

J. D. Leach.
Ship Block & Warping Chock.
Nº 67,775. Patented Aug. 13, 1867.

Fig 1

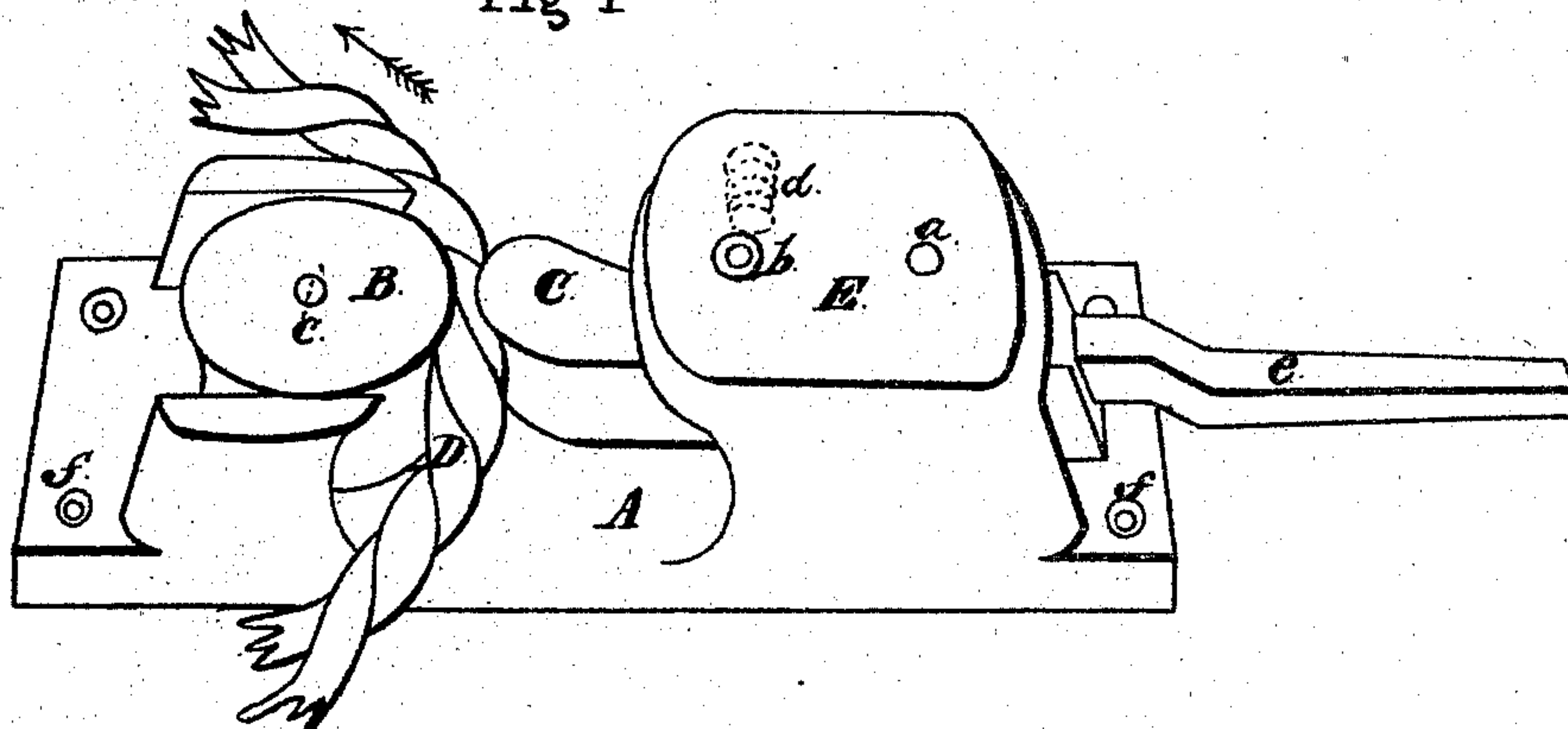


Fig 2.

