

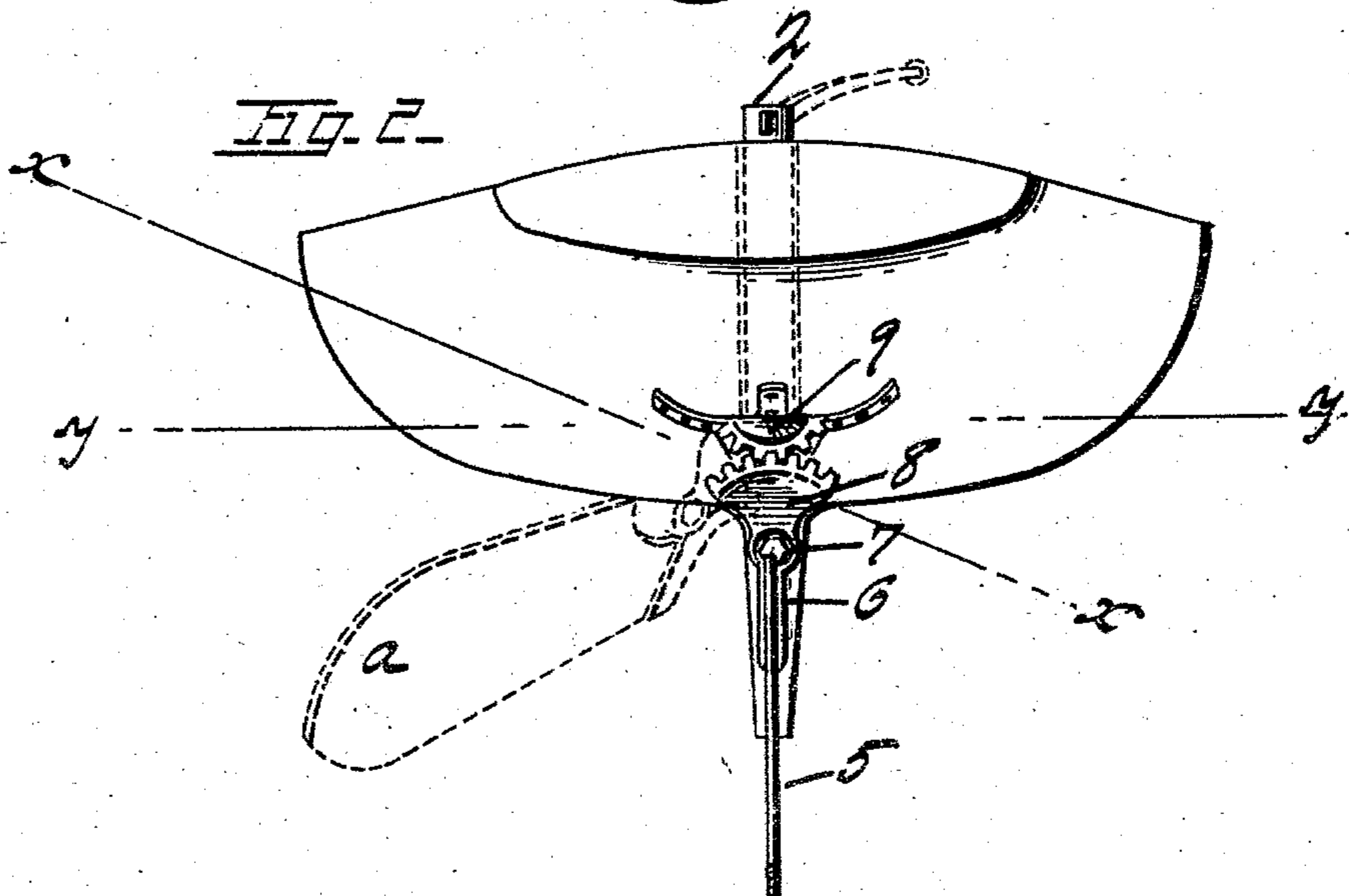
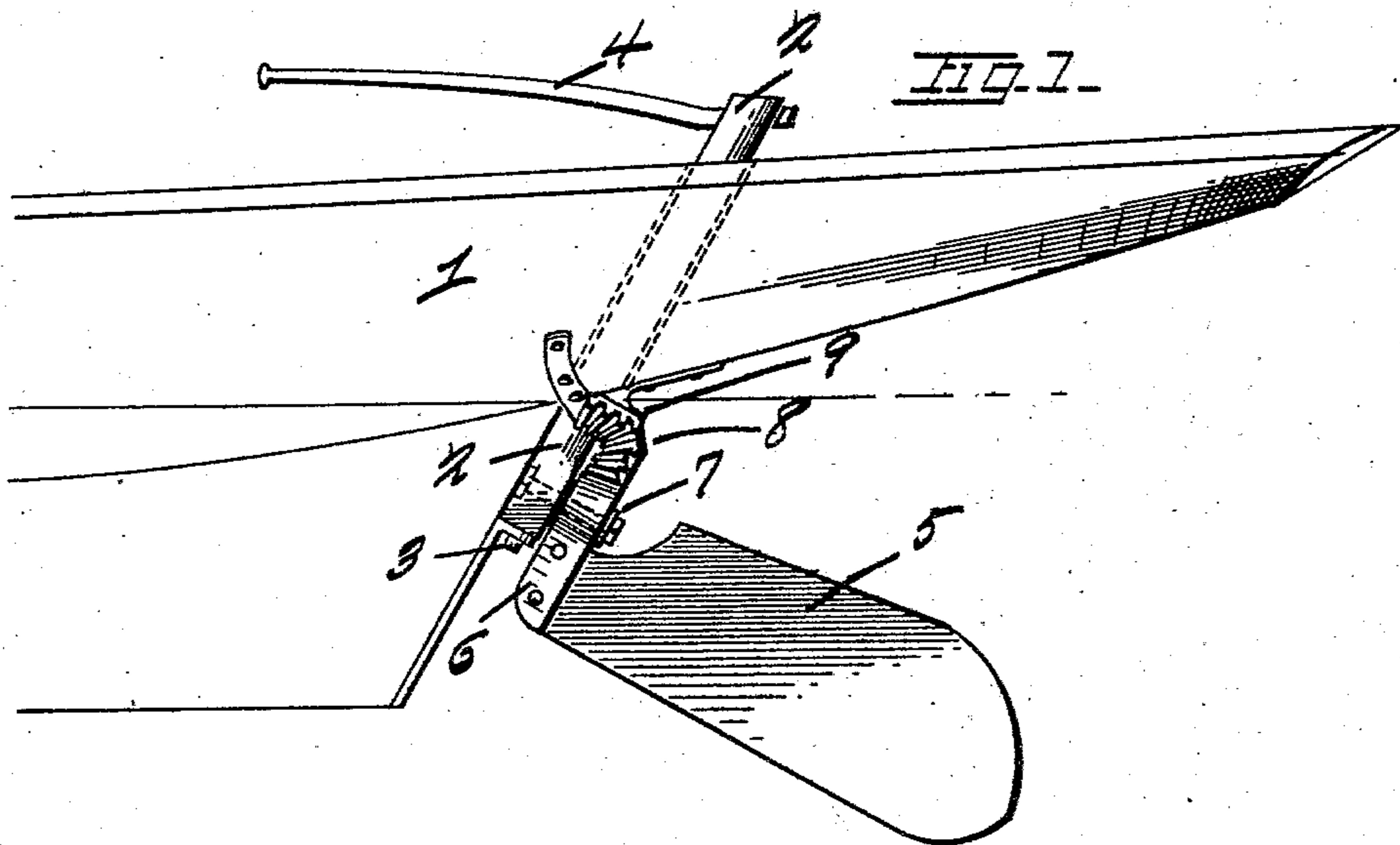
No. 715,176.

