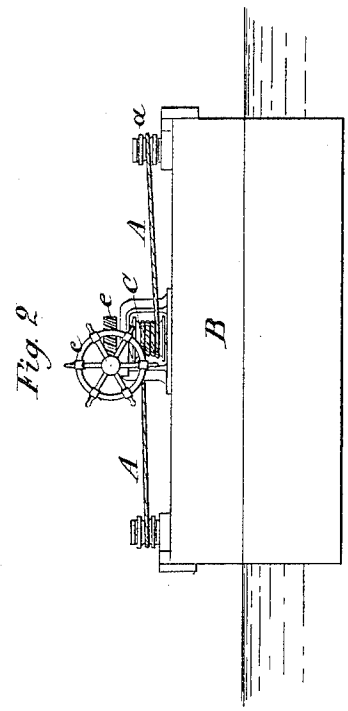
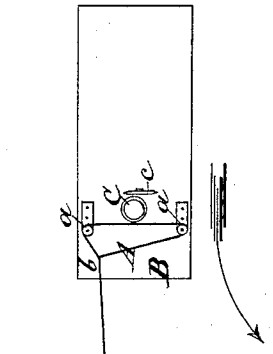
(No Model.) 2 Sheets—Sheet 1.

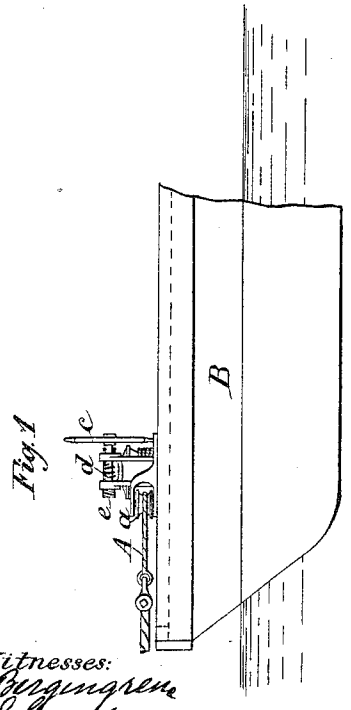
# V. F. LÄSSOE.

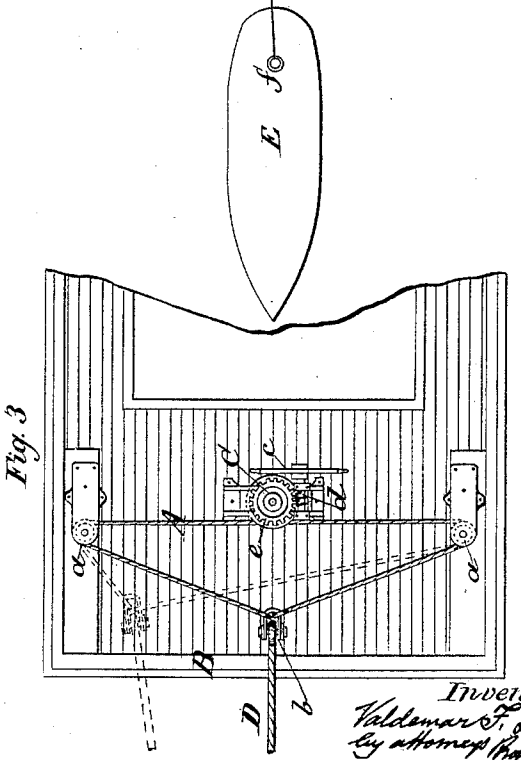
## STEERING GEAR FOR VESSELS AND FLOATING BODIES.

No. 398,631. Patented Feb. 26, 1889.

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(No Model.) 2 Sheets—Sheet 2.

# V. F. LÄSSOE.

## STEERING GEAR FOR VESSELS AND FLOATING BODIES.

No. 398,631. Patented Feb. 26, 1889.

