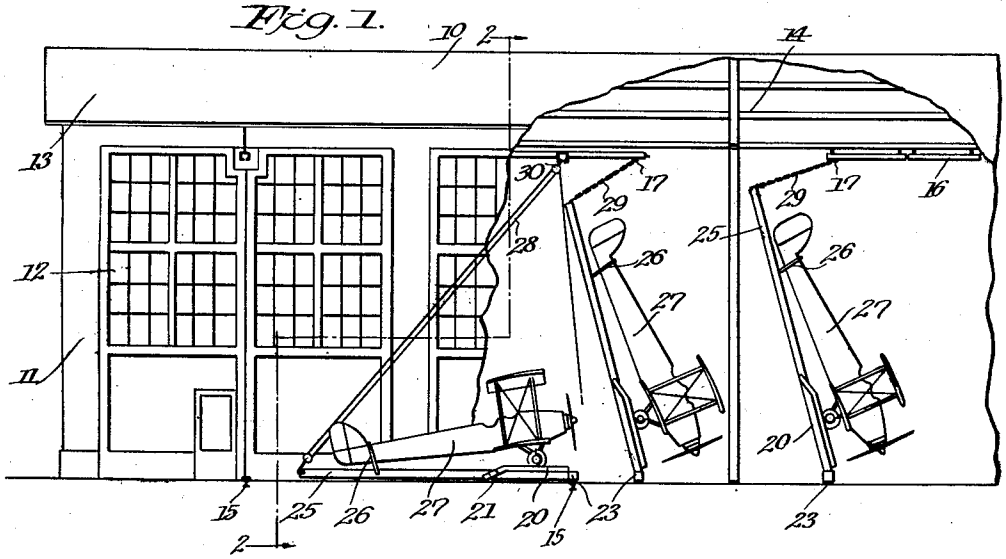
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AIRPLANE HANGAR OR SHED

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Fig. 1.



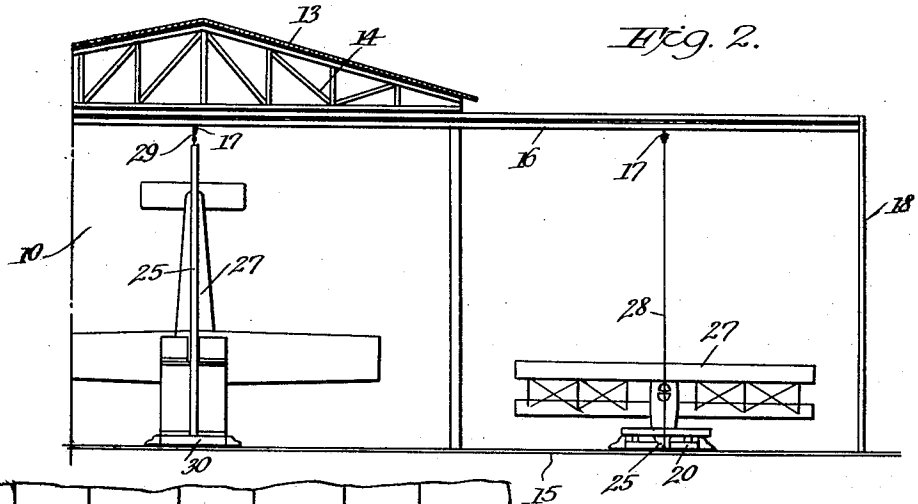


Fig. 2.

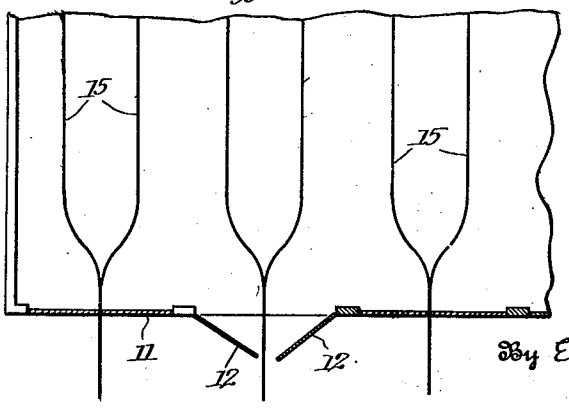


Fig. 3.

