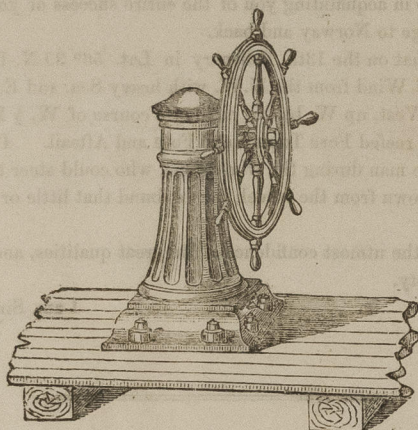


SKINNER'S PATENT



VERTICAL STEERING APPARATUS.

OFFICE: 124, FENCHURCH STREET, LONDON.

THIS improved Steering Apparatus, the first of its kind ever introduced combines very powerful leverage with great mechanical simplicity, and embraces the following advantages.

- i.—It enables the rudder to be brought round with less labour than any system now in use.
- ii.—The Rudder may be held a fixture in any position by a slight pressure on the Steering Wheel, while the Apparatus is so constructed as to allow the Rudder to yield slightly when struck by a sea, thus avoiding that rigidity which might tend to twist the Rudder-head.
- iii.—One man can control the Wheel without the slightest danger of being thrown over or injured by it.
- iv.—The Apparatus is fixed to the Rudder-head, doing away with all blocks, chains and tackle, and affording a bearing or steadying support to the Rudder.
- v.—A most essential point in steering gear is to maintain leverage; and in this Apparatus the leverage is fully maintained as the Rudder is moved from the centre to Hard-over on either side, which is not the case with ordinary or Screw Steering Gear.
- vi.—It is very compact, occupying only $2\frac{1}{2}$ feet square for a vessel of 1000 tons register; requires no casing, covering of any kind, nor Staging, the internal machinery being protected effectively in all weathers by the outer cylinder.

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Testimonials.

Sir,

I have the greatest pleasure in acquainting you of the entire success of your New Vertical Steering Apparatus fitted to this Vessel previous to her voyage to Norway and back.

I note from the Log Book that on the 13th February in Lat. 56° 30' N. Lon. 6° 20' East, being in the North Sea, we experienced a very heavy gale of Wind from the N.W. with heavy Sea, and Engines going half speed. The course made by the Ship was as follows:—Off West, up W. by N., making a course of W. $\frac{1}{2}$ N. under a close reefed Main Triesail; at 4 P.M. kept away S.S.W. and set close reefed Fore Topsail and Fore and Aftsail. I was greatly pleased to find that your New Steering Apparatus required but one man during the whole time, who could steer the Ship with the greatest ease, and without the slightest danger of being thrown from the wheel, for we found that little or no pressure was necessary to hold the Wheel in any position.

I can therefore speak with the utmost confidence of its great qualities, and I can most highly recommend it to any Ship-owner for its efficiency and safety.

To Mr. H. E. SKINNER.

S.S. MIRANDA,
LONDON, February 17th, 1866.

I am, Sir,
Yours truly,
W. STANILAND,
Commander.

Sir,

Having now used your VERTICAL STEERING APPARATUS on board this Vessel for the period of nine months, it affords me great pleasure in being able to assure you that it answers admirably, and I consider it better than any other Steering Gear that has come under my notice.

I can speak of its good qualities with great confidence, because it has been thoroughly tested in all kinds of weather.

To Mr. H. E. SKINNER.

Yours truly,
I. T. F. HAWKINS, Master,
S.S. "LATONA."

S.S. LATONA,
LONDON, March 7th, 1867.

Sir,

Having had many months' experience of the working of your VERTICAL STEERING APPARATUS in this and other Vessels, I can speak with confidence of its value, and prefer it to any other system I have seen. It is simple, powerful, easy to handle, and little liable to get out of order. I have tested it in all weather, and find it easy in a sea-way—it acts immediately on the helm, and there is no noise, nor is it liable to sudden jerks, in fact, since I have used it, it has given no trouble at all.

To Mr. H. E. SKINNER.

I am, Sir,
Yours truly,
J. BADCOCK, Master,
S.S. "AURORA."

S.S. AURORA,
LONDON DOCKS, 20th June, 1867.

ST. MICHAEL'S HOUSE,
LYME,
4th August, 1867.

The STEERING APPARATUS fixed on my Yacht "Wolverene," appears to be most perfect.

I have steamed now 1200 miles, and in very rough seas, and its action is remarkably quick, and there is no jerking of the wheel whatever.

It has been freely shown, both in England and France, and has elicited but one opinion, that it is very compact and very effective.

To Mr. H. E. SKINNER.

ANDW. B. BRANDRAM.

Testimonials.

2, EAST INDIA AVENUE, LEADENHALL STREET,
LONDON, 7th October, 1868.

Dear Sir,

I have pleasure in testifying to the efficiency of SKINNER'S PATENT STEERING APPARATUS, fitted on board my Ship "Khersonese," 1400 tons register, previous to her voyage to Calcutta.

I have a very favourable report from the Master of that Vessel of the working of it in all weathers, and I have myself inspected it since the return of the Vessel, and find it in very excellent condition.

I consider this Steering Gear equal to any, and much superior to most of those that have come under my notice.

I am,
Yours faithfully,

GEORGE DUNCAN

[Copy]

Dear Sir,

Captain Darnell and his Officers speak very favourably of SKINNER'S VERTICAL STEERING APPARATUS, supplied by you to the "Bromesgrove," S.S.

Yours truly,
J. G. HILL, Owner.

SOUTHAMPTON,
December 11th, 1868.

Sir,

Having had your PATENT STEERING APPARATUS steering on board of this Ship, I find it works easy, steady and freely, both in bad and fine weather, and I have great pleasure in recommending it to owners and masters of Steam and Sailing Vessels.

S.S. "HAMPSHIRE,"
Southampton.

I remain,
Yours respectfully,
R. THOMPSON.

BRITANNIA DOCK, MILLWALL, E., AND LAVENDER DOCK, ROTHERITHE, S.E.
LONDON, 4th May, 1869.

Sir,

In reply to your enquiry, I beg to say that the "Mikado" has just arrived from China, and the Captain reports most favourably on the efficient working of the VERTICAL STEERING APPARATUS.

I have personally inspected it, and found it in just the same order as when it was first fitted. There was not the slightest appearance of working anywhere.

I have, therefore, the greater confidence in giving you an order to supply an Apparatus of a similar kind for the new ship "Ambassador." You will please put it in hand without delay, as the ship is nearly ready for launching.

I am, Sir,
Yours faithfully,
WILLIAM WALKER.

Memorandum.

MAY, 1868.

Among many other Vessels on which this Apparatus has been fitted may be mentioned H.M. Steamers "Industry" and "Supply": the Captains (Staff Commanders in the Royal Navy,) speak in the highest terms of its merits. Messrs. NAPIER & SONS of the Clyde have fitted it to a "Monitor" and a "Ram" (Ironclads) belonging to the Dutch Navy. The General Steam Navigation Company have applied it, and their Captains speak most favourably of it. It has also been adopted by the Trinity Board on a new Yacht just built.

It answers as well for Sailing Ships as for Steamers, and it is a fact that in no case has an unfavorable report been made of it.