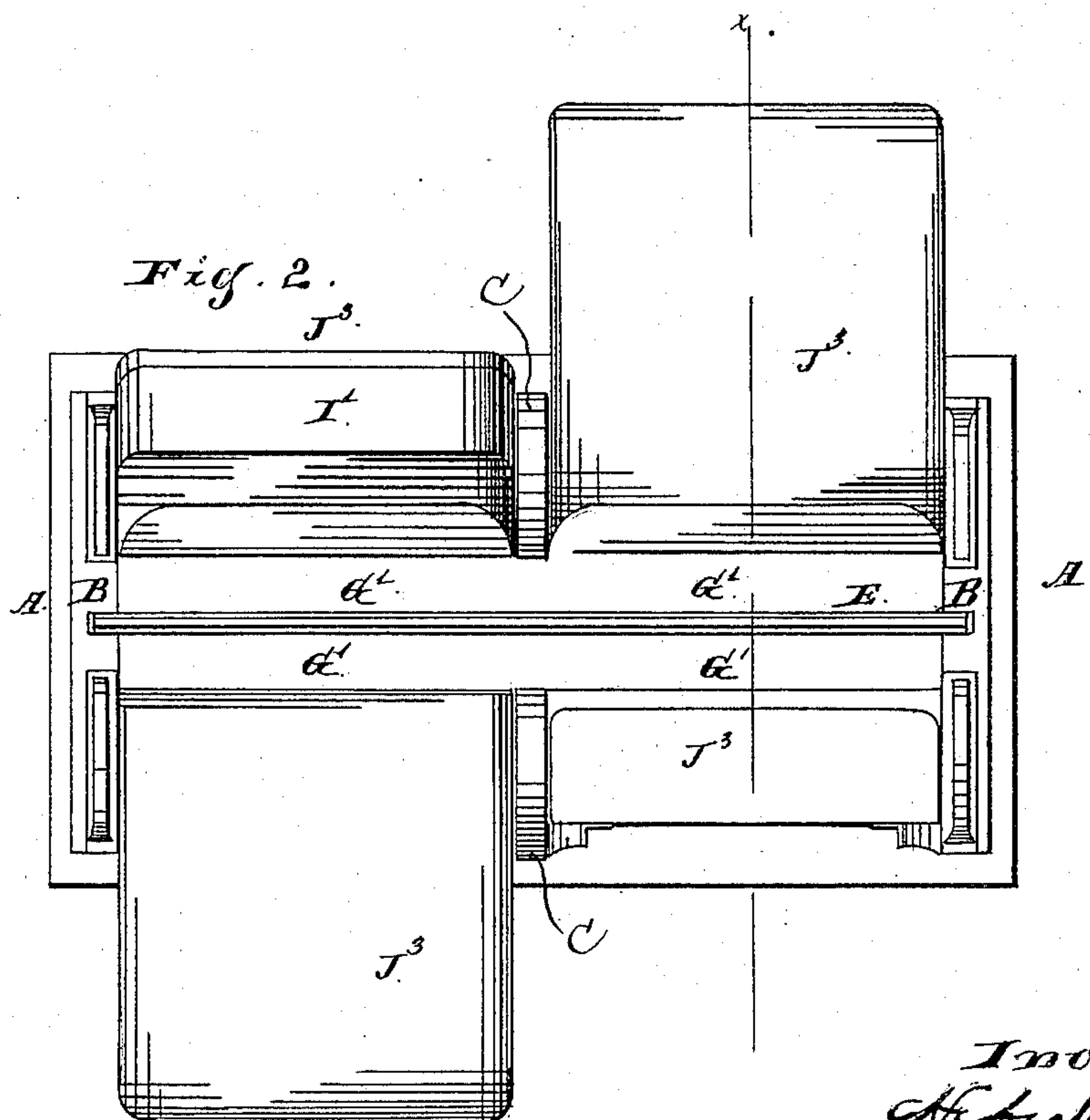
