Nov. 3, 1953 G. D. PAGON 2,657,400

SLEEPING BERTH SUPPORT

Filed Feb. 21, 1952

FIG. 1

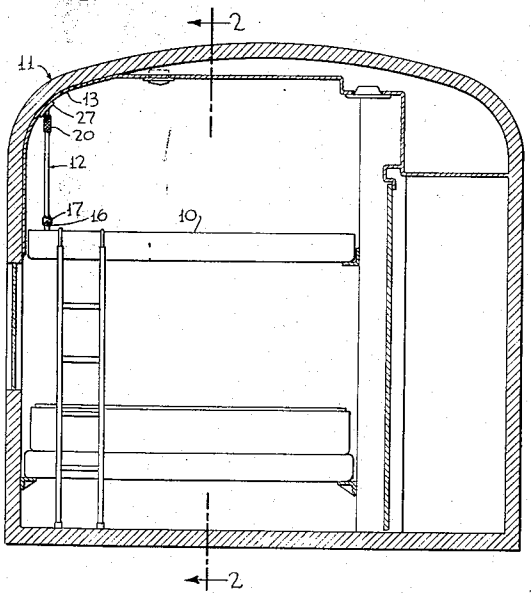
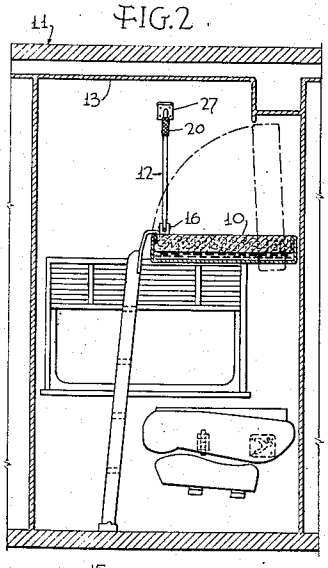


FIG. 2



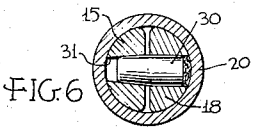


FIG. 6

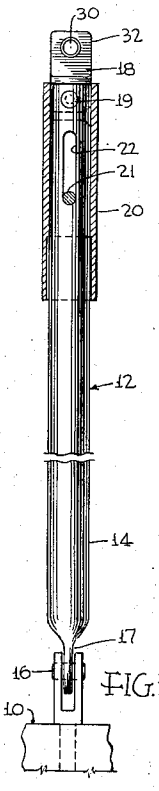


FIG. 5

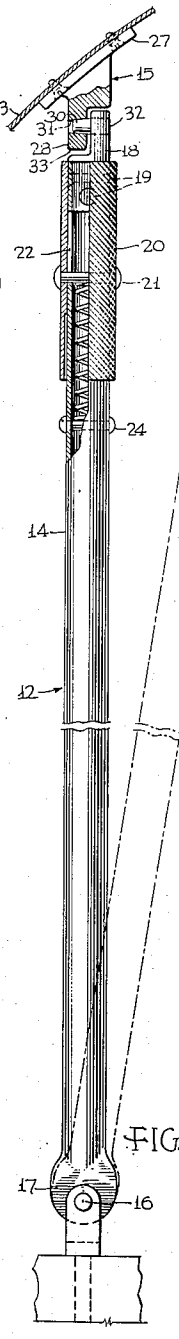


FIG. 4

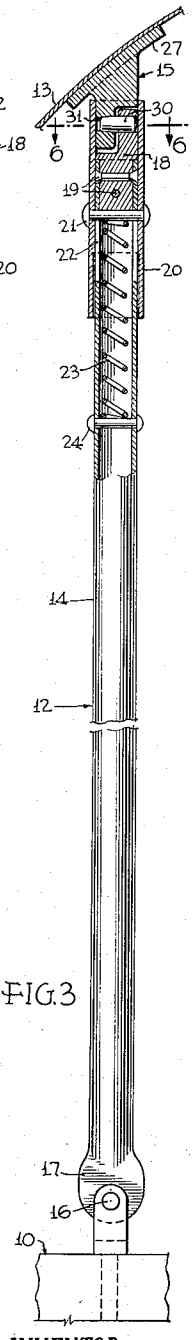


FIG. 3

INVENTOR.
Garrett D. Pagon
BY
Maurice A. Crews
ATTORNEY

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SLEEPING BERTH SUPPORT

Garrett D. Pagon, Ambler, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

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3 Claims. (Cl. 5—9)

