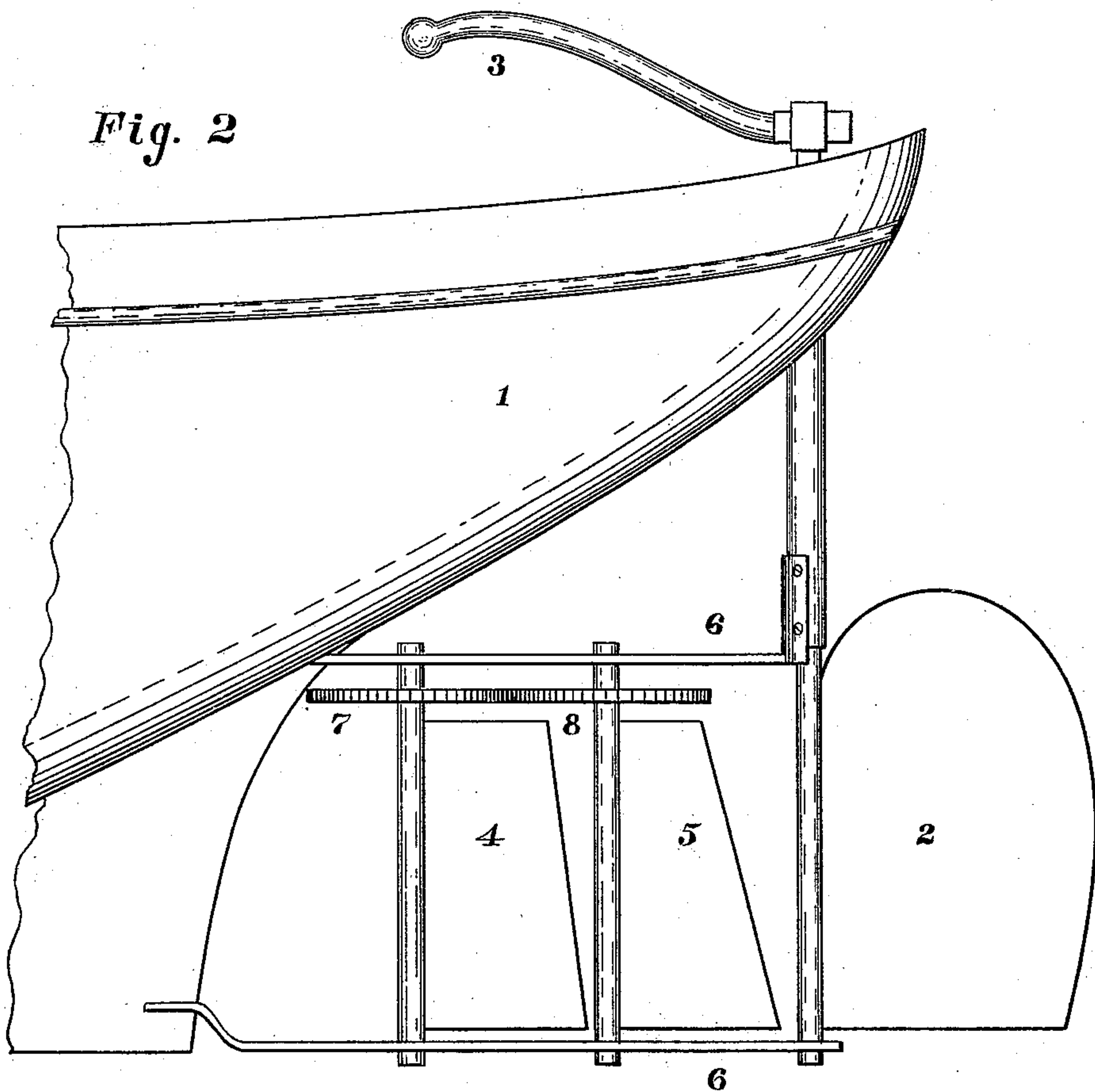
