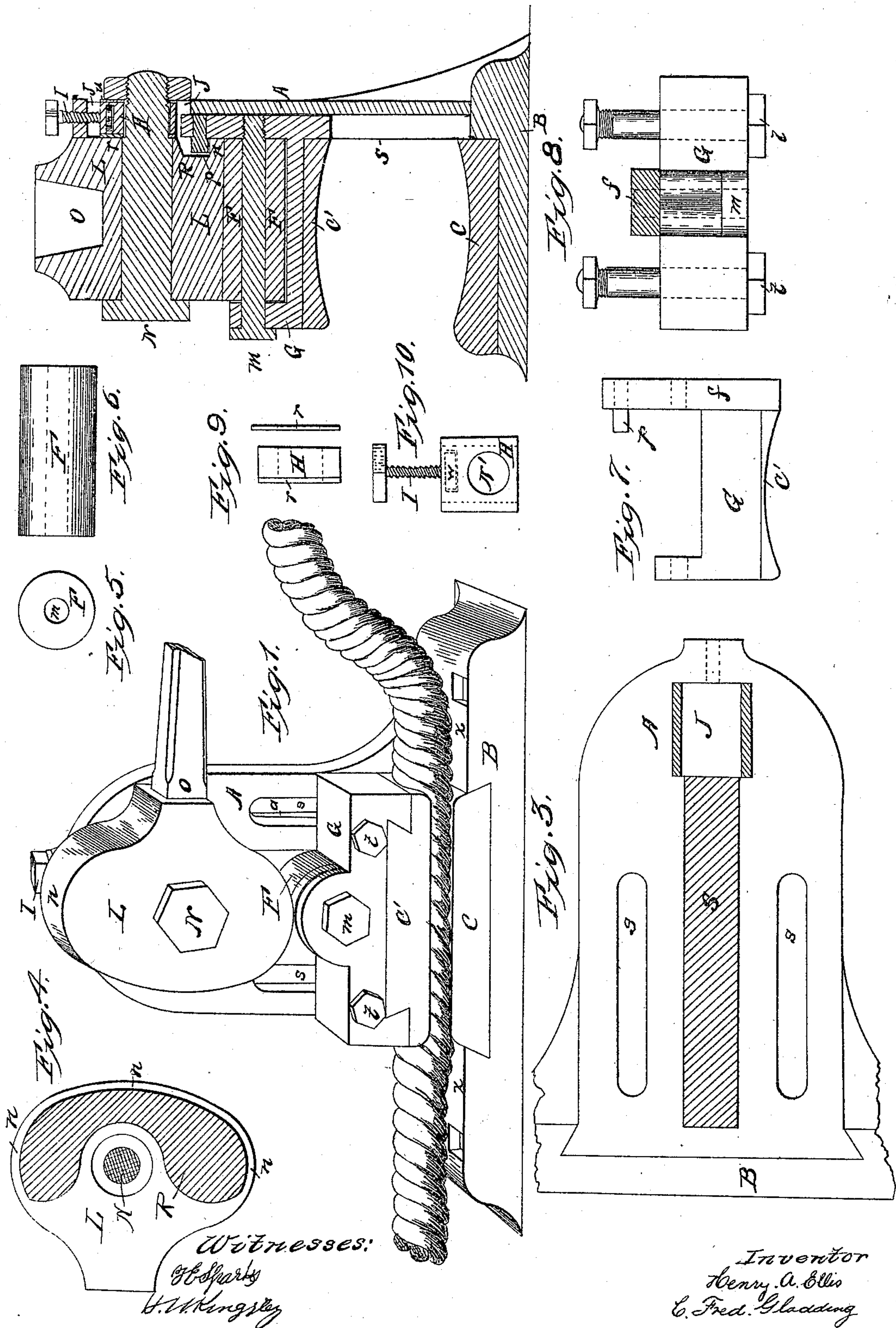


H. A. ELLIS & C. F. GLADDING.
HAWSER CLAMP.

No. 78,794.

Patented June 9, 1868.



United States Patent Office.

HENRY A. ELLIS AND C. FRED. GLADDING, OF NORWICH, CONNECTICUT.

Letters Patent No. 78,794, dated June 9, 1868.

IMPROVEMENT IN HAWSER-CLAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, HENRY A. ELLIS and C. FRED. GLADDING, of Norwich, in the county of New London, and State of Connecticut, have invented a new and improved "Hawser-Clamp;" and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

The object of our invention is to furnish a very convenient and substantial fastening for all kinds of hawsers, ropes, or lines, whereby the "slack" or loose portion between the two ends can be made "taut" or drawn up, and held at any desired position, without the necessity of loops or knots.

Figure 1 is a front elevation, showing a portion of a rope clamped.

Figure 2 is a sectional view at right angles to fig. 1, and with the clamps open.

Figure 3 is a partial plan of the rear of fig. 1.

Figure 4 represents a portion of the double-eccentric lever, with a flange for withdrawing the moving clamp.

