Feb. 22, 1927. 1,618,441

H. H. D. KLINKER

LANDING GEAR FOR AIRSHIPS

Original Filed March 28, 1923

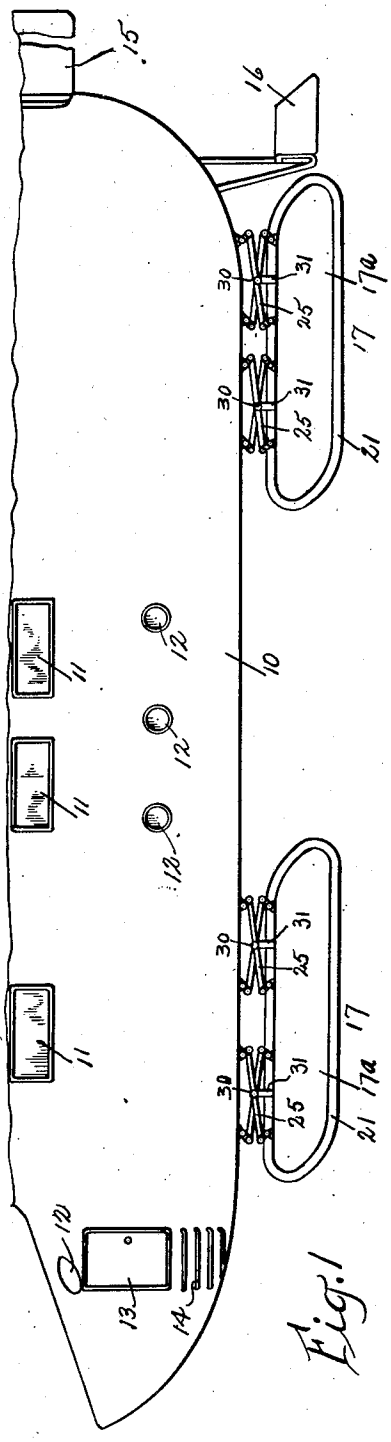


Fig. 1

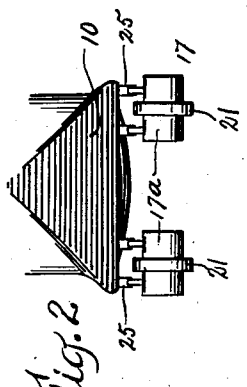


Fig. 2

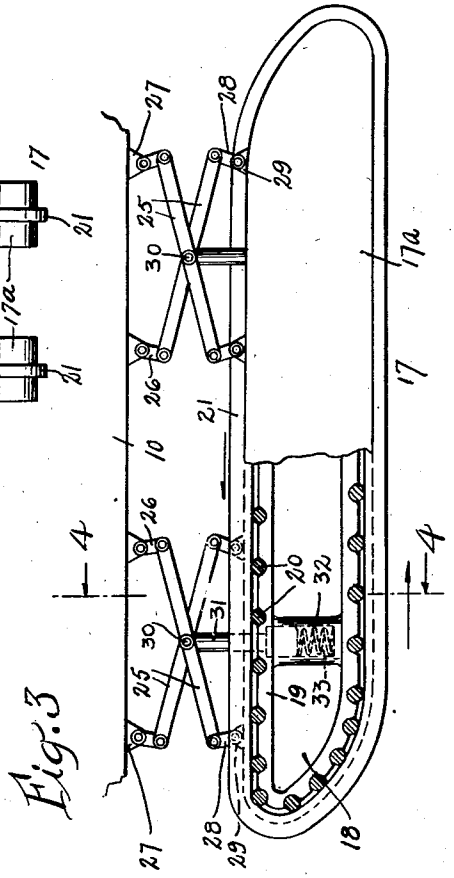


Fig. 3

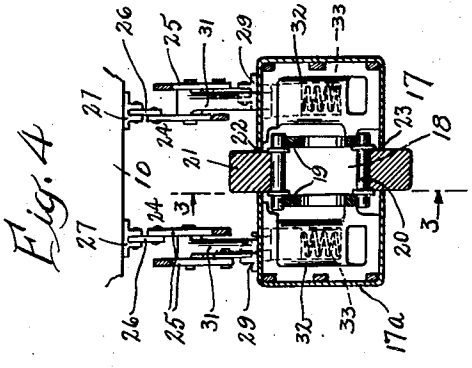


Fig. 4

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UNITED STATES PATENT OFFICE.

