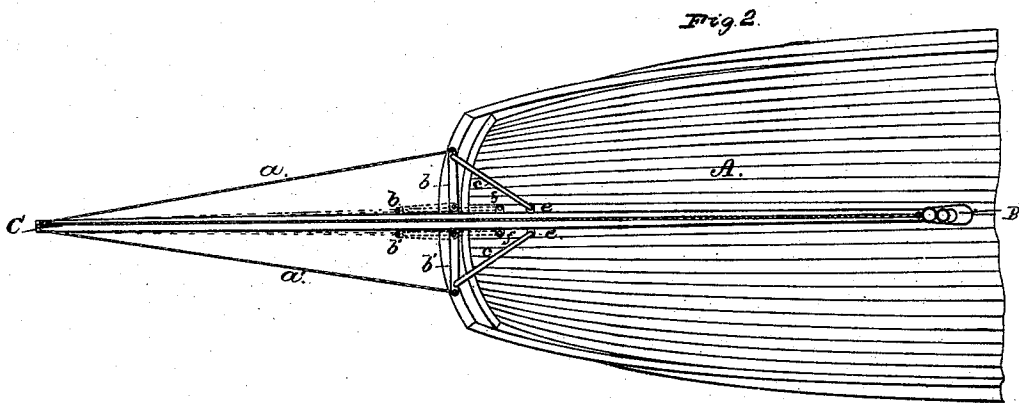
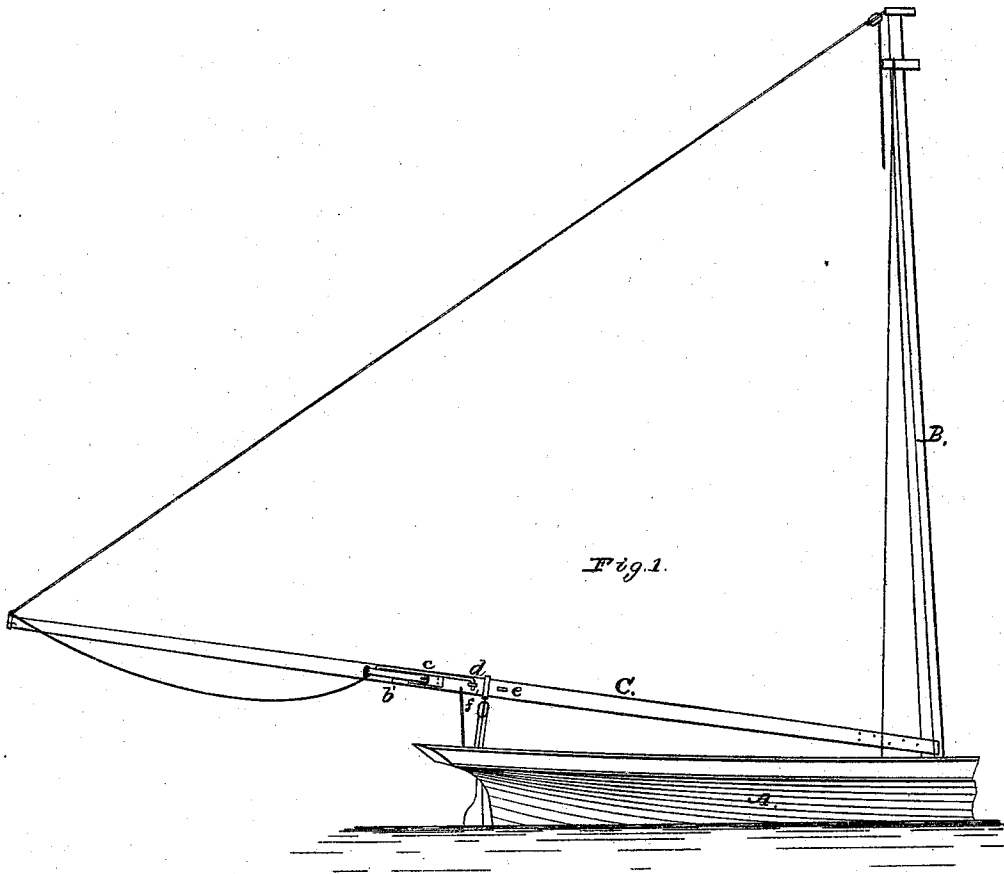


C. STILLMAN.

FOOT-ROPE SUPPORTS FOR VESSELS' YARDS.

