

(No Model.)

2 Sheets—Sheet 1.

S. G. MARTIN.

STEAM STEERING APPARATUS.

No. 360,603.

Patented Apr. 5, 1887.

Fig. 1.

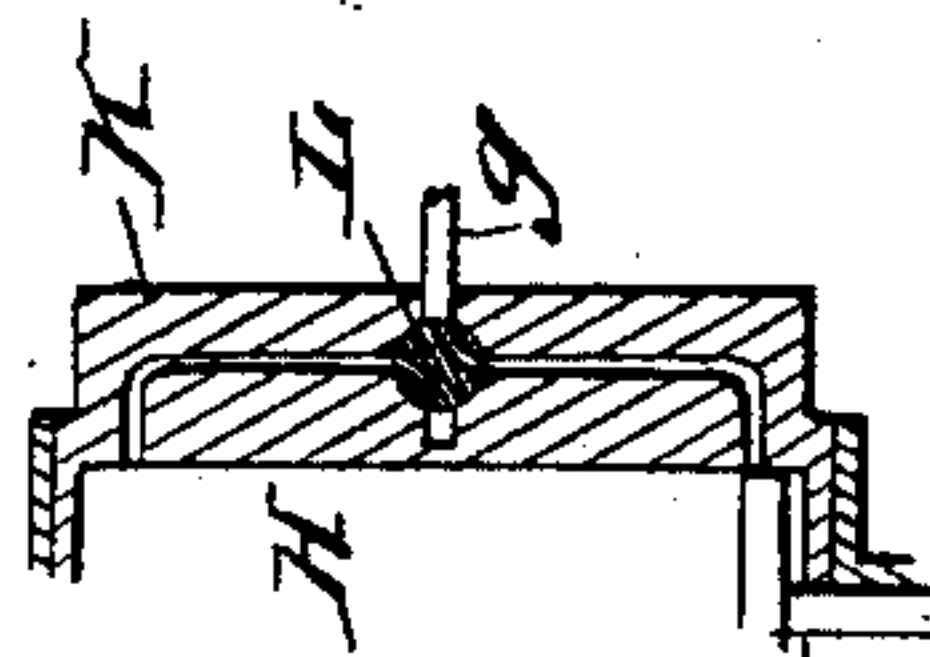
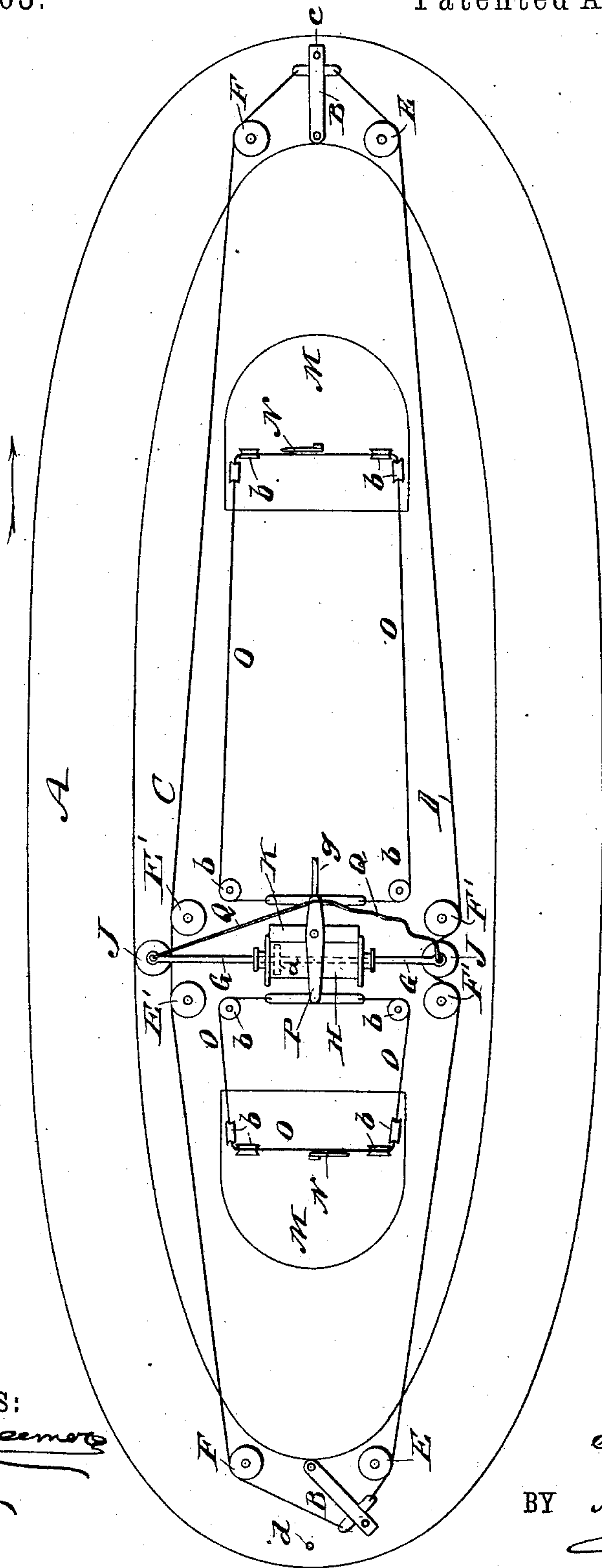


