

H. F. Hicks.

Steering.

N^o 61,937.

Patented Feb. 12, 1867.

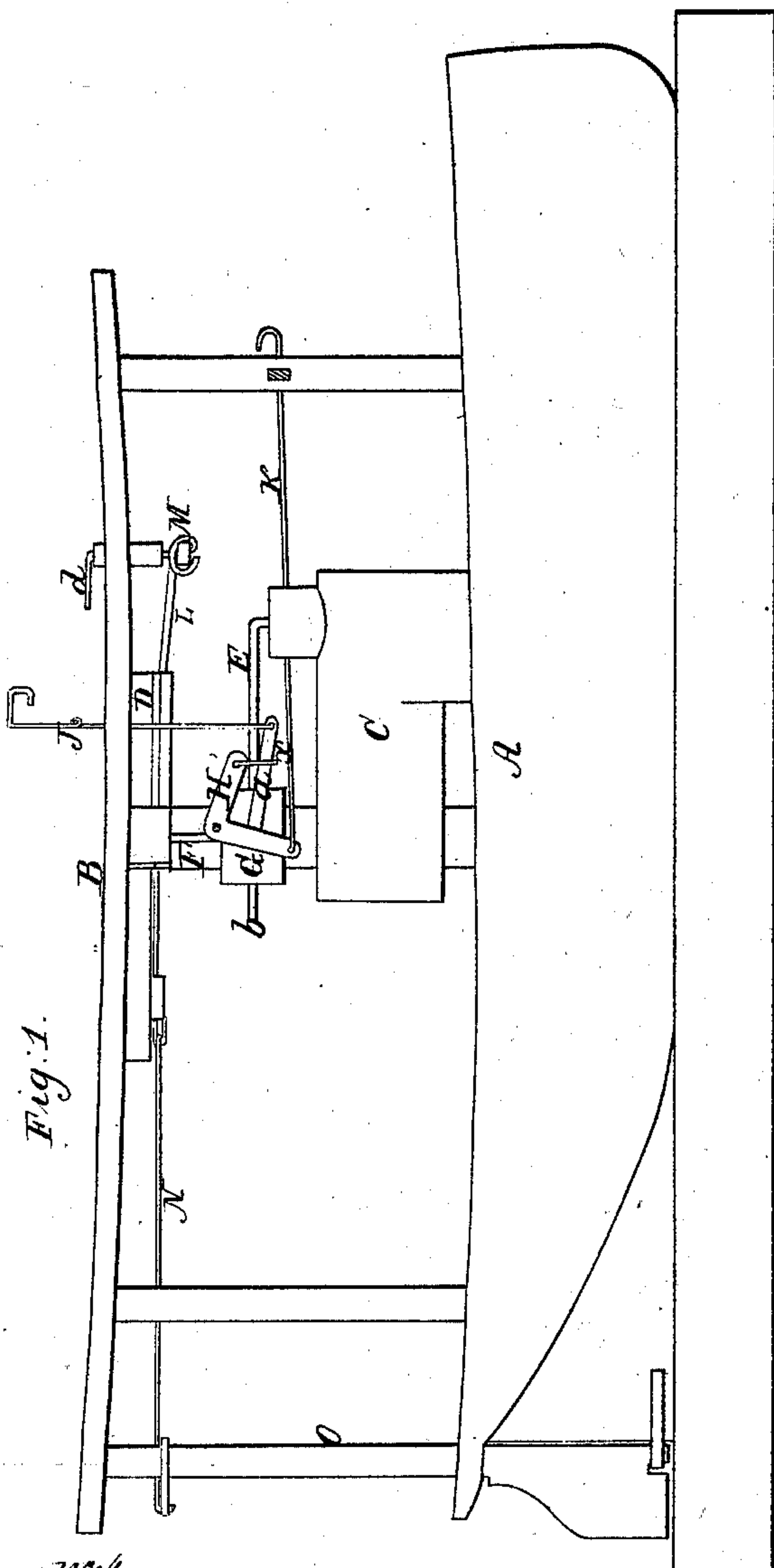


Fig. 1.

Witnesses;
Charles Alexander
John P. Jacoby

Fig. 3.

