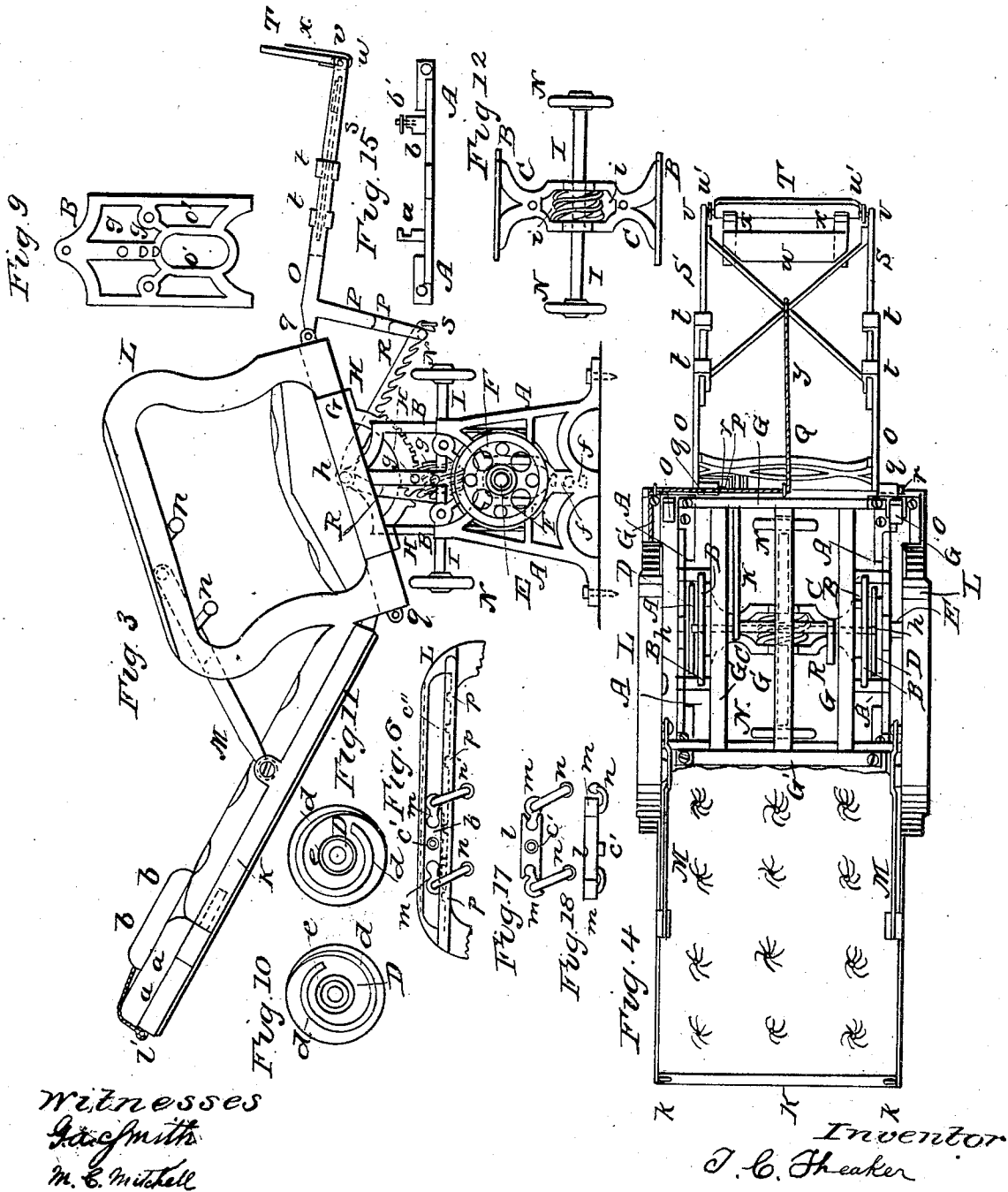


T. C. THEAKER.
Car Seat and Couch.

No. 89,542.

