

J. M. Hawley,
Belt Tightener.

N^o 68625.

Patented Sep. 10, 1867.

Fig. 1.

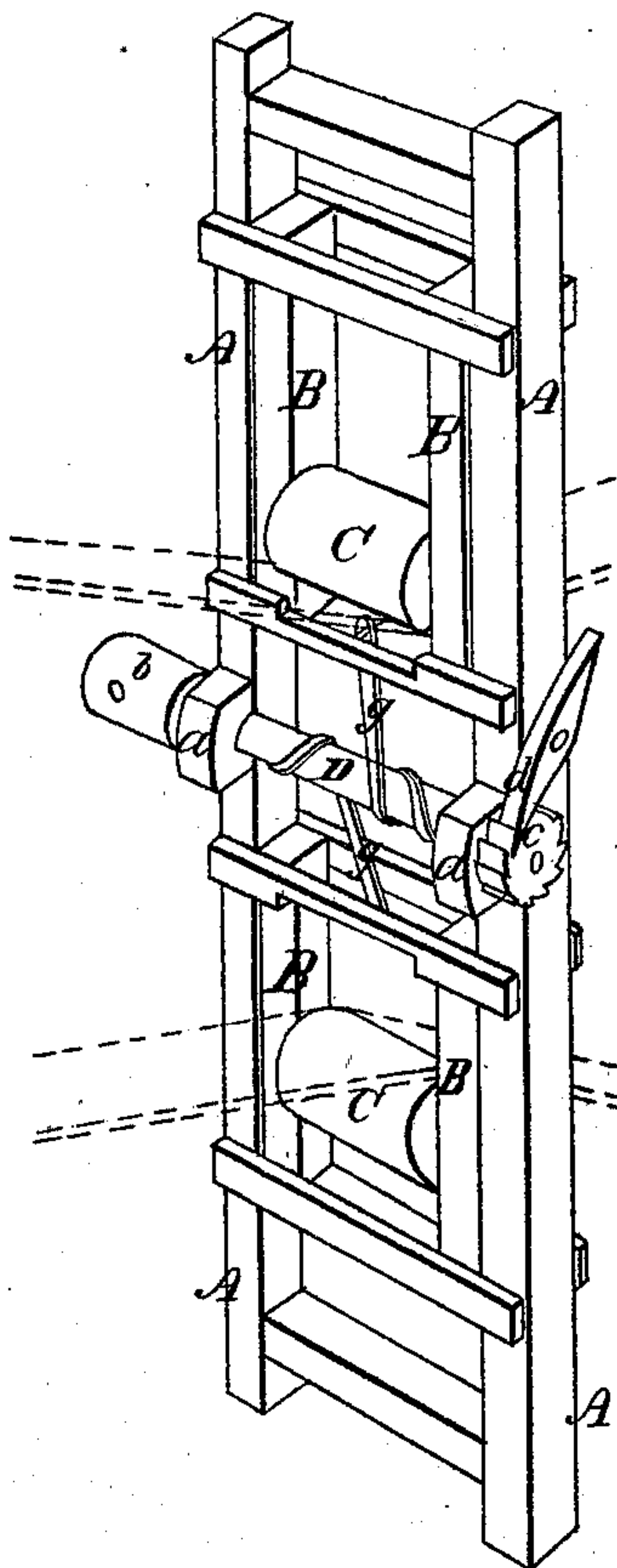


Fig. 2.

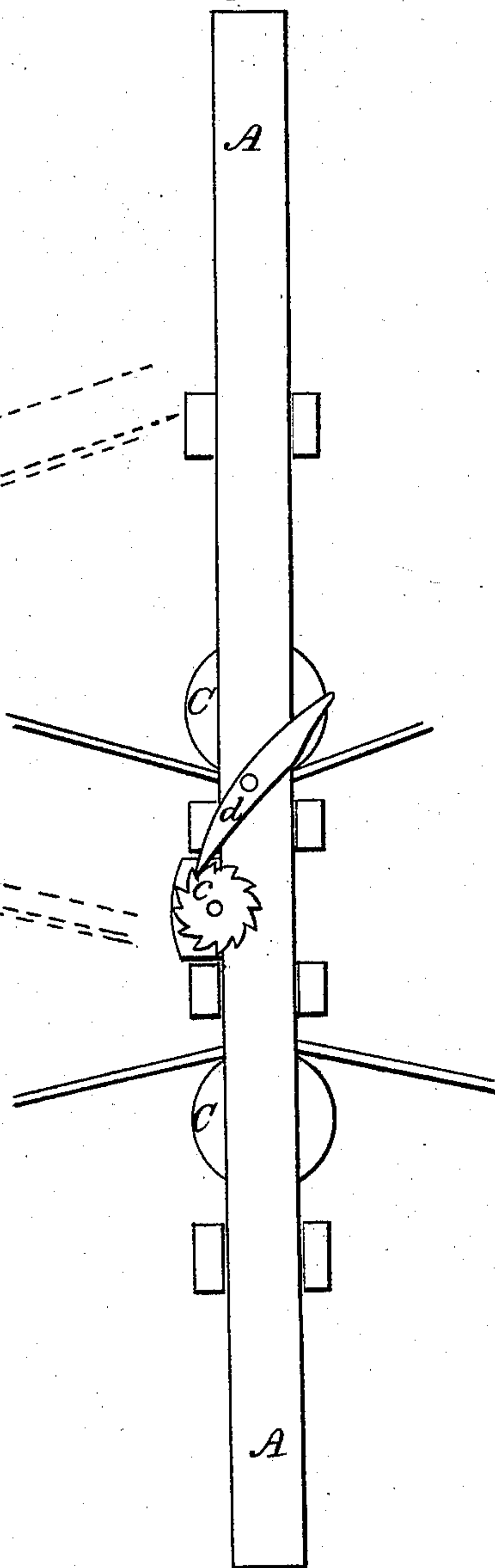
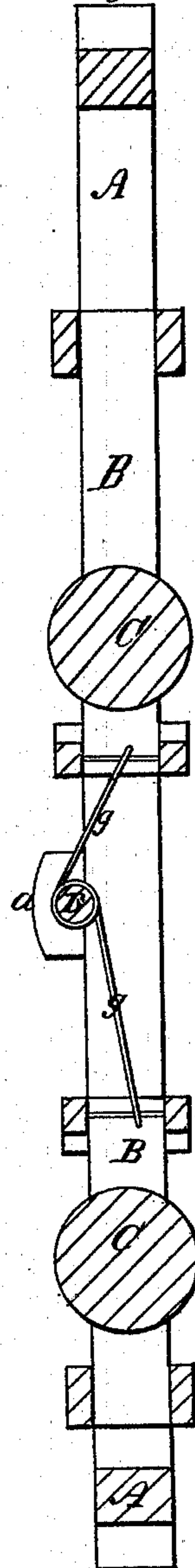


