

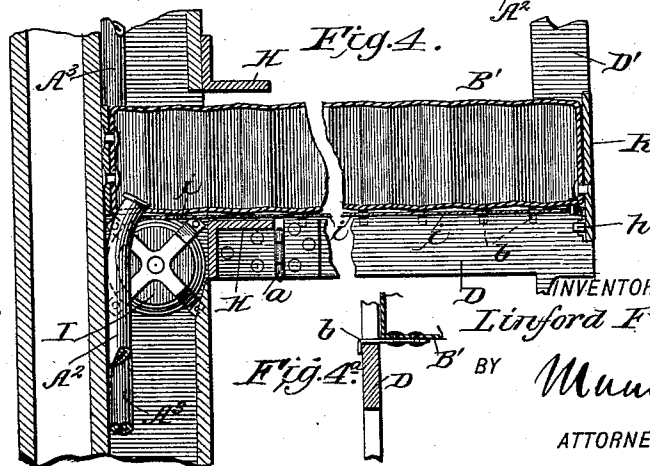
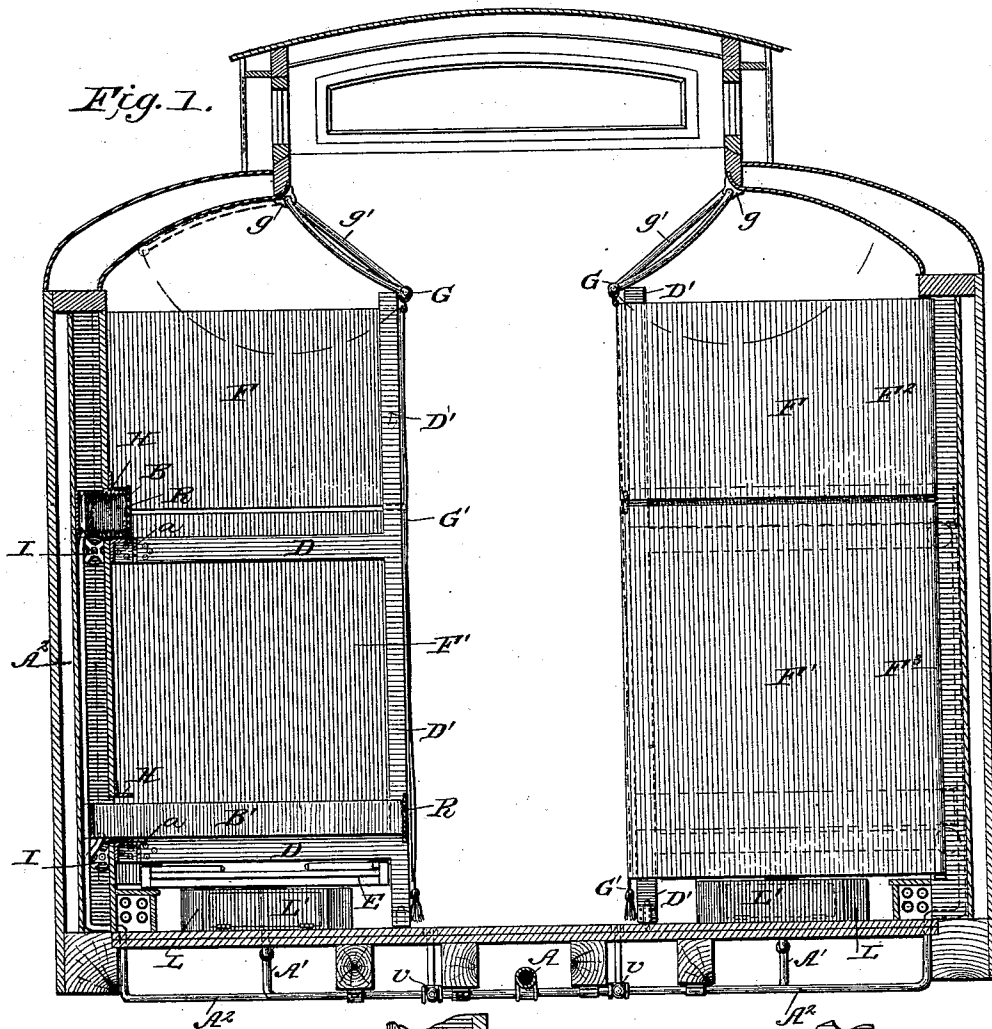
(No Model.)

3 Sheets—Sheet 1.

L. F. RUTH.
COMBINED SLEEPING AND PARLOR CAR.

No. 529,961.

