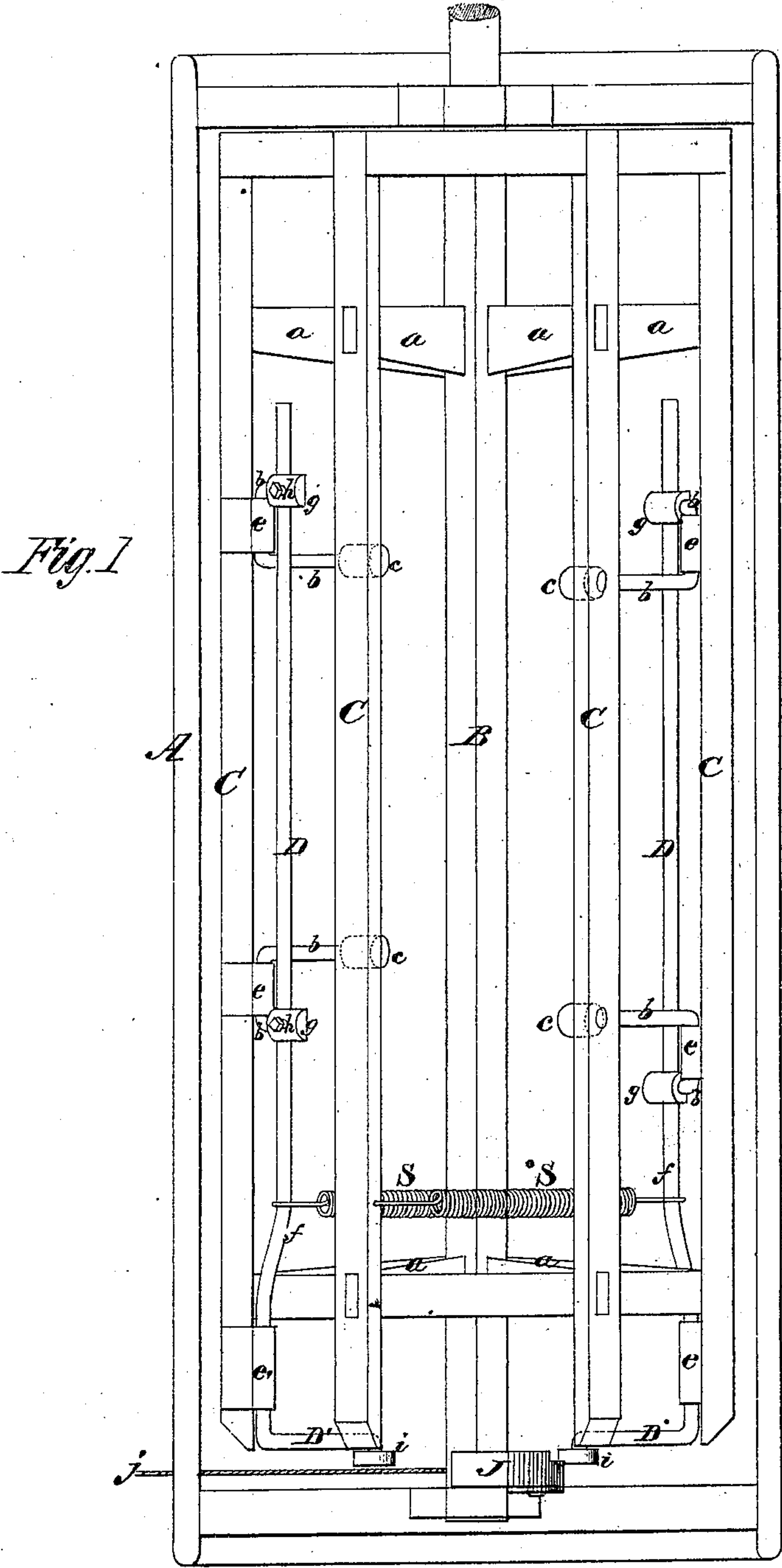


F. B. LEWIS.
Mill Bolting Reel.

No. 107,512.

Patented Sept. 20, 1870.



