

(No Model.)

H. L. WEITZEL.
AUXILIARY STEERING GEAR.

No. 488,746.

Patented Dec. 27, 1892.

Fig. 1.

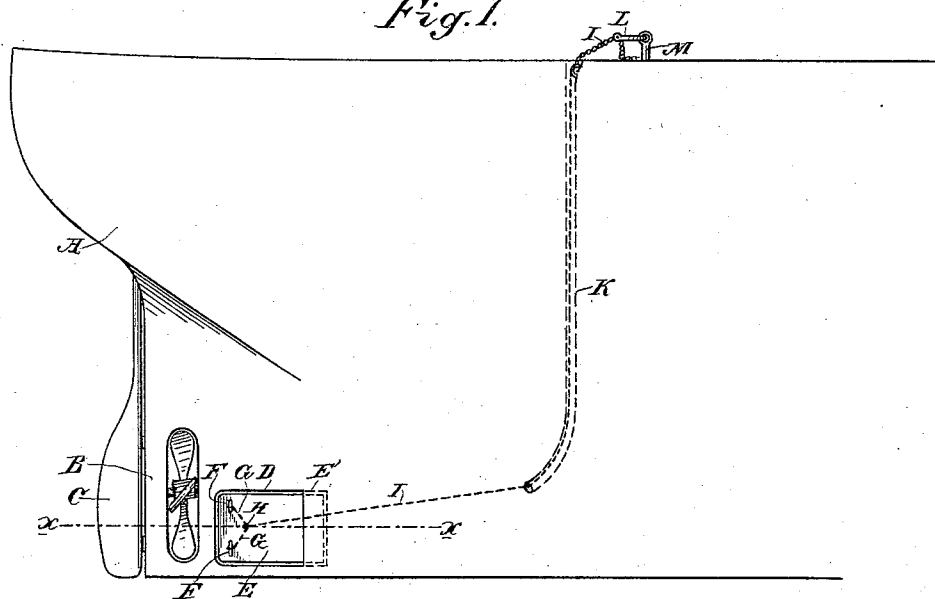
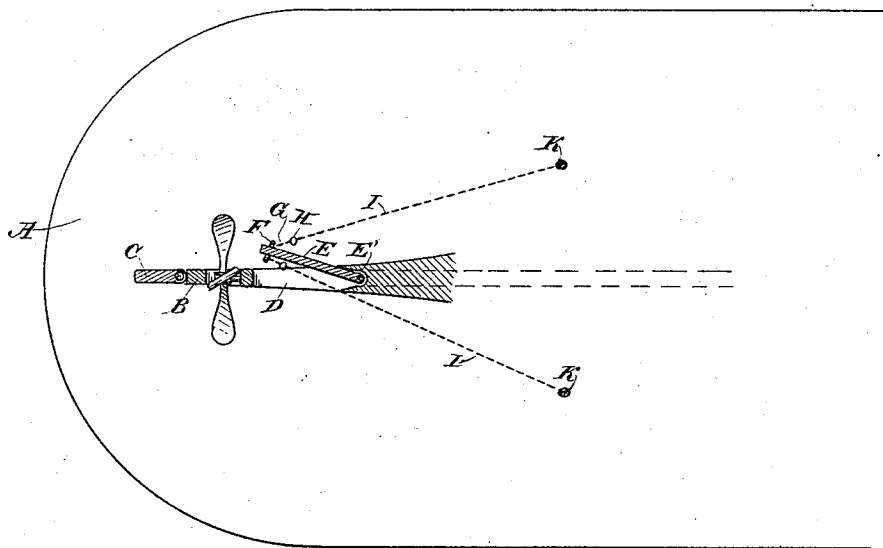


Fig. 2.



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UNITED STATES PATENT OFFICE.

HERBERT L. WEITZEL, OF OAKLAND, CALIFORNIA.

AUXILIARY STEERING-GEAR.

SPECIFICATION forming part of Letters Patent No. 488,746, dated December 27, 1892.

Application filed January 15, 1892. Renewed September 12, 1892. Serial No. 445,691. (No model.)

To all whom it may concern:

Be it known that I, HERBERT L. WEITZEL, a citizen of the United States, residing at Oakland, Alameda county, State of California, have invented an Improvement in Auxiliary Steering-Gears; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device which I term "an auxiliary steering gear for vessels."

It consists of the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a side view of the stern of a ship with my device applied to it. Fig. 2 is a horizontal section of the same on the line x x Fig. 1 looking upward from the keel.

