N. Crocker.

Mode of Attaching Head Cringles.

No. 10,168. Patented Oct. 25, 1853.

Fig. 1.

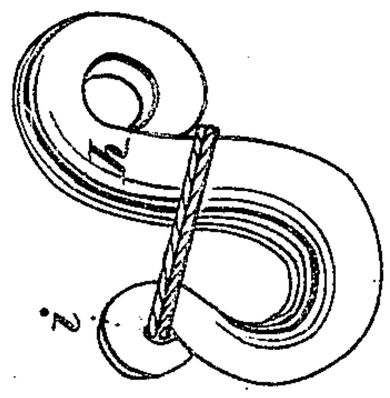

Fig. 3.

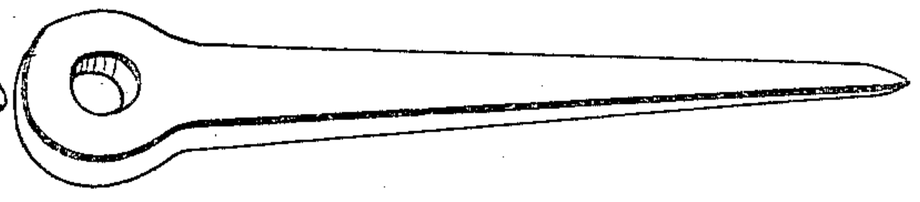

Fig. 2.

UNITED STATES PATENT OFFICE.

NELSON CROCKER, OF SANDWICH, MASSACHUSETTS.

ATTACHING THE HEAD-CRINGLE TO THE YARDS OF VESSELS.

Specification of Letters Patent No. 10,168, dated October 25, 1853.

To all whom it may concern:

Be it known that I, NELSON CROCKER, of Sandwich, Barnstable county, in the State of Massachusetts, have invented a new and useful Improvement in the Rigging of Vessels with Square Sails, which I denominate "Head-Cringle Hooks;" and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, which fully illustrates my invention.

In the ordinary mode of attaching the head or earing cringle to the yard a rope lashing is used or a plat, the disadvantages of which are that the rope lashing is always chafing out at great cost and labor for repairs; in wet weather the rope is wet and stiff, and set to the yard so that it cannot be bent up, and in case of unbending a sail a marline spike is required and often the rope must be cut which creates waste and loss, and when the lashing is stiff and wet it is impossible to turn up the dog's ear.

My improvement is to remedy these difficulties and render the duty of the man at the earing the easiest instead of being as heretofore the most laborious and difficult, attaining at the same time stability and durability as well as economy.

The construction is as follows: A bolt called the jack stay bolt is formed, for a ship of about 500 tons of round inch iron for topsail yards and lower yards, about sixteen inches long and has an eye formed on its outer end at (*a*) as shown in the drawing. Through this bolt near the inner end at (*b*) a small hole is made into which a key is fitted to hold it securely in place. The bolt thus constructed passes through two flat eye-bolts (*c*) which are driven into the yard on the upper side, the inner one being about two or three inches inside the head of the narrowest sail to be bent on the other close to the eye of the bolt. This is clearly illustrated in Figure 1.

The eye bolts, one of which is shown detached, Fig. 2, have a broad bearing at the eye where the jack bolt passes through. They are about seven inches long and driven into the yard so as to support the jack-bolt just high enough above the yard to allow the hook to traverse. A hook (*h*) is made of flat bar iron about two inches by half inch one end of which is bent into an eye the proper size for the jack bolt to pass through but not welded. The other end is drawn small and a small eye is turned in it at (*i*), this end being also shaped into a hook as clearly shown on the drawing. There may be one or more of these hooks on the jack bolt as required. The position of the jack bolt is such as to cause the hook to lie upon the yard and when the head cringle is hooked on it shall be in line with the head of the sail.

The head cringle is made in the usual way but it has an iron thimble worked into it well tarred to prevent rust. This thimble comes in contact with the hook and prevents the rope chafing. In reefing sails the cringle might slip off the hook, to prevent which a housing of spun yarn is passed through the small eye on the point of the hook and carried back around the shank after the cringle is hooked on which effectually holds it in place. To prevent the hook from sliding in while reefing a spun yarn stopper is passed around it and through the eye in the outer end of the jack stay bolt.

The advantages of this improvement are its durability; the head cringles will not require repair as they do when rope lashings are used; the cringle is always kept exactly in place, while the rope lashing is apt to slip around the yard and let down the head cringle; a wide or narrow sail can be bent on at once by merely sliding the hook out or in without interfering with the top gallant sheets as is the case by the old method, where the rope earing is always liable to be cut or chafed off; this fixture being permanent is never in the way of the booms and by their use the yards are prevented from getting chafed or their paint rubbed off as by the rope lashings which is a great economy as well as improvement in appearance.

In carrying sail the topsail halliards need not be started to repair head cringles or earings which is very often required by the old plan. By the use of this improvement a sail can be bent or unbent in much less time than by the old plan and in reefing the dog's ear is easily rolled up by turning up the hook which was seldom the case in the

ordinary mode where it can seldom be got up and then almost always by breaking the rope more or less.

Having thus fully described my improvements what I claim therein as new and for which I desire to secure Letters Patent is—

The head cringle hooks and their fixtures constructed and combined with the rigging of a vessel substantially in the manner and for the purpose set forth.

NELSON CROCKER.

Witnesses:

CH. L. FLEISCHMANN,

THOMAS E. WARREN.