

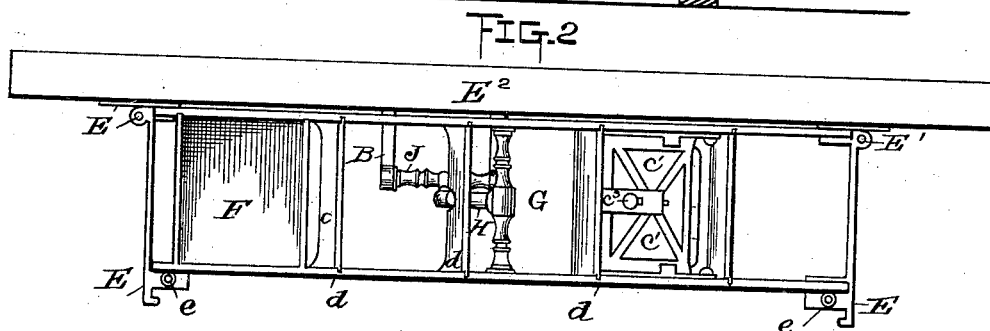
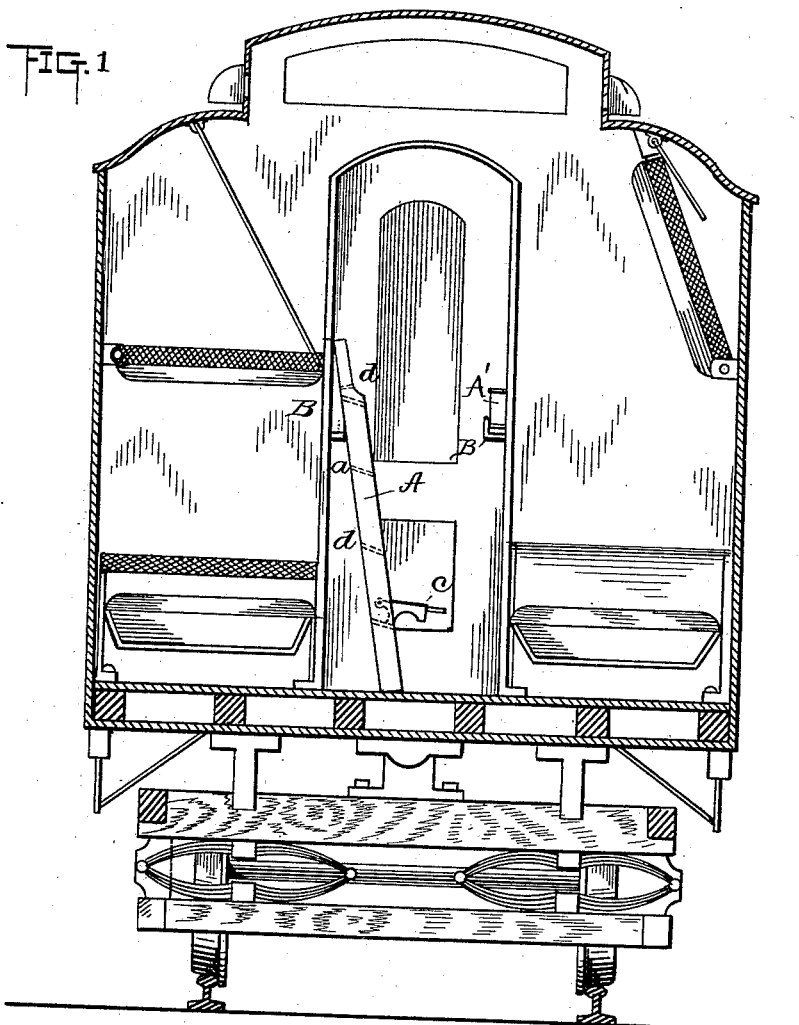
(No Model.)

2 Sheets—Sheet 1.

W. FORD.
LADDER FOR SLEEPING CARS.

No. 423,237.

Patented Mar. 11, 1890.