Figures 5, 6, 7, 8, 9, and 10 are views of the parts in detail.

Like letters refer to like parts in all the views.

A is a bracket, projecting from a base, B, at right angles to each other, formed of any suitable material, either cast or wrought, and in one or two pieces; but if in two, must be firmly fastened together, either by rivets or bolts, as upon these two parts the other working parts are dependent.

The base, B, is of sufficient length and breadth to furnish a firm support to the entire machine, and is fastened by screw-bolts at each end, as partially seen at *x x*, fig. 1, where the heads are recessed into the base.

The bracket A, projecting from the base, is strengthened by ribs at the rear or opposite to the clamp, as partially seen at *a*, figs. 1 and 2.

Slots S and *s s*, for holding and guiding the moving clamp, are also shown in bracket A.

The clamp C and C' consists of two jaws, of some material that will furnish an excellent frictional surface and at the same time be sufficiently hard to resist so much abrasion from the ropes as to render it inoperative.

We prefer to form the jaws of wood, set in such a position that the ends of the grain or growths shall bear upon the ropes or hawsers, as we find that by so doing very great holding-power is obtained.

The fixed jaw of the clamp is recessed into the base, B, as seen at C, fig. 1, and it may be fixed firmly, either by being driven into a dove-tailed recess, as shown, or by any other suitable means.

The movable jaw, C', is fastened, in like manner, into a metal guide, G, shown at figs. 1, 2, 7, and 8, which is provided with a rib, *f*, as shown at figs. 7 and 8, that fits nicely in the slot S, and serves as a guide to it, in combination with the screw-bolts *t t*, said bolts also holding it in contact with the front face of the bracket A, upon which it slides.

In a recess in the top of said guide a friction-roller, E, is mounted upon an axis, *m*, in order to relieve the friction that is caused by the pressing action of the working-lever L.

H is a movable block or box, placed within the opening or slot J of the bracket A, as seen in figs. 2 and 3, provided with a flange, *v*, to prevent it from pressing through said opening or slot J.

u is a plate, corresponding with the flange of the box H, placed on the opposite side of the opening J, having a circular opening in the centre corresponding with the opening in the centre of the block H, through both of which said circular openings the bolt N passes, said bolt having a shoulder on the front side of the block H, and furnished with a nut on the back side of the plate *u*, thus securing both the block H and plate *u* firmly to the bracket A, and at the same time making part of the bolt N, which serves as the axis or bearing of the cam or lever L.

The head of said lever is formed of metal, and it is so cam-shaped that one working point will throw or force the guide G to a greater distance than its corresponding point on the other side.

It may operate by simply two unequal eccentrics, working from the same centre, N, so as to clamp ropes of greatly-varying sizes, but we prefer the cam so shaped that the pressure will increase beyond the throw of the lever.

Said lever may be made in one piece, or the head may be formed with a socket, as at O, figs. 1 and 2, into which a bar or handle may be inserted when desired, as shown at O, fig. 1.

The inner face of said lever is recessed, as at R, figs. 4 and 2, so as to form a flange, *n n n*, on the inner face of which a pin, *p*, figs. 2 and 7, works, said pin being firmly fixed in the rib *f* of the guide G, and by which the movable jaw of the clamp is drawn from the ropes whenever the pressure is relieved.

This working-lever L is mounted upon the bolt or axis N, which passes through the movable box H, as shown in figs. 2 and 10, and holds it in working position.

The movable box H, as shown in figs. 2 and 10, is adjusted in the top of the bracket A by screw-bolt I, as seen in fig. 2. The said movable box H has a recess in its upper portion, where a washer, W, is placed, said washer being firmly attached to screw-bolt I, whereby the lever L can be raised or lowered, as convenience may require, it sometimes being necessary to give a smaller or greater space between the two jaws C and C' than the throw of the lever will allow.

The operation is indeed very simple, and will now be readily understood by simply saying, that, when intended to be used on shipboard, it may be placed anywhere in the position of the lines or hawsers to be fastened, the clamp being opened by throwing the lever O into a line with the slot S, or wherever the least distance exists between the centre, N, and the circumference *n n n*, the pin *p* carrying the guide G, and moving portion of the clamp, C', with it.

The rope is then placed between the two jaws, which may be slightly curved on the clasping faces, as seen at C and C', fig. 2, or when the lever is forced back toward any other position, either to the right or left, the moving jaw, C', is pressed in a corresponding degree upon the rope, and may, at the pleasure of the operator, be held with any desired degree of firmness. This invention will be found very useful, also, in a great variety of other places, such as derricks, tackles, clothes-lines, &c., &c.

And now, having thus briefly but clearly described our invention, what we claim, and desire to secure by Letters Patent, is—

The double cam-shaped lever L, in combination with the moving jaw, C', when operating through the guide G and pin *p*, substantially as described, and for the purpose set forth.

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Witnesses:

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JNO. F. WAIT.