1

This invention relates to sleeping berth supports, especially for vehicles such as railway sleeping cars and the like, and has for an object the provision of improvements in this art.

The invention relates particularly to a berth supporting strut of the type disclosed in the patent to Lyon, No. 2,560,513, July 10, 1951, and has for an object the provision of an improved strut for this purpose.

One of the particular objects is to provide a berth supporting strut which is very easy to connect and disconnect, requiring no movement of the berth for these actions, and which does not mar the interior finish in this action.

Another object is to provide a strut having parts which fit tightly together and which no free axial movement, to avoid noise, such as rattling, and to hold the berth securely in place.

Another object is to provide a strut which will remain connected without fail and which will positively show whether it is connected or disconnected.

Another object is to provide a strut which is very simple and inexpensive and easy to manufacture and install.

The above and other objects and advantages of the invention will be apparent from the following description of an exemplary embodiment, reference being made to the accompanying drawings, wherein:

Fig. 1 is a transverse vertical section through a sleeping car showing a berth supported by the strut;

Fig. 2 is a longitudinal vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged elevation of the strut and its connections alone;

Fig. 4 is a view similar to Fig. 3 showing the parts in stages of connection;

Fig. 5 is a side view of parts shown in Fig. 3, the keeper being omitted; and

Fig. 6 is an enlarged transverse section taken on the line 6—6 of Fig. 3.

The strut is shown in a typical setting as applied to a high-level berth 10 mounted in a vehicle, such as a bedroom car 11. Usually the berth is supported on one side and one end on the vertical walls of the vehicle and the strut 12 of the present invention is used, as shown, for supporting one corner of the berth from the ceiling or roof 13 of the car.

The strut assembly comprises the strut proper 14, which is secured to either the berth or its support anchorage, and the strut keeper 15 which is secured to the other part. Preferably the strut

2

is carried by the berth, being hinged to one end thereof, as by a pivot pin 16. When the berth is stowed the strut is folded inside the berth frame alongside the mattress.

The strut comprises a rod-like base element 17, here a tube which is flattened at the hinged end, a coupling element 18 secured to the outer end, as by rivet pins 19, and a sleeve 20 which is slidably mounted on the base element. The sleeve is retained by a rivet pin 21 secured thereto and operating in slots 22 formed in the sides of the tubular base element 17. The sleeve is urged toward the outer end of the tubular base element, as by a spring 23 which at one end engages the rivet pin 21 and at the other end engages a rivet pin 24 secured in the base element 17.

The anchorage member or keeper 15 comprises a base 27 which is secured to the anchorage, here the ceiling, and a coupling element 28 which mates with the coupling element 18.

The coupling elements 18 and 28 are of a type particularly desirable for berth supports and comprise parts which are joined by simple relative lateral movement produced by a straight swinging movement of the strut on its pivot pin 16 without requiring vertical movement of either strut parts or of the berth. As here shown, the coupling elements comprise a male element or lateral pin 30 and a female element or socket 31. The coupling elements may be on either the strut or the keeper, but preferably the pin is provided on the strut as shown. The coupling elements are provided on overlapping parti-cylindrical projections 32 and 33 of the strut and keeper respectively.

The male coupling element 30 is preferably tapered so as to wedge in the socket or hole 31 to avoid rattle when the parts are squeezed together by the sleeve 20 when it slides up over them.