Fig. 3.



Witnesses.

Eckw. Schafer

Walter Hinchman

Inventor

James M. Hawley

by

Mason, Hewick & Sawyer,

United States Patent Office.

JAMES M. HAWLEY, OF HOLTON, INDIANA.

Letters Patent No. 68,625, dated September 10, 1867.

IMPROVEMENT IN BELT-TIGHTENER.

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, JAMES M. HAWLEY, of Holton, in the county of Ripley, and State of Indiana, have invented an improved Belt-Tightener; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved belt-tightener.

Figure 2 is a view of one side of the tightener.

Figure 3 is a central section through the same.

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

The object of this invention is to provide for keeping belts, which are used for communicating motion from one shaft to another, under proper tension, so that the belts shall not run so loose as to slip on their pulleys or drums.

The nature of my invention consists in a contrivance which will spread apart or contract running belts at an intermediate point between their pulleys or drums, so as to take up the slack which may be caused by the stretching of the belts, and keep the belts under proper tension, without interfering with their freedom to run, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a frame, which may be made of wood or metal, and which should be secured to a fixed object, such as the ceiling of a factory or the frame of a machine, so that the belt to be tightened shall pass through it, as indicated by the red lines in fig. 1. This frame A may be made in the form of a bracket or pendant, or it may be constructed so as to form part of the frame of a machine whose belt it is designed to tighten. Between the longitudinal bars of this frame two slides, B B, are applied in any suitable manner, so that they can be moved toward or from each other, and prevented from displacement. These carriages or slides carry rollers or drums C C, which are allowed to turn freely about their axes, and which should be longer than the width of the belt for which they are adapted to tighten. At an intermediate point between the roller-slides B B, and supported in bearings *a a* upon the longitudinal bars of the frame A, is a shaft, D, carrying on one end of a perforated hub, *b*, or a hand-crank, and on the other end a ratchet-wheel, *c*, into the teeth of which engages a pawl, *d*, so as to prevent the shaft D from rotating backward, when not required to do so. The roller-slides B B are both attached to the shaft D by belts or chains *g g*, which wind around this shaft in opposite directions, as shown in figs. 1 and 3, so that by turning shaft D the two rollers or drums, with their slides, will approach each other.

One mode of using the contrivance thus described is to pass the upper portion of the belt below the upper roller, and the lower portion of the belt over the lower roller, so that when the two rollers are caused to approach each other, the slack in belt will be taken up. If the space between a belt will not admit of this contraction, the winding shaft D will be arranged at one end of the frame A with cords or chains extending from the roller-slides, and passing around this shaft, so that by turning it the rollers can be caused to recede from each other, and thus take up the slack of a belt by spreading it apart. In some instances a belt may be tightened by having two rollers applied in one sliding-frame, so as to tighten such belt by causing it to deviate more or less from a straight line.

It will be seen from the above description that the loss of time required to cut and lace a belt which has stretched so as to run too loose, is avoided, and that by my invention a belt can be quickly tightened whilst running, as well as when it is at rest. To avoid stretching a belt too much, it can be slackened, when not in immediate use, by throwing off the dog or pawl *d*, so as to release the rollers.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A belt-tightener, consisting of the sliding-rollers C C, roller-frames B, windlass D, and cords or chains *g g*, applied to a frame, A, and operating substantially as described.

JAMES M. HAWLEY.

Witnesses:

THOS. H. HARRIS,

ANDREW J. RALSTON.