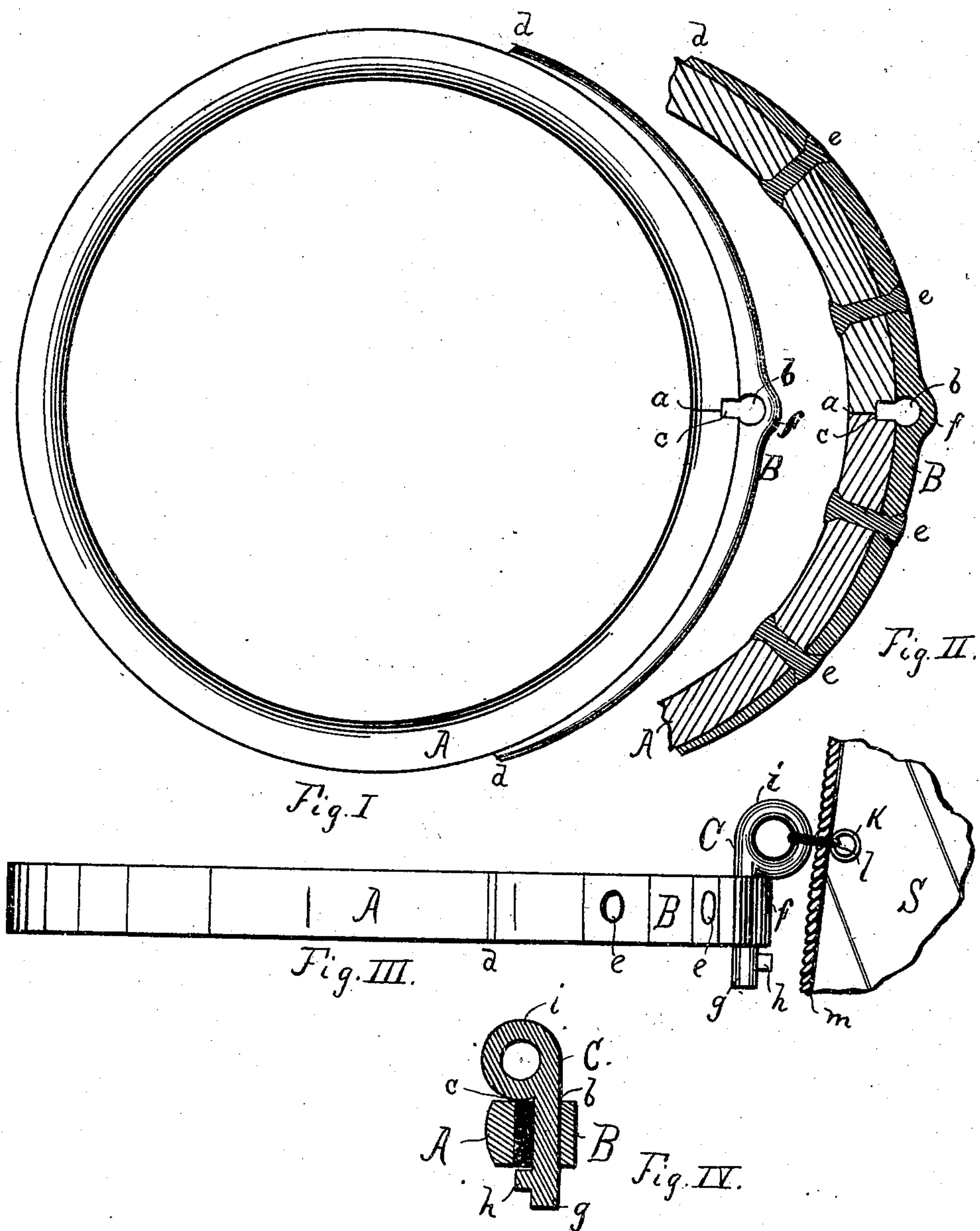


(No Model.)

C. P. H. VARY.  
MAST HOOP.

No. 502,542.

Patented Aug. 1, 1893.



WITNESSES:  
S. Boell  
P. J. Woodruff

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# UNITED STATES PATENT OFFICE.

CALVIN P. H. VARY, OF NEWARK, NEW YORK.

## MAST-HOOP.

SPECIFICATION forming part of Letters Patent No. 502,542, dated August 1, 1893.

Application filed August 13, 1892. Serial No. 443,003. (No model.)

*To all whom it may concern:*

Be it known that I, CALVIN P. H. VARY, a citizen of the United States, residing at Newark, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Mast-Hoops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates more particularly to a new and improved mast hoop, used in connection with masts and sails, and a novel and useful combination and device for detachably securing the sail to the mast hoop in such a manner that the sail may be easily, rapidly and conveniently attached and detached without materially adding to the cost or bulk of the ordinary mast hoop and without the use of a complicated or clumsy attachment to either the mast hoop or the sail. My device as herein described and shown, in addition to these desirable features, makes possible a change of sail and facility in stowing it away in so convenient a manner as to render available such change in the ordinary handling of a sailing vessel.