Patented Nov. 27, 1894.



WITNESSES:
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ATTORNEYS.

(No Model.)

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Fig. 2.

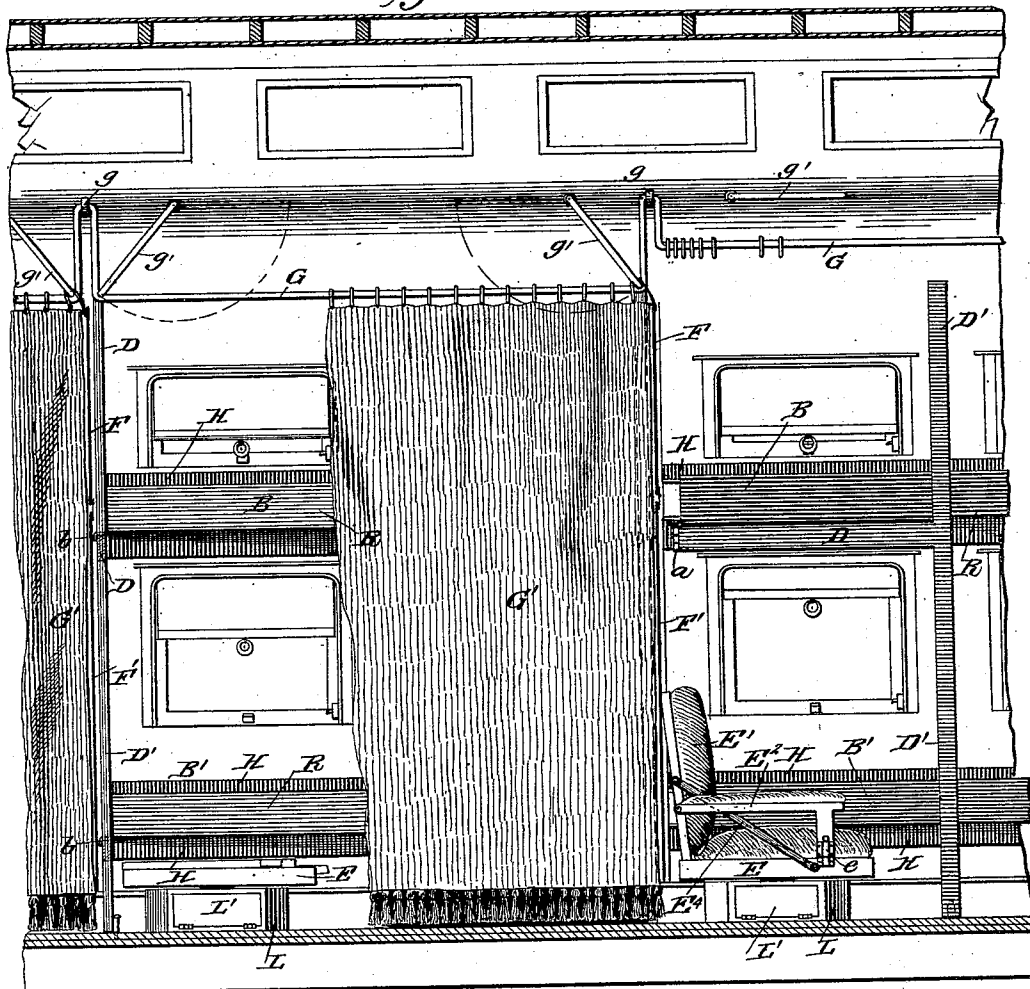
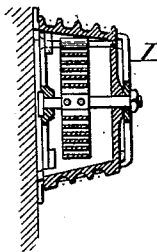


Fig. 5.



