# J. E. Crane.

## Chain Cable Stopper.

No. 9,645. Patented Apr. 5, 1853.

Fig 1.

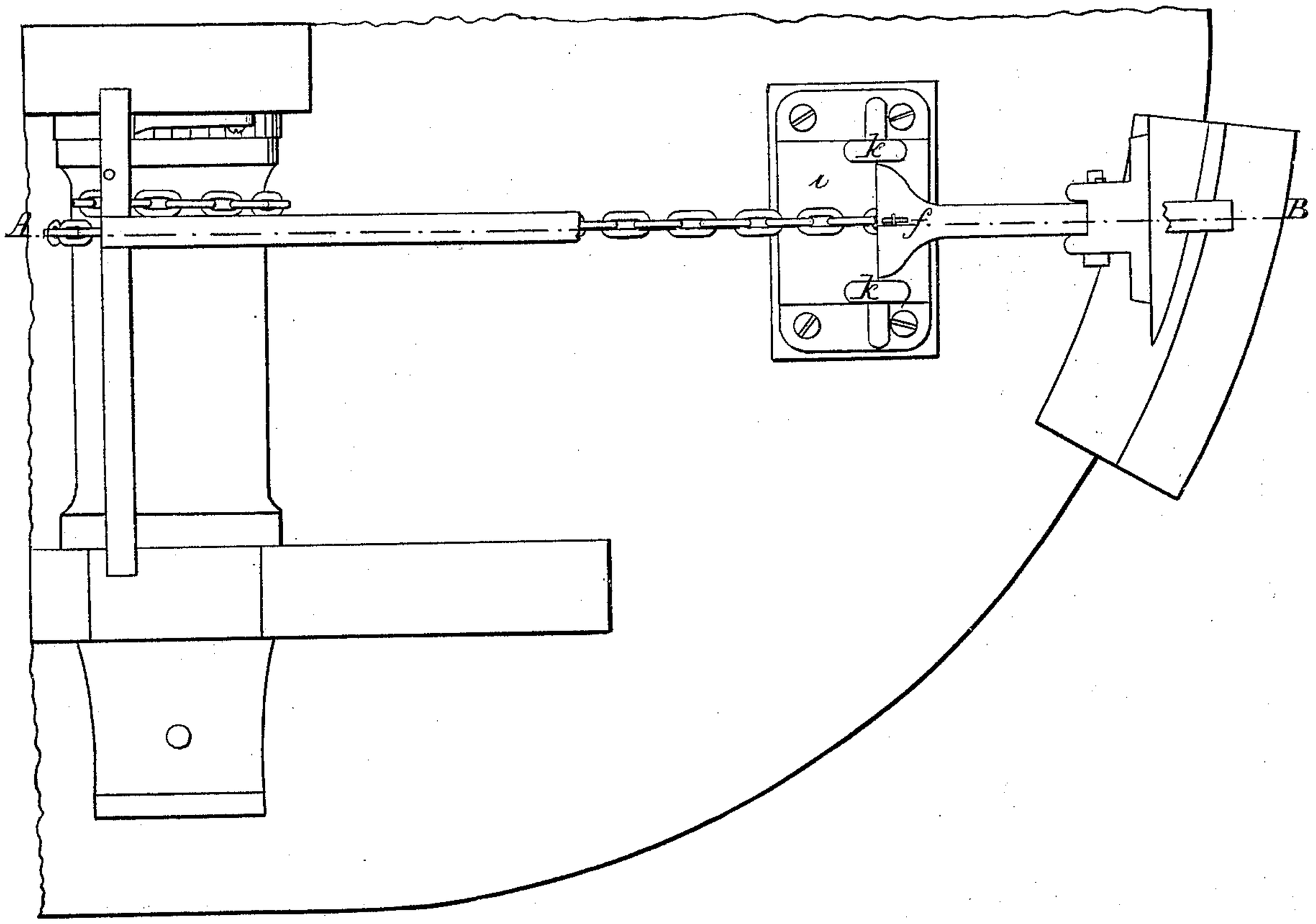
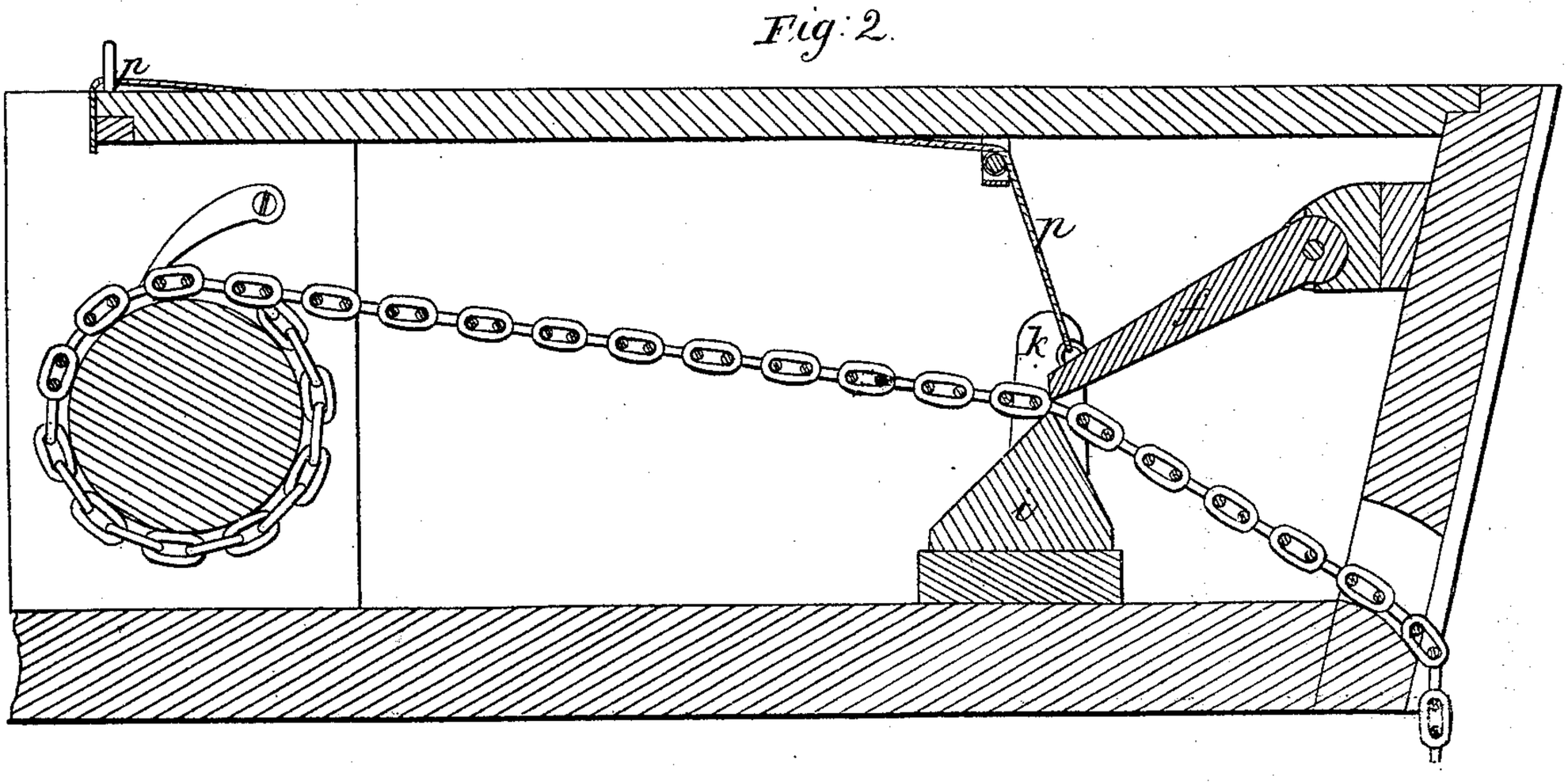



