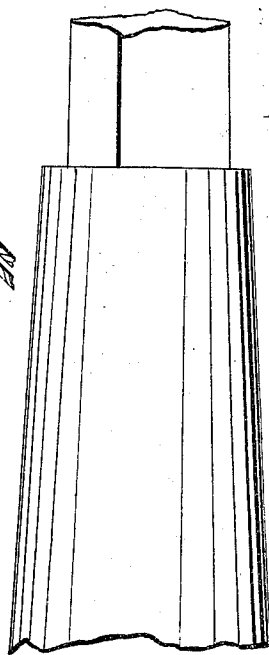
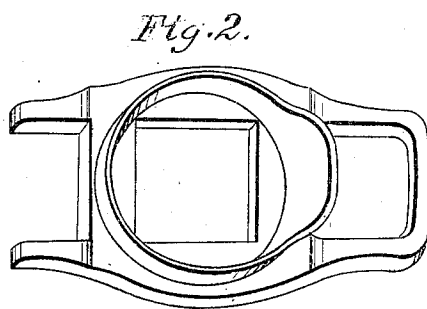
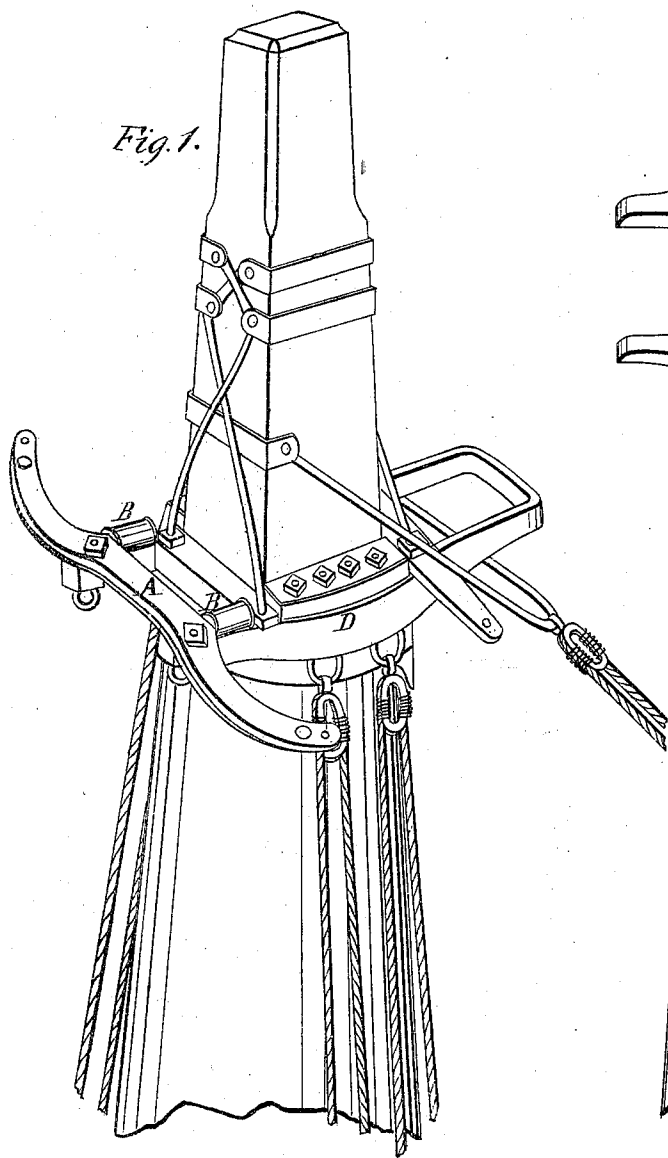


H. Townsend,
Ship's Trestle Tree.
N^o 113,471. Patented Apr. 4, 1871.



WITNESSES.

Thomas Welham
Charles Graf.

INVENTOR.

Henry Townsend.

United States Patent Office.

HENRY TOWNSEND, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 113,471, dated April 4, 1871; antedated March 22, 1871.

IMPROVEMENT IN SHIPS' TRESTLE-TREES.

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

To all whom it may concern:

Be it known that I, HENRY TOWNSEND, of the city and county of Philadelphia and State of Pennsylvania, have invented Improvements in Trestle-Trees and Ship-Rigging; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which:—

Figure 1 represents the mast-head with the trestle-tree and cross-tree so constructed as to give room for the ropes called peak-halliards, and also showing friction-rollers to prevent the ropes chafing on the trestle-trees.

Figure 2 shows the under side of a trestle-tree made to fit a square shoulder of the mast-head.

Figure 3 shows the square shoulder of the mast-head.

The nature of my invention consists of making a cross-tree of such a crooked shape that the ropes have free play without chafing when the sails are hoisted or lowered; and to give strength to this cross-tree I make the under side of iron and the top of wood, the wood being more safe to stand upon; or, if made wholly of iron, the top side is roughened, so that a man may stand upon it without slipping.

I also attach friction-rollers to the cross-trees or trestle-trees to prevent the rope from rubbing on the trestle-tree.

To enable others to understand my invention I refer to the drawings, in which:—

Letter A marks the cross-tree.

Letters B B, the friction-rollers.

Letter D marks an elastic packing in combination with the metallic trestle-tree and wire-shrouds.

The object of making a metallic trestle-tree with a square shoulder is to adapt it to the standing mast now in use without lowering or cutting away the shoulder of the same. By this means a metallic trestle-tree is a band of strength to an old mast.

It is well known to seamen, the great wear and tear of ropes by chafing upon the cross-tree as the sails are hoisted and lowered. Therefore, a cross-tree of this peculiar shape is very essential to allow the ropes free play; and it will be seen by the drawings herewith that this plate of metal, in combination with the wood, gives great strength to a cross-tree of this shape, as herein described.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is:—

A cross-tree for a ship's mast, with projecting brackets for the reception of friction-rollers, and constructed with a plate of metal for strength, as shown and herein described, instead of a straight piece of wood, as heretofore.

The above specification of my said invention signed and witnessed at Philadelphia this 16th day of December, A. D. 1869.

HENRY TOWNSEND.

Witnesses:

OWEN McDONALD,
JOSEPH BAYMORE.