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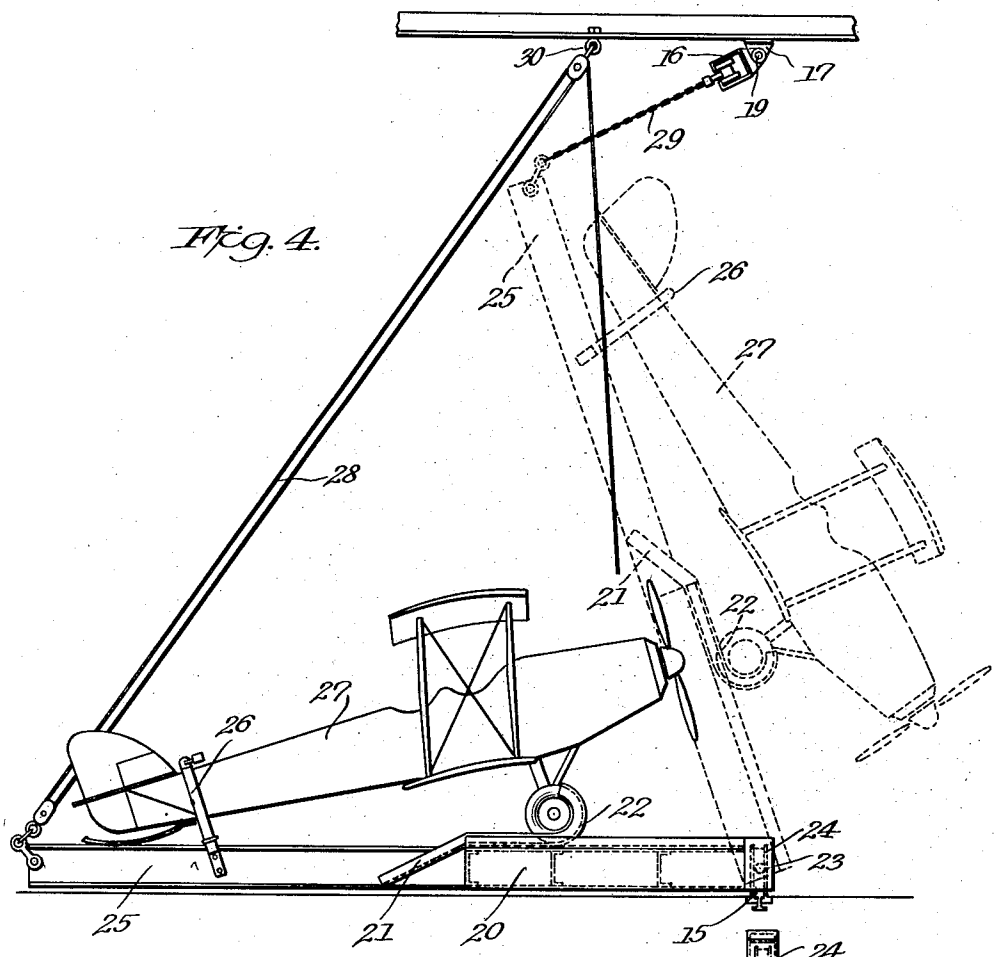
his Attorneys

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Fig. 4.



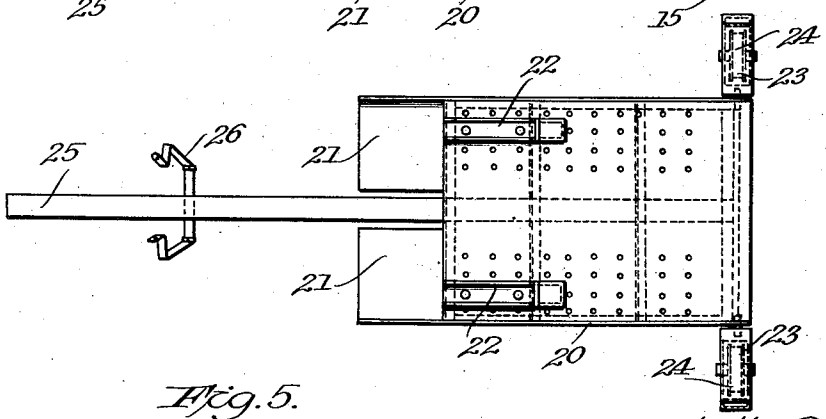


Fig. 5.

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UNITED STATES PATENT OFFICE

LYTLE S. ADAMS, OF NEW YORK, N. Y., ASSIGNOR TO AEROPLANE HANGAR AND EQUIPMENT CORPORATION, OF BUFFALO, NEW YORK, A CORPORATION OF DELAWARE

AIRPLANE HANGAR OR SHED

Application filed December 11, 1929. Serial No. 413,372.

This invention aims to provide for the convenient and safe handling and housing of airplanes of all types, although more especially adapted for planes having wheels for taking off and landing.

The difficulties heretofore experienced in handling airplanes on the runways and in hangars as usually constructed, wherein the planes are lined up in rows facing the entrance, have required a large field force of men to prevent accidents in moving planes and have necessitated large areas for the housing or storage of the planes. Attempts have been made to utilize large hangars for housing more than one row of planes, but this plan requires moving the planes in the front row to get access to those in the rear and is not satisfactory.

The invention contemplates securing each plane to a suitably constructed carriage, running upon a track, and having an overhead trolley paralleling the track for guiding it, the tracks, and carriages being arranged in parallel lines transversely of the airplane runway and extending to each side thereof to provide a series of individual berths access to any one of which may be had at any time without disturbing planes berthed along side.

The invention further aims to provide a carriage and tackle for handling planes on end so as to save space in the hangar.