Fig. 3.

WITNESSES:

John H. Deemer
C. Sedgwick

INVENTOR:

S. G. Martin

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Munn & Co.

ATTORNEYS.

(No Model.)

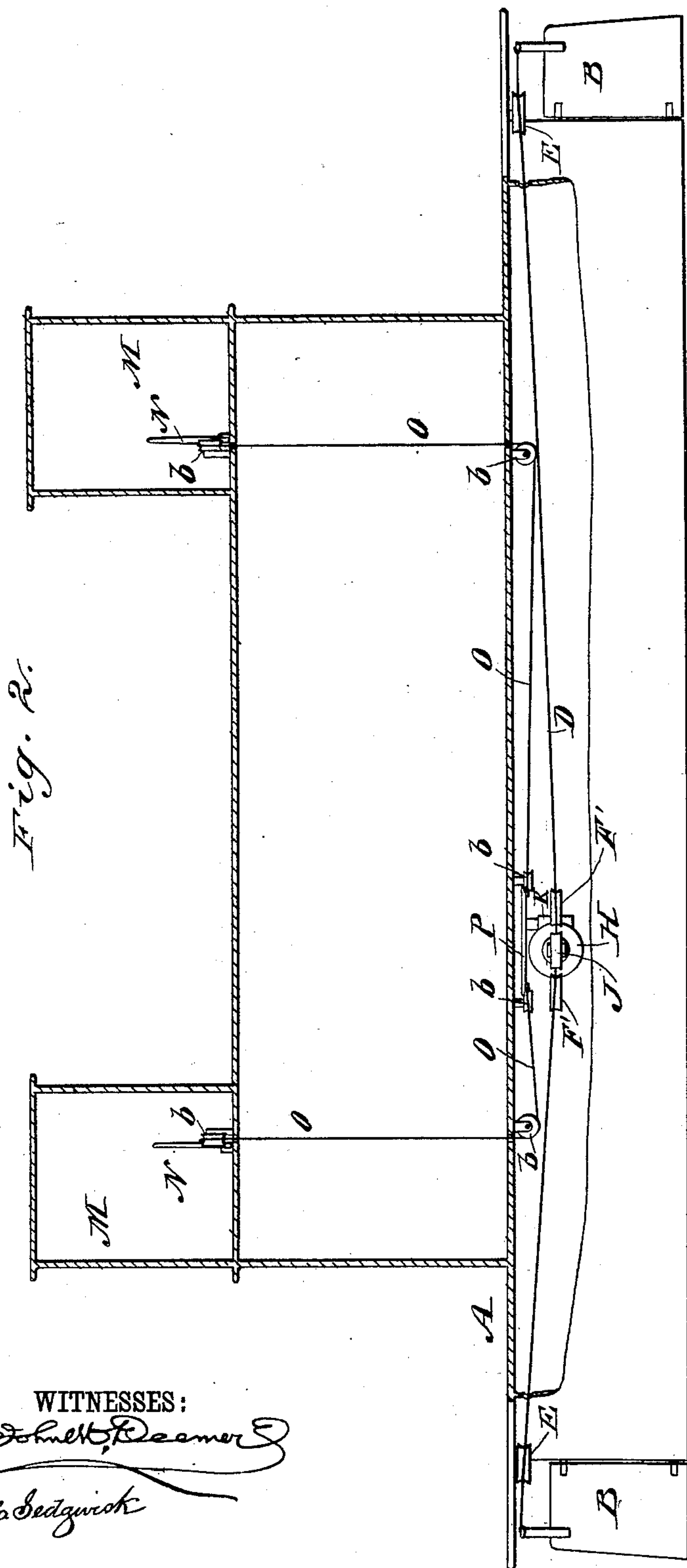
2 Sheets—Sheet 2.

