No. 623,310. Patented Apr. 18, 1899.

D. E. HIPWELL.

REVERSIBLE SEAT.

(Application filed May 12, 1896.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

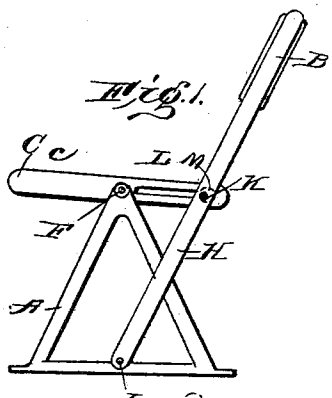


Fig. 2.

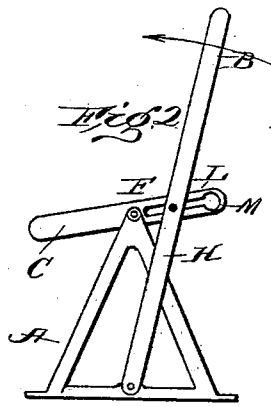


Fig. 3.

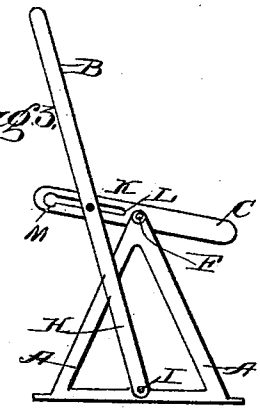


Fig. 4.

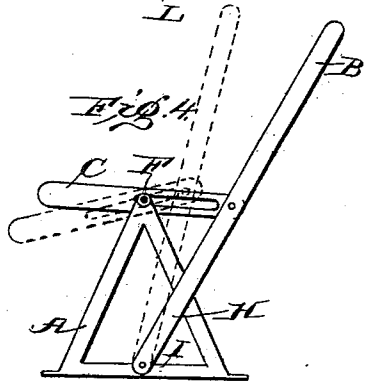


Fig. 5.

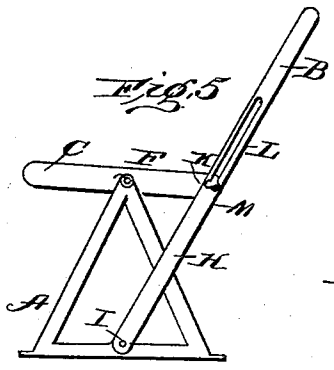


Fig. 6.

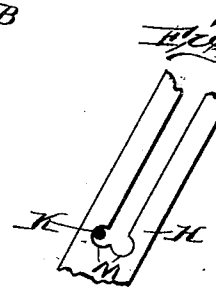


Fig. 7.

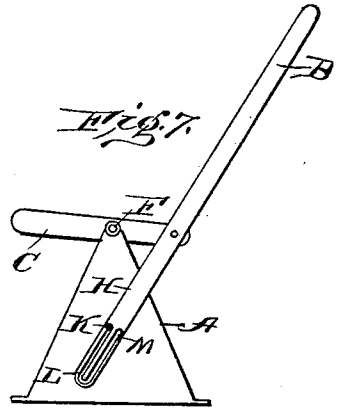


Fig. 8.

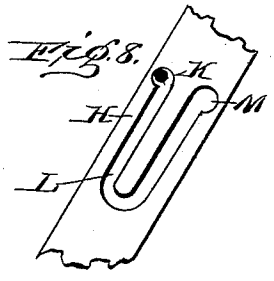
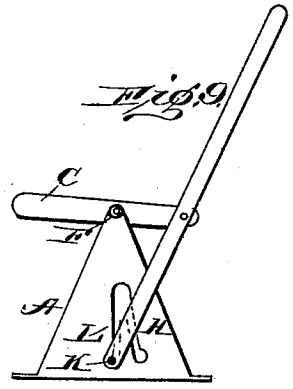


Fig. 9.