Referring to the drawings herewith,—Figure I is a top view of the mast hoop proper. Fig. II is a sectional view of a segment of my mast hoop, upon a plane bisecting said hoop, and in the plane of its diameter. Fig. III is a view of said hoop from a position at right angles to that of Fig. I, and also showing my lug-bolt in place, as hereinafter described, together with a segment of a sail and the common means of connection used. Fig. IV is a sectional view of my lug-bolt and the hoop upon a radius passing through *a*, Fig. I, and at right angles to the radial plane of the hoop. The lug-bolt is here shown reversed by a half turn upon its diameter, for the purposes hereinafter described.

A represents the hoop proper, which I construct of any suitable material. B is a lap-stay by which I am enabled to construct my hoop, as hereinafter described, and into which my lug-bolt is removably fitted.

*e, e*, Fig. II, are rivets or bolts by which the

hoop A, and lap-stay, B, are united, as herein- after described.

C, Figs. III and IV, is my lug-bolt, consisting of the cylindrical body *g* and having a ring or eye *i* upon its upper extremity, and a lug *h* near its lower extremity.

S, Fig. III, is a segment of the sail, having attached to its edge in the usual manner the cordage *m*, forming a bolt-rope.

*k* is a grommet in the sail, S, through which the sail is lashed to the eye of the lug-bolt, C, by means of the cordage *l*.

In the construction of my mast hoop I depart from the usual method of a lap-joint, and butt-end the hoop A, as shown at *a*, Figs. I and II. I then attach the lap-stay, B, extending a sufficient distance either way from the joint and over the periphery of the hoop, as to *d, d*, and I then secure the two by rivets or bolts, *e, e*, whose axes are upon the radii of the hoop. In this manner I am enabled to construct a mast hoop out of material of uniform thickness and without the additional effort and expense of chamfering the ends to form a lap-joint, and by so doing avoid the objectional features of a lap-joint, arising from wear and exposure to the weather. Centrally upon the lap-stay, B, I construct the thickened portion *f*; and at that point and from side to side I form a cylindrical opening *b*, of a diameter capable of loosely fitting to the body of the lug-bolt, B. Upon one side of this cylindrical opening, and preferably upon the side nearest the center of the hoop, I construct the slot *c*, of such size as to permit of the passage of the lug *h*, upon the lug-bolt C. It is apparent that I may construct this slot extending into the body of the hoop, as herein shown, or wholly within the thickened portion of my lap-stay without departing from the spirit of my invention. The lug-bolt, C, I construct with the loop or eye, *i*, in manner so that the center of the eye shall be without the axis of the body, *g*, for the purpose of employing the strain of the sail, which is substantially away from the center of the hoop and upon the radius passing through *a*, in holding said lug-bolt, C, in a position at rest; and I construct the lug, *h*, upon that side of



the bolt which is opposite the slot, *c*, when the lug-bolt is in place and the strain of the sail upon the eye has drawn the lug-bolt to its normal position. Now, from this description of my device it is apparent that, the mast hoop proper having been put in place upon the mast and the lug-bolt having been lashed to the sail in the usual manner of attaching a ring or the hoop to the sail, and from the flexibility of the sail, bolt-rope and lashing, the lug-bolt may be twisted or turned upon its axis so that it may be inserted in the opening, *b*, and the lug, *h*, may slide freely in the slot, *c*, until it passes through the hoop and lap-stay from side to side, and is then free to return upon its axis to its normal position, at once turning the lug away from the slot and locking the bolt to the hoop.

By interchangeably constructing the openings in the mast hoops as well as the lug-bolts, I am enabled at all times to make a change of connection in any desired manner without disturbing any permanent attachment between the sails or mast hoops; and by reason of the lightness and portability of the lug-bolts, they

in no wise interfere with reefing or stowing away the sail when not in use.

Having thus described my invention, what I claim is—

1. The combination of a mast hoop provided with an opening, *b*, and a slot, *c*, with a lug-bolt, *C*, provided with a lug, *h*, and an eye, *i*, substantially as described.

2. The combination of a mast hoop having a lap-stay provided with an opening, *b*, and a slot, *c*, with a lug-bolt, *C*, provided with a lug, *h*, and an eye, *i*, substantially as described.

3. A lug-bolt provided with a ring or eye, *i*, the center of which is without the axis of the bolt, and having a lug, *h*, and secured to the sail, *S*, said lug-bolt adapted to be attached to a mast hoop substantially as and for the purposes herein set forth.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

CALVIN P. H. VARY.

Witnesses:

P. R. SLEIGHT,  
I. G. PITTS.