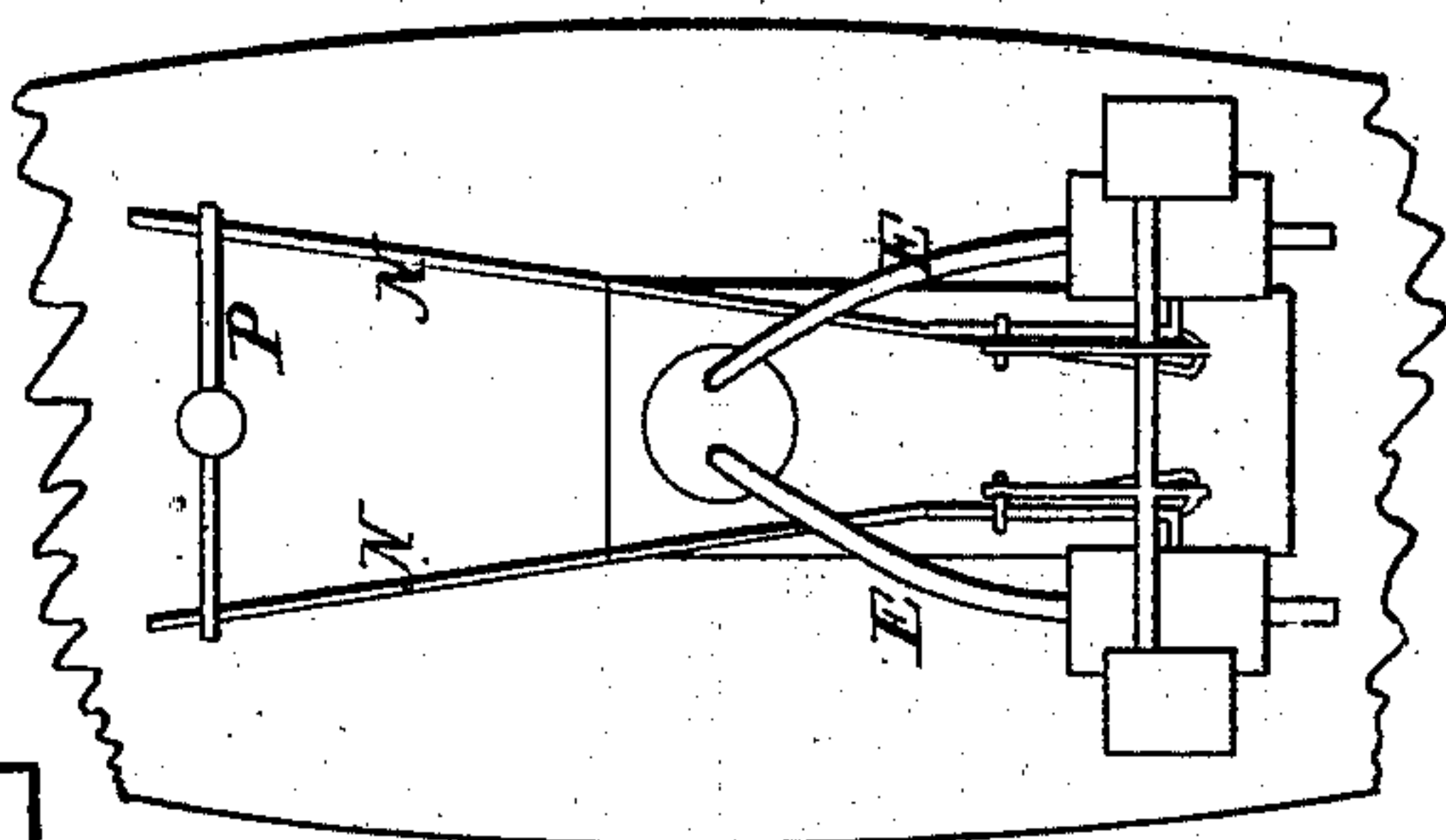
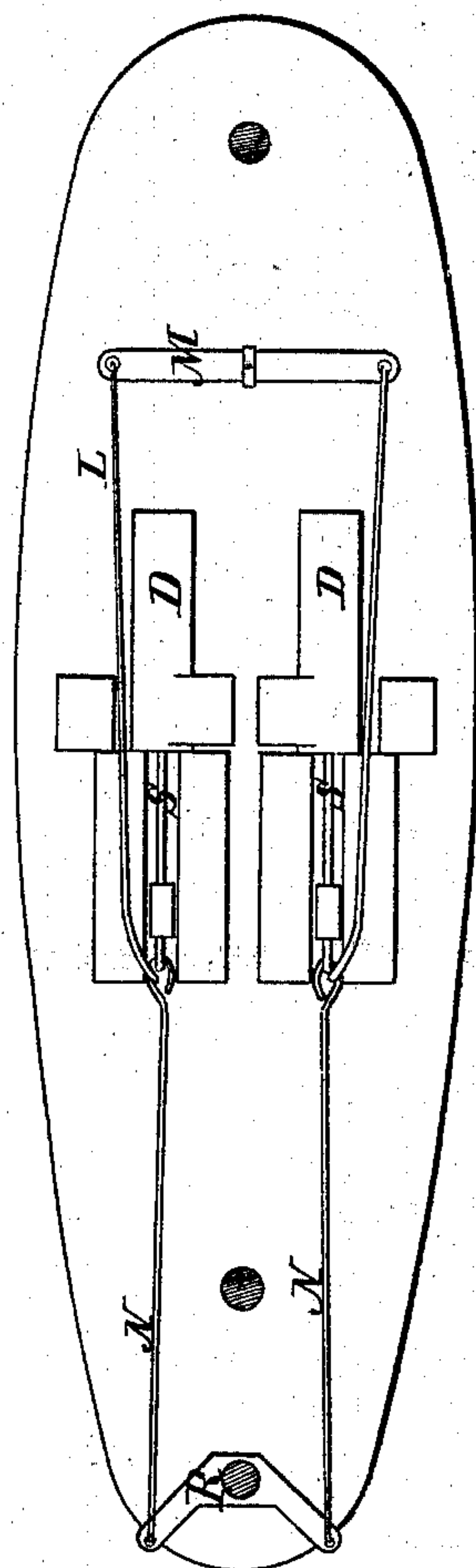


