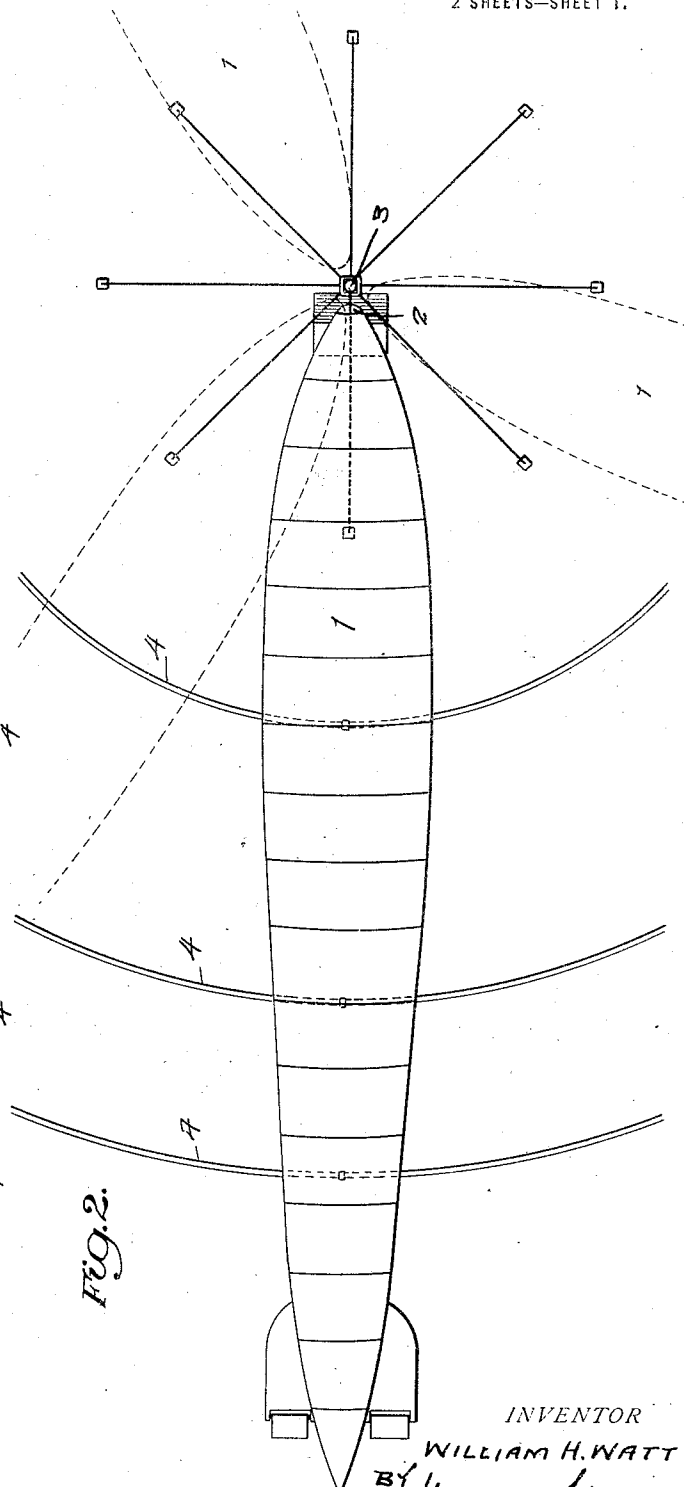
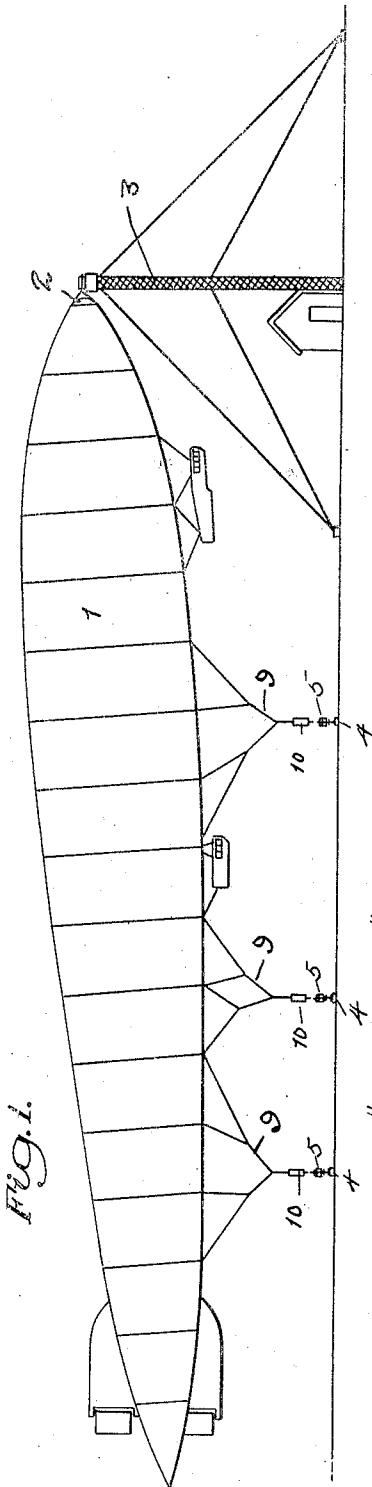