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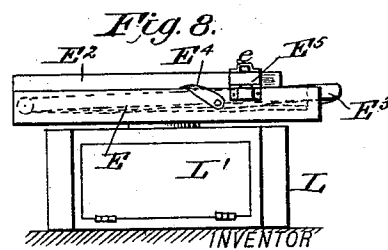
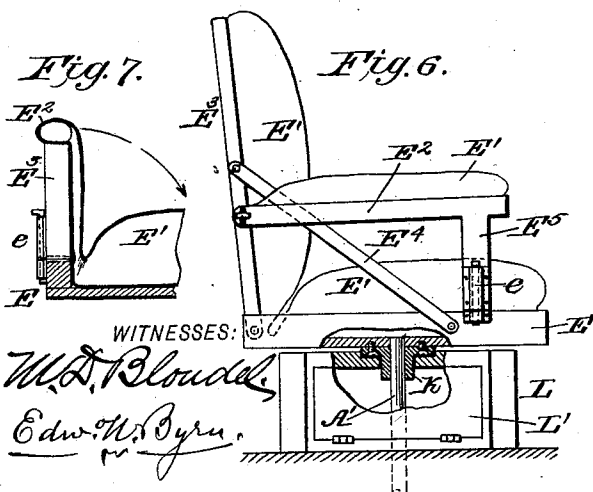
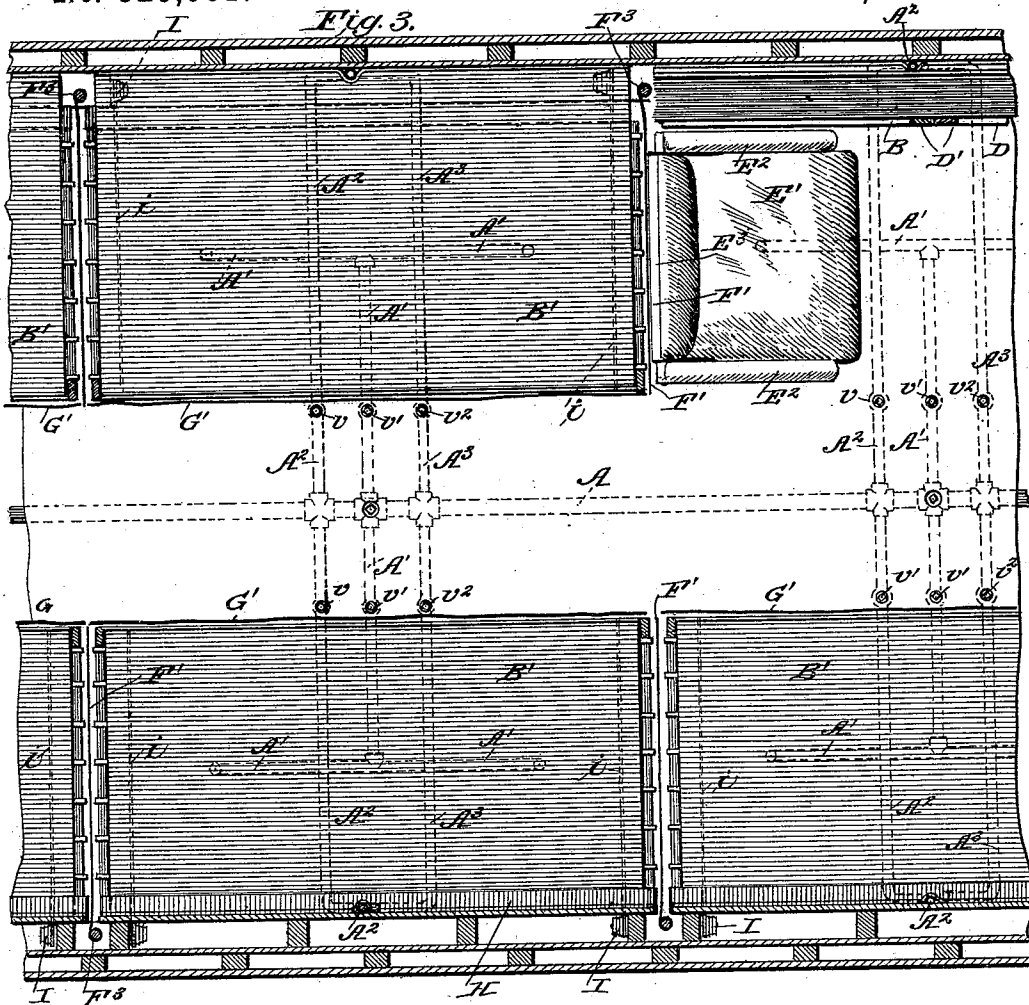
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COMBINED SLEEPING AND PARLOR CAR.

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BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

LINFORD F. RUTH, OF CONNELLSVILLE, PENNSYLVANIA.

COMBINED SLEEPING AND PARLOR CAR.

SPECIFICATION forming part of Letters Patent No. 529,961, dated November 27, 1894.

Application filed August 2, 1894. Serial No. 519,283. (No model.)

To all whom it may concern:

Be it known that I, LINFORD F. RUTH, of Connellsville, in the county of Fayette and State of Pennsylvania, have invented a new and useful Improvement in a Combined Sleeping and Parlor Car, of which the following is a specification.

