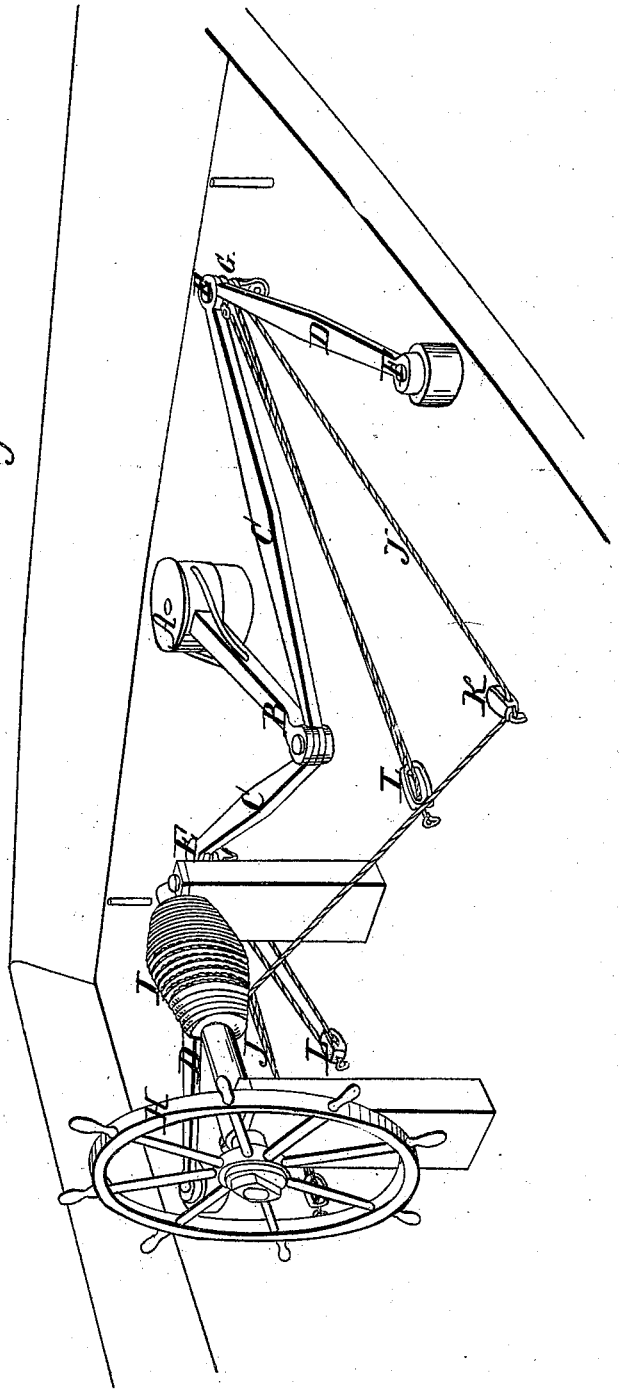
Sheet 1, 3 Sheets.

E. Rouse.

Steering.

No. 5,832. Patented Oct. 3, 1848.

Fig. 1.



Sheets, 3 Sheets

E. Rouse.

Steering.

No. 5,832. Patented Oct. 3, 1848.