Witnesses:
J. M. Fowler Jr.
Joseph M. Burell

Inventor:
Daniel Edward Hipwell
By F. W. Barker
his Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 623,310. Patented Apr. 18, 1899.

D. E. HIPWELL.

REVERSIBLE SEAT.

(Application filed May 12, 1896.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 10.

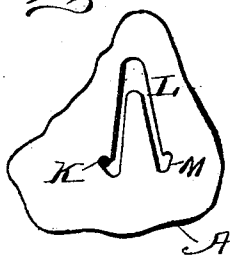


Fig. 11.

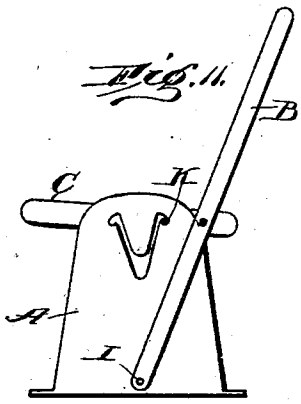


Fig. 12.

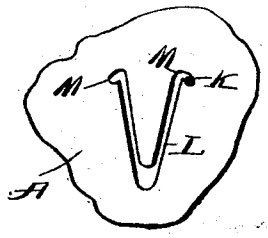


Fig. 13.

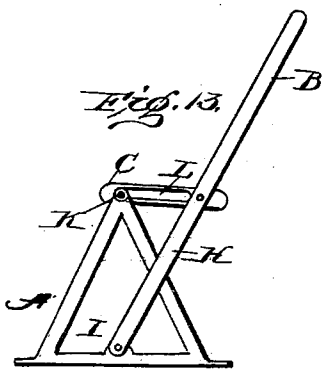


Fig. 14.

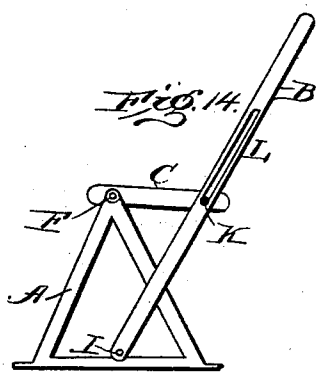
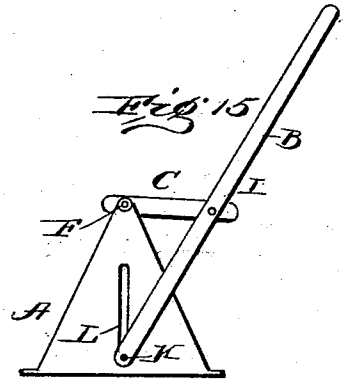


Fig. 15.



Witnesses:
J. M. Fowler Jr.
Joseph N. Buell

Inventor:
Daniel Edward Hipwell
By F. N. Baxter
his Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL EDWARD HIPWELL, OF LONDON, ENGLAND.

REVERSIBLE SEAT.

SPECIFICATION forming part of Letters Patent No. 623,310, dated April 18, 1899.

Application filed May 12, 1896. Serial No. 591,275. (No model.)

To all whom it may concern:

Be it known that I, DANIEL EDWARD HIPWELL, a subject of the Queen of Great Britain and Ireland, and a resident of London, in the county of Middlesex, England, have invented certain new and useful Improvements in Reversible Seats, of which the following is a full, clear, and exact description.

The objects of my invention have special reference to the seats used on tram-cars and omnibuses, but is applicable to many other purposes.

Referring to the drawings which form a part of this specification, Figure 1 represents the end elevation of a reversible seat or bench involving my invention. Figs. 2 and 3 show in like views in different positions the movement of the seat shown in Fig. 1. Figs. 4 and 5 are modifications of Fig. 1. Fig. 6 shows a detail of Fig. 5. Figs. 7, 9, and 11 are further modifications. Figs. 8, 10, and 12 are details thereof. Fig. 13 represents a reversible seat kept in position by gravity. Figs. 14 and 15 are modifications thereof.

