(No Model.)

F. RIGHTMYER.

SHIFTING SEAT FOR VEHICLES.

No. 389,597. Patented Sept. 18, 1888.

Fig. 1

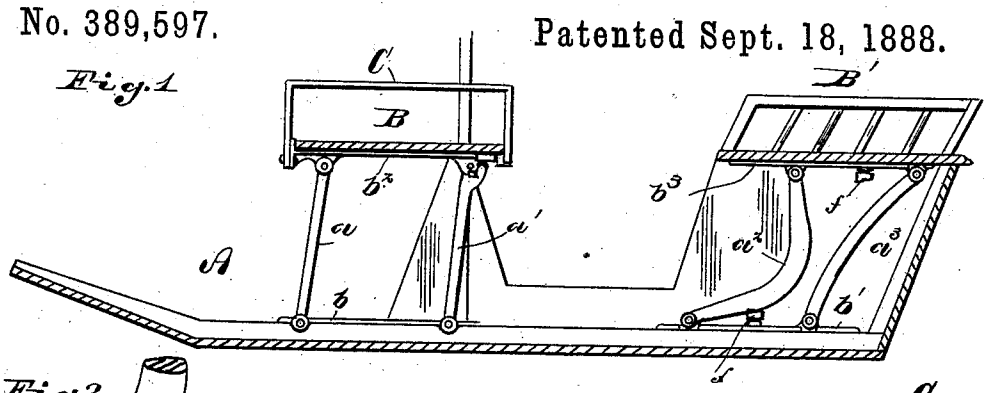


Fig. 2

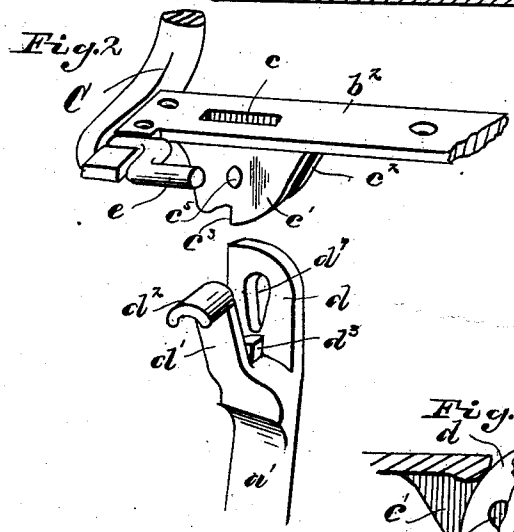


Fig. 3

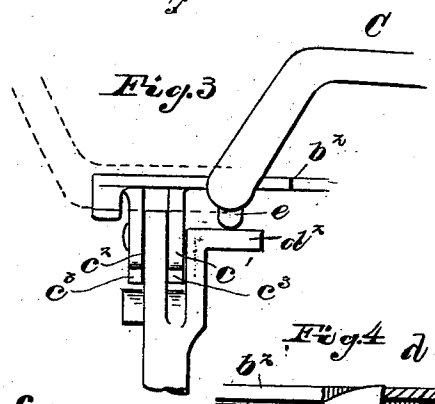


Fig. 4

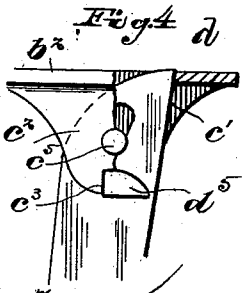


Fig. 5

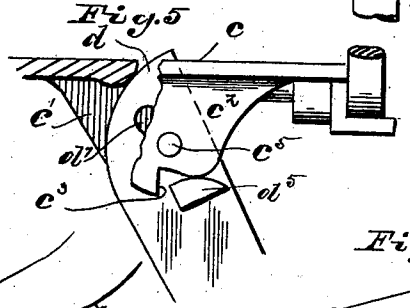


Fig. 6

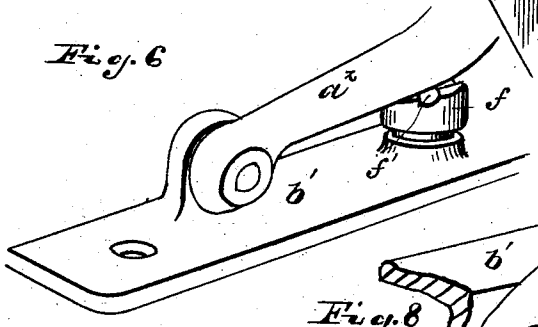


Fig. 7

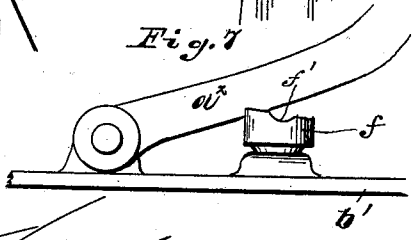
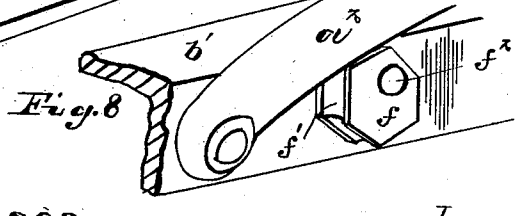


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

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SHIFTING SEAT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 389,597, dated September 18, 1888.

