

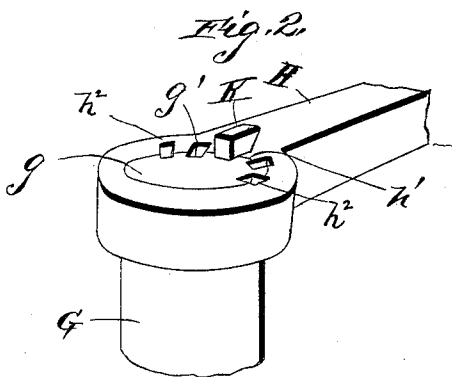
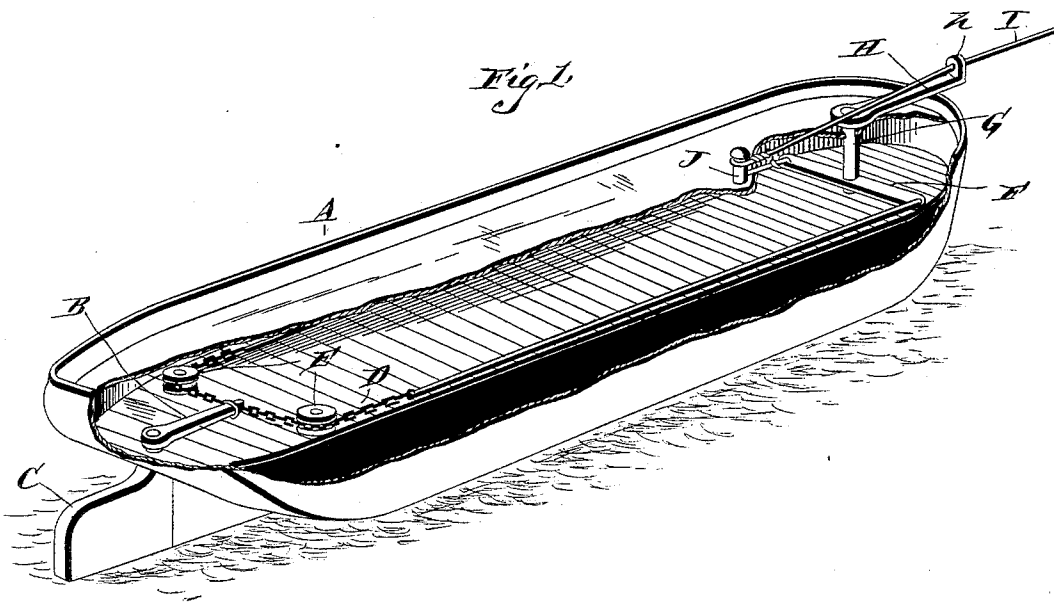
(No Model.)

2 Sheets—Sheet 1.

R. GRIGNON.  
STEERING APPARATUS.

No. 394,174.

Patented Dec. 11, 1888.



Witnesses,

O. L. Taylor,  
J. F. Riley.

Inventor.  
Rock Grignon,

By his Attorneys

C. A. Snow & Co.

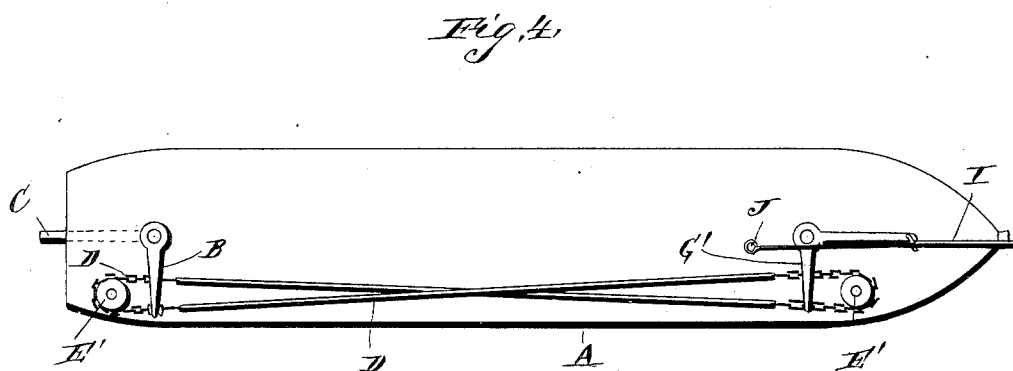
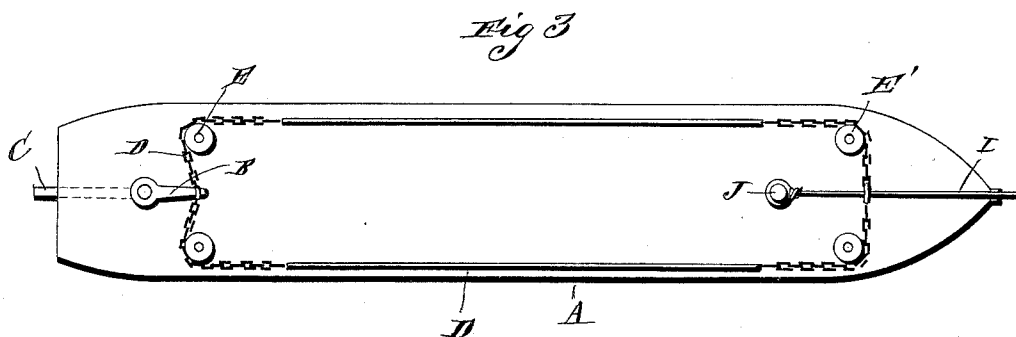
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2 Sheets—Sheet 2.

