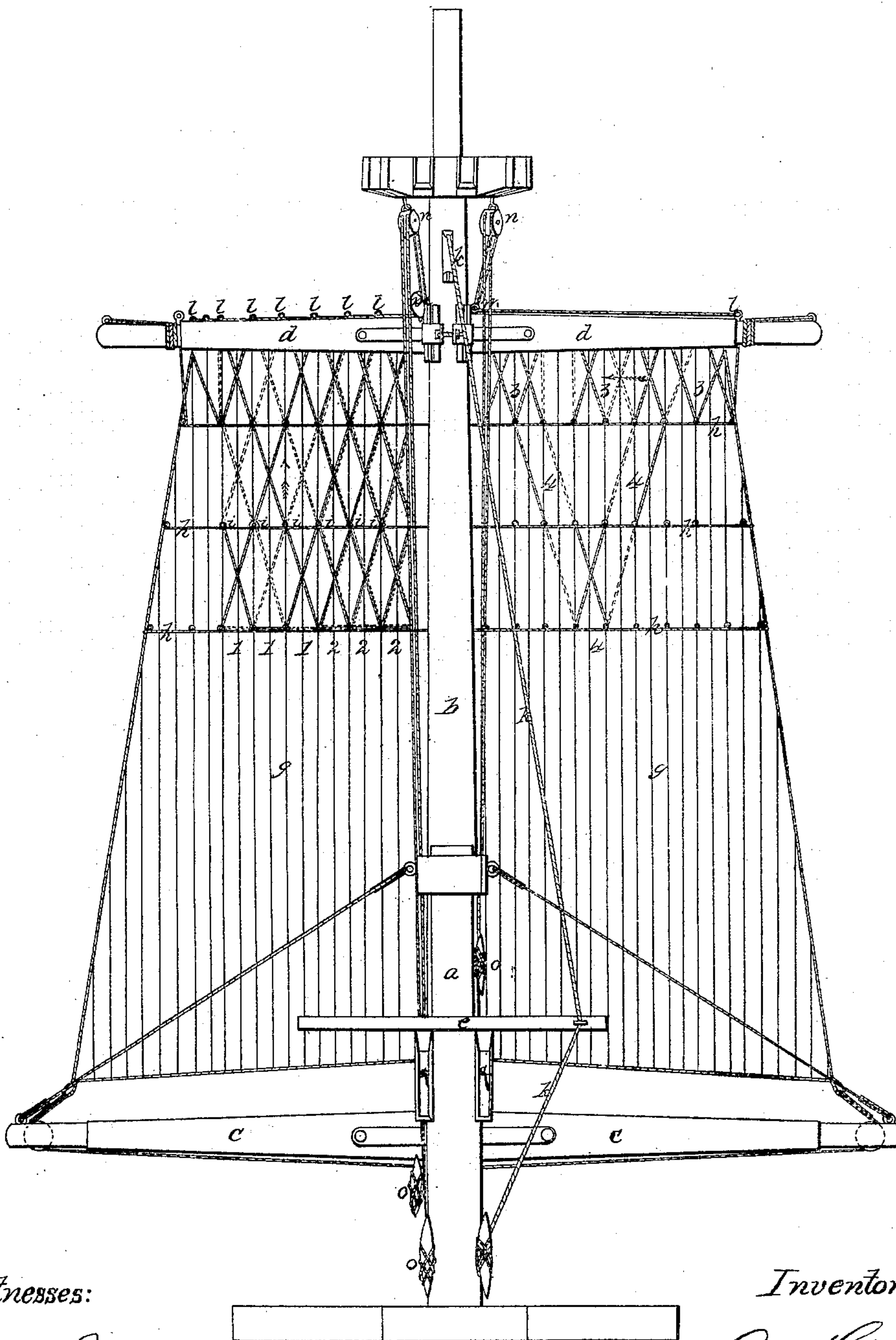


*G. H. Felt.*  
*Reefing Sails.*

*N<sup>o</sup> 44,620.*

*Patented Oct. 11, 1864.*



*Witnesses:*

*Frederick Schuyler*  
*Wm. H. H. H. H.*

*Inventor:*

*Geo H Felt*

# UNITED STATES PATENT OFFICE.

GEORGE H. FELT, OF NEW YORK, N. Y.

## IMPROVEMENT IN REEFING AND FURLING SAILS.

Specification forming part of Letters Patent No. **44,620**, dated October 11, 1864; antedated September 25, 1864.

*To all whom it may concern:*

Be it known that I, GEORGE H. FELT, of the city, county, and State of New York, have invented a new and improved method of reefing sails by means of ropes arranged in the form and manner of lacings; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

The drawing represents a view of the mast, yards, &c., and back of the sail, with the arrangement of ropes for reefing.

*a* represents the mainmast, and *b* the maintop mast; *c*, the main yard, and *d* the maintop sail yard; *e*, the maintop resting on the bibbs *f*.

The sail *g* is made and lent to the yard in the usual manner, but, instead of reef-points, has ridge-ropes *h*, to which grommets *i* are fastened, in which dead-eyes are placed, through which the ropes reeve for reefing the sail. These dead-eyes are represented by eye-lets. The reefing ropes are laced up and down the sail as 1 and 2, or across the sail as 3, or arranged as 4, and either single as 1, or double as 2. The reefing-ropes pass through sheave-holes *l*, placed on top of the top-sail yard, and are carried to a block, *m*, in the center of the yard, and thence to a block, *n*, attached to the cross-trees, and thence fastened to cleats *o* on the mast or on deck.

To reef the sail the halyards *k* are loosed, which allows the top sail yard to fall, and the reefing-ropes, being arranged as lacings and remaining stationary, as before described, reeve through the sheave-holes on the yards,

and thence through the blocks in the center of the yard *m*, and at the same time gather up the sail as the yard falls.

The reefing-ropes are not loosed from the cleats *o* during the operation of reefing, but hove taut before the reef is made.

The halyard *k* can be eased off until the yard has fallen to the first, second, or third reef, or the reefing-rope can be arranged as at *p*, so as to support the sail at the first reef, and in that case that rope will have to be eased off, together with the halyard, when the yard is wanted to fall to the second or third reef.

In practice it will be necessary to have a long sheave-block attached to the yard containing a sheave for every pair of reefing-ropes instead of the eyes *l*, and a large block with an equal number of sheave-holes at *m* instead of the double block. The ropes can unite in one or two ropes above this block and pass in a single rope to the cleat.

When arranged, as at 3, the yard can fall and the slack of the rope can then be hauled in, or the whole sail can be raised to the yard; or, in the case of fore and aft sails, the sail can be lowered and the slack of the reefing-rope hauled in.

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

The combination of ropes in form and manner of lacings for the purpose of reefing and furling sails, the said lacings remaining stationary and the sail being reefed by the yard being lowered, all arranged and combined as specified.

GEO. H. FELT.

Witnesses:

FREDK. B. SWIFT,  
W. E. SLOCUM.