Application filed May 18, 1888. Serial No. 274,327. (No model.)

To all whom it may concern:

Be it known that I, FRANK RIGHTMYER, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Shifting Seats for Vehicles, of which the following is a specification.

My invention relates to improvements in shifting seats for vehicles; and it particularly relates to that class of shifting seats by which a vehicle may be changed from a one to a two seated vehicle, or vice versa, means being provided for locking the seat when in position for use.

The object of my invention is to provide a locking mechanism of novel construction adapted to be disengaged by the seat-arms or independent thereof as desired.

The further object of my invention is to provide a novel means for adjusting the seat-supporting mechanism to accommodate itself to vehicle-bodies of different heights.

The further object of my invention is to provide a mechanism of novel construction which will permit a forward movement of the front seat while said seat is occupied.

I attain these objects by the constructions set forth in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional elevational view of a vehicle-body to which my improved device has been applied. Fig. 2 is a perspective view of the locking mechanism of the front seat, the parts being shown detached. Fig. 3 is a rear view of the same, showing the parts together but unlocked ready for folding. Figs. 4 and 5 are side elevation views, respectively, of the same, showing in one case the seat locked and in the other the method of moving the same into a forward position, a portion of each view being broken away to better show the operation of the different parts. Figs. 6, 7, and 8 are, respectively, views of the adjusting mechanism of the rear seat-supporting device and modified forms thereof.

Like parts are indicated by similar letters of reference throughout the several views.

In the said drawings, A represents the bed or body of a vehicle of ordinary construction. B B′ are respectively the front and rear seats of the same. The seats B B′ are supported on rocker-arms a, a', a^2, and a^3, which are pivoted at the top and bottom to the rocker-plates b, b', b^2, and b^3 in such a manner that the seats may be turned in the position shown in Fig. 1 or folded one above another, so as to produce a one-seated vehicle in a well-known manner.

The rocker-arms a on the seat B are preferably pivoted directly to the rocker-plates b' and b^3, respectively, on the vehicle-body and on the said seat. The rocker-arms a' at each end of the seat, however, are each provided at the upper end with a locking mechanism adapted to hold the seat in an upright position when in use, as shown in Fig. 1. This locking mechanism I construct as follows: The rocker-plate b^3, I provide, at or near one end, with an opening, c, and on either side of said opening with depending lugs c' and c^2, each provided with a shoulder, c^3, in the lower part thereof. The upper end of the rocker-arm a' is bifurcated, one of said bifurcations d being rounded at one side at the top and adapted to project upwardly between the said lugs c' and c^2, and into the opening c. The other arm, d', of the bifurcation is shorter than the main arm d, and is provided with a projecting finger, d^2, at right angles thereto. Between the arms d and d' is a shoulder or locking-face, d^3, adapted to engage with the shoulder c^3 on the depending lug c'. On the opposite side of the arm d is a small locking-face or shoulder, d^5, adapted to engage with the shoulder c^3 of the depending lug c^2. The projecting arm d is provided with a slotted opening, d^7, through which is projected a rivet, c^5, riveted at either end in the lugs c' and c^2, thus holding the parts a' and b^3 together.

When the seat B is in a normal position for use, the upper part of the arm d engages with the rear portion of the slot c while the locking-pieces d^3 and d^5, respectively, engage with the shoulder c^5 on the respective depending lugs c' and c^2, and thus hold the said seat firmly in position. When in this position, the upper pivotal point of the rocker-arms a and a' are slightly back of the lower pivotal points thereof, so that as the weight comes on the seat the locking-faces are held firmly together. If it is desired to fold the seat back to form a single-seated vehicle, the parts may be unlocked by simply raising the rear portion of the seat

until the shoulders c^3 are disengaged from the locking-pieces of the rocker-arm, the rivets c^5 being raised in the slotted opening d'.

In folding the seat B the side arms or rails, C, are turned inwardly, the said arms being hinged for this purpose to the rocker-plate b^5. Now, in order to provide means for readily unlocking the seat by means of the said side arms, I provide at one end of said arm a small crank projection, e, adapted, when in a normal position, to stand just above the extended portion d^2 of the arm d. This crank portion is made of such shape and dimension that as the arm C is folded the said crank portion e comes against the part d^2 and forces the rocker-plate b^3 and its depending lugs away from the locking-faces of the rocker-arm, thus unlocking the same, as shown in Fig. 3.

