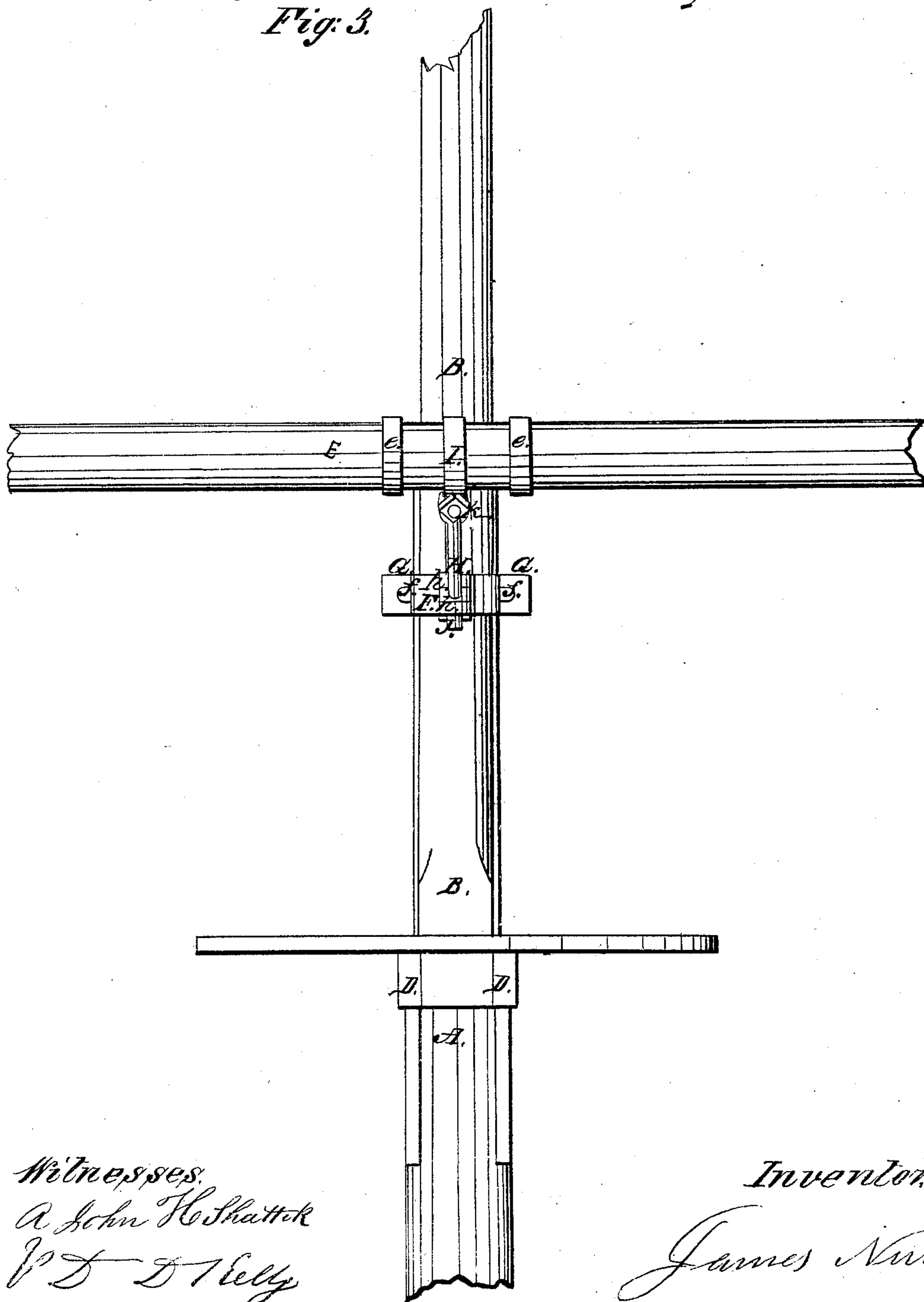


Sheet 1. 2 Sheets.

