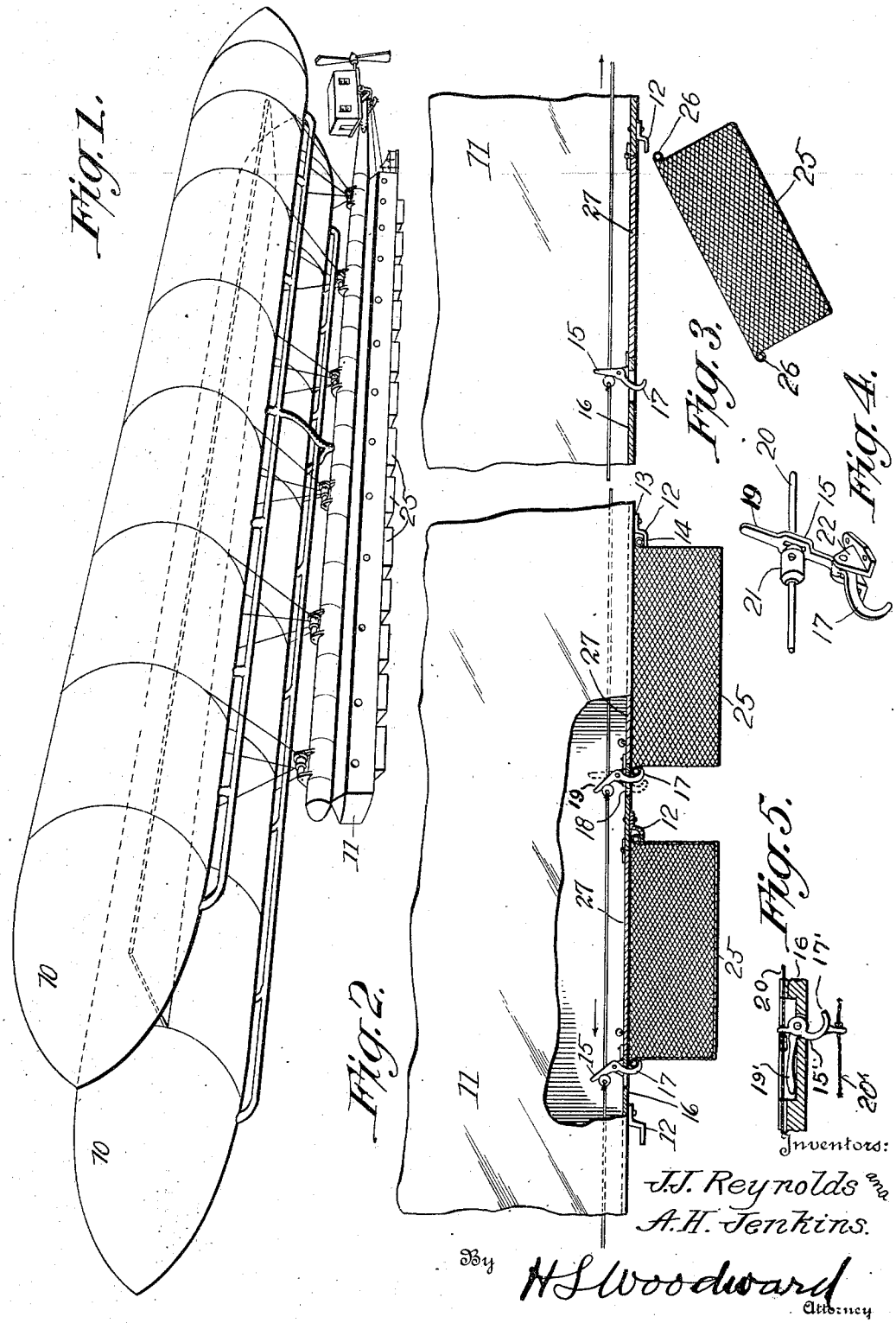
J. J. REYNOLDS & A. H. JENKINS.

CARGO STRUCTURE FOR AERIAL CRAFT.

APPLICATION FILED JULY 21, 1916.

1,243,556. Patented Oct. 16, 1917.



UNITED STATES PATENT OFFICE.

JOHN J. REYNOLDS AND ARTHUR H. JENKINS, OF RULEVILLE, MISSISSIPPI.

CARGO STRUCTURE FOR AERIAL CRAFT.

1,243,556. Specification of Letters Patent. Patented Oct. 16, 1917.

Application filed July 21, 1916. Serial No. 110,527.

To all whom it may concern:

Be it known that we, JOHN J. REYNOLDS and ARTHUR H. JENKINS, citizens of the United States, residing at Ruleville, in the county of Sunflower and State of Mississippi, have invented certain new and useful Improvements in Cargo Structures for Aerial Craft, of which the following is a specification.

The invention has for its aim to provide a desirable and efficient means for carrying cargo in aerial craft of all kinds, and in the present instance is particularly adapted to use with dirigible balloons. It has for an important object to enable the loading of cargo in carrying units and ready attachment of the units to the body of the craft with a minimum of time, whereby the craft does not require to be maintained or retained at the loading point during the loading period, but only for the length of time necessary to attach the carrying elements to the chassis. A further important purpose is to enable the release of the cargo entirely, or in part, as desired, at will. A further object is to give a desirable construction in cargo carrying structures and supporting devices therefor.

