

(No. Model.)

W. E. COLE.  
STEERING APPARATUS FOR BOATS.

No. 557,052.

Patented Mar. 24, 1896.

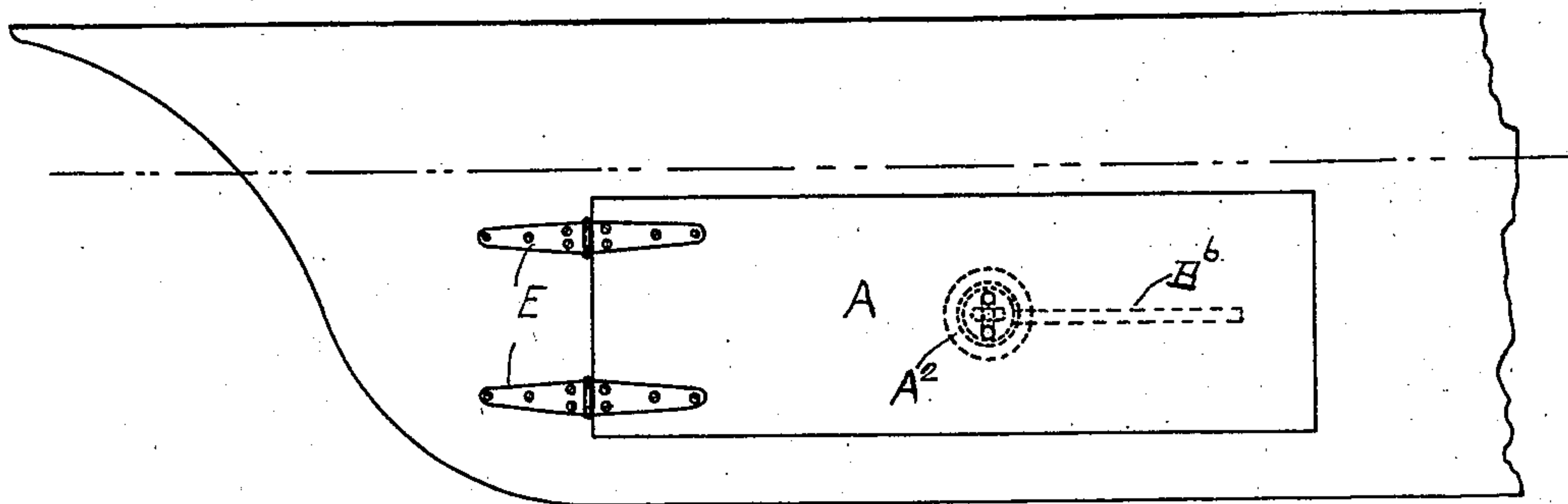


Fig. 1.