*J. Nute*  
*Masts & Spars.*

*Nº 28,399. Patented May 22, 1860.*  
*Fig. 3.*



*Witnesses.*  
*A. John H. Shattuck*  
*P. D. D. Kelly*

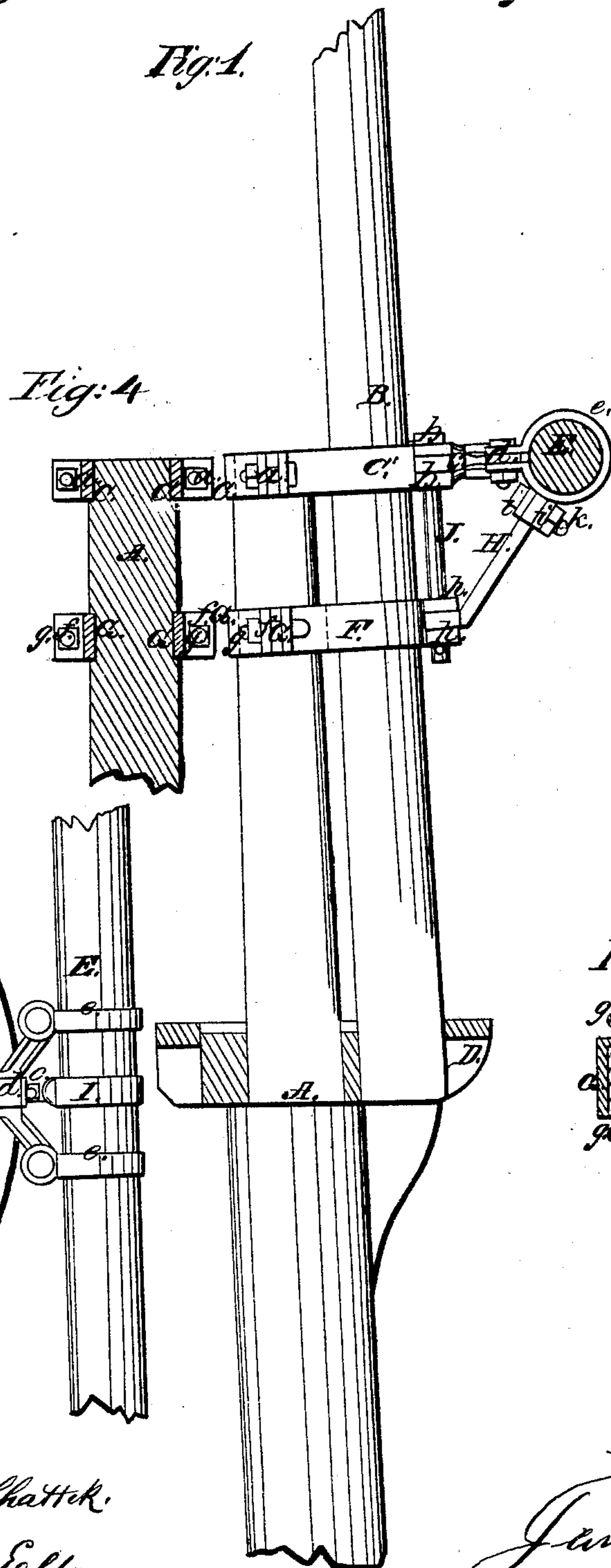
*Inventor*  
*James Nute*

*J. Nite.*

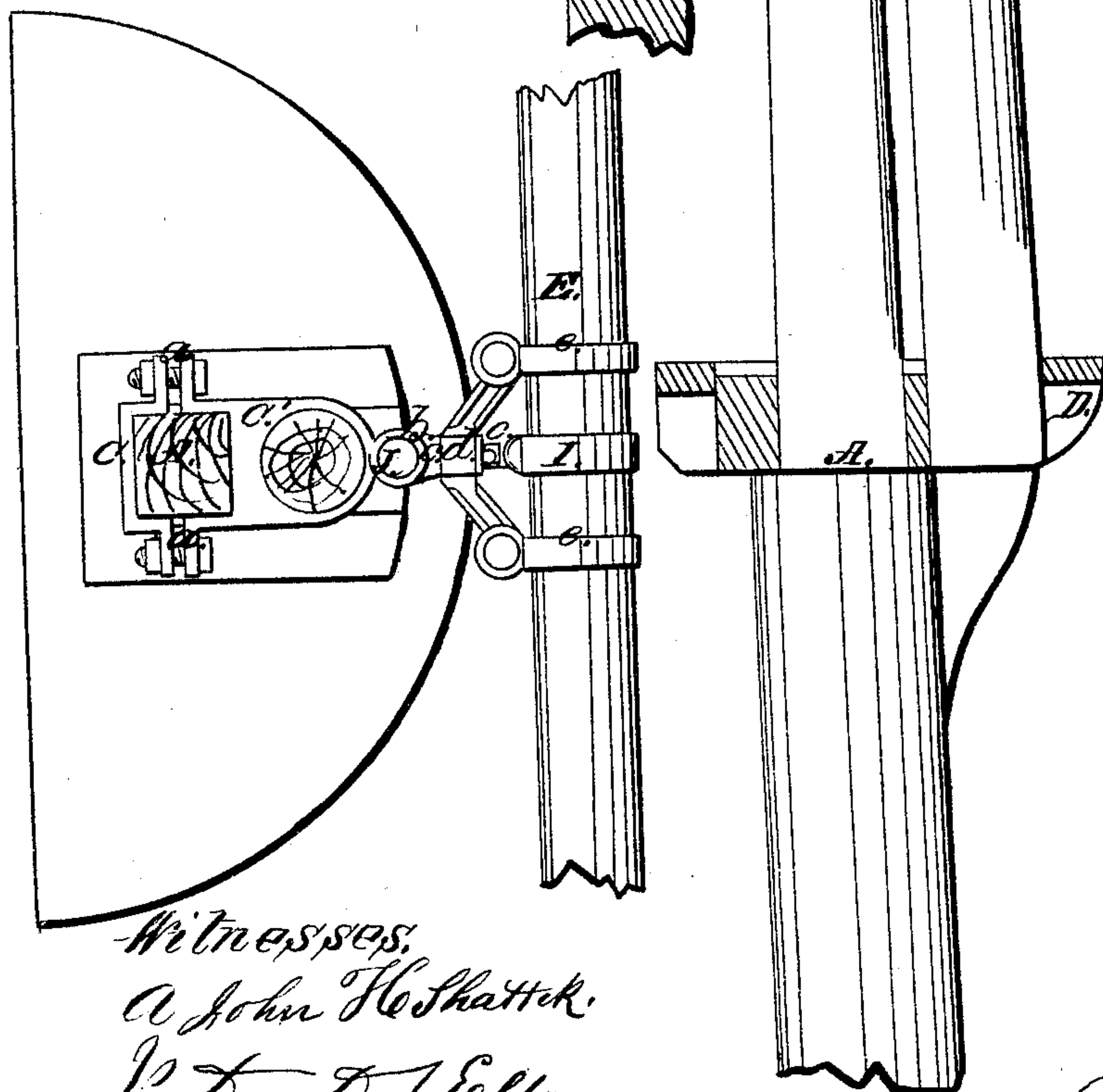
## Masts & Spars.

*N<sup>o</sup> 28,399. Patented May 22, 1860.*

*Fig. 1.*



*Fig: 2.*



Witnesses.

A John H. Shattuck.

P. D. D. Ely

*Inventor*

James Nute



# UNITED STATES PATENT OFFICE.

JAMES NUTE, OF EAST BOSTON, MASSACHUSETTS.

## HANGING TOPSAIL-YARDS.

Specification of Letters Patent No. 28,399, dated May 22, 1860.