Patented April 27, 1869.



UNITED STATES PATENT OFFICE.

T. C. THEAKER, OF BRIDGEPORT, OHIO.

IMPROVED RAILROAD-CAR SEAT AND COUCH.

Specification forming part of Letters Patent No. **89,542**, dated April 27, 1869.

To all whom it may concern:

Be it known that I, T. C. THEAKER, of Bridgeport, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Railroad-Car Chairs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The nature of my invention consists, first, in forming a railroad-car chair so that the seat thereof can be raised and lowered at pleasure; secondly, in so forming said chair that its seat can be inclined backward and forward to any desired angle from a horizontal position; thirdly, in so constructing said chair that its back can be inclined or thrown backward to any desired angle with respect to the seat; fourthly, in so making said chair that its back can with facility be changed so as to have it always to front toward the forward end of the car; fifthly, in forming said chair with a foot-rest that can be with facility put in a vertical position, hanging downward from the front of the seat and its foot-board folded up, and that it can be elevated to any desired angle with respect to the seat, and that it can be extended longitudinally and its foot-board thrown out at about a right angle with the frame of the rest, all or any of these at pleasure; sixthly, in so making the chair that the foot-rest can be changed with facility to front either way to correspond with the changing of the back.

In order to enable those skilled in the art to which it appertains to make and use my chair, I will describe it as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation; Fig. 2, a rear elevation. Fig. 3 is a side elevation, showing the chair raised and in a reclining position. Fig. 4 is a plan view with the seat or cushion removed, the chair being in the position shown in Fig. 3. Fig. 5 is a vertical section of the frame of one side of the chair, with its accompanying parts. Fig. 6 is a view of the inside of one of the arms, showing the slide *l* and its pawls or dogs in place. Fig. 7 is a rear elevation of the frame of the foot-rest. Fig. 8 is a side view of one of the pieces *A* of the outer or lower frame. Fig. 9 is a side elevation of one of the inside or sliding pieces *B* of the inner frame, to which the frame of the seat is

pivoted. Fig. 10 is a side elevation of one of the scroll or worm wheels. Fig. 11 is a view of the reverse side of the same. Fig. 12 is a plan or top view of the inner frame, with the worm-wheel and shaft, and two hand-wheels for operating the seat by means of the cogged segment which is attached thereto. Fig. 13 is a side view, and Fig. 14 a back or front view, of the same; Fig. 15, a plan or top view of one of the pieces *A* of the outer or lower frame, with its lugs or slides, in which the inner or top frame works. Fig. 16 is a cross-section of Fig. 6, showing the groove in which the slide *l* and its pawls or dogs work, as seen in Figs. 17 and 18. Fig. 17 is a side view of the slide *l* and its pawls or dogs *m*, which work in the groove of the arm seen in Figs. 6 and 16. Fig. 18 is a top view of the same. Fig. 19 is a cross-section of the foot-board. Fig. 20 is a view of the head-rest with its horns, by which to attach it to the back, as seen at *a a*, Fig. 3. Fig. 21 is a front view of a cushion or pillow to be attached to the back, as shown at *b b*, Fig. 3.

I construct the lower and outer frame of two main or upright pieces or plates, marked *A*, a side view of which is separately shown at Fig. 8. They may be made solid plates, or in any desired manner or pattern. In them are formed oblong openings, about two inches wide and four inches long, as seen at *o o* in said Fig. 8. The lower ends of these openings are about three inches from the bottom of the plate. On the inner side of each of said plates are formed four lugs, two of them at the upper and outer corners and two about six inches below them. These lugs form rests or slides, in which an inner frame, hereafter described, slides vertically. These lugs may be made separately from the plate, or they may be cast with it. If made separately and screwed to it, they may be made as represented at *a*, Fig. 15; but if cast with it they will be as shown at *b* in the same figure, with a small cap, *b'*, secured on its outer end by means of a screw, in order to complete the groove in it for the reception of the inner frame and to hold the same in its place. This outer or lower frame has holes through flanges, which are formed on its outer and lower corners, through which to pass screws to fasten the same to the floor, as seen in Figs. 1, 3, and 15; or, if it is

tion of the back, and also to be put in the position shown at the front of Fig. 1 in dotted lines.