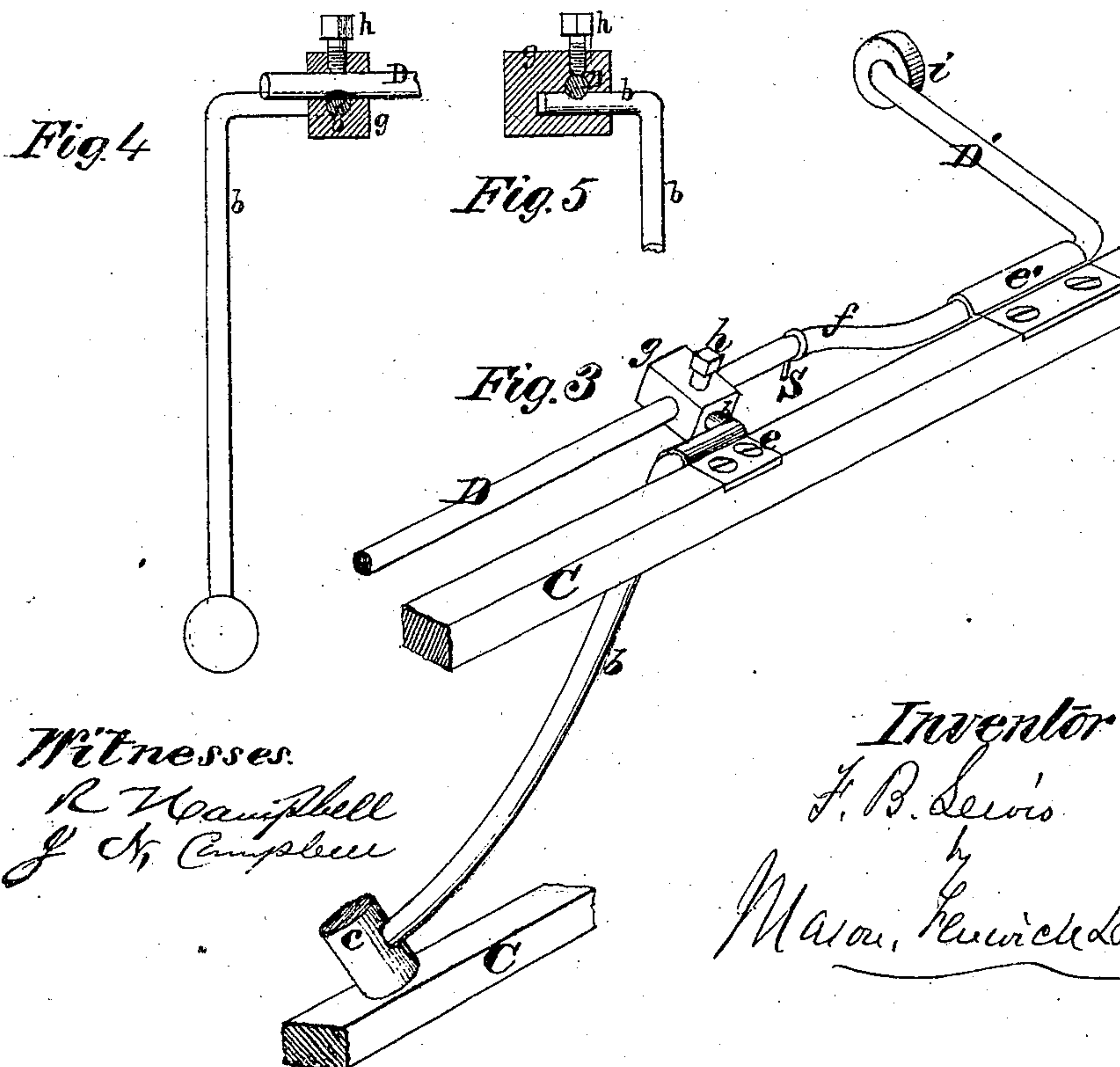
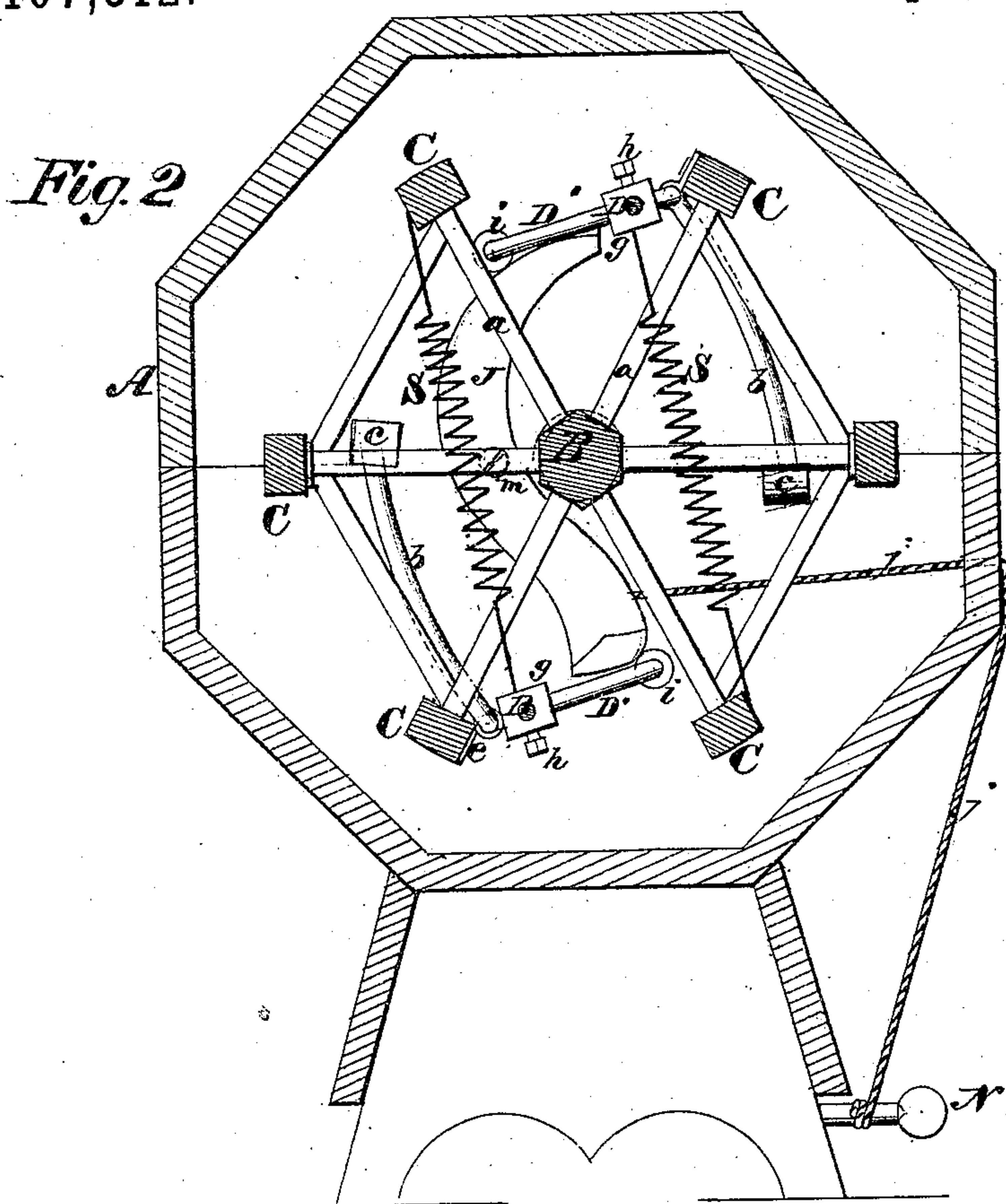
Witnesses.
R. J. Campbell.
J. O. Campbell.