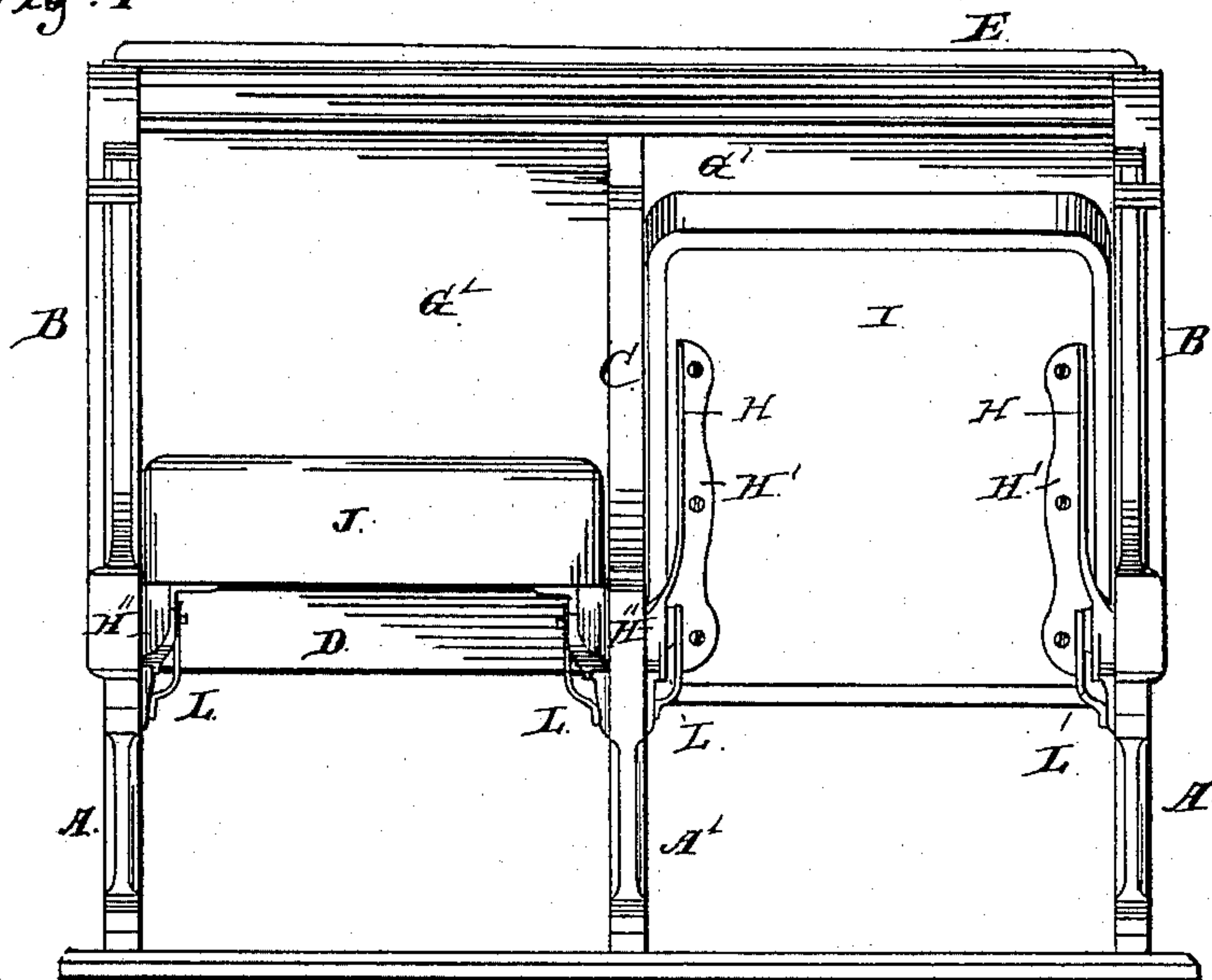
2 Sheets—Sheet 1.