In making the connection it is only necessary to pull the sleeve 20 down, as shown in full lines in Fig. 4, and to swing the strut in a straight arc about its pivot pin 16, as indicated by the dotted line position in Fig. 4, to engage the joint pin 30 in the hole 31, as shown in full lines in Fig. 4. Then when the sleeve 20 is released the connection is completed, as shown in Fig. 3. No threading upward into a socket or turning of the strut about its own axis is necessary in making the connection.

After the sleeve has moved up over the coupled parts, they cannot separate or move up and down; and, moreover, there is practically no load imposed on the sleeve by the tendency of the parts

to separate laterally. There is no force except gravity tending to move the sleeve axially of the strut away from coupled position.

It is thus seen that the invention provides a very simple, sturdy and reliable strut connection which can be easily installed and quickly connected and disconnected, and which will hold the parts in position without free movement or rattle.

While one embodiment of the invention has been illustrated and described by way of example, it is to be understood that there may be various embodiments within the general scope of the invention.

What is claimed is:

1. In a sleeping car or the like, in combination, a berth movable between a stowed position and a horizontal use position, an elongated support strut hinged by a pivot pin at one end to the berth for swinging movement in an arc in a vertical plane, a relatively short keeper secured to a fixed anchorage and adapted to hold the free end of the strut when swung up into a vertical position, mating coupling elements on said keeper and the free end of the strut which are aligned with the plane of swinging movement of the strut whereby they are engaged when the strut is swung up about its pivot pin, and an axially movable sleeve on said strut which is biased toward the free end of the strut for embracing the overlapped and interengaged ends of the strut and keeper for holding them in coupled relationship, the free end of the strut being tubular and having axially elongated slots on opposite sides, a transverse pin secured to said sleeve and passing through said slots, and a spring in said tubular strut end engaging said transverse pin and urging said sleeve outwardly toward the free end of the strut.

2. In a sleeping car or the like, in combination, a berth movable between a stowed position and a horizontal use position, an elongated support strut hinged by a pivot pin at one end to the berth for swinging movement in an arc in a vertical plane, a relatively short keeper secured to a fixed anchorage and adapted to hold the free end of the strut when swung up into a vertical position, mating coupling elements on said keeper and the free end of the strut which are aligned with the plane of swinging movement of the strut whereby they are engaged when the strut is swung up about its pivot pin, and an axially movable sleeve on said strut which is biased toward

the free end of the strut for embracing the overlapped and interengaged ends of the strut and keeper for holding them in coupled relationship, said coupling elements comprising a tapered pin and a mating tapered socket which fit tightly together when the strut and keeper are secured together, the free end of the strut being tubular and having axially elongated slots on opposite sides, a transverse pin secured to said sleeve and passing through said slots, and a spring in said tubular strut end engaging said transverse pin and urging said sleeve outwardly toward the free end of the strut.

3. In a sleeping car or the like in combination, a berth frame movable between a stowed position and a horizontal use position, an elongated support strut hinged at one end inside said frame for swinging movement in an arc in a vertical plane from a stowed position alongside the inner surface of a side of the frame to a vertical use position, a relatively short keeper secured to a fixed anchorage and adapted to hold the free end of the strut when swung up into a vertical position, overlapping semi-cylindrical coupling parts on the ends of said strut and keeper, said coupling parts having mating tapered pin and socket coupling elements which are engaged by swinging movement of the strut about its pivot pin, an axially movable sleeve on said strut which embraces the assembled overlapped semi-cylindrical coupling parts of the strut and keeper for holding them in coupled relationship, the free end of the strut being tubular and having axially elongated slots on opposite sides, a transverse pin secured to said sleeve and passing through said slots, and a spring in said tubular strut end engaging said transverse pin and urging said sleeve outwardly toward the free end of the strut.

GARRETT D. PAGON.

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2,560,513	Lyon	July 10, 1951

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