Additional objects, advantages and features of invention are apparent in the following description and the drawings of the application, wherein,

Figure 1 is a perspective view of dirigible balloons, upon which our invention is incorporated,

Fig. 2 is a detail view of the cargo carrying element,

Fig. 3 is a similar view showing one of the elements and its mounting, after release.

Fig. 4 is a detail of one of the trigger levers.

Fig. 5 is a similar view of a modification.

There is illustrated a dirigible balloon, which may be of any suitable construction, and in the present instance includes twin balloon elements 10, from which there is suspended in a suitable manner a car 11, which may be of any desired length and construction. The car has secured to its under side at intervals longitudinally thereof a plurality of transverse brackets 12, each consisting of an upper plate portion 13 secured to the under side of the car in a proper manner, and flange portions 14, projected in parallel relation to the bottom of the car, the brackets in the present instance being such as might be formed from sheet metal stamped in the manner indicated. All of the flanges 14 are projected in the same direction, and a suitable distance therefrom there are pivoted on the bottom of the car trigger levers 15, located on the medial line of the floor 16 of the car, these levers having hook ends 17, extending downwardly through a suitable slot 18 in the floor of the car and curved toward respective brackets 12 for support of cargo, as will be described. The levers have upwardly extending arms 19, enlarged slightly intermediately of their length and apertured to receive the release cable 20 slidably therethrough, a strike block 21 being secured upon the cable adjacent each lever, at each side opposite the opening of the hook arms 17. The levers are mounted in suitable blocks 22, upon the floor of the car, although any other suitable mounting for the levers may be employed.

Cargo bins 25 are provided, which may be of any desired material and form, having at the front and rear ends a transversely extending beam or flange 26, adjacent the upper edge of the bin, either one adapted to be engaged over the flange 14 of one of the brackets 12, while the other is engaged by the hook arm 16 of the adjacent trigger lever 15. The blocks 21 are so adjusted upon the cable 20 as to rest immediately adjacent all of the arms 15 of those trigger levers which are engaged with the bins as described, so that when the cable 20 is moved properly, all of the trigger levers will be so moved as to be disengaged, clearing the flanges 26 of bins, which will then be free to fall at the end adjacent the levers, and their opposite ends will automatically fall away from the brackets 12. If desired, the bins may be constructed with water tight closures in any approved manner so that the contents will not be damaged if dropped into the ocean.

If occasion should arise requiring the release of only a part of the cargo, it will be apparent that the upwardly projecting arms 15 of any of the levers may be moved or released of the cargo bins engaged thereby, without disturbing any of the others.

In this way, in case of vital necessity all of the cargo may be released by movement of the cable 20, which may be accomplished with any suitable operating means, numerous forms of which are well known in the art, and are therefore not described. On the

other hand, in case of slight decrease of lifting efficiency of the balloon elements 10, only so much of the cargo need be discharged as is necessary to compensate for the lost efficiency. In the event that a ballonnet in one of the elements is damaged so as to disturb the proper balance of the machine, a cargo element near the damaged unit may be released, and equilibrium restored.

It will be observed that the trigger levers are so constructed that their hook arms will fall into engagement under action of gravity, but if found desirable any desired means for securing them in engaged position may be employed. The bin elements 25 in the present instance are shown constructed with sides of basket or lattice work, whereby their weight is greatly lessened.

In Fig. 5 there is illustrated a modification of the cargo release in which a lever 15′ is employed having the hook arm 17′ extended below the bottom 16 for engagement with the bins as before described, an operating handle being provided on the upper part thereof adapted to lie horizontally in a recess 27 formed in the floor. A short arm 28 is extended upwardly from the lever with which the cable 20 is engaged in the same way as with the lever 15 before described. An individual operating cable 20′ may be engaged with the hook arm 17′, as shown.

Directly above each bin element 25, there are formed doors 27 opening upwardly, allowing the admittance of a person, for inspection of the cargo, or for the performance of other duties therein, it being entirely safe for a person to be admitted into the bin, as the securing means for the bins are of sufficient strength to support considerable weight. The doors when closed lie flush with the floor, and therefore do not offer any obstructions.

This permits utilization or rearrangement of the cargo without exposing the crew to undue peril, and without requiring loosening or other movement of the fastenings of the bins.

What is claimed:

1. In an air craft, a superstructure including a floor, a plurality of cargo carrying chambers having upper sides disposed to engage snugly the superstructure and respective door members set in said floor over the chambers constructed to open for access to the chambers from within said superstructure, releasable means to hold said chambers in rigid relation upon the superstructure, and means to release said last named means.

2. A device of the character described comprising a support, a plurality of rest elements upon the underside thereof projected in a given direction, a corresponding number of lever elements having portions projected in an opposite direction to that first mentioned for coöperation with said rests, containers having portions adapted to rest upon said rests and said projected portions of the levers, said levers having arms extended in a common direction, an operating element engaged slidably through said arms, and strike elements on said operating member to engage said levers under movement in one direction for simultaneous operation of the levers.

In testimony whereof we have affixed our signatures in presence of two witnesses.

JOHN J. REYNOLDS.
ARTHUR H. JENKINS.

Witnesses:
H. L. Woodward,
Christian Nielsen, Jr.