*To all whom it may concern:*

Be it known that I, JAMES NUTE, of East Boston, in the county of Suffolk and State of Massachusetts, have invented a new and  
5 Improved Mode of Hanging the Lower or Standing Topsail-Yards of Ships and other Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the  
10 accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of portions of a ship's lower mast and top-mast, and the apparatus by which the yard is supported, also  
15 exhibiting the yard and the top in section. Fig. 2 is a plan of the same. Fig. 3 is a front view of the same. Fig. 4 is a transverse vertical section of the head of the top-mast, and the bands by which the yard is  
20 supported.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.  
25

A, is the lower mast and B, the top-mast. C C', is the cap of the lower mast.

D, D, are the trestle-trees. E, is the lower, or, as it is sometimes called, the standing  
30 top-sail yard, and F, is the strap applied to the head of the lower mast below the cap to assist in supporting the yard.

The cap C C', is made substantially of the usual form, but entirely of iron, and in two  
35 pieces, (best shown in Fig. 2), of which the front piece C', contains a hole of a size to admit the top-mast, and the back piece C, constitutes simply a half band with lugs to receive bolts *a, a*, which also pass through  
40 lugs on the front piece C', for the purpose of clamping the two parts securely upon the lower mast. The front piece C', has also formed upon it two lugs *b, b*, to receive between them the head of the pin *c*, on which  
45 turns the yoke *d*, of the truss which is attached to the yard by two bands *e, e*, encircling the yard. Instead, however, of the cap C C', being made entirely of iron it may be of wood and surrounded by a metal band  
50 put on in two pieces and clamped by bolts like *a, a*. The top-mast fits snugly but

loosely into the cap, and is intended to be supported on the trestle-trees in the usual manner by a fid, by whose removal it is permitted to be lowered. 55

The strap F, is of wrought iron, formed with shouldered screws *f, f*, on its extremities to pass through lugs on the two portions of a divided band G, G, which is notched into the head of the lower mast, as  
60 shown in Fig. 4. Nuts *g, g*, applied to the screws *f, f*, serve to secure both the band G, G, and the strap F, in a perfectly rigid manner to the head of the lower mast. The strap F, is so formed that it fits snugly  
65 around the front of the top-mast so as to provide for the lowering or striking of the top-mast without difficulty, which provision is one of the advantages of my invention. On the front of the said strap F, are two horizontal lugs *h, h*, like the lugs *b, b*, on the  
70 cap, to receive the lower end of the obliquely arranged iron brace H, whose upper end is fitted between two lugs *i, i*, parallel with the length of the brace, on a band I, which  
75 encircles the yard at the middle of its length, the said brace being secured to the said band I, by a bolt *k*, passing through the brace and the lugs *i, i*, obliquely to the mast. The lugs *b, b*, and *h, h*, have holes in them  
80 to receive a bolt J, which secures the head of the pin *c*, and the lower end of the oblique brace H, to the cap C C', and to the strap F, and so secures the yard to the lower mast, by which it is entirely supported. 85

The yard E, is supported in part by the cap C C', but a very large proportion of its weight is transmitted by the oblique brace H, to the strap F, and hence while the cap is in a great measure relieved of its weight its  
90 whole weight is borne by the lower mast, thus relieving the top-mast. The strain produced on the yard in sailing is transmitted by the pin J, partly to the cap, and partly to the strap F, and hence all to the  
95 lower mast. In bracing the yard, it swings upon the pin J, but it is permitted, by the arrangement of the faces of the joint *i, i* between the oblique brace and the yard, a separate movement upon the pin *k*, for raising either end, or, as it is termed, "cock-billing," when in port. 100

I do not claim the use of an oblique brace in supporting a standing top-sail yard when not applied as herein described. But

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

Supporting the yard E, independently of the top mast, substantially as herein shown

and described so that in case the top mast is carried away the yard will still remain supported all as set forth.

JAMES NUTE.

Witnesses:

JOHN H. SHATTUCK,  
D. D. KELLY.