C. H. KINGSTON.

Throat-Gear for Gaffs.

No. 162,291. Patented April 20, 1875.

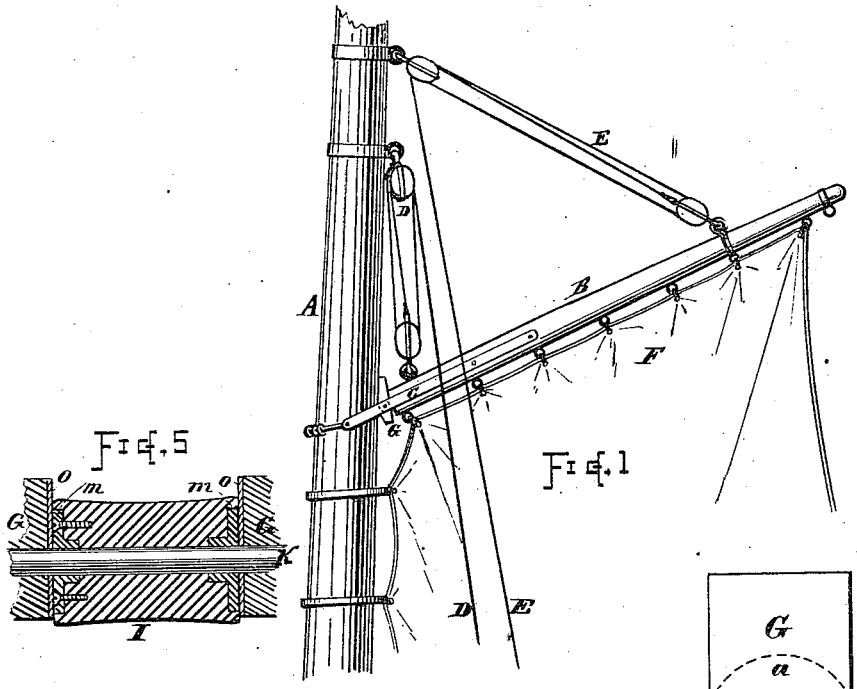

Fig. 1

Fig. 5

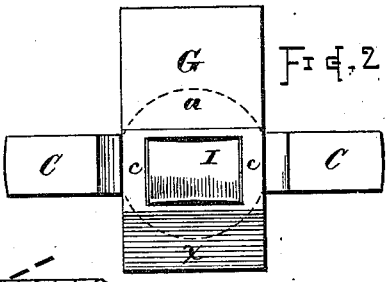

Fig. 2

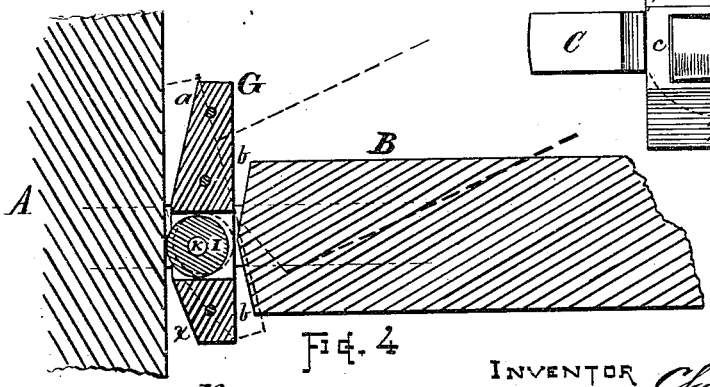

Fig. 4

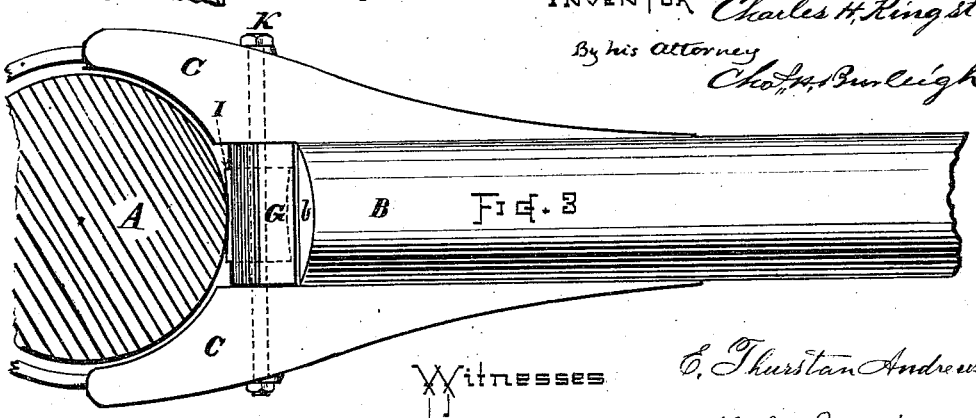

Fig. 3

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By his attorney Chas. F. Burleigh

Witnesses

E. Thurstan Andrews

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THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CHARLES H. KINGSTON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD HIS RIGHT TO BERTRAND W. STONE, OF SAME PLACE.