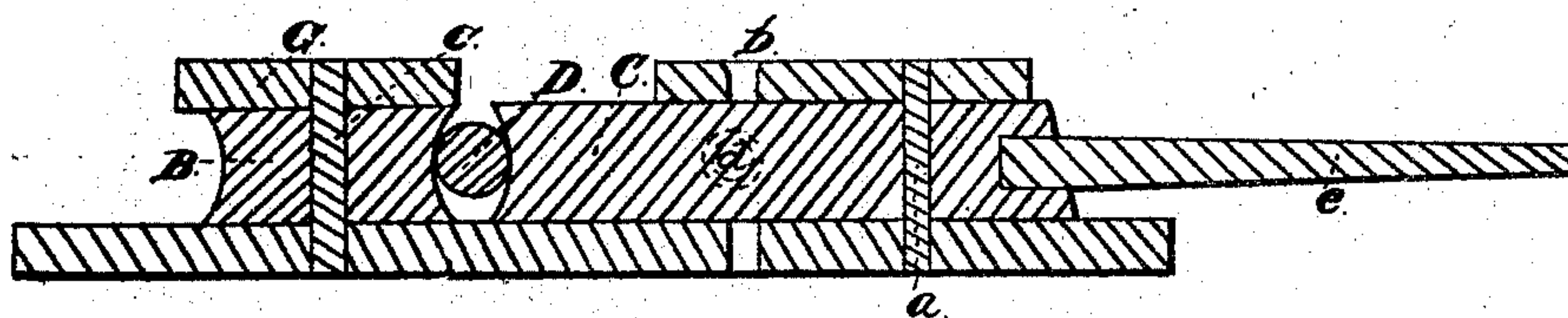
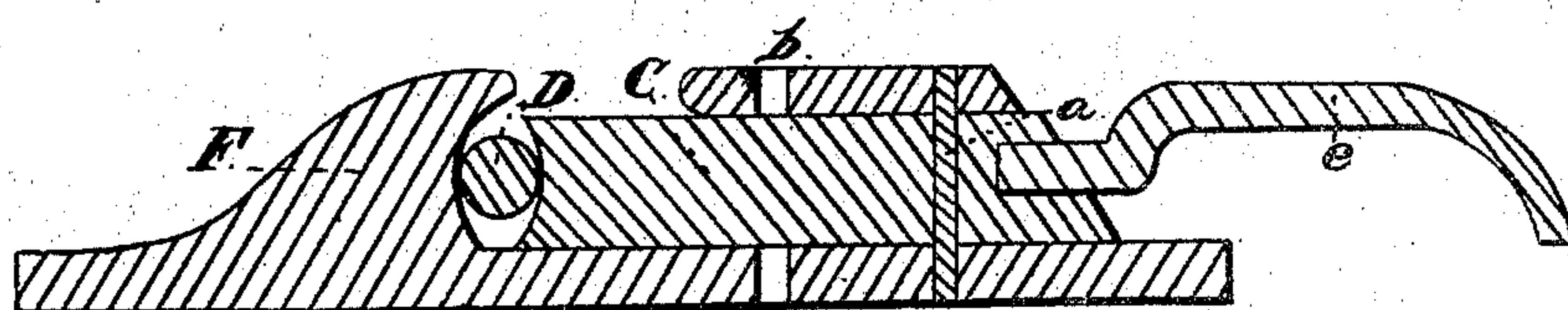


Fig 3.



Witnesses
J. H. Dodge
B. W. Dodge

Inventor
J. D. Leach
 By *T. W. Porter*
His Atty

United States Patent Office.

J. D. LEACH, OF PENOBSCOT, MAINE.

Letters Patent No. 67,775, dated August 13, 1867.

IMPROVED SHIP'S BLOCK AND WARPING-CHOCK.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. D. LEACH, of Penobscot, in the county of Hancock, and State of Maine, have invented a new and useful improvement in Vessels' Blocks, Cleats, and Warping-Chocks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a warping-chock with this improvement attached.

Figure 2 is a longitudinal vertical section of No. 1; and

Figure 3 is a longitudinal vertical section of a warping-chock formed without the sheave but with this improvement attached.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in combining with vessels' blocks, cleats, and warping-chocks a self-acting pawl, with a lever attached for applying additional pressure upon the warp, the pawl being so constructed and arranged that it will hold the warp at any point by forcing it against the face of the pulley or the channel in the chock or cleat, the bearing surface of the pawl being smooth and concave that the warp may not be abraded or injured.

In the drawings, A represents the base of the warping-chock, which is secured to the vessel in any desired position by bolts inserted in the holes *ff*. B is the sheave which revolves upon the pivot *c*. This sheave is enclosed in part in a case similar to that shown at E, but the top, G, fig. 2, is broken away to show the sheave. C is the pawl which is pivoted upon the pin *a*. *d* is a spiral spring inserted between the side of the case and the pawl, and which presses the pawl against the warp. *e* is a short lever inserted in the end of the pawl opposite the warp, by which to exert any desired pressure upon the warp additional to that exerted by spring *d*. D is the warp which passes between sheave B and pawl C, the faces of both the sheave and pawl being formed concave to receive the warp, as is plainly shown in the drawings. *b* is a pin which can be inserted in the case behind the pawl, by which to secure its full pressure upon the warp.

In fig. 3, instead of the sheave a fixed horn-shaped bearing, F, receives the warp, which is held between this bearing and the pawl in the same manner as between the sheave and pawl. By a slight modification of the shell or case of chock A, and by placing a "strap" upon the same, a block would be produced which could be used, with this improvement, either as a snatch-block at the deck or in any other position. By passing the warp through between the sheave and pawl in the direction indicated by the arrow, fig. 1, the resisting strain which inclines to withdraw the warp will be resisted by the increasing pressure upon the warp between the pawl and sheave, the former being so pivoted relatively to the latter that the return movement of the warp by drawing the pawl towards the sheave decreases the space between them.

By the use of this invention "belaying-pins" can be in almost every case dispensed with, and in sudden emergencies often arising at sea, "tacks," "halyards," and other parts of running-rigging can be more readily "made fast" or "let go" than when secured in the usual manner. In some modifications of blocks the caps E and G would be continuous, covering both the pawl and sheave, while for snatch-blocks, warping-chocks, and cleats, convenience in inserting and detaching the warp requires that the caps be formed separately.

I do not claim broadly combining a pawl with a "block," but what I do claim as my invention, and desire to secure by Letters Patent, is—

The concave-faced pawl C, arranged to vibrate upon pivot *a*, provided with spring *d*, or its equivalent, and the stop-pin *b* and lever *e*, and combined to operate in conjunction with sheave B, or its equivalent, in manner substantially as and for the purposes specified.

J. D. LEACH.

Witnesses:

J. L. THOMPSON,
JAMES LEACH.