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APPLICATION FILED FEB. 2, 1920.

1,356,245.

Patented Oct. 19, 1920.
2 SHEETS—SHEET 1.



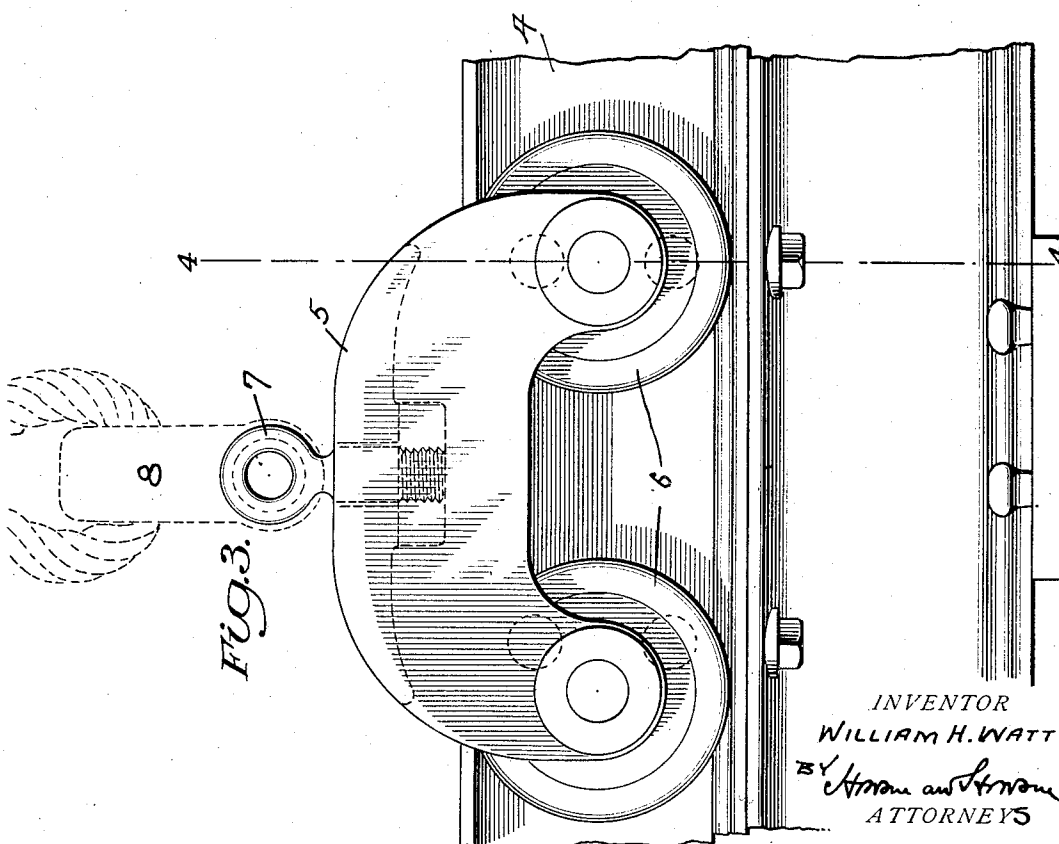
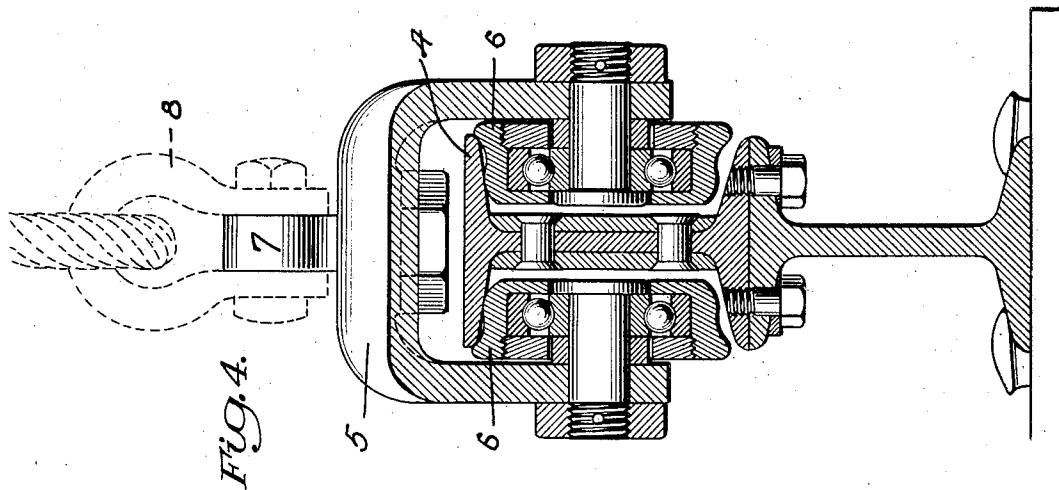
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UNITED STATES PATENT OFFICE.