My invention relates to sleeping and parlor cars, and it has for its object to lessen the expense of this class of rolling stock, to reduce its weight, to increase its range of usefulness, to improve its conditions of cleanliness and sanitation; and it consists of such construction and arrangement of berths, cushions, chairs, supports, curtains, &c., as to compactly embody the necessary features of both a parlor and a sleeping car in one construction, and to conveniently convert it to either of these uses in a perfectly harmonious and compatible manner. Among its leading features is a system of pneumatic cushions connected to the compressed air pipes of the train, and adapted to be inflated by opening suitable valves in connecting pipes, or be collapsed and compactly stored *in situ*, the bed or mattress being inflated and the chair cushions collapsed when used as a sleeping car, and the chair cushions inflated and the bed collapsed when used as a parlor car, and both being alternately operated by the dynamic force of the compressed air according to whichever use is desired, by a simple adjustment of valves in each section, all as hereinafter more fully described.

Figure 1 is a vertical cross section of a car embodying my improvements. Fig. 2 is a vertical longitudinal section through the aisle showing on the right the disposition of parts when used as a parlor car, and on the left the disposition of parts when used as a sleeping car, a part of the outside curtain being in place. Fig. 3 is a horizontal section or ground plan. Fig. 4 is an enlarged sectional detail of the devices for extending or withdrawing the pneumatic mattress. Fig. 4^a is a detail of one of the mattress supports. Fig. 5 is a sectional detail of one of the mattress collapsing springs. Fig. 6 is a side view partly in section of the chair. Fig. 7 is a front view of one of its arms, and Fig. 8 is an end view of the chair folded.

The sections of my car comprehend each an

upper and lower berth, and two chairs disposed beneath the berths on the floor, and both mattresses or bed cushions of the berths and also the cushions of the chairs are air tight bags of soft rubber, or other suitable material, which are adapted to be inflated and extended by compressed air when in use, or be collapsed and folded when not in use.

A represents the main compressed air pipe of the car which runs longitudinally along the same under the floor and has three branch pipes for each car section. One of the branches A' supplies air to the two chairs, and the other two branches A² A³ supply air respectively to the upper and lower berth mattresses. The admission of air to the cushion of the bed or chairs is governed by valves *v v' v²* in the respective branch pipes, and these valves are preferably three way cocks of well known construction, which when turned one way admit the air to the cushions, and when turned another way cut off the supply of air and also open a vent or discharge from the cushions.

The upper and lower berths are constructed and arranged in a similar manner, and hence a description of one will suffice for both.

Referring to Fig. 1, B shows the upper berth folded, and B' the lower berth extended for use. The mattress or berth cushion has its air tight bag creased to fold like an accordion, and at the head and foot it is attached to a flexible strip *i* that winds upon the conical barrel of a spring I Fig. 5 which is a well known device used in car construction. When the mattress is extended this strip *i* is pulled out and the spring wound up, and when the mattress is collapsed the tension of the spring winds up the strip *i* on the barrel and folds the mattress into compact accordion plaits, as at B in Fig. 1. If desired additional strips *i* and springs I may be provided for the middle part of the mattress. To guide the mattress at head and foot, and support it when extended, its bag is provided with a series of hooks *b* Fig. 4^a that catch over the transverse frame supports D made of steel. These supports at their outer ends are connected at right angles to vertical posts or standards D', and at their ends next to the car sides they are hinged, as at *a* Fig. 4, so as to fold in a horizontal plane and lie flat against the sides of the car when the berths are not

in use, as on the right hand side of Fig. 2. The berths are folded in a housing or casing H in the sides of the car, and when it is desired to extend them for use air is turned on
 5 from pipe A by opening one of the valves v v^2 . The air then entering through pipe A² or A³ causes the mattress to be inflated and extended, moving laterally across the guides and supports D from the position shown at
 10 B to the position shown at B', in which latter position its outer edge is held by hooks h till it is to be folded again. The spring I is now under tension and when the mattress is to be collapsed and folded its air valve is turned
 15 so as to cut off the supply of air and discharge the contents of the bag, and the spring I then through the flexible strip i draws back the mattress and folds it in plaits in accordion fashion as at B. When the cushions are in-
 20 flated their communication with the air pipe is cut off by a further movement of the valve which maintains the mattress inflated independently of any connection with the air pipe. The mattress at its outer edge is connected to
 25 the panel rail R which moves in and out with the mattress and this connection is made at the bottom of the rail as shown in Fig. 4 only so as to prevent the weight of the occupant from tearing any of the mattress from said rail.
 30 In each section occupied by two berths there are under the berths two chairs equipped exactly alike. Each has a base L provided with a hinged door L' which base forms a storage place for blankets, bed linen, pillows, &c.
 35 The chair, see Fig. 6, swivels on this base about the inlet pipe A' for compressing air which latter passes through a tight collar or stuffing box K and serves to introduce air to the pneumatic cushions E' E' of the chair
 40 seat and back. The chair back frame E³ is hinged to the base frame E and folds forward on the same as in Fig. 8, whenever the cushions are collapsed or emptied of air. The arm E² is secured by a button to the back and
 45 is hinged to the base E so as to fold inwardly over the seat, as indicated by the arrow in Fig. 7, and it is rigidly held upright by a bolt e when the chair is arranged for occupancy. E⁴ is a strap brace to hold the back against
 50 going back too far. These chairs have their cushions centrally connected to the branch air pipe A', as in Fig. 3, and their cushions are distended or collapsed by the adjustment of the valves v' in the same manner as the
 55 mattresses are.