Inventor
F. B. Lewis
by
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R. W. Campbell
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Inventor
F. B. Lewis
by
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United States Patent Office.

FITCH B. LEWIS, OF TIFFIN, OHIO.

Letters Patent No. 107,512, dated September 20, 1870.

IMPROVEMENT IN BOLTING-REELS.

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, FITCH B. LEWIS, of Tiffin, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Bolting-Reels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, plate 1, is a view of the improvement applied to a bolting-reel, as seen by removing a portion of the bolting-chest.

Figure 2, plate 2, is a cross-section through the reel and bolting-chest.

Figure 3, plate 2, is a perspective view of portions of two reel-bars or ribs, showing the manner of applying one of the actuating-rods and hammer.

Figures 4 and 5, plate 2, are sectional views, showing the manner of connecting a hammer-rod to the actuating-rod.

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

This invention relates to certain novel improvements in applying hammers or knockers to the ribs of bolting-reels, and in actuating the hammers, when so applied, for the purpose of jarring the reel and bolting-cloth during the rotation of the reel.

The following description will enable others skilled in the art to understand my invention.

In the accompanying drawing—

A represents a bolting-chest, within which is supported, so as to rotate freely, a bolting-reel, composed of a shaft, B, radial arms *a a*, and ribs C C, constructed in the usual well-known manner.

At one end of the chest A, inside thereof, is a cam, J, which is pivoted at *m*, and constructed with both of its ends rounded, and adapted to operate simultaneously upon both sets of hammers or knockers at each revolution of the reel.

To the lower part of this cam J, a rope, *j*, is secured, which rope is passed through the reel-chest A, and thence carried either to the room below, or to any convenient place.

The key, N, shown in fig. 2, applied to the frame of the chest, and around which the rope *j* is wound, is merely intended to represent a device for holding the rope tight, and keeping the cam J in place after adjustment. Such key, or other equivalent device, will be applied to some established object at the place where it is desired to have the outer end of the rope terminate.

Instead of the double-acting cam J, a single-acting cam may be used, which would operate alternately upon the hammer devices.

To each one of two ribs C C, which are diametri-

cally opposite each other, a rod D, is applied, by means of hinges, as will be hereinafter explained.

One end, D', of the rod D is bent at right angles to itself, to form a crank, and provided with an anti-friction-wheel, *i*, which is acted on by the cam-surfaces of the double cam J as the reel revolves, so as to move the hammers or knockers *c* inwardly, or toward the reel-shaft B, after which, or immediately the wheel *i* leaves the cam J, a spring, S, causes the hammers to forcibly strike the rib of the reel.

The rod D, which I term the actuating rod, is hinged at *e'* to the reel-rib C, near its crank-arm D', and at *f* (see fig. 1) this rod D is bent so as to set it off from the rib, but in a line parallel thereto.

This rod D is attached to each hammer-rod by means of a block, *g*, and a single set-screw, *h*.

Each hammer-rod, *b*, is bent at its attached end, so as to form a pivotal portion, that is received by the eye-piece *c* on the rib C, and also a short crank-portion, which is received into a hole made into the block *g*. This crank-portion of the hammer-rod has a notch made into it which receives the rod D, thus making a single set-screw, *h*, serve to connect firmly the block *g* to the rod, and the hammer-rod to the block.

Figs. 4 and 5 show the manner of connecting the hammer-rod to the actuating-rod.

It will thus be seen that the actuating-rod is supported beyond the fixed eye-bearing *e'* by the same eye-bearings which connect the hammer-rods to the reel-ribs.

The hammers are caused to forcibly strike the reel-ribs after the actuating-rods are released by the recoil of the springs S S, which are respectively attached to an actuating-rod near the point *f*, carried across the reel, and attached to a rib of the reel as shown in fig. 2.

Having described my invention,

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

1. The rod D, when bent at *f*, as shown, so as to form a crank between the eye *e* and block *g*, substantially as and for the purpose described.

2. The attaching-block *g*, adapted to receive rod D, the cranked portion of the hammer-rod, and the set-screw *h*, substantially as described.

3. The adjustable single and double-acting cam J, (as may be required,) in combination with cranked actuating-rods D, springs S S, and hammers or strikers, substantially as described.

FITCH B. LEWIS.

Witnesses:

H. E. THOMPSON,
A. H. BYERS.