A. G. Crossman.

Steering.

No. 113,025. Patented Mar. 28, 1871.

Fig: 1

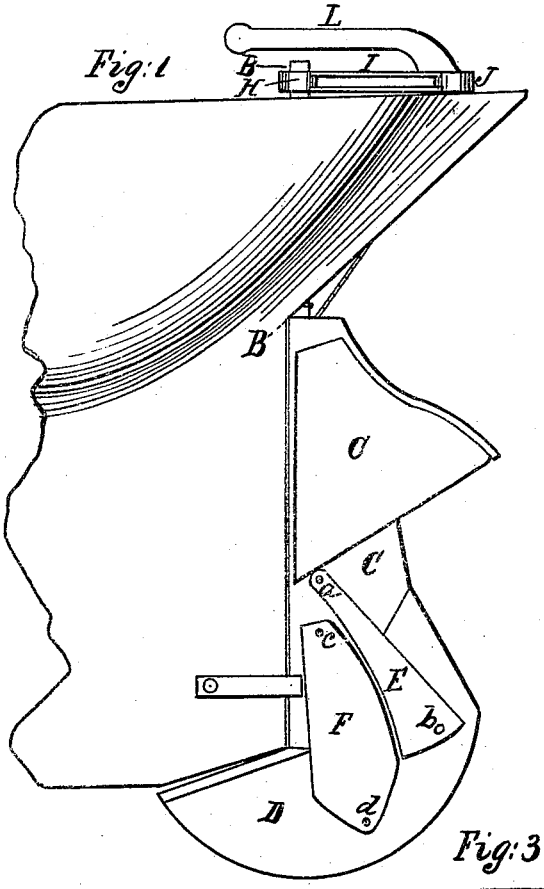


Fig: 2

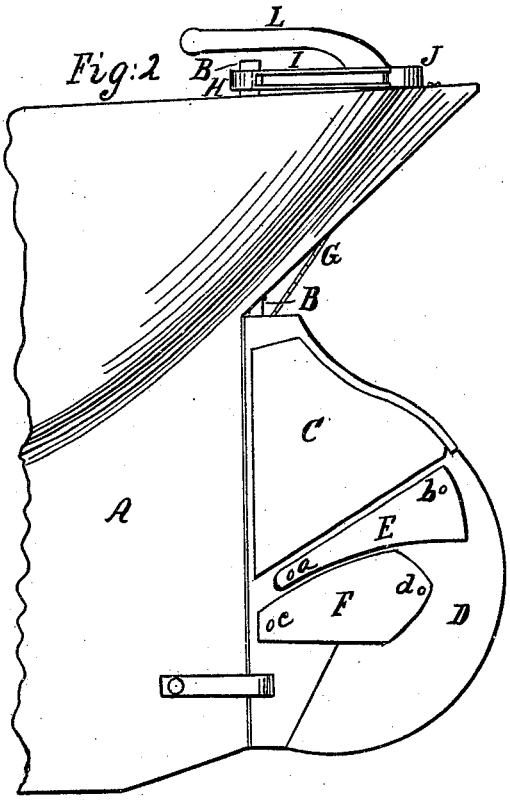
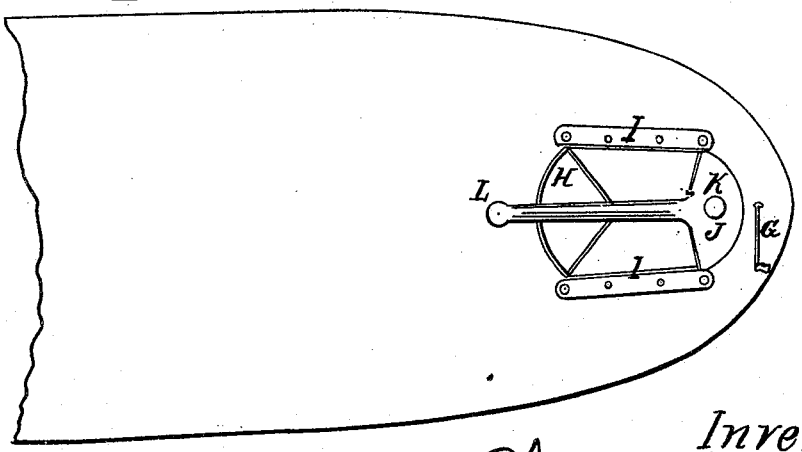


Fig: 3



Witnesses

Jas. S. Hightman

L. W. Kew

Inventor

Alonzo G. Crossman

By Thos. P. Kew

Atty

United States Patent Office.