Witnesses
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Wm. S. Reynolds

Inventor
William Ford
By his Attorney
James H. Lancaster

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3

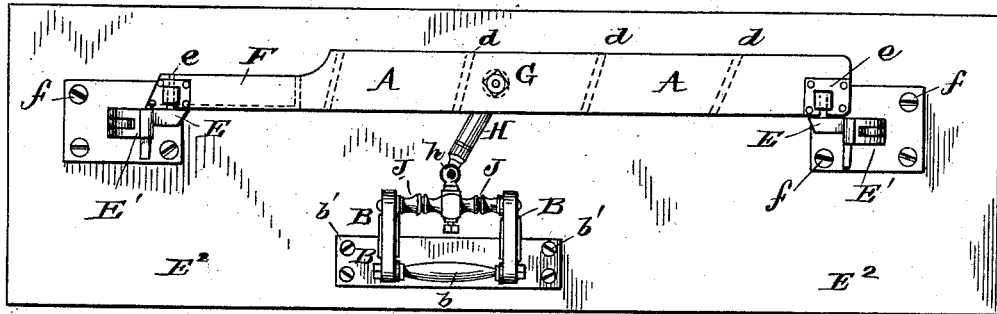


FIG. 4.

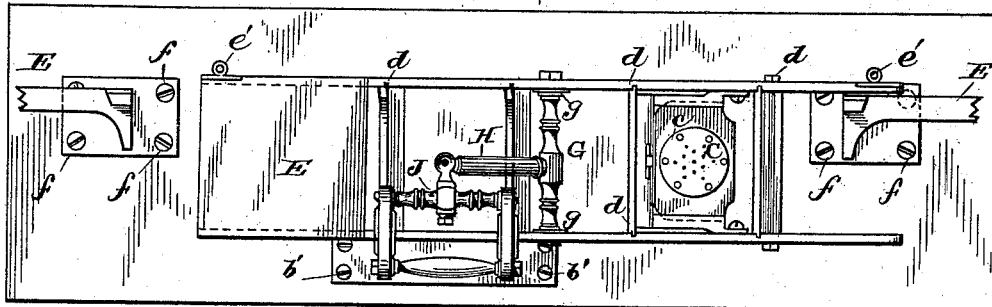


FIG. 5.

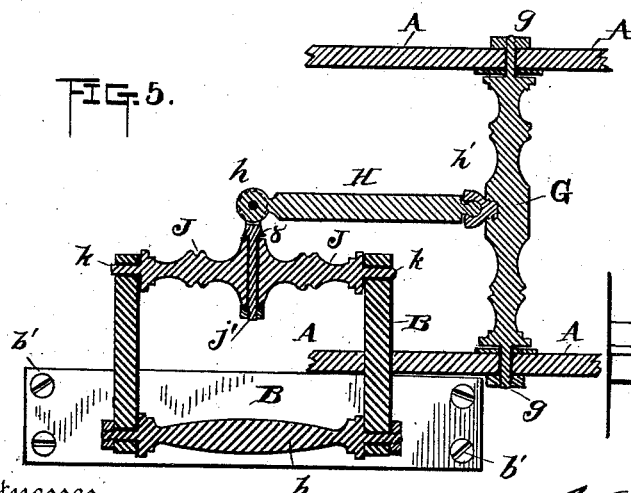
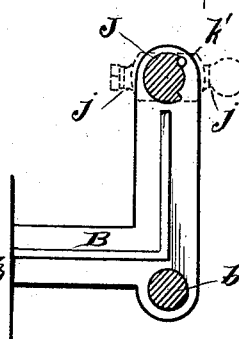


FIG. 6



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UNITED STATES PATENT OFFICE.

WILLIAM FORD, OF BROOKLYN, NEW YORK.

LADDER FOR SLEEPING-CARS.

SPECIFICATION forming part of Letters Patent No. 423,237, dated March 11, 1890.

Application filed July 16, 1889. Serial No. 317,741. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FORD, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Combined Automatic Ladders, of which the following is a full, clear, and exact specification.

My invention relates to improvements in adjustable and combined ladder attachments for applying to and connected with railroad-car and steamship berths in which the ladder is made to swing and fold up into a compact space, and also for various other uses when not required for mounting to or alighting from the berth; to serve as a seat when erected for use as a ladder; to form a tray when turned up and placed horizontally upon supports fixed to the exterior portion of the upper berth, and when not in use to fold up and fit into a recess in or be locked against and concealed in the outside frame-work of the ship or car berth.