When the front seat is in a normal position, as shown in Fig. 1, it is sometimes desirable to bring the same forward to a slight extent while the occupants of the vehicle are seated thereon, in order to give a better access to the rear seat. To provide for a movement of this kind, and at the same time prevent the seat from falling forward, I construct the locking-faces d^3 and d^5, respectively, with concave upper faces adapted to bear against the lower portion of the depending lugs c' c^2, as shown in Fig. 5, the opening c in the top of the rocker-plate b being so constructed that a bearing is obtained between the front end of the said opening and the rounded portion of the said arm d. The bearing-faces on the depending lugs c' and c^2 are of such shape that an eccentric is produced as the seat goes forward, which tends to raise the pivot c^5 in the slotted opening d', and thus raise the seat with its occupants. By this construction an amount of friction is produced between the respective parts, and the weight of the occupants on the seat is exerted in such a manner that the seat will not fall forward until the bearing-faces of the depending lugs have passed the locking-faces of the rocker-arms, and the upper end of the arm d has become withdrawn from the opening c, after which the seat may be folded forward in the ordinary manner. By this construction it will be seen that the front seat may be folded either in a forward or backward position, or be locked in a normal position for use.

In order to provide for adjusting the height of the rear seat so that it may at all times rest on the seat-supports and not upon the sides of the vehicle-body, I provide an adjustable rest or stop, f, journaled in a suitable bearing in the rocker-plate b'. This bearing or stop f, I provide with a series of notches or bearing-seats, f', of different heights, adapted to turn into position to receive the supporting-arms a^2. I preferably provide the bearing f with four notches, each slightly higher than the preceding one, though any desired number may be employed. When a corner-plate is used, as shown in Fig. 8, I preferably construct the bearing or stop in the form of an eccentric, the bearing-seats f' being placed in the edge thereof and adapted to turn about the journal or pivot f^2 to bring the bearing-faces into position to raise or lower the position of the supporting-arm a^2 and thus vary the height of the seat B'.

It is obvious that other modifications may be employed, if desired; and I do not therefore limit myself to the exact constructions shown and described.

It will be seen that a shifting seat, as described, may be adjusted to any desired position, and may be readily locked or unlocked, and is adapted to rest at all times upon the rocker arms or supports, and thus relieve the vehicle-body of any undue strain.

Having thus described my invention, I claim—

1. In a shifting seat for vehicles, the combination, with the rocker arms or legs which support the seat in position when in use and permit the same to be folded when not in use, and a locking device for holding said seat in its normal position, said seat being connected to said locking device, so that a vertical movement of said seat will release the said locking device, of a side arm pivoted to said seat, and provided with a crank or eccentric portion adapted to engage with a projection on said locking device and thus produce a vertical movement of said seat by the folding of said side arms, substantially as specified.

2. The combination, in a shifting seat, of a rocker-plate provided with depending lugs thereon, each provided with a shoulder on the highest part thereof, the rocker-arm rounded on one side at the top and adapted to project upwardly between said lugs, locking-faces on said rocker-arm, adapted to engage with a shoulder in said depending lugs, an eccentric portion on said lugs, adapted to bear on said locking-faces, and a pivoted connection between said lugs and rocker-arm, which will permit of a longitudinal movement of said rocker-plate in relation to said arm, substantially as set forth.

3. In a shifting seat, the rocker-arm having the extended upper portion rounded at one side and adapted to extend into an opening between depending lugs on the rocker-plate, locking-shoulders on said depending lugs, adapted to engage the locking-faces on said rocker-arm, a pivoted connection between said arm and plate, adapted to permit of a longitudinal movement of said arm, a projecting finger on said arm, and a crank on the seat-guard, adapted to engage said projection, substantially as and for the purpose set forth.

4. The combination, with the rocker-plate having an opening therein, of depending lugs on either side of said opening, the shoulders and eccentric-faces on said lugs, the bifurcated rocker-arm adapted to project through said opening, and provided with a slot through which a pivoted connection is formed between said arm and plate, locking-faces on said rocker-arm, adapted to engage with said shoul-

ders and said eccentric portion, and means, substantially as described, for raising said rocker-plate, in reference to said rocker-arm, by the movement of said seat-guard, substantially as specified.

5. The combination, with the rocker-plate, of the depending lugs and locking-shoulders therein, a bifurcated rocker-arm, one side of which is adapted to project upwardly between said lugs and engage an opening in said plate, locking-faces on either side of said projecting ends, and adapted to engage the shoulders in said depending lugs, a projecting finger on one side of said bifurcated arm, a pivoted seat-guard connected to said rocker-plate, and a crank on said seat-guard, adapted to engage the projecting finger on said rocker-arm, substantially as and for the purpose set forth.

6. In a shifting seat, rocker-arms to support said seat and permit the same to be folded when not in use, a locking device to hold said seat in its normal position in one direction only, and eccentric locking-faces on said locking device to permit a restricted movement of said seat without forming a positive stop therefor in the other direction, substantially as and for the purpose set forth.

7. The combination, with the rocker-plate b', of the rocker-arm a^2, pivoted thereto, the bearing-support f, journaled in said rocker-plate, and provided with bearing-faces f', of different sizes, adapted to turn into position to receive the rocker-arm, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 1st day of May, A. D. 1888.

FRANK RIGHTMYER.

Witnesses:

JOSHUA SCOTT,

PAUL A. STALEY.