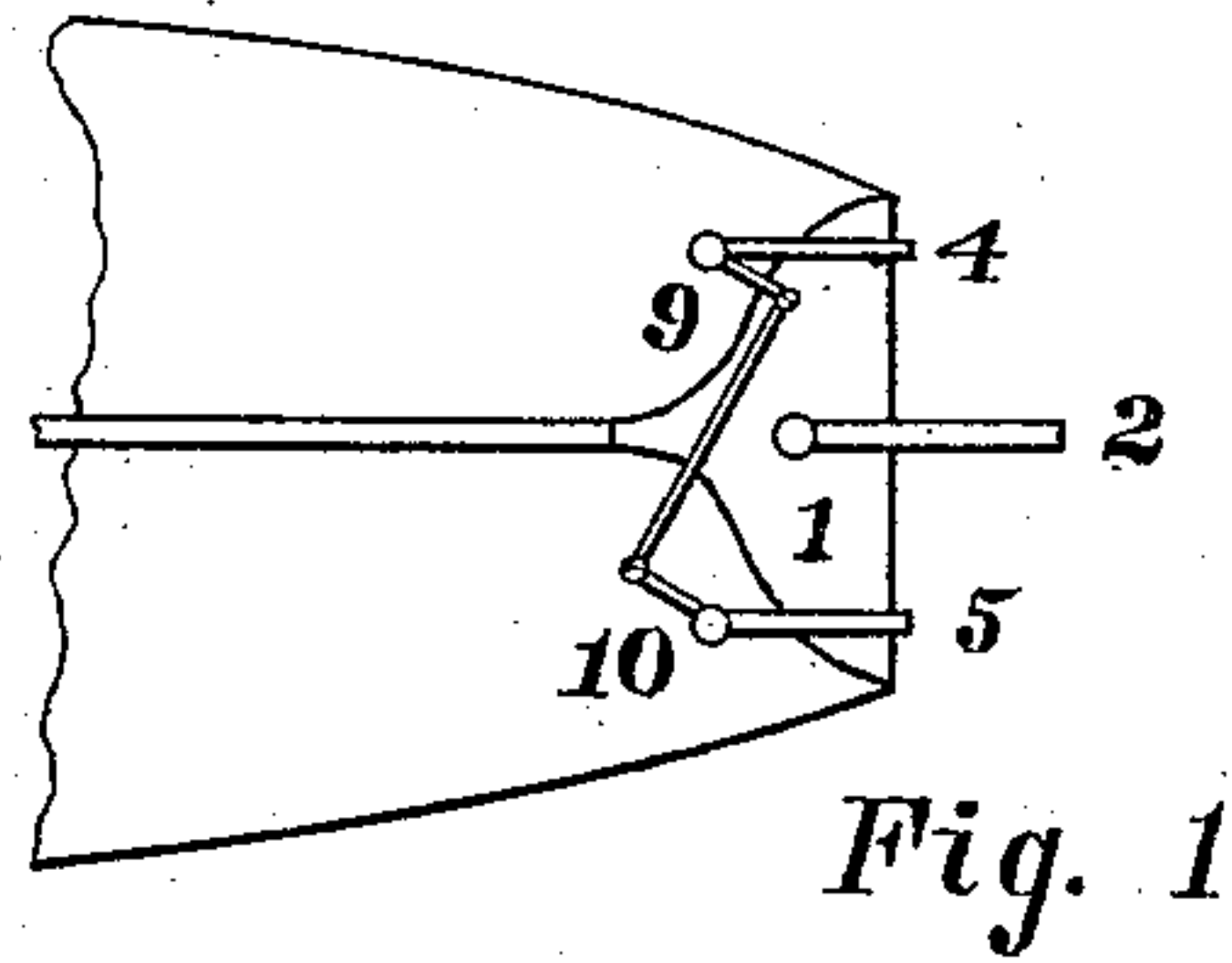


