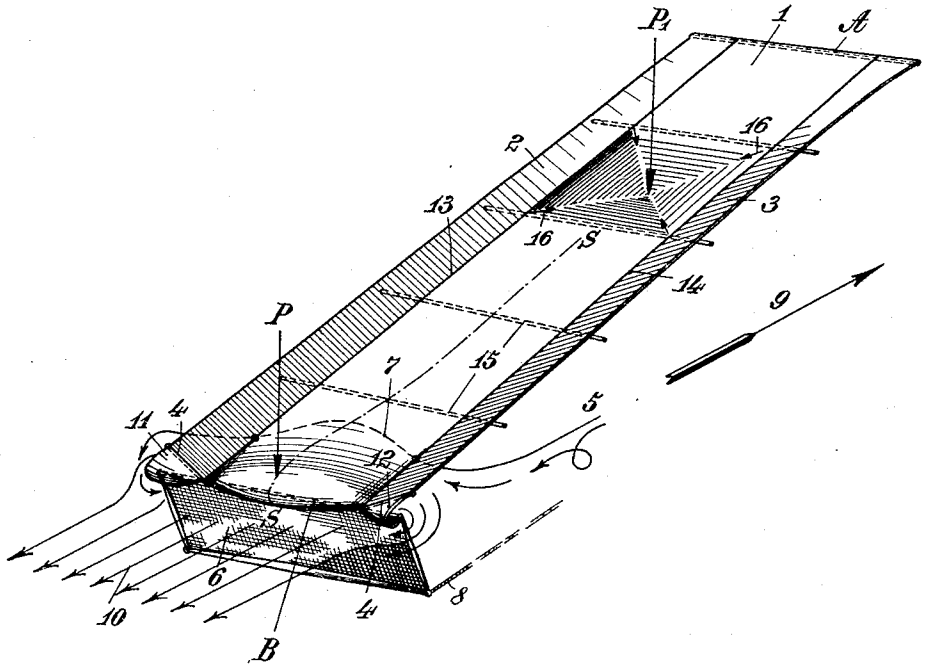
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DEVICE FOR TAKING UP AND SETTING DOWN FLOATING BODIES, PARTICULARLY AIRCRAFT, ON OR FROM PLATFORMS SUCH AS SHIPS OR LANDING STAGES

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DEVICE FOR TAKING UP AND SETTING DOWN FLOATING BODIES, PARTICULARLY AIRCRAFT, ON OR FROM PLATFORMS SUCH AS SHIPS OR LANDING STAGES

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The present invention relates to an improved device for taking up and setting down floating bodies, particularly aircraft, on or from ships, landing stages and the like. The object of the invention is to provide an improved platform or way.

The following requirements have to be met in the practical application of the principle of a way supported on artificially accumulated or piled up water for taking up and setting down aircraft by travelling ships if reliable operation is to be obtained when a sea is running.

1. Static and dynamic stability of the way.
2. Automatic equalization of load.
3. Relieving the constructional parts of the aircraft from strain while being conveyed over the way.

An arrangement which satisfies these requirements is represented in the drawing in perspective.

The way of platform consists of a central portion 1 and two lateral portions 2 and 3. The lateral portions are at the lower end B positioned by inclined bars 4 and at the upper end A they lie in the plane of the central portion so that a parapet is formed. At the upper end A the web is connected to the deck of a ship or landing stage and it is tensioned by means of a resisting body 6 disposed at the lower end B in the stream from the propeller. The web covers the accumulated water 7 of the propeller stream 5. The resisting body 6 and consequently the accumulation 7 can be adjusted by means of braces 8 which lead to the deck. The course of the ship is indicated by the arrow 9.

The turbulent flow 5 from the propeller produces behind the resisting body 6 reinforced eddies which tend to tilt or twist the end B of the path dragging in the water, and for the stability of the web it is necessary that this flow should be converted into a laminar flow. This transformation can be effected by the provision of slits or apertures in the resisting body, e. g. by means of a net. The water from the propeller which is forced through the net assumes, under the action of the mesh of the net, a laminar flow 10 which holds the end B of the web towing in the water stationary, even when a sea is running.