When seats are used out of doors, considerable discomfort is experienced on rainy days, the seat getting wet. In the type of seat now usually employed on omnibuses and tram-cars, though in the latter the back is frequently made to move, the seat itself remains stationary, not only retaining the moisture, but also causing inconvenience when passengers wish to pass one another. The object of my invention is to remedy these defects and to so construct a seat that by one movement of the back or other determined part the seat may be made to assume a vertical position, giving space, or by continuing the movement turn over, and thereby providing a dry seat. To accomplish this, I construct the chair or bench of three parts—a framework or standard A, a swinging or rocking back B, and a turning seat C. These three parts give three points of attachment and by pivoting two of them and by making the third point of attachment variable the object can be attained.

Referring to the accompanying drawings, Fig. 1 shows a reversible seat involving my invention and which comprises a standard A, a swinging or rocking back B, and a turning seat C. The seat C is provided with trunnions or pivots F, resting in the bearings in the standard or framework, and is further provided with a slot L on either side thereof, said slots extending in a line radially from the point upon which the seat turns. The rocking back comprises side bars H H, that are provided each with pins K, which pins are adapted by reason of their location to engage with the opposite seat-slot to form a movable connection between the back and seat that will allow of turning the seat, which is pivoted to the standard, from a horizontal position exposing one side to a horizontal position exposing the other side, according to the direction in which the back is swung, which movement is represented by the arrows and the different positions of the chair members, as shown in Figs. 2 and 3.

In order to prevent the seat from tipping should the occupant be sitting too near the front edge, the end of the slot is provided with recesses M, (shown more clearly in Fig. 6,) which effectually lock the seat in position while occupied, though in no way hindering its movement when the back is drawn forward and the seat is vacant.

In order to allow the pin K to freely pass the bearing which carries the pivot or trunnion F, the radius 1 K is made longer than the radius 1 F.

Instead of slots being placed in the seat and the pins in the side frame of the back the order may be reversed, the pins being in the seat and the slots in the side bars of the back, (see Fig. 5,) or the seat and back may both be pivoted together, the slot being in or near the base of the side bars, Fig. 7, the details of the slot, with its recesses M, being fully shown in Fig. 8, or the back and the seat may be pivoted, and by a slot L in the seat it may slide on the pin F in the standard. (See Fig. 4.) The seat and back may also be pivoted together and the base of the side frame of the back carry the pin K, the slots being in the base of the standard, as shown in Fig. 9. For details of the form of slot to be used in this case see Fig. 10, or the seat may carry the pins working in slots at the top of the standards, as shown in Figs. 11 and 12.

In all the previous figures the seat has the pivot or pin in or near the center of the seat, and therefore the weight of a person sitting

on the front of the seat would tend to tilt it; hence the necessity of the recesses M. If, however, the seat is pivoted near its front edge, the weight of the occupant or gravity alone will prevent it from tilting and the recesses M are no longer required. This arrangement is shown in Figs. 13, 14, and 15.

The part that the slots serve in allowing freedom of movement is sufficiently apparent from the foregoing description and figures.

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

1. In a chair and in combination, standards, a reversible pivoted seat, a swinging back provided with side bars said bars extending below the seat and movably connected to the seat and standards, and a pin-and-slot connection between two of the parts, whereby the movement of the back effects a reversal of the seat, substantially as described.

2. In a chair and in combination, standards, a reversible seat pivoted midway of its length on said standards, a swinging back provided with side bars said bars extending below the seat and pivoted to the standard and a pin-and-slot connection between the reversible seat and the swinging back, whereby the movement of the back effects a reversal of the seat.

In witness whereof I have hereunto set my hand in presence of two witnesses.

DANIEL EDWARD HIPWELL.

Witnesses:

REGINALD WALTER BARKER,

ARTHUR JOHN SMITH.