I make one of said horns *o*, on each side, from one-quarter to one-half inch longer than the other, to facilitate the reversing of the back. The holes in one end of the back for the reception of the horns are shown at *k*, Fig. 4, and, as the back is reversible, there are similar holes in the other end of the same.

I construct a head-rest, which may be attached to and detached from the back at pleasure. When attached, it constitutes an extension to the same, forming a rest for the head of the occupant. It may be made and cushioned in any desired manner, and is provided with horns *Z'*, as shown in Fig. 20, referred to. These horns are for the purpose of attaching the rest to the back, which is done by merely introducing its horns into the holes shown in the top of the back in Fig. 4. This head-rest can be attached to the back when it is desired to use the chair as a sleeping-couch, and detached when it is intended to use it as a common chair.

By this arrangement the back, when placed on these horns *o*, will swing backward and downward to any desired position, and the arms *L* of the chair are formed with recesses or grooves in them, as seen at *c'*, Figs. 6 and 16. In the bottom of these recesses is a series of stops or projections, as shown at *p*, Fig. 6. In these grooves are placed the slides *l* and their pawls *m*, which are formed as seen at Figs. 17 and 18, the grooves being about one inch deep vertically, clear of the stops or projections *p*, they being about one-quarter of an inch above the bottoms of the same, making them about one and one-quarter of an inch from the bottom between the stops to the top, and they are about five-eighths of an inch wide, and the slides *l* are made of a size corresponding to that of the grooves in the arms, so that they will slide freely in the same. The length of these slides may be about three or four inches clear of the pawls *m*. These pawls may extend beyond the ends of the slide about one inch, so that from out to out of the pawls would be about five or six inches. At the center of the slide *l* is a wrist projecting from its side, as shown at *c'* of Figs. 6, 17, and 18. To this wrist is attached one end of the bar *M*, the other end of which is attached to the back *K*, as seen in Figs. 1, 3, and 4.

It will be seen from the foregoing description that the position of the back *K* depends on that of the slides *l* in the interior of the arms *L*; and if the arms *n* of the dogs *m* next to the back *K* be pressed backward, and at the same time the slides *l* drawn a little forward by means of the other arms *n*, the dogs *m* next to said back will be raised above the projections *p*, when the back *K* can be readily lowered backward and downward to any inclination desired; and when it is necessary to elevate the back to a less inclination, it is readily done by merely drawing forward the

arms *n* of the dogs *m* farther from the back, which forward pressure on them raises the dogs or pawls clear of the projections *p*, and if the pressure be continued will draw forward the slides *l*, and they, being connected with the back *K*, of course, will be drawn forward also, and thus any desired position can with facility be given to it, the pawls *m* always taking hold on the projections *p* when left free to do so, and thus holding the slide *l*, and, by means of the bar *M*, the back *K*, in the desired position.

It has been already stated that the back *K* is reversible. It is reversed by merely throwing upward and outward the horns *o*, as shown at the front of the chair in dotted lines in Fig. 1, to the position shown at the back in the same figure, and then raising the back up off the horns on which it rests, and swinging it on the pieces *M* up over the seat of the chair, and placing what was its upper end on the horns just raised, and throwing the horns, from which the back has just been reversed, inward and downward to the position shown at the front of Fig. 1. Thus the front of the chair is reversed.