My invention is designed to provide an auxiliary steering gear which may be instantly put into use in case the main rudder or steering gear is disabled, but which at all other times is out of the way.

A represents the stern of a vessel. B the stern post and C the main rudder, these parts being constructed in the usual manner.

In the run, just above the keel and forward of the stern post, is made an opening D which extends entirely through from side to side, and is of sufficient size to receive a rudder E, the pintles for which are properly fixed in the front portion of this opening. The thickness of the keel at this point is considerable, therefore, this auxiliary rudder may be made of any suitable material, strength and thickness. The forward portion of the opening has a vertical concave groove E' in which the front end of the auxiliary rudder fits and the sides of this groove extend back sufficiently on each side of the rudder to partially inclose the front edge, serving at the same time to protect it from damage by being struck from the outside, and loosened from its pintles, and also as stops to limit the amount of its turn in either direction. To the rear portion of this rudder upon each side are fixed stout eye bolts F at top and bottom. These eye bolts are connected by links G with a ring H, and to this ring a chain I is connected, one upon each side of the rudder.

At any suitable point in the lower part of the counter or of the vessel, the holes are made, one upon each side, and sufficiently far apart so that the chains leading into these holes will have the necessary purchase or leverage to draw the rudder to one side or the other. These holes are fitted with hawse pipes K which are made tight where they pass through the vessel to prevent any leakage, and they curve upward in a long easy curve, so that the chain will move easily around the curve without the necessity of anti-frictional rollers at this point. These pipes lead up to the deck, or a point near where the chains by which the vessel is usually steered pass (if used upon a steamer or vessel having a pilot house toward the front of the vessel), otherwise they may be led up at any convenient point where power can be applied to them when desired. The upper ends of these chains pass through the deck, as shown in Fig. 4, and are connected with the shackles L, and these shackles are connected with the stout ring bolts M which are fixed in the deck of the vessel so that when the chains are drawn perfectly tight with this auxiliary rudder in a central position, the rudder will be maintained in this position and practically form a part of the keel and run of the vessel. As the chains are well under the counter of the vessel, it will be manifest that they will not present any material obstruction at this point, and as long as the ordinary rudder remains fit for use, this auxiliary rudder will be held in its central position by the tension of the chains connected with it.

If any accident happens to the main rudder, or to any portion of the steering gear which will disable it, it is only necessary to disengage the chains I from the shackles with which they are connected upon the deck, and as there is a sufficient length of chain provided for the purpose, these chains may be immediately connected with those of the main steering gear, or if these portions are badly disabled any supplemental device by which the rudder may be moved and controlled may be employed, thus placing the vessel at once under control.

This apparatus may be used either temporarily while repairs are being made to the

main apparatus, or if found necessary it will be found sufficient to guide and control the vessel until she can reach port or some place where repairs can be completed.

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

1. An opening made in front of the stern post and above the keel of a vessel, a rudder
10 fitted in said opening having pintles upon its front edge, chains connected with the rear edge upon each side, pipes fitted into the counter or run of the vessel curving upward above the water line through which pipes the
15 chains lead, and connections at the upper ends of the chains by which the rudder is held in a central position or moved from side to side, substantially as herein described.

2. An opening made in front of the stern
20 post and above the keel of a vessel, said opening having a concave channel made in its vertical front edge, a rudder fitting said opening having pintles at top and bottom of its front edge which turns within the concave portion
25 of the opening, the sides of which act as stops to limit the motion of the rudder upon each side, chains connecting with the rear edge of the rudder, openings made in the counter of

the vessel and pipes fixed in said openings leading upwardly above the water line, whereby the chains may pass through said pipes to points where they may be connected with operating mechanism, substantially as herein described. 30

3. An opening made in front of the rudder
35 post and above the keel of a vessel, a rudder fitting said opening having pintles upon its front edge about which it turns, eye bolts connected with the top and bottom of the rear edge of the rudder upon each side, links extending from said eye bolts to a ring on each
40 side of the rudder, curved pipes fitted into the counter of the vessel leading upwardly to the deck, chains connected with the rings upon the rudder leading through said pipes, shackles connected with the upper ends of the chain, and ring bolts to which these shackles are attached to hold the rudder rigidly in a
45 central position when not in use, substantially as herein described. 50

In witness whereof I have hereunto set my hand.

HERBERT L. WEITZEL.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.