The objects of my invention are, first, to provide an easy and safe means of getting into and out of ships and car berths or bunks; second, to provide a seat from or connected with a lower step of the ladder; third, to make such provisions in the jointing of the folding and affixing attachments as to enable the occupant of the upper berth to readily lift up and place the ladder in position for use as a fixed table alongside and firmly against the upper berth; fourth, to permit by its peculiar jointing and swiveling connections and arrangements of being instantly locked to and concealed in or snugly secured to the exterior frame-work of the said upper berth, and, fifth, to be able to instantly disconnect the folded and concealed ladder and drop it down so that by its falling it shall simultaneously and safely adjust itself for immediate use. I attain these objects by the mechanisms and arrangements of parts illustrated in the accompanying drawings, in which—

Figure 1 is a cross-sectional view of a railroad-car, showing the device ready for use as a ladder and the seat also extended for use. Fig. 2 is a plan view of the device, showing it affixed horizontally to the upper berth and ready for use as a table or tray. Fig. 3 is an

external view of the device as shown in use in Fig. 2. Fig. 4 shows the device out of use and closed up against the external frame-work of berth. Fig. 5 illustrates in detail the jointing and swiveling mechanism for folding and adjusting the device. Fig. 6 is an enlarged detail of the bracket attachment for carrying and controlling the device.

Similar letters refer to similar parts throughout the various views.

The ladder and general frame-work of the device A are secured by screws at $b' b'$ to the outside frame-work of the berth E^2 by means of the metal-work or bracket B, which carries the swivel-bar J, rocking at $k k$, with its centrally-jointed cross-head j , which at one end is held by a screw-nut at j' , while the other end is split or slotted in the center to receive the swiveled connecting-rod H of the ladder cross-head G. This cross-head G binds the two sides of the ladder A and holds the same firmly to the bracket B, and in said sides the said cross-head G revolves at g , while the connecting-rod H revolves or oscillates at h and h' at its respective extremities. The swiveled cross-bar J is provided at its journals $k k$ with stop-pins k' , as shown on Fig. 6, which control the travel or motion of this bar J and the depended ladder.

Supported on one of the lower steps d of the ladder and provided with suitable guide-slots is a sliding, hinged, and folding seat C arranged in a manner that permits of the said seat being shut up and locked inside of the ladder in a vertical position between the steps $d d$, as shown in Fig. 2, $C' C'$, with spring-catch C^8 .

To enable the ladder to be used as a table or tray by the occupant of the berth, swinging brackets E E are furnished. These brackets E E are secured to the exterior frame-work of the berth at $f f$ and turn upon hinged joints at $E' E'$, while at the other extremity vertical pins $e e$ are furnished to receive and secure the tray F through holes $e' e'$ in the ladder.

When the device is not required for use, it is easily folded up and vertically placed inside the main bracket B, which keeps it snugly held to the exterior frame-work of the berth, as shown at A' in Fig. 1.

The ladder and attachments, being secured to the upper berth by means of various specially-constructed union-joints, accommodate themselves to the motion of the ship or vehicle without losing their rigidity or endangering their effectiveness, while at the same time the whole device can be instantly folded up and neatly packed away or again thrown into actual use by the occupant while in his berth.

It will be obvious that in some cases it may be found desirable to dispense with the chair-seat attached, or even of the tray, and that in special cases a slight modification of the joints may be advantageous; still the same may be done without departing from the spirit or scope of my invention.

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

1. For use in connection with berths in ships and railroad-cars, the combination device hereinbefore described—namely, a step-

ladder, tray, and chair-seat—substantially as described and shown, and for the purpose specified.

2. In a sleeping-berth attachment for ships and railroad-cars, the combination of adjusting and swiveling devices consisting of the swinging cross-head J, carried in the arms of the bracket B, said cross-head having a centrally-placed socket for carrying the pivot, with slotted head, and the swiveled connecting rod H, for connecting same to the cross-head G, placed within the two sides of the ladder-frame, all arranged and connected for effecting the purposes specified, and substantially as herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of April, 1889.

WILLIAM FORD.

Witnesses:

WILLIAM S. REYNOLDS,
JAMES H. LANCASTER.