

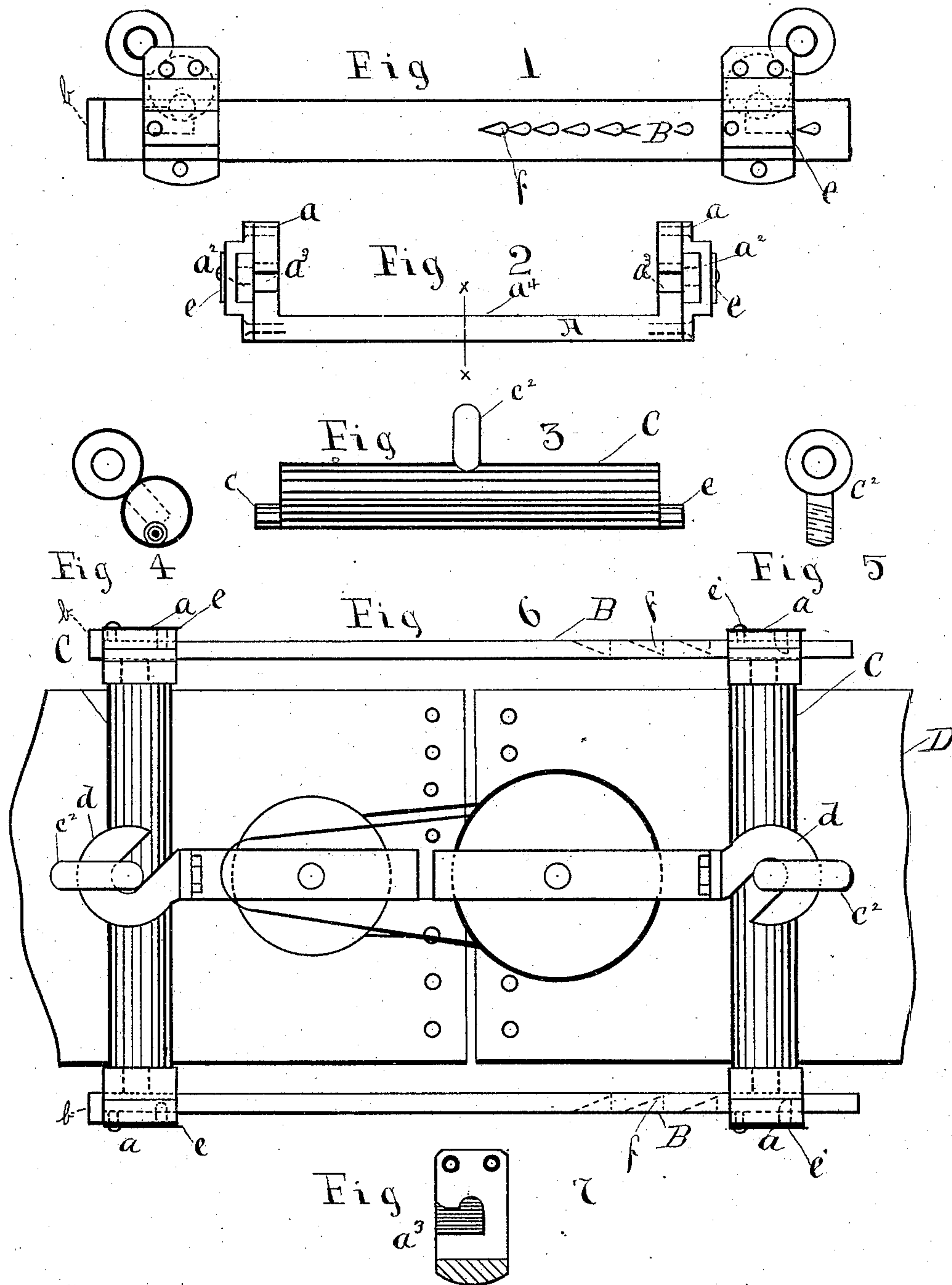
(No Model.)

J. T. FERTIG.

BELT TIGHTENER.

No. 312,989.

Patented Feb. 24, 1885.



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UNITED STATES PATENT OFFICE.

JOHN T. FERTIG, OF DENVER, COLORADO.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 312,989, dated February 24, 1885.

Application filed January 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. FERTIG, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Belt-Tightener, of which the following is a specification.