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LANDING GEAR FOR AIRSHIPS.

Original application filed March 28, 1923, Serial No. 628,183. Divided and this application filed March 18, 1926. Serial No. 95,554.

This invention relates to flying machines and has particular reference to devices of that general nature employing special landing apparatus, and is a division of the invention disclosed in my application, Serial No. 628,183, filed March 28th, 1923.

Among the objects of this invention is to provide apparatus adapted to be carried by a flying machine to afford the same an easy and safe landing and to facilitate the continued movement of said machine after the same has landed, said apparatus being intended for use with machines of all of the more practical types in use to-day.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a fragmentary side view showing a typical use of my invention.

Fig. 2 is a fragmentary front view of the structure shown in Fig. 1.

Fig. 3 is an enlarged side elevation of one of the traction runners, partly in section on the line 3—3 of Fig. 4.

Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 3.

Referring now more specifically to the drawings, I show my invention as used in connection with any flying machine having a body 10 of rather considerable size to contain a plurality of passenger compartments which are equipped with windows 11 and 12, any suitable door 13 to which lead steps 14 being provided. The body may contain motors to drive the ship, and dynamos to generate electricity, and lifting means in the form of gas compartments or the like. An aerial rudder 15 is provided at the rear, and beneath it a hydro rudder 16. It will be understood that the above is merely illustrative, and that my invention can be used with other types of flying machines, comprising, as it does, landing gear that will now be described.

For ground or descending purposes or landing gear I provide a series of shoes 17 shown as arranged in two pairs, one pair in front parallel to each other, and the other pair in the rear likewise arranged. Each shoe includes a central gas tight compartment or chamber 18 surrounding or within which are two endless rails 19 arranged in parallel vertical planes extending lengthwise of the machine and in which are journaled a series of anti-friction rollers 20. Supported anti-frictionally upon said rollers is an endless flexible tread member or tire 21 which projects above and below the casing 17^a of the shoe through slots 22 and 23 and which tire obviously is designed for direct contact with the ground instead of wheels as have heretofore been usually employed in aeroplanes or airships. Each shoe 17 is suspended from beneath the bottom of the body 10 by means of hangers 24 arranged in pairs and each including a plurality of levers or links 25 in the nature of lazy-tongs, the upper ends of which are connected by links 26 to brackets 27 fixed to the bottom of the body, and the lower ends of said links 25 are flexibly attached to the top of the shoe casing by means of links 28 pivoted to brackets 29. To the central or pivot portion of the lazy-tongs is connected at 30 a plunger 31 of a dash pot, the cylinder 32 of which is arranged within the shoe casing. A spring 33, located within each cylinder, tends to project the plunger upward, whereby the tendency is for the shoe to be carried normally extended downward or spaced from the body to its maximum distance. When, however, the ship strikes the earth or water the dash pots afford a resilient flexible movement upward relatively of the shoes, thereby easing the shock very materially. These shoes 17 act in the nature of pontoons.

I claim:

1. In a flying machine, the combination with a body, of landing gear therefor, said gear comprising a plurality of shoes flexibly connected to the bottom of the body, means for connecting each shoe to the body includ-

ing a plurality of dash pots each having a plunger and a spring acting upon the plunger tending to force it relatively upward, and a set of pivoted levers extending between the shoe and the body and attached to the dash pot plunger.

2. The combination as in claim 1 wherein each of said shoes includes a casing inclosing the dash pots, the levers being connected to the casing, a buoyant air compartment being provided in said casing extending longitudinally of the shoe.

In testimony whereof I affix my signature.

HERMAN H. D. KLINKER.