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MEANS FOR MOORING AIRSHIPS.

1,356,245.

Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed February 2, 1920. Serial No. 355,696.

To all whom it may concern:

Be it known that I, WILLIAM H. WATT, a subject of the King of Great Britain and Ireland, residing at Napier, island of New Zealand, have invented certain new and useful Improvements in Means for Mooring Airships, of which the following is a specification.

This invention has for its object an improved means for mooring airships and consists in the combination with a mast of one or more curved rails on the ground having the base of the mast as center, and swiveling rollers running on the rails and carried by bridles or the like secured at the holding down positions on the keel or other part of the airship.

The accompanying drawings illustrate how the invention may be carried out in practice, Figures 1 and 2 being elevation and plan, respectively, showing an airship moored, and Figs. 3 and 4 elevation and sectional elevation of the swiveling rollers employed.

Referring to the drawing, the airship 1 is shown moored by its nose 2 to a vertical mast 3 of any suitable construction. On the ground and laid with the base of the mast as center are a number of concentric flanged rails 4 on which engage carriers 5 provided with ball bearing rollers 6 to run on the flanges of the rails. These rollers have their running surfaces suitably curved as shown for ease in working. The carrier at its upper end is arranged to swivel about an eye bolt 7 adapted to be connected to a shackle 8 which in turn can be connected by suitable bridles 9 to the holding down positions on the keel. Spring compression balances indicated by numeral 10 may be provided between the carriers and the bridles to show the tension on the bridles and if desired suitable recording devices may be employed

with the balances to show in a hut indicated by 11 adjacent to the mast, the various tensions in the bridles.

The bridles can be set up so as to maintain any desired angle of trim, such for example as a few degrees down by the stern, so that the effect of a high wind on the airship riding at such an angle would only tend to increase the lifting power, thereby keeping taut the holding down gear and insuring perfect safety at the stern.

By using the method as above described, an airship will remain at her moorings free from vertical movement at the stern in all weathers.

What I claim is—

1. A means of mooring airships, comprising the combination of a mast to which the front end of the airship is moored, and rails concentric with and encircling the mast and engaged by rollers connected to the holding down positions on the airships.

2. A means of mooring airships, comprising the combination of a mast to which the front end of the airship is moored, and rails concentric with and encircling the mast and engaged by rollers connected to the holding down positions on the airships, and a swiveling connection between the rollers and the means connecting them to the holding down positions.

3. A means of mooring airships, comprising the combination of a mast to which the front end of the airship is moored, and rails concentric with and encircling the mast and engaged by rollers connected to the holding down positions on the airships, and indicating means between the rollers and the holding down positions to show the pull on the rollers.

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

W. H. WATT.