IMPROVEMENT IN THROAT-GEARS FOR GAFFS.

Specification forming part of Letters Patent No. **162,291**, dated April 20, 1875; application filed March 13, 1875.

To all whom it may concern:

Be it known that I, CHARLES H. KINGSTON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Throat-Gear for Sail-Gaffs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a side view of such parts of a sail-rigging as are necessary to illustrate my invention. Fig. 2 represents a face view of my improved throat-gear. Fig. 3 represents a plan view of the same; Fig. 4, a central section parallel with the axis of the gaff, and Fig. 5 a central section of the throat-roll.

My invention consists in the improved mechanism hereinafter described, for the purpose of sustaining the throat of booms or gaffs against the masts of vessels upon which fore-and-aft sails are employed.

In the drawings, A denotes the mast. B indicates the gaff or boom; C, the jaws; D, the throat-halyards; E, the peak-halyards, and F the sail, all of which parts may be constructed and arranged in the ordinary manner, and therefore require no further description.

At the inner end of the gaff B, (which is beveled, as at *b b*,) and between the jaws C, is arranged the rocker-block G. The face of this block I form with backward bevels *a x* at its upper and lower ends, with a straight portion, *c*, between said bevels. (See Figs. 2 and 4.) I also provide a bearing-roll, I, which is arranged in a recess in the block centrally between the beveled surfaces *a x*, and supported by a bolt or spindle, K, extending transversely through the jaws, as illustrated. This bolt K also supports the rocker-block G, and both the roll and block are hung loosely upon the bolt. The roll I is so placed in relation to the face of the block G that the bearing-face of the roll projects at the front or straight portion *c* of the block, but is back of the planes of the beveled surfaces *a x*; or, in other words, the bearing-face of roll I is near the center of the triangular space included by the intersection of three planes coincident with the several surfaces or faces *a x c* on the block G. The back of the block G is formed straight, and the parts are arranged so that the block will rock squarely against the bevels *b b* on the gaff end.

The operation of the device is as follows: The sail F, while being hoisted, is raised with the throat-halyards D in advance of the peak-halyards E, so that the gaff B, while going up, hangs somewhat near a horizontal position, or with its outer end depressed, (see Fig. 4,) and the block G, rocking loosely, allows the roll I to travel against the mast A, and sustain the entire pressure and friction at the throat of the gaff, which, with large sails and heavy rigging, is quite severe. But the roll I, turning smoothly on its bolt K, reduces the friction to the minimum, and permits the throat to move along the mast with but a slight resistance. When the sail has been thus raised to position, the peak-halyards E are drawn taut, and the outer end of the gaff raised for straining the peak of the sail, and the inclination thus imparted to the gaff (see Fig. 1, and dotted lines in Fig. 4) causes its upper corner to press forward the top of the rocker G, relieving the roll I, and bringing the bearing against the mast A upon the upper beveled surface *a*, while the bevel *b* of the gaff rests squarely against the back of said block G. By thus transferring the bearing from the roll I to the surface *a* of the block G, a long, smooth bearing is provided against the mast, and the roll I is prevented from wearing into the mast as the gaff sways back and forth with the motion of the vessel.

The roll I may be made as in Fig. 5, with metal end bushings *m* and guard-plates *o*, or in other suitable manner, as preferred, and the face of the roll can be formed straight or concaved, and be covered and protected by rubber or other material, if desired.

The roll I can be placed at any desired position in the block, the planes of the beveled surfaces being made to correspond, or so that when the bearing comes onto said surfaces the roll will be relieved.

The bolt K may, if desired, be held in bearings or eyes secured to the lower side of the jaws C.

The roll I may be used with a flat block or bearing-surface rigid with the gaff; but I prefer the form shown.

Having described my improved throat-gear for sail-gaffs, what I claim as new and of my invention, and desire to secure by Letters Patent, is—

The combination, with the mast A and gaff B, of a flat-bearing surface and a bearing-roll, arranged in such relation to each other that the operation of "peaking" the gaff or elevating its rear end will transfer the pressure or strain at the throat from the bearing-roll to the flat bearing-surface, and vice versa, for the purpose set forth.

CHARLES H. KINGSTON.

Witnesses:

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