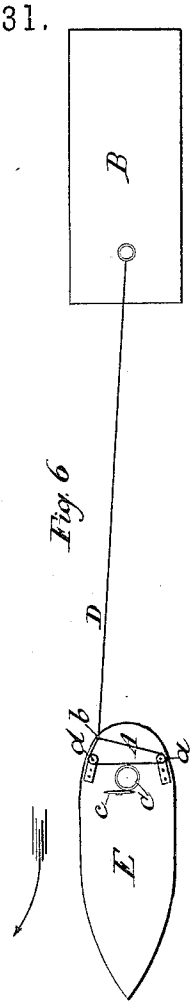


Fig. 6

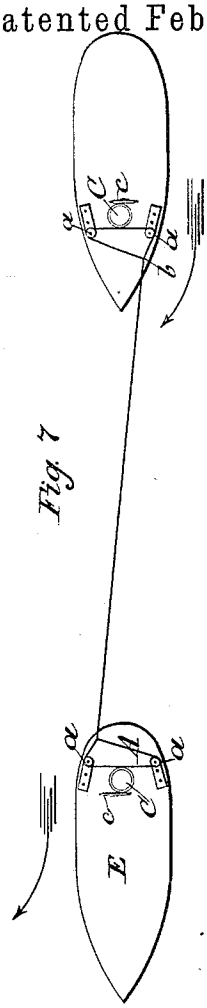


Fig. 7

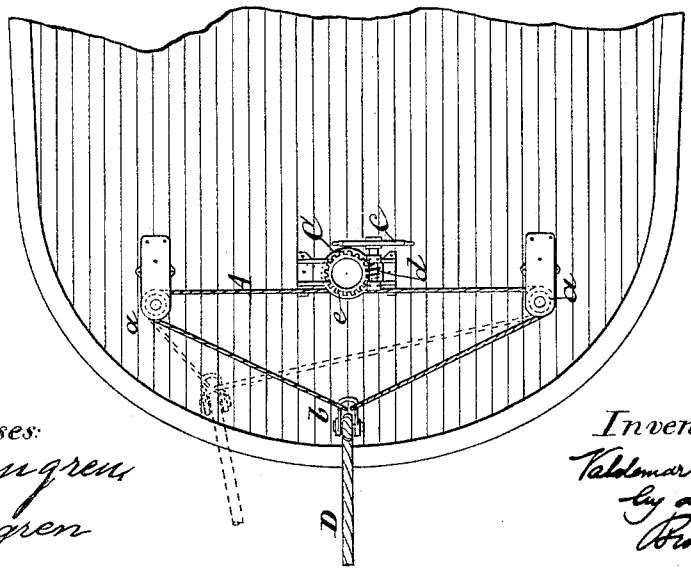


Fig. 5

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# UNITED STATES PATENT OFFICE.

VALDEMAR F. LÄSSOE, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO CORNELIUS H. DE LAMATER, OF NEW YORK, N. Y.

## STEERING-GEAR FOR VESSELS AND FLOATING BODIES.

SPECIFICATION forming part of Letters Patent No. 398,631, dated February 26, 1889.

Application filed November 14, 1888. Serial No. 290,817. (No model.)

*To all whom it may concern:*

Be it known that I, VALDEMAR F. LÄSSOE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Steering-Gears for Vessels and Floating Bodies, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to the steering of vessels or floating bodies towed or towing. Its object is to furnish reliable steering-gear for use either on the vessel or floating body towed or the vessel towing, or both, and especially for use in cases where the ordinary steering-gear is insufficient by reason of the peculiar build or form of the vessel or floating body towed and in cases where the ordinary steering-gear is disabled.

One of the purposes to which my invention is especially applicable is the towing of scows which are either unprovided with rudders or which, when provided with rudders, are almost unmanageable thereby on account of their blunt ends and flat bottoms. I have illustrated the application of my invention to this purpose in Figures 1, 2, 3, and 4 of the drawings.

Fig. 1 is a side view of one end of a scow having my invention applied. Fig. 2 is a rear view of the same. Fig. 3 is a plan of the same. Fig. 4 is a diagram illustrating the towing of the scow by a tow-boat. Fig. 5 is a plan view of the stern of a tow-boat having my invention applied. Figs. 6 and 7 are diagrams illustrating the different applications of my invention.

Similar letters of reference designate corresponding parts in all the figures.

I will first describe my invention with reference to Figs. 1, 2, 3, and 4.

A designates a running bridle, consisting of a rope or chain having its ends connected together. This bridle is arranged athwart the bow or forward end of the scow B, where it is supported by sheaves *a*, arranged in fixed positions one at each side of the vessel.

C designates a capstan, around the barrel of which one or more turns of the bridle A are taken.

D designates the tow-line, which may be connected to the bridle in any suitable manner, as by a shackle, *b*, which may be also used, as shown in Fig. 3, to connect together the ends of the rope or chain of which the bridle is composed.

E designates a tow-boat, to which the tow-line is shown connected at a fixed point, *f*.

In this above-described example of my invention the scow is steered by shifting the connection *b* of the tow-line athwartships, either to starboard or port, by turning the capstan C, and thereby moving the bridle in the requisite direction. The movement of the connection *b* in either direction causes the scow to be steered in the opposite direction.

In the diagram of my invention represented in Fig. 4 the connection *b* is moved to starboard, and the scow B is steered in the opposite direction, as indicated by the arrow.

The capstan-barrel C may be turned by a wheel, *c*, like an ordinary steering-wheel. I have represented such a wheel having on its shaft an endless screw, *d*, gearing with a worm-wheel, *e*, on the capstan-barrel. The endless screw and worm-wheel serve to lock the capstan and the running bridle A in any position in which they may be left by the steering-wheel.

When my invention is applied to a vessel for towing, I propose generally to apply it at the stern thereof, as shown in Fig. 5, in which are represented a running bridle, A, sheave-supports *a*, a capstan-barrel, C, and a tow-line connection, *b*, in all respects, except as to their position in the vessel, substantially like the corresponding parts shown in Figs. 1, 2, and 3.

In the diagram shown in Fig. 6 the scow B or body towed is represented without any steering apparatus, and the towing-vessel E is represented as having my steering apparatus applied at the stern, as shown in Fig. 5. As the tow-line D is moved by the capstan C and bridle A in one direction or the other, the vessel E will turn in the same direction, and the scow or body towed will follow in the same direction. The diagram Fig. 6 may also represent a steamer having her rudder disabled towing an improvised raft or drag for the purpose of steering the steamer.

In the diagram Fig. 7 a vessel towing and

a vessel thereby towed are both shown fitted with my steering apparatus, the towing vessel having the said apparatus applied at the stern and the vessel towed having it applied at the bow. By moving the tow-line connection to starboard on the towing vessel and to port on the body towed both are caused to move to starboard, and by moving the tow-line connection in the opposite direction both are moved to port.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a vessel and a tow-line therefor, of a running steering-bridle, consisting of a rope or chain having its ends connected together and arranged athwart the vessel, supports for said bridle arranged on opposite sides of the center of the vessel, and a rotary barrel or capstan for moving said bridle athwart the vessel, the tow-line being connected with the bridle by a connection which is movable athwart the vessel by the movement of the bridle, substantially as and for the purpose herein set forth.

VALDEMAR F. LÄSSOE.

Witnesses:

FREDK. HAYNES,

JOHN BICKET.