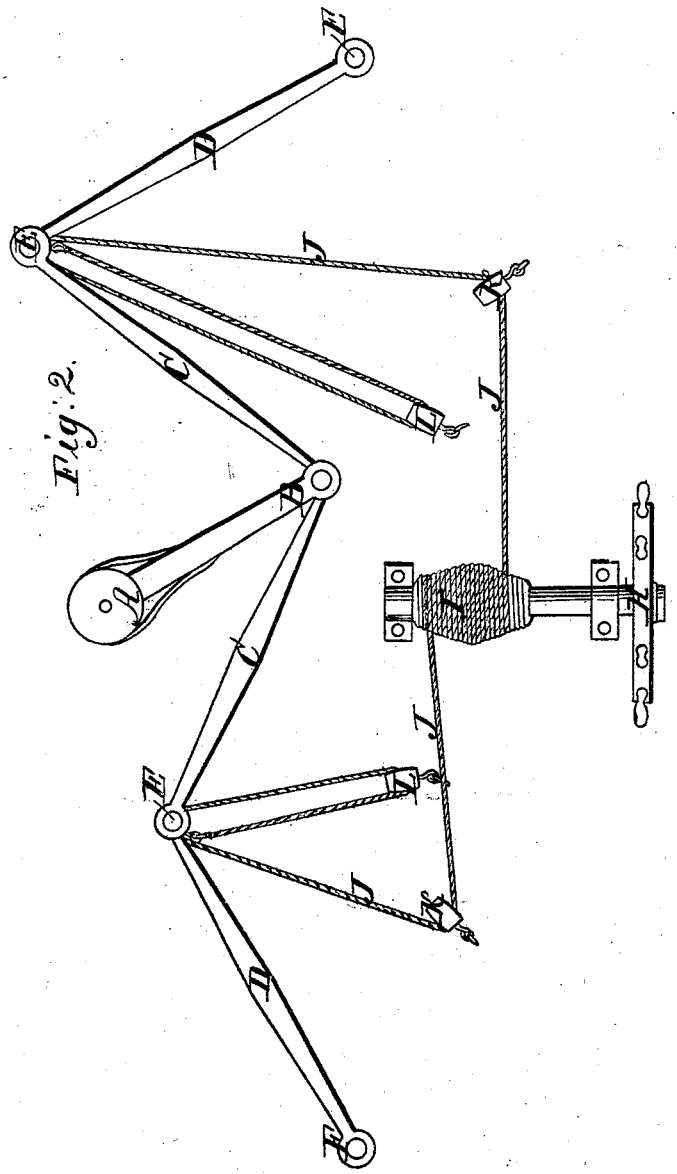


Fig: 2.

Sheet 3, 3 Sheets.

E. Rouse.

Steering.

No. 5,832. Patented Oct. 3, 1848.

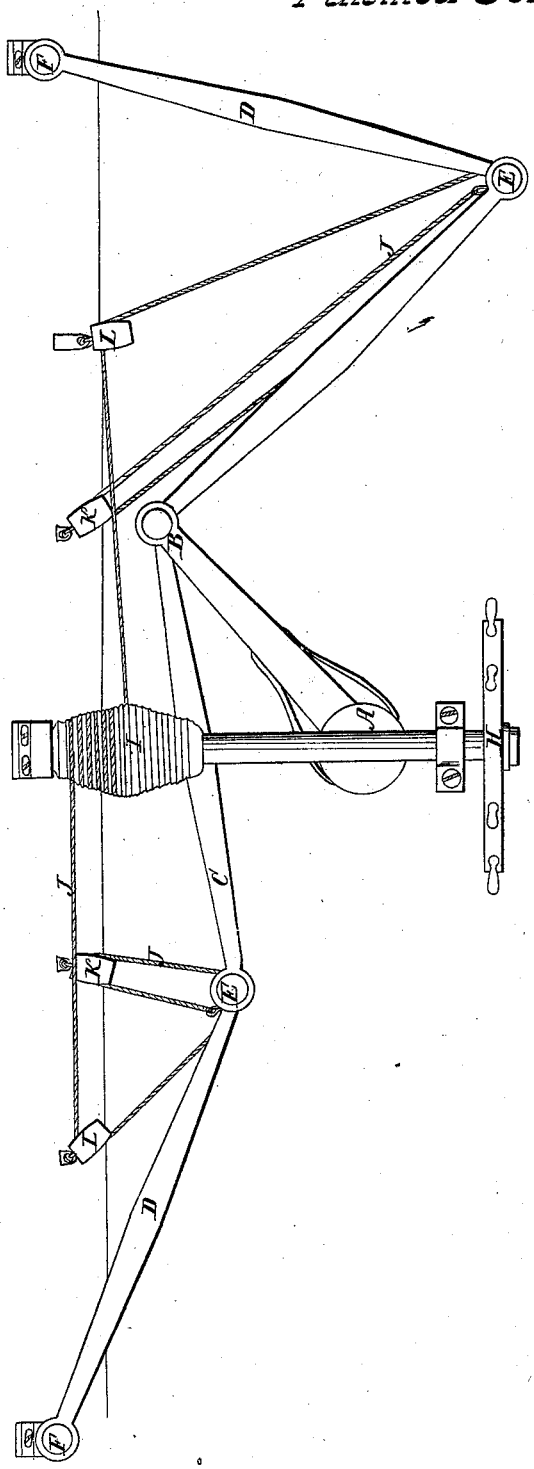


Fig. 3.

UNITED STATES PATENT OFFICE.

EDWARD ROUSE, OF AUGUSTA, MAINE.

METHOD OF STEERING VESSELS.

Specification of Letters Patent No. 5,832, dated October 3, 1848.