No. 173,427.

Patented Feb. 15, 1876.



Witnesses

Geo. Gray
F. W. Hale

Charles Stillman

by his attorney
F. P. Hale

UNITED STATES PATENT OFFICE.

CHARLES STILLMAN, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN FOOT-ROPE SUPPORTS FOR VESSELS' YARDS.

Specification forming part of Letters Patent No. **173,427**, dated February 15, 1876; application filed January 17, 1876.

To all whom it may concern:

Be it known that I, CHARLES STILLMAN, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Foot-Rope Attachments or Supporters to be applied to the main boom or yards of vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

In said drawing, Figure 1 is a side elevation of a portion of a vessel having my invention applied thereto, and showing such as it appears when folded or not in use. Fig. 2 is a top view of the same, the dark lines showing the supporters distended, and the invention ready for use, and the dotted lines representing the same as folded, as they appear when the vessel is under sail, and the foot-ropes not required for use, as shown in Fig. 1.

The object of my invention is to prevent accident and loss of life, as often occurs to seamen when in rough weather they are required to haul in and reef a main or other sail, under the ordinary arrangements for such purpose.

Heretofore a single foot-rope has been affixed to the outer end of the boom or yard, and extended axially along under the same until it reached a point on the boom or yard inside of the stern or side rail at such point, it being fastened to the boom or yard. On this rope, so suspended, the seaman passed out to seize and haul in the sail. Owing to the lateral swaying of the rope under the rolling action of the vessel, a sailor, while standing on the rope, and with his hands employed in manipulating or hauling in and securing the sail, often had his feet thrown so far beyond the side of the boom or yard as to cause him to lose his balance, and, as a consequence, be pitched headlong into the sea. My invention seeks to remedy this evil, in carrying out which I employ two foot-ropes, one on each side of the boom or yard, and extend each from the outer end thereof laterally along the

same to a hinged arm or supporter, which, when extended, stands at right angle to the boom or yard, so that whenever necessary to reef a sail the rope on either side of the boom or yard may be used, as may be desirable, the ropes under my arrangement rendering it almost absolutely impossible for a sailor, when on the same, to be swung under the boom to such extent as to cause him to lose his balance.

In the drawing, A denotes a part of the hull of a vessel; B, a mast; and C, a boom affixed to the latter. *a a'* are two foot-ropes, which are affixed to, and extend laterally from, the outer extremity of the boom, and along the sides thereof, and are, respectively, attached to the ends of two metallic arms, *b b'*, which are pivoted or hinged to plates affixed to the sides of the boom. Each arm has jointed to or near to its outer end a brace-rod, *c*, whose outer or free end is formed with a hook, *d*, which takes into an eye, *e*, affixed to the side of the boom. When thus hooked the rope is ready for use. When the vessel is sailing, and no reefing is required, the arms *b b'* are to be turned back so as to closely fold upon the sides of the boom, the hooks of the brace-rods being removed from the eyes *e e*, and inserted into another set, *f f*, arranged nearer the end of the boom, so that when thus arranged the arms will be brought into, and locked or maintained in close contact with, the boom, so as not to chafe or interfere with the sail.

I would remark that, although I have shown in the drawings the two ropes, both in position for use, but a single one is to be employed at a time, either rope being distended or adjusted for use as circumstances may render desirable.

It will be evident that my invention is equally applicable to the yards of vessels as to the main boom. In case it is applied to the yards, each pair of ropes extending from the outer ends of the yard would have a pair of supporting-arms, *b b'*, affixed to the yard on opposite sides of the mast.

I do not claim the attachment of foot-ropes to the yards of vessels by means of rigid non-folding hangers, so applied as to keep the said ropes outside of, and out of contact with, the shrouds, my invention being designed more

especially for application to the booms of vessels, and to be folded, when not required for use, in close contact with the boom.

From the above it will be seen that my invention is not only simple in construction, easy in operation, but one of great value for the purpose designed.

Having described my invention, what I claim is—

The combination of the foot-ropes *a a'*, the hinged and folding arms *b b'*, the hooked brace-

rods *c c*, and the eyes *e e* and *f f*, the whole being arranged and applied to a boom or yard, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

CHARLES STILLMAN.

Witnesses:

F. P. HALE,

F. C. HALE.