

J. C. COTTINGHAM.
Steering-Gear for Vessels,

No. 213,629.

Patented Mar. 25, 1879.

Fig. 1.

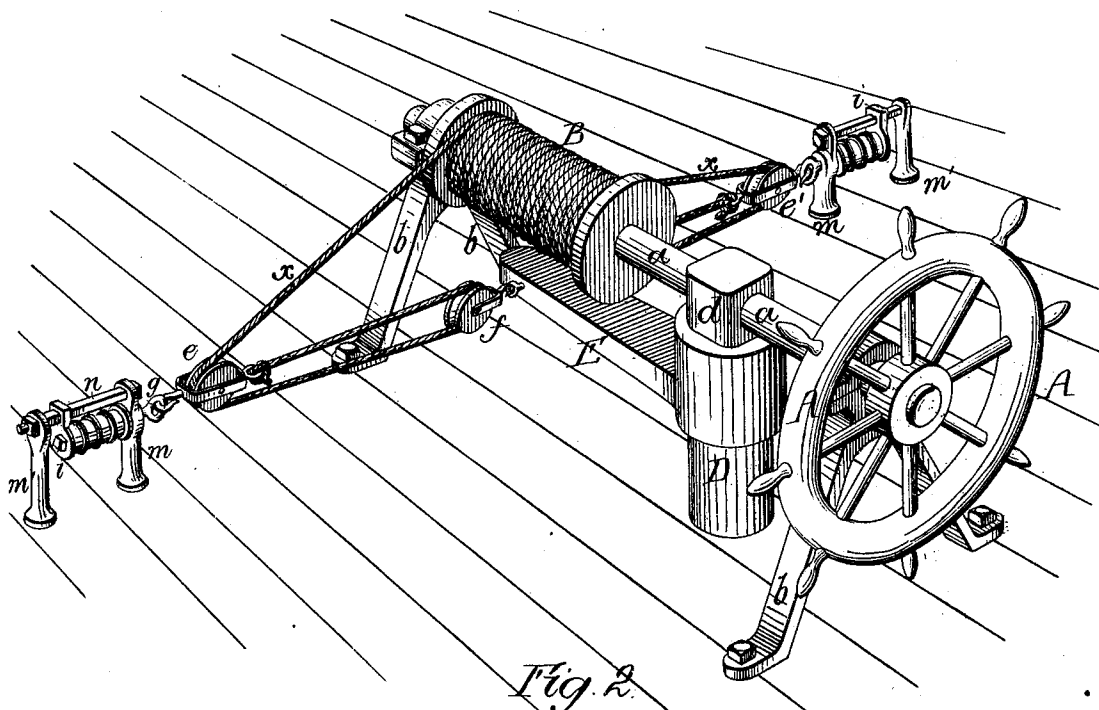
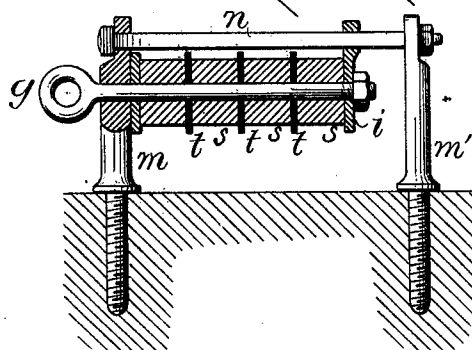


Fig. 2.



Witnesses
McDermott
Harry Smith

Inventor
John C. Cottingham
by his Attorneys
Horton and Co.

UNITED STATES PATENT OFFICE.

JOHN C. COTTINGHAM, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND FRANCIS SHUBERT, OF SAME PLACE.

IMPROVEMENT IN STEERING-GEAR FOR VESSELS.

Specification forming part of Letters Patent No. **213,629**, dated March 25, 1879; application filed February 21, 1879.

To all whom it may concern:

Be it known that I, JOHN C. COTTINGHAM, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Steering-Gear of Vessels, of which the following is a specification:

My invention relates to an improvement in yielding fastenings for pulley-blocks of steering-tackle; the object of my invention being to provide a secure fastening for the blocks without interfering with its elasticity.

This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of ordinary steering apparatus provided with my improved pulley-block fastening; and Fig. 2, a vertical section of the fastening, drawn to a larger scale.

In Fig. 1, A represents the steering-wheel; a, its shaft; B, the rope-drum; D, the rudder-head, and E the tiller, the shaft a being adapted to bearings on the standard b, and to the swiveled bearing d on the rudder-head, as usual.

One portion of the rope x passes from the drum round the pulley of the block e, thence round a pulley, f, connected to the tiller, and thence to the strap of the block e, to which the end of the rope is secured. The other portion of the rope passes round the pulley of a block, e', thence round a pulley attached to the tiller, and thence to the strap of the block e', to which the end of the rope is secured.

Each of the blocks e e' is connected to an eye on a bolt, g, the latter passing through an opening in a standard, m, which is screwed into the deck and deck-beams.

In line with the standard m, but at some little distance therefrom, is another standard, m', which is also screwed into the deck and deck-beams, the upper ends of the two standards being rigidly connected together by means of a cross-bar, n.

The inner end of the bolt g is furnished with a nut, which bears upon a plate, i, the latter having an opening for the reception of the bar n, by which the said plate is guided.

Between the cap i and the standard m intervene a series of rubber rings, s, and washers t, the rubber rings forming springs, which permit the bolt to yield when any sudden strain is exerted upon it, so that when a sea strikes the rudder and causes a sudden movement of the tiller in one direction or the other the shock is absorbed by the rubber springs s, instead of being transmitted directly to the drum B and wheel A. Thus the steersman is protected from the dangerous effects which are frequently due to a sudden movement of the wheel, caused by the action of the sea on the rudder.

The strain on the bolt g is exerted through the medium of the springs s upon the standard m, but is resisted by both standards m m', owing to the fact that their upper ends are rigidly connected together by the bar n.

By this means a second bearing for the bolt is insured, and the risk of tearing the fastenings from the deck is materially lessened.

I claim as my invention—

1. The combination of the two standards m m', connected together by a bar, n, with the spring-bolt g, to which is hung a pulley-block, forming part of the steering-tackle, as set forth.

2. The combination of the standards m m', the connecting-bar n, the bolt g, carrying the pulley f of the steering-tackle, the plate i, guided by the bar n, the springs s, and washers t, all as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. COTTINGHAM.

Witnesses:

WM. J. COOPER,
HARRY SMITH.