Fig. 2.



Inventor;
Horatio F. Hicks
per
Alexander H. Mason
Att'y

United States Patent Office.

HORATIO F. HICKS, OF GRAND VIEW, INDIANA.

Letters Patent No. 61,937, dated February 12, 1867; antedated January 28, 1867.

IMPROVED STEERING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HORATIO F. HICKS, of Grand View, in the county of Spencer, and State of Indiana, have invented certain new and useful improvements in Steering Apparatus for Steamboats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In the annexed drawings, making part of this specification—

A represents the hull of a steamboat, with a deck, B; C represents the steam boiler, from which steam is conducted to two small cylinders D D, through pipes E E, steam chests G, and pipes F. Within the steam chests are valves of any approved construction for allowing steam to the cylinders when they are properly operated. To each of the cylinders is a piston-rod, S S, and to each of these rods are secured two rods, N N, which connect at their outer ends to the ends of a bar, P, which is secured upon the upper end of the rudder-shaft. O represents the rudder-shaft. It will be seen that when steam acts upon one of the piston-rods shoving it out, said rod moves one of the rods N endwise, and partially turning or revolving the bar P, causes the rudder to turn in the water and thus give direction to the boat in one way. The opposite piston-rod when operated will give direction to the boat in the opposite direction. a represents a lever, which operates the valve in the steam chest. There is of course a lever of this kind to each chest. J J represent rods, which are secured at their lower ends to the outer ends of the levers a a. Said rods pass up through the deck to the pilot house, and are to be used by the pilot in operating the steam to give direction to the boat. H represents an elbow-lever, one end of which connects to the lever a by means of a link, x. To the other end of lever H is attached a rod, K, which runs forward or which may run aft. The object of this rod is that the boat may be guided or steered from the forward or after part of the boat. This may be of great service in case of fire when the pilot is unable to remain in his house on deck, as he may thus guide his boat to land upon any of the rivers of the country and save life and property. M represents a bar, which serves as an index. Said bar is placed where it can be seen by the engineer, and is connected to the piston-rods. This index moves with each movement of a piston and enables the engineer to tell in what position the rudder is standing. The index is secured to the lower end of a shaft, which said shaft passes up through the deck, and has upon its upper end a pointer, d, which can be seen by the pilot to let him know that the rudder is working properly. The steam chests are not here connected to the cylinders closely, but it is intended that they shall be, if desired, and generally. When the two pistons are not either of them operated upon by steam, the rudder stands straight out astern.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The arrangement of the pistons S S, rods L, index M, and pointer d, substantially as and for the purpose specified.

2. The arrangement of the levers H H, with levers a a, and rods K, by means of which the boat may be steered from forward or aft, substantially as set forth.

As evidence that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

HORATIO F. HICKS.

Witnesses:

L. C. PARKER,

J. D. ARMSTRONGS.