Under the action of the flow of water along the sides of the ship, which flow is always non-uniform, the web has the tendency to oscillate to and fro perpendicularly to the path of the ship. This so-called yawing is prevented in that fair leaders, controlling devices or the like are provided on the resisting body 6 or on the web 1 or between path and resisting body. In a particularly suitable form, this resisting body is provided with pockets 11, 12 disposed on the side portions 2 and 3 and on the resisting body. They equalize out any non-uniform flow of the water so that the web follows precisely the course of the ship.

For the stability of aircraft resting freely on the lower part B of the path 1, it is necessary that the weight P of the aircraft C causes a displacement in the accumulated or piled up water of sufficiently large surface to give a meta-centric height which ensures the initial stability of the system. This action can be produced by the formation of a water pocket in that, for example, that part of the web where the aircraft rests is made bellying, bulging or bag-like (of sectional curve S—S through the central plane). Due to the load P, the web is then depressed in such manner that a displacement of the path occurs in the region where the accumulation or piling up 7 of water occurs. The surface enclosed within the marginal line of the depression determines the static stability of the web together with the superposed aircraft.

The dynamic stability or the security with large inclinations due to the sea or when the air craft lands to one side, is effected by means of the parapet or rail 2, 3 which is particularly suited to this purpose on account of its large displacement. It would also be possible to provide independent auxiliary bodies which dip into the water to achieve the same purpose.

In order to balance the load on the web when an aircraft lands and when it is advanced towards P_1, the central part of the path is limited by cordage secured by sewing, the so-called roping 13, 14, which is tensioned by means of rigid supports 15 inserted in

loops in the web. This makes it possible to make the non-rigid central path rigid by means of a closed marginal system of forces. If, for example, the weight of the aircraft acts on P_1 in the centre web, then in addition to the longitudinal and transverse tensions, diagonal tensions indicated by arrows 16 arise which are taken up by the supports 15 in such manner that the system of forces (pyramid of forces) is closed and distributes the load as a rigid whole over the roping 13, 14 between the deck of the vessel and the resisting body 6 and prevents the web from bending or sagging.

The third requirement of completely releasing from strain the constructive parts of the aircraft (floats, struts, hull), while it is being forwarded over the path, is fulfilled by inserting separate slide members between path and aircraft prior to the motion, for example, a cradle, a band conveyor or a slipper. A slipper i. e. a flat boot-like body consisting of frame, floor boards, and shell is particularly suitable for this purpose. The surface of the slipper is made from stretched sail-cloth. The hawsers are secured to the boot-like body of the slipper which takes up the tractional force and the pressure of the path in such manner that the constructive parts (floats) of the aircraft elastically bedded in the sail-cloth surface of the slipper remain entirely free from strain. Thus a reliable hauling on board and setting down of aircraft is ensured.

I claim:

1. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; and means on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow.

2. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; and a resisting body in the form of a net on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow.

3. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; and a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow.

4. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; and a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow, said platform having a bulging portion therein at that part where the aircraft is adapted to rest.

5. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; and a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow, each lateral portion having a lateral pocket at the end of the platform to prevent yawing.

6. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; and a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow, said platform having a bulging portion therein at that part where the aircraft is adapted to rest and each lateral portion having a lateral pocket at the end of the platform to prevent yawing.

7. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow; and a rope at each edge of the platform and its lateral portion to balance the load on the platform.

8. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; a lateral portion on each side of the platform in the form of a parapet to act as guides for the aircraft; a resisting body on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow; a rope at each edge of the platform and its lateral portion to balance the load on the platform; and a plurality of spaced rigid

supports secured to the platform to tension the ropes.

9. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; means on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow; and a sliding member adapted to be provided on the platform on which the aircraft is adapted to be conveyed to thereby form an elastic bed for the aircraft.

10. A device for taking up and releasing floating bodies, particularly aircraft, onto and from ships and the like, comprising a platform extending from the ship into the water; and a resisting body in the form of a net adjustably mounted on the end of the platform extending in the water to convert the turbulent flow of water from the propeller of the ship into a laminar flow.

In testimony whereof I affix my signature.

WOLDEMAR KIWULL.