H. L. ANDREWS.

FOLDING SEAT.

No. 390,431.

Patented Oct. 2, 1888.



Witnesses:  
Albert H. Adams,  
O. W. Bond-

Inventor:  
Herbert L. Anderson

(No Model.)

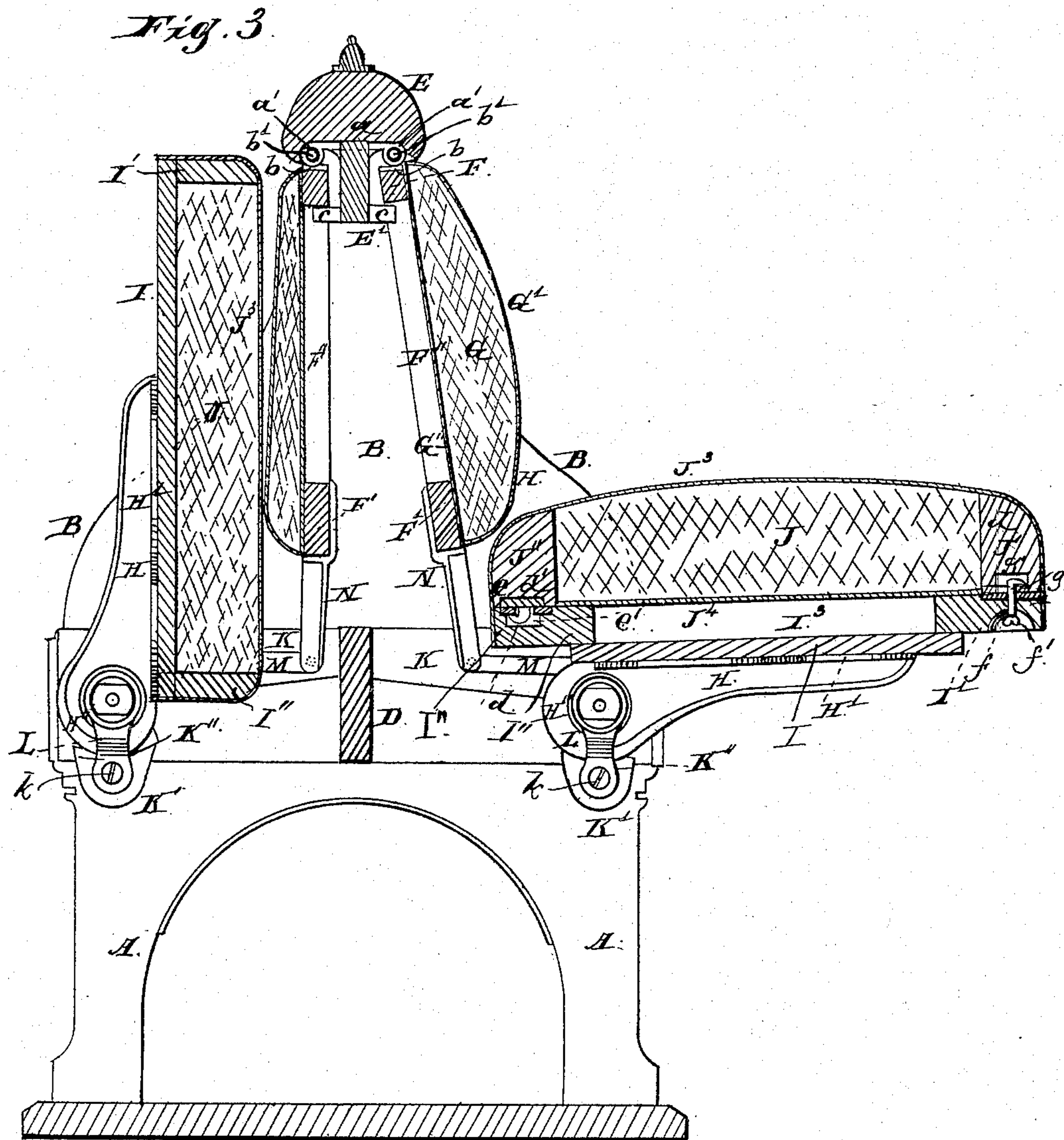
2 Sheets—Sheet 2.

H. L. ANDREWS.

FOLDING SEAT.

No. 390,431.

Patented Oct. 2, 1888.



Witnesses:  
Albert H. Adams,  
Chas. Bend-

Inventor:  
Herbert L. Andrews



# UNITED STATES PATENT OFFICE.

HERBERT L. ANDREWS, OF CHICAGO, ILLINOIS, ASSIGNOR TO A. H. ANDREWS & COMPANY, OF SAME PLACE.

## FOLDING SEAT.

SPECIFICATION forming part of Letters Patent No. 390,431, dated October 2, 1888.

Application filed February 26, 1884. Serial No. 122,119. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT L. ANDREWS, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Folding Seats, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation showing one seat turned down and the other turned up or folded; Fig. 2, a top or plan view showing four seats, two on each side, one seat on each side being turned up and the other turned down; Fig. 3, a cross-section on line *x x* of Fig. 2, looking toward the end of the seat.

This invention relates to folding seats, and is designed more especially for seats in a dining-car, but can be used in other places where economy of space is desired and a free passage left for access to the innermost seat; and its nature consists in the devices and combinations of devices hereinafter described, and specifically pointed out in the claims as new for attaining the desired objects of economizing space and allowing free access to the innermost seat to be obtained.

In the drawings, A represents the standards or legs for the seat, which legs are formed, as shown, to locate seats on each side, and, as shown, a central leg, A', is provided to enable four seats, two on each side, to be used.

B represents the end standards or posts formed with or suitably secured to the end legs or supports, A.

C is a central support or post formed with or suitably secured to the central leg or support, A', and this standard or support, as shown, is of less height than the end standards or posts.

D is a cross-bar extending from end standard to end standard, and passing through the center standard, when formed of a single piece; but which may be made of two pieces running from each end standard to the center standard.

E is a top rail running from end standard to end standard over the center standard, and having an exterior of the form shown or other desired form. This top rail, as shown, is mounted on top of a secondary rail, E',

which secondary rail is suitably secured at its ends to the end standards and passes through the upper end of the center standard, and on this rail E', near each end and in proximity to the center standard on each side thereof, are plates secured by screws or otherwise to the top of the rail E', each plate projecting beyond the face of the rail and having eyes *a'*, as shown in Fig. 3.