Further objects and advantages will appear in connection with the following description of a preferred form of the invention shown in the accompanying drawings, wherein:

Fig. 1 is a front view of a portion of a hangar or shed embodying the invention, partly broken away to disclose the interior;

Fig. 2 is a vertical cross-section of the same on the line 2—2 in Fig. 1;

Fig. 3 is a plan view of a portion of a hangar showing the track arrangement;

Fig. 4 is a side view of a preferred form of carriage for transporting and stowing airplanes on end, drawn to a larger scale; and

Fig. 5 is a plan view of the same.

The invention is illustrated in the drawings as applied to a completely closed shed 10 of usual type having a front wall 11 composed of hinged doors 12 arranged to open outwardly, and a roof 13 supported on trusses 14 resting on columns in the front and rear walls so as to give an unobstructed floor space and a clear height to the roof within such berth thereby formed between the roof trusses. Single rail tracks 15 are laid in the floor crosswise of the shed, there being two tracks in each berth in the design illustrated. The track rails in each berth may advantageously be run together into one at the door opening to provide greater clearance for planes to pass through the doorways, as shown in Fig. 3.

Trackways 16 are suspended from the roof structure over the rails 15 and trolleys 17 are provided thereon for supporting the tail ends of the airplane carriages which run on the track rails 15. These trackways and rails are continued out from the hangar a sufficient distance to enable a plane to be run on to the carriage and its tail end lifted before pushing it into the hangar berth, the outer ends of the trackways being carried by posts 18 or other suitable supports, as shown in Fig. 2. The suspended rails 16 and trolleys 17 may be of usual construction for transporting suspended swinging loads, and preferably are supported by pivot connections 19 for permitting the trolley to accommodate itself to the position of the tail end of the carriage.

The airplane carriage (see Figs. 4 and 5) consists of a platform 20 provided with runways 21 and a pair of adjustable chocks 22 for receiving and securely holding the ground wheels of a plane. The platform is pivoted at its end opposite the runways 21 to a two wheel truck 23 having its wheels 24 disposed one on each side of the platform to run on a single track rail 15. A tail piece 25 extends from the platform away from the pivoted end and carries a supporting cradle 26 at its free end for engaging and securing the tail structure of the fuselage of an airplane 27. Tackle 28 is provided for hoisting the tail into an inclined position so that its center of gravity is nearly over the track 15 where the tail piece 25 can be engaged by a suitable grapple 28 and chain 29 suspended from the overhead trolley 17 to hold it in raised position. The

hoisting tackle may be attached to the supporting structure wherever convenient by means of eyes 30 spaced at suitable intervals along the roof trusses or trackway supports.

The operation of the device is simple. The chocks 22 are set at a proper distance apart and away from the track edge of the carriage so that when the plane is run on to the platform they will hold it from further movement forward. The tail is made fast in the cradle 26, and tail piece and cradle, with the plane secured thereto, are raised by means of the tackle 28 until the tail piece can be secured to the trolley 17. Thereupon the carriage and trolley with the plane supported and suspended in an inclined position taking up a minimum of ground space may be pushed through the open doorway and into one or the other of the two storage positions in each berth without disturbing any other plane in the hangar. A plane may likewise be removed at will without disturbing neighboring planes in the hangar.

Advantages of the invention are its simplicity and ease of operation by a small number of men, the elimination of danger of fouling nearby planes in moving a plane into and out of the hangar, avoidance of interference with other planes on the runway or in the hangar, protection of the planes against wind and weather, and complete utilization of the hangar space for storage purposes.

It is obvious that modifications in the design of the carriage, trolley and tracks, and hangar construction, may be made to suit different types of planes and conditions of use.

The invention is not restricted to the details shown, but what is claimed is as follows:

1. The combination of a hangar having transverse berths for airplanes with a ground track and an overhead track in each berth extending laterally out of the hangar, a carriage on the ground track adapted to receive the wheels of an airplane and a trolley on the overhead track adapted to support the tail of the airplane.

2. The combination of a hangar having transverse berths for airplanes with a ground track and an overhead track in each berth extending laterally out of the hangar, a carriage on the ground track having a tiltable body adapted to receive the wheels of an airplane and a trolley on the overhead track adapted to support the tail of the airplane.

3. The combination of a hangar having transverse berths for airplanes with a ground track and an overhead track in each berth extending laterally out of the hangar, a carriage on the ground track having a tiltable body adapted to receive the wheels of an airplane and a tail piece adapted to support the tail of said plane, and a trolley on the overhead track adapted to support said tail piece.

4. A system of handling airplanes including a carriage comprising a platform pivoted at one end to a wheeled support, a runway from the ground to said platform, means for securing the wheels of an airplane to said platform, and an overhead trolley having means for raising the platform about its pivoted edge.

5. A carriage for handling airplanes comprising a wheeled support, a platform pivoted thereto, said platform comprising a runway and a tail piece, cradle means for clamping an airplane fuselage to the tail piece and means on said tail pieces for attaching a lifting device for tilting up said platform.

6. A system for handling and storing airplanes comprising a tilting ground carriage and an overhead trolley, means for tilting said ground carriage, and means on said trolley for supporting said tilted carriage during movement thereof into and out of a hangar or the like.

In testimony whereof, I have signed my name to this specification.

LYTLE S. ADAMS.