(No Model.)

R. S. PEABODY.  
STEERING APPARATUS.

No. 528,967.

Patented Nov. 13, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ROBERT SINGLETON PEABODY, OF PHILADELPHIA, PENNSYLVANIA.

## STEERING APPARATUS.

**SPECIFICATION** forming part of Letters Patent No. 528,967, dated November 13, 1894.

Application filed May 14, 1894. Serial No. 511,130. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT SINGLETON PEABODY, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Steering Apparatus for Boats or Vessels, of which the following is a specification.

The principal object of my present invention is to provide simple, reliable, automatic and efficient means for protecting the usual or governing rudder of a vessel or ship from accidental displacement, injury and breakage such as arise by reason of the action of the waves, winds and elements upon the ship or vessel and such as frequently result in the disablement or even in the loss of the vessel or ship itself.

In my invention, use is made of directing rudders geared together so as to be automatically turned in opposite directions, whereby any external force acting upon the governing rudder and tending to its injury or displacement is resisted also by the directing rudders with the result that none of the rudders are injured and with the result that the vessel is held to its course and is not buffeted or otherwise materially displaced therefrom.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a plan view of the stern of a vessel provided with rudders embodying features of my invention showing the directing and governing rudders disposed across the stern of the vessel and also showing the directing rudders geared together so as to be automatically turned in opposite directions, and Fig. 2, is a side view illustrating steering gear embodying features of my invention and in which the rudders are disposed in line with the keel.

In the drawings 1, is the stern of a boat provided with the usual or governing rudder 2, having means as a tiller 3, or pilot wheel, for turning it in order to direct the course of the vessel.

4 and 5, are directing rudders disposed

either upon opposite sides of the governing rudder 2, as shown in Fig. 1, or in alignment with it as shown in Fig. 2. In the present instance, the stocks of these directing rudders are journaled to or seated in a frame 6, applied to the stern of the vessel. However they may be supported in any other preferred manner. These directing rudders are geared together in such manner that when one of them is turned in one direction, the other is automatically turned in the reverse or opposite direction. Of course this result may be accomplished through the intervention of various types of mechanism, for example, by means of intermeshing spur wheels 7 and 8, Fig. 2, applied to the respective stocks of the rudders, or by means of a crossed band or chain passed around pulleys applied to the rudder stocks, or by means of a rod connected with oppositely disposed arms or cranks 9 and 10, Fig. 1, mounted on the stocks of these rudders.

The mode of operation of the hereinabove described apparatus is as follows: The course of the vessel or boat 1, is directed in the usual manner by means of the rudder 2, and its tiller, pilot wheel or other steering gear. However should the action of the winds, waves and elements tend to shift the vessel or ship in such manner that external and violent forces or shocks are brought to bear upon the rudders, as is frequently the case in navigation, such forces or shocks are resisted not only by the governing rudder, but also by the directing rudders, whereby danger of injury to any of the rudders is materially diminished and in fact substantially obviated. Moreover such shocks in acting upon one of the directing rudders turns it in one direction, namely, in that in which the force or shock is acting, but such movement of this directing rudder operates to turn the other directing rudder in a reverse direction, namely, in a direction opposed to that of the force or shock, so that the shock is resisted, the governing rudder protected from injury and the vessel permitted to continue upon its course. It may be remarked that if the governing rudder should for any reason become disabled, the directing rudders may be disconnected and provided with suitable appliances for oper-



ating them, and in such case, they may be employed to direct the course of the ship or vessel in the usual manner.

It will be obvious to those skilled in the art  
5 to which my invention relates that modifications may be made in details of construction without departing from the spirit thereof. Hence I do not limit myself to the precise construction shown, but,  
10 Having thus described the nature and objects of my present invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination in a ship or vessel of, a governing rudder and means for turning and holding it to direct the course of the vessel or ship, and directing rudders located abaft the vessel and geared together and free to turn in opposite directions, substantially as described. 15 20

In testimony whereof I have hereunto signed my name.

ROBERT SINGLETON PEABODY.

Witnesses:

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A. B. STOUGHTON.