The sections of the car are separated, see Fig. 1, by partition curtains F for the upper and F' for the lower berth, these curtains being arranged upon vertical spring rollers
 60 F² F² at the side. They are composed of woven wire covered with cloth to give substantial protection, and are pulled out horizontally when distended.

G' are the curtains that close in the sections
 65 from the aisle. These curtains hang from a rod G held by arms that rock in bearings at g at the top of the car, and are stiffened and

supported by braces g' . When not in use the curtains are folded and the rod G is swung back against the ceiling of the car as shown
 70 in dotted lines in Fig. 1.

The advantages of my invention are as follows: It takes less time and trouble to convert the parlor car into a sleeping car than it does to make up the beds of an ordinary
 75 sleeping car. The pneumatic berths and cushions leave the car free from all lodging places for dirt, vermin, or infection, and render the car much more sanitary and comfortable. There is also a great reduction in
 80 weight over the ordinary heavy Pullman cars, thereby reducing the power required for handling, which is an important item. It saves the expense of extra rolling stock involved in using separate sleeping and parlor
 85 cars, and also the interest on the investment, and storage for the same. I also overcome top heaviness of the Pullman cars, by doing away with the heavy upper bunks and seat frames, and removing the largest part of bal-
 90 ance weight placed in cars of present construction. The construction also allows the placing of ventilators in the sides of the car above the upper berths thereby rendering the same more comfortable in hot weather. The
 95 invention also saves the inconvenience to through passengers of changing from one car to another, for the day and night runs. Furthermore the construction is well adapted for the comfortable accommodation and transpor-
 100 tation of troops, as large sleeping capacity is afforded; and again any one berth can be arranged for sleeping while the rest of the car is used for a parlor car, or an upper berth can be extended while the chairs are in use
 105 below it, thus making it desirable for ladies traveling with small children.

Where cars having my improvement are detached from the train and the system of compressed air pipes, I provide for the main-
 110 tenance of the air cushion, or the inflating of the same, by a separate air pump carried by each car and worked by hand or otherwise.

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

1. A passenger car having pneumatic cushions combined with and permanently connected to the compressed air pipes of the car, and valves for directing the air to any one
 120 of said cushions, or cutting it off from the same, substantially as shown and described.

2. In a passenger car, the combination of pneumatic berth cushions made with accordion folds extensible in the plane of the cushion, and permanently connected compressed
 125 air pipes and valves to both inflate and extend the berth cushion by the power of the compressed air, substantially as and for the purpose described.

3. In a passenger car, the combination of pneumatic berth cushions constructed as described to fold, permanently connected compressed air pipes with valves, flexible strips
 130

attached to the ends of the berth cushions, transverse guides for holding the berth cushion strips, and coil springs for drawing back the berth cushion into a collapsed and folded condition, substantially as and for the purpose described.

4. In a passenger car, the combination of pneumatic berth cushions constructed to fold as described, permanently connected compressed air pipes with valves, flexible strips attached to the ends of the berth cushions, coil springs for winding up the same, and folding transverse berth supports having guides for the flexible strips substantially as and for the purpose described.

5. A combined parlor and sleeping car, having swiveling chairs with air cushions and

pipes entering said cushions through the swiveling connection, and extensible pneumatic berths above the chairs, air pipes and valves connecting with the same, the said chair cushions and berth cushions being arranged to be, the one extended and inflated, and the other collapsed and folded, and vice versa as set forth.

6. In a sleeping car, the combination of an air mattress and an outer panel rail connected thereto at the bottom only substantially as and for the purpose described.

LINFORD F. RUTH.

Witnesses:

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JAMES B. RUTH.