Fig: 2.



# UNITED STATES PATENT OFFICE.

JOHN E. CRANE, OF LOWELL, MASSACHUSETTS.

## CHAIN-CABLE STOPPER.

Specification of Letters Patent No. 9,645, dated April 5, 1853.

*To all whom it may concern:*

Be it known that I, JOHN E. CRANE, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Self-Acting Chain-Stopper; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, Figure 1 being a top view of a portion of the bow of a vessel having one of my improved chain stoppers combined therewith, and represented as acting on a chain cable; and Fig. 2 is a sectional view in the line A—B, of Fig. 1.

Similar letters refer to corresponding parts in both figures.

My improved self acting chain stopper consists of a metallic ridge *i*, secured to the deck of a vessel, near the hawser hole, and a pawl *f*, secured to the bulwark, or knight head, (or other suitable support,) in such a position that its acting end will fall upon the top of said ridge, substantially as represented in the drawings.

The ridge *i*, is placed in such a position that the cable, in its passage from the hawser hole to the windlass, must pass over it. Ears *k*, *k*, rise from the extremities of the ridges *i*, to prevent the escape of the cable therefrom; and the operating end of the pawl *f*, extends the whole distance between the said ears, so as to insure its action upon every link of the cable. As the cable passes over the ridge *i*, every link necessarily turns flatwise upon it; and the pawl *f*, is in such a position, that the moment a link turns sidewise, the pawl will fall on to it immediately in the rear of the preceding link, and in such a position that the rear end of the said (preceding) link will bear against the side of the ridge (*i*,) and the end of the pawl (*f*,) in case the cable should slip upon the windlass substantially as shown in the drawings. Thus insuring the action of the pawl upon every link of the chain, and dividing the strain between the ridge and the pawl. So that in case the cable should surge, or slip upon the windlass, it could not run back again through the hawser hole.

I find it expedient to elevate the ridge *i*, as high as can be done without bringing the cable in contact with upper side of the hawser hole; and by so doing, I greatly diminish the amount of friction between the moving cable and the hawser hole, and prevent the twisting and kinking of the cable at that point.

My improved chain stopper is as well adapted to be used with a windlass, as with a capstan, as the lateral variation of the cable upon the windlass, can not produce any imperfection in the working of the stopper, as will be readily apparent.

The pawl *f*, may be elevated, and retained in an elevated position by a person at a distance—by means of the cord *p*, represented in Fig. 2.

I am aware that a pawl, or nipper, has been hinged above the hawser-hole, for the purpose of stopping the cable by pressing it against the under side of the hawser-hole; and I am also aware that the chain stopper has been described which consists of two concave plates of iron between which the chain passes; the lower one of the said plates being firmly secured to the deck, and the upper plate being turned upon a hinge, and the chain stopped by pressing it tightly between the said plates by means of leverage applied to the upper plate; and therefore, I wish it to be understood that I disclaim having invented the equivalent—in principle or action—of either of the said chain stoppers; but

What I do claim and desire to secure by Letters Patent, is—

The ridge *i*, rising from the deck of a vessel between the hawser-hole and the windlass, combined with a heavy pawl *f*, placed above it; the said parts being arranged as herein described and represented, whereby each moving link of the cable is turned flatwise in passing over the ridge and each link is acted upon by the pawl substantially as described.

JOHN E. CRANE.

Witnesses:

ENOCH EMERY,

GEO. H. EVELETH.