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No. 360,603.

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WITNESSES:
John H. Reamer
W. Sedgwick

INVENTOR:
S. G. Martin
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UNITED STATES PATENT OFFICE.

SAMUEL G. MARTIN, OF NEW YORK, N. Y.

STEAM STEERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 360,603, dated April 5, 1887.

Application filed January 8, 1887. Serial No. 223,793. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. MARTIN, of the city, county, and State of New York, have invented a new and Improved Steam Steering
5 Apparatus, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
10 corresponding parts in all the figures.

Figure 1 is a diagram view showing my invention applied to a boat. Fig. 2 is a sectional side view of the same, and Fig. 3 is a detailed sectional view showing the steam-
15 chest and valve.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

A represents a ferry or other boat, provided
20 at each end with a rudder, B.

To the rudders are attached the lines C D, which pass along opposite sides of the boat and reach from rudder to rudder. Near the rudders the lines C D are guided by the pulleys E F, around which the lines pass, and these pulleys are arranged in line with and
25 some distance from the rudder-post, so that each line is held at an angle to the rudder for turning the same.

At about midships the lines C D are guided, respectively, by the two sets of pulleys E' and F', which serve also as abutments over and between which the lines may be shortened by the piston-rod G for turning either of the rudders. The piston-rod G passes entirely through the steam-cylinder H, and is provided inside the cylinder with the piston-head *a*, and the piston-rod is connected at its ends to the lines C D between the two pulleys E' E' and the two
35 pulleys F' F', the pulleys J being journaled at the ends of the rod under which the lines C D pass.

K represents the steam-chest attached to the cylinder H. In this chest is fitted the
45 valve L, for admitting steam to and permitting its exhaust from the opposite ends of the cylinder H. The valve L may be turned in either direction from either pilot-house M by a lever, N, attached to an endless line, O, connected
50 to the valve-lever P, and passed over the sev-

eral guide-pulleys *b b*, arranged in the pilot-house and below the deck, as shown clearly in Figs. 1 and 2.

To the opposite end of the valve-lever P are attached the two cords Q, connected at their
55 outer ends to the extremities of the piston-rod G, so that the outward movement of the piston-rod in either direction to nearly its full extent will automatically close the valve L and cut off the steam, and thus prevent the piston
60 *a* from striking the cylinder-heads.

In operation, the bow rudder will be secured in line with the keel by a pin, *c*, in the usual manner, the stern rudder being free to turn in either direction. To turn the rudder, steam
65 will be admitted to the cylinder H through steam-pipe *g* by turning the lever P and valve L, which will move the piston-rod G longitudinally and draw one of the lines C or D between the pulleys E' E' or F' F', as the case
70 may be, and thus turn the rudder in the direction desired. When the boat is reversed, the rudder at the end which then becomes the bow will be made fast by the pin *d*, and the stern rudder will be released, so that the ac-
75 tion of the piston-rod G upon the lines C D will be transferred to the free rudder for operating it, as before described. In this manner it will be seen that both rudders may be operated by the same lines and the same mech-
80 anism, and it will be seen, also, that the apparatus as a whole is cheap, simple, and practical.

Having thus fully described my invention, I claim as new and desire to secure by Letters
85 Patent—

1. A steering apparatus for vessels, consisting of two lines, C D, attached to opposite sides of the rudder and passing over abutments E F, in combination with a steam-cyl-
90 inder, a piston-rod passing entirely through the same and connected at its ends to the lines C D, to act oppositely and simultaneously upon said lines, substantially as and for the purposes set forth.

2. In a steam steering apparatus, the piston-rod G, passing entirely through the steam-cyl-
95 inder and connected at its ends to the lines C D, in combination with the lines Q Q, connected to the piston-rod and to the valve-lever
100

P, for automatically cutting off the steam, substantially as described.

3. The lines C D, attached to both rudders and passing over the abutments E' E' and F' F' at about midships, in combination with a
5 single steam-cylinder and a piston-rod connected at its ends to the lines C D between

the abutments E' E' and F' F', substantially as described.

SAMUEL G. MARTIN.

Witnesses:

H. S. WEST,
C. SEDGWICK.