ALONZO G. CROSSMAN, OF HUNTINGTON, NEW YORK.

Letters Patent No. 113,025, dated March 28, 1871.

IMPROVEMENT IN STEERING APPARATUS.

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

I, ALONZO G. CROSSMAN, of Huntington, in the county of Suffolk and State of New York, have invented certain Improvements in Steering Apparatus for Vessels, of which the following is a specification.

Nature and Objects of the Invention.

The first part of my invention relates to the rudders of vessels, and is an improvement on the rudder for which Letters Patent of the United States were granted to A. B. Crossman the 6th day of January, 1857.

The object of that invention was to provide for the shifting of the rudder or a portion of it forward of the center of the rudder-post and into a lower position when in deep water, and thus relieve the man at the wheel or tiller from a portion of the leverage of the rudder, and also at the same time obtain a better hold upon the water.

For this purpose the rear portion of the rudder was hung to the other portion near the rudder, or to the rudder-post itself, by a single horizontal pintle, which allowed this rear portion to swing vertically from a position behind the rudder-post to a position under it, so that the line of the axis of the rudder-post, if continued, would pass through about the middle of this swinging piece.

The object of the first part of my invention is to so modify the construction of the previously patented rudder above referred to as to allow the swinging portion of the rudder to be made in a more efficient and satisfactory form, and to give greater strength and reliability to its connection to the other part of the rudder, or to the rudder-post; and

This part of my invention consists in hanging the swinging portion of the rudder to the portion attached to the rudder-post in a permanent position, or to the rudder-post at two points, in the manner hereinafter described.

The second part of my invention consists in the device, hereinafter described, by which the axis of the tiller is carried back of the rudder-post so as to bring the tiller more out of the way, as hereinafter set forth.

Description of the Accompanying Drawing.

Figure 1 is a side elevation, showing my invention as applied to a vessel, the swinging portion of the rudder being represented in the lower and forward position.

Figure 2 is a side elevation of the same with the swinging portion of the rudder raised up back of the fixed portion.

Figure 3 is a plan, showing more particularly the construction of the parts for carrying the axis of the tiller back of the rudder-post.

General Description.

A represents a portion of the hull of a vessel.

B is the rudder-post, to which a fixed portion, C, of the rudder is rigidly attached and secured, which may be done by any of the approved modes of construction.

D is the swinging portion of the rudder, which I attach to the part C by two strap-joints, E and F, and having pintles or axes at *a b c d*, as shown.

This swinging portion of the rudder may be made in the form shown, and fitted to the fixed portion C in the manner represented, or in any other form and manner which may be desirable and which the mode of attachment will admit of.

The strap-joints and pintles should be fitted to work with sufficient freedom, that the weight of the swinging portion of the rudder will carry it down to its lowest position.

The line G is made fast to the upper portion of the part D, and extended upward over sheaves or otherwise through the part C to a point near the rudder-post, as shown, where it may pass through another pulley or not, and from thence be extended to the deck of the vessel, where it may be belayed to hold the part D in the desired position.

When sailing in deep water the line G may be let go so as to allow the swinging portion D to drop into its lowest position, and then belayed only sufficiently taut to prevent the slack of the line from fouling with other parts.

On approaching shoal water the line G should be hauled in sufficiently to raise the part D high enough to safely clear the ground, or it may be hauled in so as to bring the part D up to the position shown in fig. 2, and belayed so as to keep it in position.

By this mode of connecting the parts C and D I am enabled to construct a much more symmetrical rudder than if they were united by a single pintle, as in the patent heretofore referred to, and the part D is also better supported than by the former construction.

In vessels in which a tiller is used the tiller often extends so far forward of the rudder-post as to occupy room which is very desirable and even necessary for other purposes, the rudder-post in the ordinary construction forming the axis of the tiller.

To obviate this difficulty I attach a cross-head, H, firmly to the top of the rudder-post, and connect it, by means of the connecting-rods I I, to another cross-head, J, which is hung on an axis at K, and to which

cross-head I attach the tiller L, which then extends over and forward of the rudder-post.

By this means I am enabled to utilize a portion of the otherwise waste room back of the rudder-post, and, while giving the same length to the tiller, at the same time give more room forward, where the room is more valuable.

Claims.

I claim as my invention—

1. The combination of the parts C and D of the rudder, the strap-joints E and F, and the pintles or axes *a b c d*, substantially as hereinbefore set forth.

2. The combination of the rudder-post B, the cross-heads H and J, the connecting-rods I I, and the axis K, substantially as hereinbefore set forth.

ALONZO G. CROSSMAN.

Witnesses:

THOS. P. HOW,

L. W. HOW.