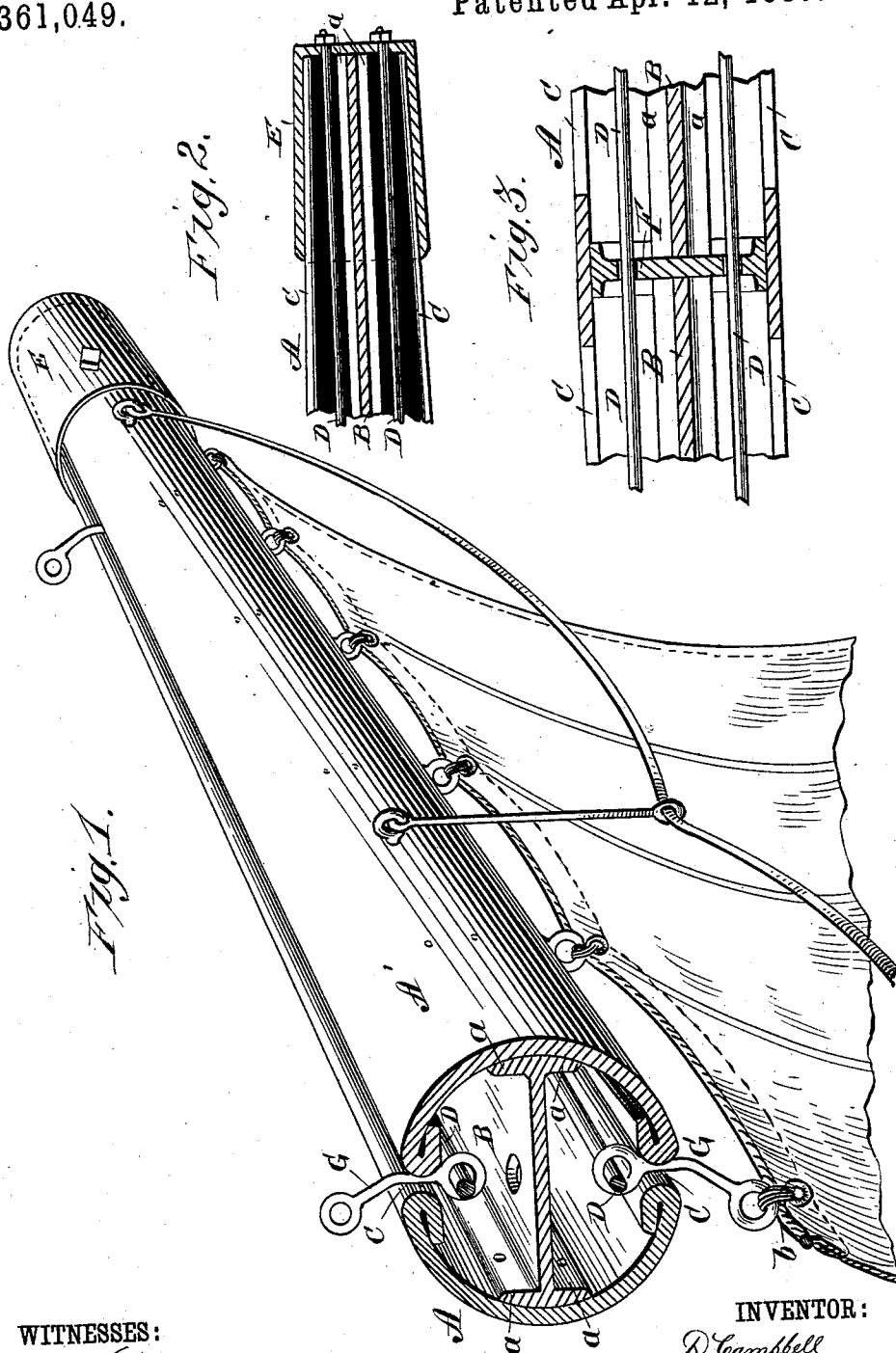


(No Model.)

D. CAMPBELL.
YARD FOR SHIPS, &c.

No. 361,049.

Patented Apr. 12, 1887.



WITNESSES:

J. D. L. filed
C. Sedgwick

INVENTOR:

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BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

DUNCAN CAMPBELL, OF FORT CAULEY, AUCKLAND, NEW ZEALAND.

YARD FOR SHIPS, &c.

SPECIFICATION forming part of Letters Patent No. 361,049, dated April 12, 1887.

Application filed July 1, 1886. Serial No. 206,764. (No model.)

To all whom it may concern:

Be it known that I, DUNCAN CAMPBELL, of Fort Cauley, Auckland, New Zealand, have invented new and useful Improvements in
5 Yards for Ships and other Purposes, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a sectional perspective view.
10 Fig. 2 is a longitudinal section taken through the cap at the end of the yard, and Fig. 3 is a longitudinal section of the central portion of the yard.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of my invention is to construct for vessels a tubular yard, of iron or steel, which will admit of furling the sails by sliding them longitudinally toward the mast.
20 ing them longitudinally toward the mast.

My invention consists in a tubular yard formed of sheet metal, slotted in the upper and lower side, and provided with a central connecting web or plate extending throughout
25 the entire length of the yard, and serving to hold the two halves of the yard in proper relation to each other.

It also consists in the combination, with the yard thus constructed, of removable caps applied to the ends of the yard, and rods extending longitudinally through the upper and lower part of the yard, opposite the slots formed therein, for receiving the double eyes or hanks attached to the sails.

35 The yard is formed of two similar oppositely-arranged halves, A A', each made of a tapering plate of metal bent into approximately semicircular form, with the edges returned upon themselves, forming a hem, for stiffening the edge of the plate and furnishing a rounded finished edge.

The halves A A' of the yard are secured to a flanged plate or beam, B, which extends throughout the entire length. The flanges a
45 of the beam are secured to the halves A A' of the yard by rivets, holding the two halves rigidly in such a position as to form slots C in the upper and lower side of the yard. A rod, D, extends longitudinally through each
50 compartment of the yard opposite the slot C,

and is supported by caps E, secured on opposite ends of the yard. The rods D are supported in the center of the yard by the diaphragm F, placed in each compartment, and serving to stiffen and support the yard at that
55 point.

Upon the rods D are placed double eyes or hanks G. One eye of each hank is received on one or the other of the rods D, and the shank of the hank extends through the slot C
60 and is bent slightly in the direction in which it is drawn by the sail. The sail is secured to the hanks by a lashing, b, extending round the bolt-rope of the sail and through the outer eye of the hank. The sail is furled by
65 sliding the hanks longitudinally on the rods D in the slots C.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—
70

1. The improved hollow metallic yard having slots or longitudinal openings provided with uniting-caps at each end of the same, and with interior metal rods under and parallel to the said slots, all as described and for
75 the purposes set forth.

2. The hollow metal yard provided with longitudinal slots and uniting-caps and interior rods, and with a horizontal central plate extending longitudinally from end to end of
80 the yard, as and for the purpose set forth.

3. The hollow metal yard provided with longitudinal slots and uniting-caps and interior rods, and with a longitudinal metal plate and a central disk, substantially as and for the
85 purposes set forth.

4. In combination with my said hollow metal yard, having an upper and lower slotted surface, the rods supported within the yard, the double metal rings or hanks formed
90 of the two rings, and the connecting cylindrical metal neck or bar, as and for the purposes set forth.

DUNCAN CAMPBELL.

Witnesses:

ALBERT WALKER,

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