My invention relates to improvements in belt-tighteners, and the object of my invention is to provide a means for tightening belts, in which said means shall be united the qualities of utility, durability, cheapness, and simplicity. I attain this object by means of two eccentric rollers working in two blocks, said blocks having suitable openings for the reception of two guide-rods. The belt is tightened by the application of power to a suitable tightening device attached to the eccentric rollers, as is fully illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my invention without the tightening device. Fig. 2 is an end view of the frame, showing one of the blocks without the eccentric roller. Fig. 3 is a side view of an eccentric roller with the screw-ring attached. Fig. 4 is an end view of an eccentric roller, showing the relative positions of the journals and the screw-ring. Fig. 5 is a side view of a screw-ring. Fig. 6 is a top view of my invention complete with the tightening device attached. Fig. 7 is a sectional end view of Fig. 2 on the line $x x$.

Fig. 2 is a view of one of the two blocks above referred to, which said blocks we will designate by the letters A A, as they are exactly alike, with the exception of the difference between the springs attached to the same, as hereinafter described. Each of these blocks consists of two upright parts, $a a$, containing the openings $a^2 a^2$ for the reception of the guide-rods B B. Each upright part $a a$ of the blocks contains a slot, a^3 , Fig. 7, for the reception of the journals $c c$ of the eccentric rollers C. Each upright part $a a$ of one of said blocks also contains a spring, e , attached to the block by a rivet, as shown in Figs. 1, 2, and 6. This spring e contains a pawl or catch, which after passing through a suitable opening in the outer portion of the block slips into a corresponding opening in the guide-rod and prevents the block from moving on said rod in either direction. Each up-

right part $a a$ of the other block contains a spring, e' , attached to said block in the same manner as the spring e is attached to its corresponding block, as just described; but the pawl or catch of the spring e' and also the notches or openings in the corresponding part of the guide-rod are so fashioned as to allow the block to move easily upon the guide-rods in the direction of the other block, but to prevent its movement in an opposite direction, as is shown in the drawings. The springs e and e' project a little beyond the blocks A, as shown in Fig. 6, by means of which projection the springs may be raised by the hand sufficiently to lift the pawls or catches out of the notches or openings in the guide-rods when for any purpose this is desirable.

In Fig. 6, B B are the guide-rods passing through the upright parts $a a$ of the blocks A. $c^2 c^2$ are the screw-rings, forming a part of the eccentric rollers C. $d d$ are hooks of a chain-fall or any suitable tightening device, by which sufficient power may be obtained to answer the design of my invention.

In operating my invention one of the blocks A is placed upon each side of the belt-joining, as shown in Fig. 6, the belt D resting upon the bed a^4 of the blocks between the upright parts $a a$. The eccentric rollers C C are then placed within the blocks above the belt D by means of the slots a^3 , shown in Figs. 2 and 7, and by dotted lines in Fig. 1. The blocks A are so placed upon the belt that the slots a^3 open on the outer sides, or upon the sides of the blocks more remote from each other, as shown by dotted lines in Fig. 1. The eccentric rollers, occupying the position shown by dotted lines in Fig. 1, are then turned so that the screw-rings $c^2 c^2$ approach each other until the surface of the rollers, by virtue of their eccentric quality, is brought in contact with the belt D. Then the guide-rods B B are slipped into the blocks through the openings $a^2 a^2$, and the springs e and e' force their pawls or catches into the notches or openings formed in the outer side of each guide-rod for this purpose, those for the reception of the pawl or catch belonging to the spring e' being designated on the drawings by the letter f , after which the hooks $d d$ of a chain-fall or other suitable tightening device are attached to the eccentric rollers C C by means of the screw-rings $c^2 c^2$.

Then by the application of power to the chain-fall or other suitable tightening device the eccentric rollers are made to grasp the belt in a vise-like manner and the blocks A A approach
5 each other, the one with the spring *e* moving easily upon the guide-rods B B and the other block moving with said rods until the belt is stretched to any tenseness desired, after which, to facilitate the process of lacing or riveting
10 the belt, the tightening device may be removed and the blocks A A held in place by means of the springs *e* and *e'*.

The end of the guide-rods B B upon which the block with the spring *e* is placed may be
15 fashioned as shown at *b* in Figs. 1 and 6, as an extra precaution to prevent the backward movement of the block after the removal of the tightening device.

In the construction of my invention any suitable metal may be used. 20

What I claim as my invention, and what I desire to secure by Letters Patent of the United States, is—

The combination, in a belt tightener, of the eccentric rollers C C, the blocks A A, with
25 the springs *e* and *e'*, and the guide-rods B B, together with a chain-fall or its equivalent, all acting in conjunction substantially in the manner and for the purpose herein described and set forth.

JOHN T. FERTIG.

In presence of—

J. B. WILLSEA,
J. H. VINCENT.