F is a top piece; F', a bottom piece; and F'' end pieces, constituting a frame for the back of each seat, as many frames being provided as there are seats. The top rail, F, has secured to its upper face a plate, *b*, on which is a pin or gudgeon, *b'*, which enters the loop or eye *a'* at each end, forming a hinged connection of the frame for the seat-back to the secondary rail E, by means of which the bottom or lower end of the frame for the seat-back is free to swing forward and back.

G is the upholstered portion of the back, consisting of suitable material secured between a covering, G', and a backing, G'', which parts are secured in any usual manner to the top, bottom, and ends of the frame.

H is the main or body portion of the bracket or arm carrying the seat, having at its top a side flange, H', to which the seat-frame is secured by screws or otherwise, and having at its pivoted end an enlarged portion, H'', the periphery of which is not concentric with the pivotal point of the bracket and forms a stop to limit the downward turning of the seat. The brackets are pivoted one to the inside of the end standards and one to each side of the center standard by means of suitable pivots, which enter the enlarged portion of each arm to allow the arm to describe an arc of a circle, and a bracket or arm is to be used for each end of the seat, as shown in Fig. 1.

I is the bottom piece; I', the front piece; I'', the back piece; I<sup>3</sup>, end pieces. These parts constituting the frame-work for the seat and two forms of making the frame-work and seat are shown on opposite sides of Fig. 3, in one of which the upholstered portion of the seat is located within the frame-work, and in the other is located a secondary frame-work attached to the frame proper. The bottom piece, I, is screwed or otherwise secured to the flange H'



of the seat bracket or arm H, so as to raise and lower the seat on pivots of the arms or brackets.

J, the upholstered portion of the seat, as shown in the turned-up seat of Fig. 3, is secured between the bottom I and a suitable covering, J<sup>3</sup>; or, as shown in the seat which is turned down in Fig. 3, the upholstered material is secured in a secondary frame formed of a front piece, J', a back piece, J'', and suitable end pieces, the material being held within the frame by a covering, J<sup>3</sup>, and a backing, J<sup>4</sup>. The upholstered portion of this form of seat is attached to the seat-frame by a hook, d, on a plate, d', secured to the bottom of the rear piece, J'', which interlocks with the plate e, secured to the rear piece, I'', which piece has a recess, e', for the admission of the hook, a hook being located at each end of the rear piece, J'', and the front is locked by a hook, f, having a thumb-piece, f'', which hook is secured in the front piece, I', so as to be readily turned by the thumb-piece, and engages with a plate, g, on the front piece, J', which plate is located in a recess, g', into which the end of the hook projects, a hook being located at each end of the seat.

The rear hooks, d, are inserted beneath the locking-plates e, and the front of the upholstered portion is locked by turning the hooks f to engage the plates g, which secures the upholstered portion to the frame in a removable manner. The upholstered portion G could be attached to its frame by locking-hooks in the same manner as the upholstered portion of the seat is attached, if so desired, in which event the upholstered portion of the back would also be removably attached.

K is a recess or cut-away portion on the face of each standard adjacent to the bracket or arm on each end of the seat.

K' is a stop having a flange, K'', with a circular bearing-face to engage with the heel of the arm or bracket H and form a stop for the limit of the downward movement of the seat.

L is a stay-piece or brace for preventing side movement of the arm or bracket H, which piece L, as shown, is secured at its lower end by the screw k, which secures the stop K' to the standard or post.

M is a connecting-bar between the rear end of the seat and the lower end of the back.

N is an arm extending down from the seat-back at each end, and connected at its lower end by a pin or stud with the rear end of the bar M, so that the seat and back are connected together and move the back as the seat is raised and lowered.

The seats for use in a dining-car are arranged, as shown in Fig. 2, with two seats back to back, and each seat of the double seat independent of the other, so as to be raised and lowered without affecting the other, and each separate seat is supported upon its arms or brackets H on each end, which arms or brackets are pivoted, respectively, to studs on the face of the standard or post adjacent to the bracket already described. This arrangement of seats enables the first seat to be raised up, so as to give free access to the inner seat, as the raising of the first seat leaves a sufficient space between the table and the seat for the passage of a person occupying the inner seat. The seats can be operated in this way when pivoted without the recesses K, as shown in Fig. 3, and without the movable back shown in that figure.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a seat-frame having a recessed back piece, I'', and a front piece, I', provided with turning-hooks g, of a detachable secondary frame comprising a recessed front piece, J', and a back piece, J'', having hooks d'', and an upholstered part secured in the detachable secondary frame, substantially as described.

2. The combination, with a supporting-frame having two independent back frames placed back to back and hinged at their tops to the supporting-frame, of two independent seat-frames pivoted to the supporting-frame and connected by the links M N to the back frames, substantially as described.

HERBERT L. ANDREWS.

Witnesses:

ALBERT H. ADAMS,  
O. W. BOND.