To each of the pieces *G'* of the frame of the seat are attached two eyes or eyebolts, *q*, at the proper place to receive the side tenons *r* of the side pieces *O* of the foot-rest, as shown in Figs. 1, 2, 3, and 4. These side pieces *O* are formed with pieces *P* projecting backward at about a right angle with it, and within about two or three inches of the tenons *r*. These pieces *P* extend backward close under the seat of the chair when the pieces *O* are vertical, as seen in Fig. 1, and when *O* is extended, as in Fig. 3, they assume, of course, the position there shown. The pieces *O* are connected together by means of the brace *Q*, (seen in Figs. 4 and 7,) which is firmly secured to their projections *P*, these projecting pieces *P* being only parts of the pieces *O*. On one of these pieces *P* is formed a wrist, *s*, as seen in Figs. 3 and 7.

On the rod *h*, which connects the frame *G* of the seat to the pieces *B* of the inner frame, are placed two notched pieces, *R*, (shown in Figs. 1, 2, 3, and 4,) and they are, by means of thimbles or tubes on each side of them, on the rod *h*, held in the proper places to keep them always opposite to the wrists of the pieces *P*. One of these pieces *R* operates on said wrist when the foot-rest is attached to one of the pieces *G'*, and the other when it is connected with the other piece; or, in other words, one of these pieces *R* operates on said wrist when the chair fronts one way and on the other when its front is the other way.

The pieces *O* of the foot-rest are formed with slides or rests at their lower ends, and also three or four inches above them are other slides similar to the first, as seen in Figs. 1, 3, and 4, at *t*. In these are placed the pieces *S* of the extension-frame. These pieces *S* slide freely up and down in the slides *t*, and they are connected together by means of the cross-

braces *u* and the rod *v*, the latter being close to the lower ends of the pieces *S*, and upon this rod *v* is placed the foot-board *T*, a cross-section of which is shown in Fig. 19.

The board *T* is connected with the board *w* by means of the iron pieces *x*, which also connect them both to the rod *v*, and allow them to swing or turn on the same, so that the board *T* can be, at will, turned up parallel with the side pieces *S*, as shown in Fig. 1, or down at right angles therewith, as in Figs. 3 and 4, and it is prevented from turning down more than about at right angles with the frame by the upper extreme ends of the pieces *x* coming in contact with the cross-braces *u*, as seen in Fig. 4. The lower edge of the foot-board *T* is grooved to fit the rod *v*, and, together with the irons *x*, forms the hinge upon which the foot-board turns.

By this construction the foot-board may be made to move sufficiently firm that it will remain in any position desired, and not fall by its own weight.

On each end of this rod *v*, and just inside of the pieces *S*, may be placed a wheel or roller, *w'*, as seen in Figs. 1, 3, and 4. These rollers will prevent the lower ends of the pieces *S* coming in contact with the floor when the foot-rest is being extended or when the seat of the chair is oscillated forward. In either case the whole will roll freely outward on the floor without catching or taking hold thereon.

To elevate the foot-board from a vertical position, as seen in Fig. 1, it is only necessary to gently press it forward and upward, when the piece *B* will be moved correspondingly downward and forward, and as it so moves the wrist *s* passes from notch to notch of the piece *R*, and in whatever position it may be when the forward or upward pressure ceases, it is there held by the notches of the same; and when it is desired to lower it the piece *R* is raised from the wrist *s* by means of a cord attached thereto, or by any other means, when the frame of the foot-rest will descend. Thus its position in regard to elevation is regulated as desired.

There is an eyebolt or small pulley attached to the middle of the piece *G'* of the frame of the seat and another to the same piece near the end, through or around which a cord, *y*, passes, which is attached to the center of the cross-braces *u*, and on the inside of the arm-pieces *L* are placed two pins, *z*.