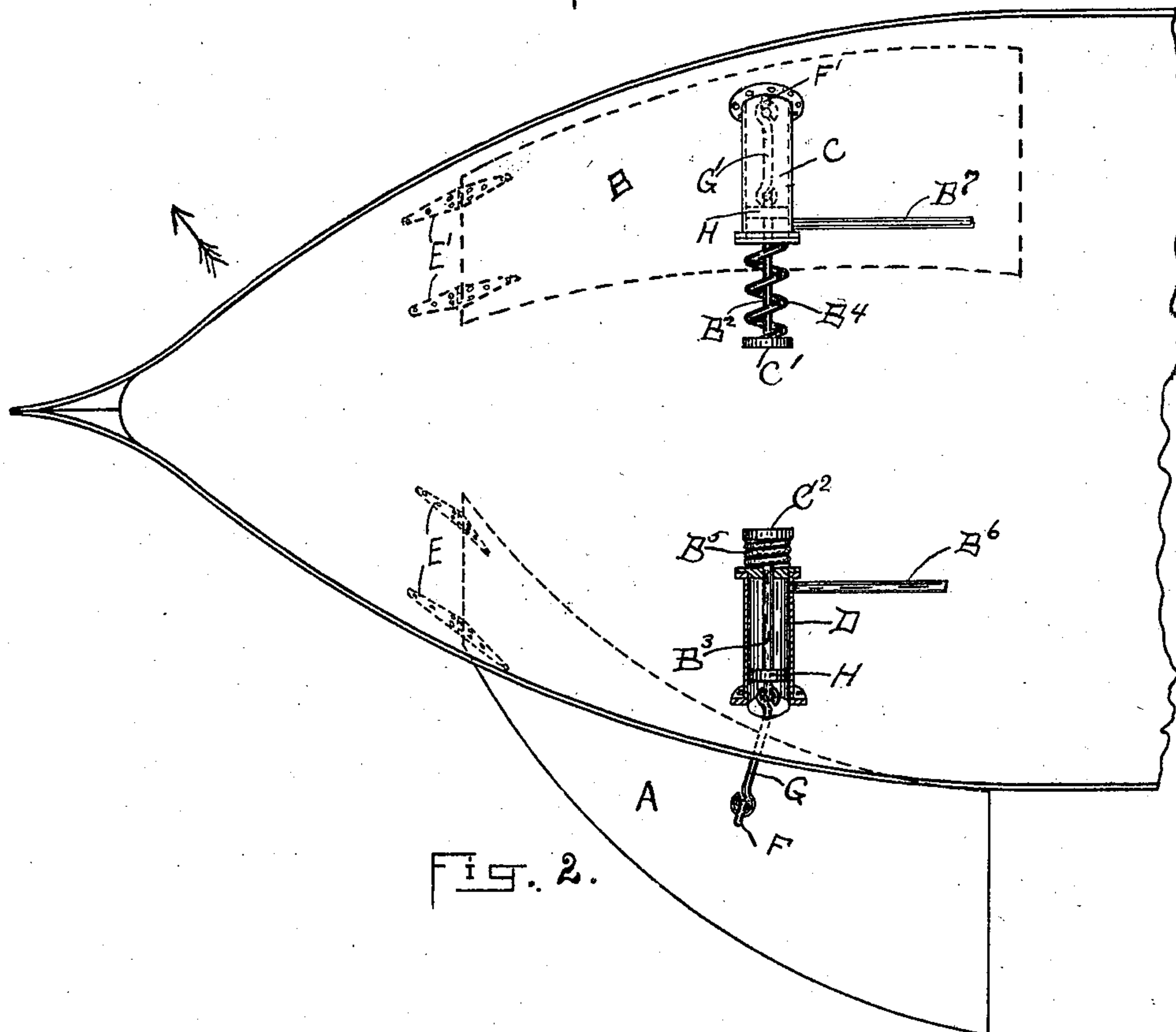


Fig. 2.

Witnesses,

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By His Attorney,

J. Moore.

# UNITED STATES PATENT OFFICE.

WILLIAM E. COLE, OF ATLANTA, GEORGIA, ASSIGNOR OF ONE-HALF TO  
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## STEERING APPARATUS FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 557,052, dated March 24, 1896.

Application filed March 1, 1895. Serial No. 540,242. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. COLE, a citizen of the United States, residing at Atlanta, in the county of Fulton, State of Georgia, have  
5 invented a new and useful Apparatus for Steering Boats, of which the following is a specification.

The object of my invention is to provide a plan to change the course of a boat more rapidly and with greater ease than the method  
10 heretofore used. I accomplish this object by use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a port-side view of the boat with  
15 my apparatus attached, and Fig. 2 is a top plan of same and shows one of the wing rudders thrown out from the side of the boat and in action.

Similar letters refer to similar parts throughout the views.

My invention consists of wing rudders A B hinged at their front ends to the sides of the boat near the bow and operated by means of steam-pressure exerted in the cylinders C  
25 D. The wing rudders A B are shaped to fit the side of the boat closely when not in use. They are hinged to the sides of the boat with the hinge E E'. At or near the center of the wing rudder there is secured an eyebolt F F',  
30 and connected to these eyebolts are the loop-bars G G', which are also connected with the pistons H H'. The cylinders C D are bolted or otherwise secured to the inside of the boat, the loop-bars working through the hull of the  
35 boat.

The rods B<sup>2</sup> B<sup>3</sup> are secured to the pistons H' and H, respectively. Around each of rods B<sup>2</sup> B<sup>3</sup> there is a coil-spring B<sup>4</sup> B<sup>5</sup>, the resistance of the spring being held by means of the  
40 collars C' C<sup>2</sup>. Each cylinder is connected by a steam-pipe B<sup>6</sup> B<sup>7</sup> with the boiler of the boat and a two-way valve, placed at some convenient place on the pipe, to be handled by the pilot.

45 The coil-springs B<sup>4</sup> B<sup>5</sup> are used to hold the wing rudders close against the sides of the boat when not in use.

The operation of my device is as follows: Should the course of the boat be that shown  
50 in the drawings, Fig. 2, and it be desired to change the course in the direction of the ar-

row, it is obvious that if the steam be admitted into the cylinder D the pressure exerted on the piston H will throw the wing rudder A in the position shown, and the resistance  
55 of the water against the movement of the wing rudder A will cause the head of the boat to glide toward the direction of the arrow. The greater distance the rudder is thrown out from the side of the boat the greater will be  
60 the change in the course. Should both the wing rudders be set out at once the tendency would be to stop the boat. When the steam-pressure is taken from off the piston, the resistance of the water will throw the wing rudders  
65 back against the side of the boat, and the springs B<sup>4</sup> B<sup>5</sup> will hold them in that position.

The action of the wing rudder differs from that of the ordinary stern rudder in this way:  
70 When the boat is steered by means of a stern rudder, the back end of the boat must swing around in order to point the head of the boat in the desired direction. Now in steering the boat with my device the front end is im-  
75 mediately shoved in the direction desired by means of the resistance of the water against the wing without the back end having to swing.

When two boats approach each other in the  
80 same path, in their attempts to pass the stern rudder swings the stern across the path of the approaching boat, and if the boats are near each other when this takes place the back ends may collide. Now by the use of both  
85 the stern rudder and my device each boat may be made to glide out of its path to the right or left, as the case may be, keeping the same course all the time—that is, the boat  
90 can be made to move out of its path and remain parallel to its former course, thereby preventing the back ends of the boats from striking against one another.

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

1. A boat or vessel, combined with wing rudders which are pivoted at their front ends upon opposite sides of the bow, a steam-cylinder for each rudder, a piston and piston-  
100 rod in each cylinder, a loop-bar which projects through the open end of each cylinder and is



connected with one of the rudders, and springs applied to the piston-rods; the piston-rods being made to project through the cylinder-heads to receive the springs, substantially as shown.

5 2. A boat or vessel, and rudders or wings applied to opposite sides of the bow, and hinged thereto at their front ends, combined with the steam-cylinders applied to the sides  
10 of the boat opposite the rudders and open at

their outer ends, piston-rods which project through the piston-heads, springs applied to the projecting ends of the rods, and the loop-bars loosely connected to the outer sides of the pistons and to the inner sides of the rudders, substantially as described. 15

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Witnesses:

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