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No. 394,174.

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*S. F. Riley.*

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# UNITED STATES PATENT OFFICE.

ROCK GRIGNON, OF HOUGHTON, MICHIGAN.

## STEERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 394,174, dated December 11, 1888.

Application filed September 26, 1888. Serial No. 286,400. (No model.)

*To all whom it may concern:*

Be it known that I, ROCK GRIGNON, a citizen of the United States, residing at Houghton, in the county of Houghton and State of Michigan, have invented a new and useful Improvement in Steering Apparatus, of which the following is a specification.

The invention relates to improvements in steering apparatus.

The object of the present invention is the production of a steering apparatus capable of causing a scow, lighter, or other vessel to follow automatically in the wake of a tug or other towing-vessel; furthermore, to increase the speed of such vessels by causing the scow or lighter to follow upon one side and out of the current or rough water produced by the towing-vessel.

The invention consists in the novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of a scow provided with automatic steering apparatus constructed in accordance with this invention. Fig. 2 is a detail perspective view of the supplemental tiller, showing the manner of connecting the same to the tiller-post. Figs. 3 and 4 are plan views of scows having modifications of the invention.

Referring to the accompanying drawings, A designates a scow, lighter, or other vessel designed to be towed, and provided with an ordinary tiller, B, connected to and controlling a rudder, C. The tiller of the rudder C is situated below the deck of the vessel, is suitably attached to connecting chains, cable, or rods D, which pass around sheaves E, situated on each side of the vessel A and at the stern, and extend along the sides to the bow and are secured to a cross-bar, F. The connection between the cross-bar and the tiller B is preferably composed of both rods and chains or cables, the chains being used to pass around the sheaves E.

The cross-bar F is rigidly secured to a post, G, which is suitably stepped in the vessel at the bow and extends up through the deck, and has removably secured to it a supplemental tiller, H. The tiller is provided at its

outer end with an eye or loop, h, through which passes a tow-line, I, which is secured to a post, J. By this construction the towing-vessel, when changing her course, throws the supplemental tiller H, by means of the tow-line, in the direction she is going, thereby turning the tiller B, which is connected with the supplemental tiller H by the rods and chains D, in the opposite direction and causing the vessel A to follow in her wake. By this means vessel A will be caused to follow automatically in the wake of the towing-vessel.

The supplemental tiller H is removably secured to the head g of the tiller-post G, and is capable of turning thereon to enable it to be fixed in different positions to keep the rudder normally turned slightly to the starboard or port, whereby the vessel will be caused to follow on one side of the towing-vessel and out of the current and rough water caused by her, thereby increasing the speed and lessening the power consumed in towing vessels. The inner end, h', of the supplemental tiller H is ring-shaped and provided upon its inner circumference with recesses h<sup>2</sup>, which can, by turning the supplemental tiller H, be made to register with corresponding recesses, g', formed in the periphery of the head g of the tiller-post G, and the two parts are rigidly secured together by a key, K, which fits into the registering recesses.

In Fig. 3 of the accompanying drawings is illustrated a modification of the invention, which is designed to be employed wholly above the deck. The rods and chains D, instead of being connected to a cross-piece, pass around sheaves E', placed at the front of the vessel, and are provided with a loop through which the tow-line I is designed to pass and operate the tiller B.

Fig. 4 shows another modification of the invention, in which the tiller B is connected to a chain, D, which passes around sheaves E', placed at the bow and stern of the vessel A. The tiller-post G is connected with the chain D by a laterally-extending arm, G'. The other portion of the modification is constructed similarly to those heretofore described.

From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will readily be seen, and it will of course be un-

derstood that I do not limit myself to the precise details of construction herein shown and described, as I may without departing from the spirit of the invention make any minor  
5 changes therein.

Having thus described the invention, I claim—

1. A steering apparatus comprising a supplemental tiller provided with a loop adapted  
10 to receive the tow-line, the tiller-post situated in the bow of the boat and carrying the supplemental tiller, the tiller, and the cross-bar rigidly fixed to the tiller-post and suitably connected with the main tiller, substantially  
15 as described.

2. A steering apparatus comprising an auxiliary tiller-post arranged in the bow of a ves-

sel and provided with recesses, a supplemental tiller connected with said tiller-post and adapted to be connected to a tow-line and  
20 moved laterally therewith, and having at its inner end recesses similar to the recesses of said post and arranged to register therewith and receive a key for locking the parts in different positions, and a cross-bar suitably con-  
25 nected with the tiller, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ROCK GRIGNON.

Witnesses:

PETER PINNEAU,  
THOS. F. BRADY.