# B. FIELD & G. M. PULLMAN.

## SLEEPING CAR.

No. 42,182. Patented Apr. 5, 1864.

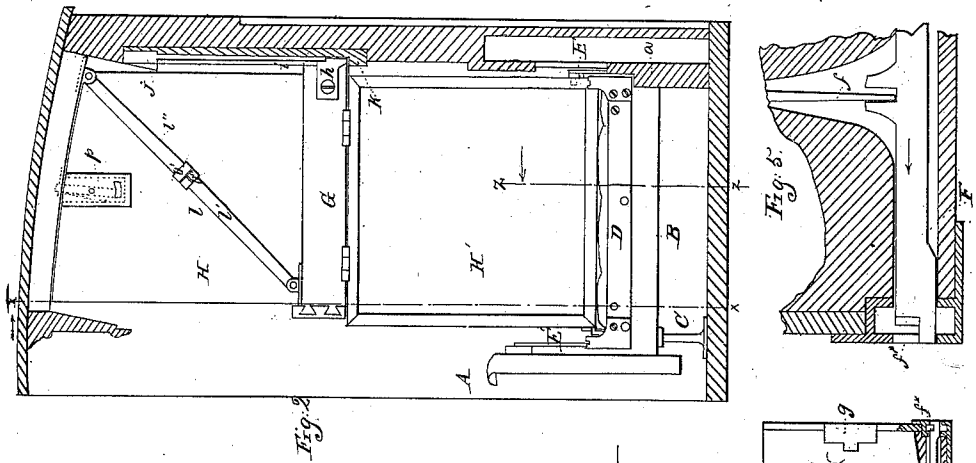


Fig. 2.



Fig. 5.

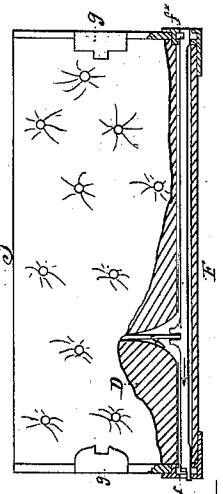


Fig. 4.

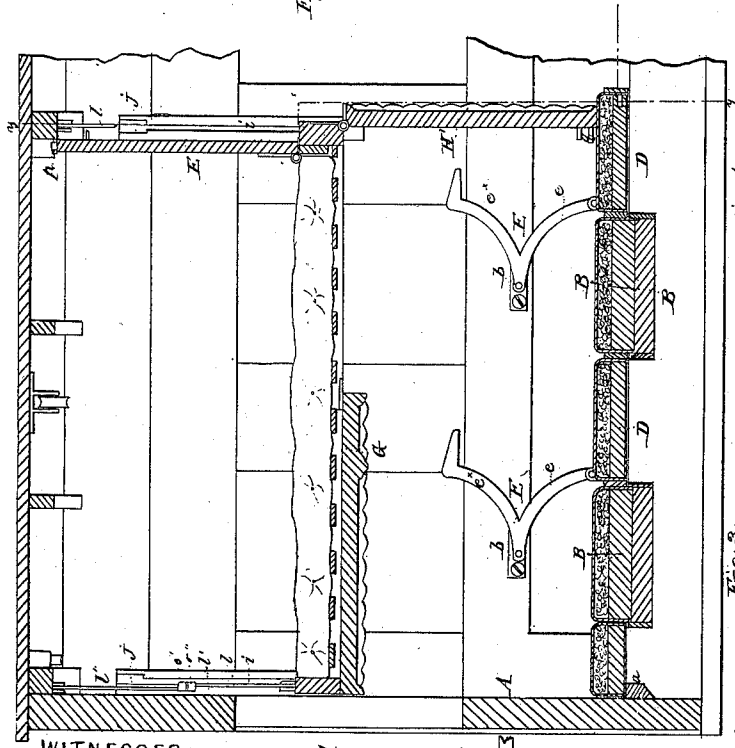


Fig. 1.

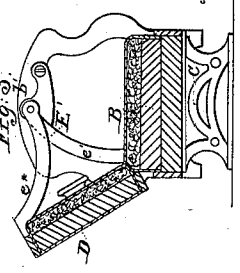


Fig. 3.

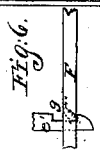


Fig. 6.

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# UNITED STATES PATENT OFFICE.

BEN FIELD, OF ALBION, N. Y., AND GEO. M. PULLMAN, OF CHICAGO, ILL.

## IMPROVEMENT IN SLEEPING-CARS.

Specification forming part of Letters Patent No. 42,182, dated April 5, 1864.

*To all whom it may concern:*

Be it known that we, BEN FIELD, of Albion, in the county of Orleans and State of New York, and G. M. PULLMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sleeping-Cars; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of our invention, the line *x x*, Fig. 2, indicating the plane of section, and looking in the direction of the arrow opposite to that line. Fig. 2 is a transverse vertical section of the same, taken in the plane indicated by the line *y y*, Fig. 1. Fig. 3 is a transverse vertical section of one of the seats, the plane of section being indicated by the line *z z*, Fig. 2, and looking in the direction of the arrow opposite to that line. Fig. 4 is a sectional plan or face view of the back of the seat. Fig. 5 is an enlarged view of a portion of the same, showing the device for locking the back. Fig. 6 is a partial side elevation of the same.

Similar letters of reference in the several views indicate corresponding parts.