To all whom it may concern:

Be it known that I, EDWARD ROUSE, of Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in the Manner of Constructing Apparatus for the Steering of Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which make a part of this specification.

In these drawings Figure 1, is a perspective, and Fig. 2, a top view of my apparatus.

In each of these figures where the same parts occur they are designated by the same letters of reference.

A, is the rudder head, and B, the forward end of the tiller, which is connected by a joint pin to the levers C, C, which in combination with those D, D, to which they are connected by joint pins at E, E, constitute two sets of progressive levers, or toggle joints; the outer ends of these work upon bolts, or joint pins which are firmly driven into the deck at F, F; these bolts may be in a line, or nearly so, with the forward end of the tiller. Each of the levers C, and D, should be long enough to reach one half the distance, in a straight direction, to the forward end of the tiller when the helm is hard down, or hard up, on the opposite quarter. The joint pins E, E, of the toggles have at their lower ends a truck wheel, or roller, which rests on the deck, and operating as a caster, supports, and allows free motion to, the progressive levers. Above these trucks, or rollers, I place a suitable sheave, or pulley, G, of wood or metal, which traverses freely, and receives and guides the wheel, or tiller rope J.

Directly amidships, and forward of the tiller, I place a wheel H, similar to that in common use, and supported by a frame in the ordinary manner; the shaft of this wheel carries a barrel I, for the purpose of winding up and paying off the rope. The form given to this barrel, is compensating, operating on the principle of the fusee of a time piece, it being so graduated as to play off and wind up the rope in a degree proportioned to the length and situation of the levers, or other apparatus employed. The amount of this compensation will of course vary with variations in the size and arrangement of the other parts of the apparatus, but it may be readily found either by calculation, or by actual trial. It will be seen in the drawing that this compensating barrel has its largest diameter in the middle, and diminishes in size, toward each end. Variations may be made in this form, while the same principle of action is retained; but that which I have given I deem the most simple, and the best. By means of this compensating barrel I produce an equal tension of the wheel rope at all times. This has been a great desideratum with nautical men, as it renders the steering comparatively easy, and certain, and prevents those sudden jerks to which the steering wheel is subjected, when this equal tension is not kept up; and this, I believe, has not been previously effected.

To render the rope fairly on to, and off from, the barrel I, and to connect it properly with the toggle joints, the rope or chain J, passes around the sheaves of the leading blocks K, K, that are attached to the deck by hooks, or staples. The rope is then reeved around the sheave or pulley G, then through the block L, and back to the joints E, E, of the levers, where it is made fast to them, as represented. The middle of the rope is secured to the center of the compensating barrel; when so affixed the whole is ready for use, so that by turning the wheel the tiller may be placed in any desired position, and as the greatest resistance on the rudder will be met by the straightening of one of the pairs of jointed levers, it will be obvious that the power will increase in the ratio of the increase of the resistance.

When vessels are so constructed as to allow the necessary room to carry out the tiller abaft the rudder head, the wheel may be placed immediately forward of said head. Its axle may, in that case be supported at the wheel end by a swivel in the top of the rudder, or by a post firmly set in the deck; its after end having its bearing on the stern timbers, or taffrail of the vessel. The barrel in this case is placed on the after end of the axle, as represented in Fig. 3, where the respective parts are designated by the same letters, as in the other figures; by inspecting this drawing, it will be manifest that the vessel may be steered by my apparatus with the tiller placed abaft the rudder head without making any substantial change in its construction. It will be manifest also to all persons familiarly acquainted with

naval construction, that under a like arrangement the wheel rope may, by means of the leading blocks, be carried to any part of the vessel where it may be desirable to station the wheel.

I use said toggle joint levers, which, as above stated, gradually increase the power as it is wanted, and effectually support the rudder against the force of the sea when the helm is hard up; it being easier, in fact, to hold it in that position by the man at the wheel, than when the wheel rope only is used, which commonly operates at that point to a greater disadvantage than at any other.

Having thus fully described my improvements in the manner of constructing the apparatus for the steering of vessels, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of a compensating barrel with two sets of toggle joint levers arranged substantially as described and the whole being made to coöperate with the tiller for the purpose set forth; not intending by this claim to limit myself to the precise form of the respective parts as herein represented, but to vary these as I may find expedient while I attain the same end by means substantially the same.

EDWARD ROUSE.

Witnesses:

ALANSON STEUTES,

WM. M. STRATTON.