When it is desired to extend the foot-board it is only necessary to slacken the cord *y* and push out the foot-board to the desired distance, and then take a turn or two of the cord *y* around the pins *z*, and it will be held in its proper place; and if it is desired to draw the extension-frame up, it is done by drawing the cord up until the frame is in the position wanted, and then, as before, taking a few turns of the same around the pins *z*, and it will be there held. This frame for the foot-rest can be made of iron or any desired kind of metal, or the pieces *O* and *S* can be made, if desired, of

hard wood. If made of wood, the parts *P P* and *r r*, together with three or four inches of the upper ends of the pieces *O*, may be of any desired kind of metal, and the wooden pieces *o*, attached thereto by screw-bolts or by any convenient or desirable way, and the lugs or slides *t*, in which work the pieces *S*, may be of any suitable metal, and secured to the pieces *O* in any convenient way, so that the pieces *S*, which form the extension of the foot-rest, will slide freely back and forth in them.

The parts *O O*, *P P*, and *t t* may all be cast in one piece, and thus save the expense of fitting and screwing said parts together.

I provide a cushion for the foot-rest so made that it can with facility be folded up to suit any desired length of the frame of the foot-rest, so that when the back of the chair is depressed to any desired inclination, and the seat thrown back, and the foot-rest elevated with its cushion on, the whole constitutes a very comfortable couch, and can also be put in the shape of a common chair when desired.

There may be a pillow or cushion provided for the back or head rest to be attached thereto, if desired, as seen at *b b*, Fig. 3, a front view of which is shown at Fig. 21. It is provided with cords, which may be attached to it as seen in Fig. 21. These cords pass from the cushion through eyebolts, which are placed in the upper edge of the extension-piece of the back, as shown at *v*, Fig. 3. By means of these cords the pillow may be held at any desired place on the back to suit the occupant.

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

1. The lower or outer frames, *A A*, when constructed and operating substantially as shown and described.
2. The upper or inner frames, *B B*, substantially as and for the purpose set forth.
3. The frames *A*, in combination with the frames *B*, constructed to slide in or upon each other when operated by scrolls or other suitable device or devices, as and for the purpose set forth.
4. The shaft *E*, in combination with the double worm or scroll wheels *D D*, constructed and operating substantially as and for the purpose shown and described.
5. The combination of the oscillating seat-frame *G* with the frames *B* of the described construction, as and for the purpose described and shown.
6. The combination of the shaft *I*, worm or screw pinion *i*, segment *H*, and oscillating seat-frame *G*, all substantially as and for the purpose set forth.
7. The combination of the frame *G*, horns *o*, and back *K*, all substantially as and for the purpose set forth.
8. In combination with the reversible back, made to be held by hinged pins or horns at its lower end, the head-rest *a a*, the supporting-pins of which fit into the holes in each end

of the back made for said hinged pins, all substantially as shown and described.

9. The arms L, with their grooves *c''*, provided with a channel having double-acting stops *p*, all substantially as and for the purpose set forth.

10. The combination of the slides *l* and pawls *m*, all constructed and operating substantially as and for the purpose set forth.

11. The combination of the arms L and their grooves, as described, with the slides *l* and their pawls *m*, as and for the purpose shown and described.

12. The combination of the arms L with their grooves *c''*, slides *l*, connecting link or bar M, and back K, all substantially as and for the purpose set forth and described.

13. The extension foot-rest, when the whole is made substantially as shown and described.

14. An improved extensible rest composed of the pieces O O and pieces S S, the latter being suitably braced and sliding on the former when held together by open guides *t t*, all as and for the purpose set forth.

15. In combination with a foot-rest for a seat or chair, the arm P and notched bar R, all constructed and operating as set forth.

16. In combination with the pieces S S, suitably connected, the foot-board T, hinged, as described, on a fixed rod or pivots, and operating in its connection, as set forth.

17. The foot-board T, constructed as described and shown, when supplied with a heel-board, *w*, all as set forth.

T. C. THEAKER.

Witnesses:

M. C. MITCHELL,

G. A. C. SMITH.