This invention relates to certain improvements in that class of sleeping-cars in which the seats can be converted into a continuous couch, and a second tier of couches is provided by a platform, which is raised to the roof of the car when not used and lowered to a convenient height when it is to be used.

The invention consists more particularly in certain novel means for locking the backs when the seats are to be used in their ordinary capacity, and also to a certain novel arrangement for sustaining the upper platform when lowered and to guide it in its up and down motion, and to the combination, with said upper platform, of hinged trap-doors to form partitions throughout the car when the same is to be used for sleeping purposes.

To enable those skilled in the art to make and use our invention, we will proceed to describe it.

A represents a railroad-car built of wood or any other suitable material in the ordinary manner. The seats B are supported on those ends facing the central passage of the car by standards C, of the ordinary construction, and their opposite ends rest on a shoulder, *a*, projecting from the side of the car and extending throughout its whole length.

D are the backs, which are sustained by arms E E′, so that they can be reversed in the usual manner. The arms E are attached to the side of the car by means of pivots *b*, and the two branches *e e** of each of said arms are rigidly connected, the back being hinged to the branch *e* by means of a pivot, or in any other convenient manner, and secured to the branch *e** by a spring-catch of peculiar construction, which will be hereinafter more fully described. The arms E′ are connected by means of pivots *b′* to the standards C, and each of said arms is composed of two independent branches, *e′ e′**, both being connected to the standard by means of the same pivot. The branch *e′* is hinged to one edge of the back, and the branch *e′** is connected to the opposite edge by means of the same spring-catch which also secures the branch *e** of the arm E. When the back is connected to both branches of each of the arms E E′ it is held in the required inclined position like the back of an ordinary car-seat, and it can be reversed in the usual manner.

F is the spring-catch which locks the branches *e* e′** of the arms E E′. This catch is inserted in one edge of the back, and it is subjected to the action of a spring, *f*, which forces the same in the direction of the arrow marked on it in Figs. 4 and 5. It is provided with two projections, *f* f′**, which catch into notches *g* (see Fig. 6) in the inner surface of the branches *e* e′**, near to their points. By forcing the spring-catch back in the direction opposite the arrow marked thereon in Figs. 4 and 5 both branches *e* e′** of the arms E E′ are released simultaneously, and the back can now be turned down to a horizontal position in line with the seat, as clearly shown in Fig. 1. By this arrangement each pair of consecutive seats can be converted into a couch, affording sleeping-room for two persons, and when the back has been brought in this position the branch *e′** of the arm E′ is turned back close down to the standard C, and out of the way of persons entering or leaving the couch.

The upper tier of couches is produced by a series of platforms, G, one of which is represented in Figs. 1 and 2. This platform is provided at its outer edge next to the side of the car with two hooks, *h*, which fit into grooves *i*

in the side of the car. These grooves may be made directly in the wood or in pieces of metal attached to said sides, and each of said grooves terminates above in a recess, *j*, to receive and sustain the hooks and the outer edge of the platform when the same is up and out of use. The lower ends of the grooves form shoulders *k*, to support the hooks and a portion of the platform when the same is down ready to be used as a couch. Said platform, when lowered, is sustained in a horizontal position by two extension-braces, *l l*, the upper ends of which are hinged to lugs *m*, inserted into the roof of the car, and which extend in an inclined position toward the inner edge of the platform, their lower ends being hinged to lugs *n*, projecting from the edges of the end pieces of said platform. Each of the braces *l* is made of two parts, *l' l''*, which are connected by sleeves *o' o''*, the sleeve *o'* being firmly secured to the end of the part *l'* and made to slide on the part *l''*, and the sleeve *o''* being firmly attached to the part *l''* and made to slide on the part *l'*, each brace is thus allowed to extend as the platform is lowered and to contract as the platform is raised, and when the platform is down the sleeve *o''* bears against the sleeve *o'*, and the further extension of the brace is prevented.

The platform G is provided with two hinged trap-doors, H H', one on top and one at the bottom attached in such a manner that when the door H is turned up and the door H' down a complete partition is formed between the adjoining couches. The door H is retained in its upright position by a bolt, *p*, and the door H', when turned down, catches in two sockets, *q*, secured to the ends of one of the backs. When turned up this door is secured to the under side of the platform G by a bolt or other suitable device. When the platform is raised it is retained in a suitable recess under the roof by means of a bolt or catch, and if said platform is up and the backs of the seats fastened by the spring-catches F the car has in every respect the appearance of an ordinary car, and the seats can be used precisely in the same manner.

The whole construction of our car is such that it can be readily converted into a sleeping-car, the platform can be lowered without trouble, and all its parts are so constructed that they are not liable to get out of order.

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

1. The spring-catch F, arranged in the edge of the back D of a car-seat, and operating in combination with the notched branches *e* e'** of the hinged arms E E', substantially as and for the purpose specified.

2. Making the arm E' out of two independently-hinged branches, *e' e'**, as and for the purpose set forth.

3. The extension-braces *l* and grooved guides *i*, in combination with the hooks *h* and with the platform G, constructed and operating as and for the purpose described.

BEN FIELD.
GEO. M. PULLMAN.

Witnesses to the signature of Ben Field:
W. HAUFF,
HENRY MORRIS.
Witnesses to the signature of G. M. Pullman:
SIMEON W. KING,
GRANT GOODRICH.