Patented Dec. 2, 1902.

G. W. SWAN.  
YACHT RUDDER.

(Application filed Apr. 4, 1902.)

(No Model.)



WITNESSES  
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# UNITED STATES PATENT OFFICE.

GEORGE W. SWAN, OF TOLEDO, OHIO.

## YACHT-RUDDER.

SPECIFICATION forming part of Letters Patent No. 715,176, dated December 2, 1902.

Application filed April 4, 1902. Serial No. 101,325. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. SWAN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have  
5 invented certain new and useful Improvements in Yacht-Rudders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

My invention has reference to a rudder for sail-yachts, and has for its object to provide a rudder the blade of which will at all times take a position near the vertical plane.

15 In carrying out my invention I provide means whereby the rudder-blade is turned upon the rudder-post as an axis, and the same is also turned upon an axis at an angle to the axis of the rudder-post.

20 It consists in the novel arrangement hereinafter shown, described, and claimed.

In the drawings, Figure 1 is a side elevation showing my improved rudder as applied to the hull of a yacht. Fig. 2 is an elevation of  
25 the stern of a yacht to further disclose my invention.

Referring to the parts, 1 indicates the hull of a yacht, and 2 the rudder-post passing upward through the hull in the ordinary man-  
30 ner. The lower end of the rudder-post is pivotally supported at 3, and 4 is an ordinary tiller for turning the rudder-post.

5 indicates the rudder-blade, pivotally mounted at the lower end of the rudder-post, so as to turn upon an axis at an angle to the  
35 axis of the rudder-post. Any suitable means may be employed for pivotally mounting the rudder-blade. In the means shown the inner end of the rudder-blade is in the form of a  
40 casting 6, having a central perforation to receive a bolt 7, secured in the lower end of the rudder-post, upon which the blade turns. The upper end of the casting 6 is provided with a segmental gear 8, adapted to engage  
45 a segment of a gear 9, rigidly secured to the

hull of the yacht, and the same immediately adjoins the rudder-post. It will be apparent that as the rudder-blade is turned upon the rudder-post as an axis the same will also be turned upon an axis at an angle thereto. 50 This arrangement will maintain the rudder-blade in or near the vertical plane, even though the yacht is sailing on her beam. This is readily apparent when it is remembered that the rudder-blade is made to assume 55 a position toward the low side of the yacht in sailing. The turning of the rudder-post will cause the rudder-blade to also turn upon its axis at an angle to the axis of the rudder-post to assume a position in dotted lines *a*, Fig. 2, 60 or a position in proximity thereto. In this figure the altered position of the hull when leaning is shown by the water-line *x x*, the water-line when the yacht is on an even keel being indicated by the line *y y*. 65

From the foregoing the advantages and utility of my invention will be apparent.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is— 70

1. In a rudder, the combination with the rudder-post, of a rudder-blade pivoted thereto at an angle to the axis thereof, and means for turning the rudder-blade upon its angular axis simultaneously with the turning of the 75 rudder-post.

2. A rudder for sail-yachts comprising a rudder-post, a rudder-blade pivoted at the lower end of the post, a segmental gear upon the blade, and a segmental gear secured upon 80 the hull of the yacht adapted to engage the gear upon the blade, as shown and for the purpose set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

GEORGE W. SWAN.

Witnesses:

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CHAS. C. DEFENBAUGH.