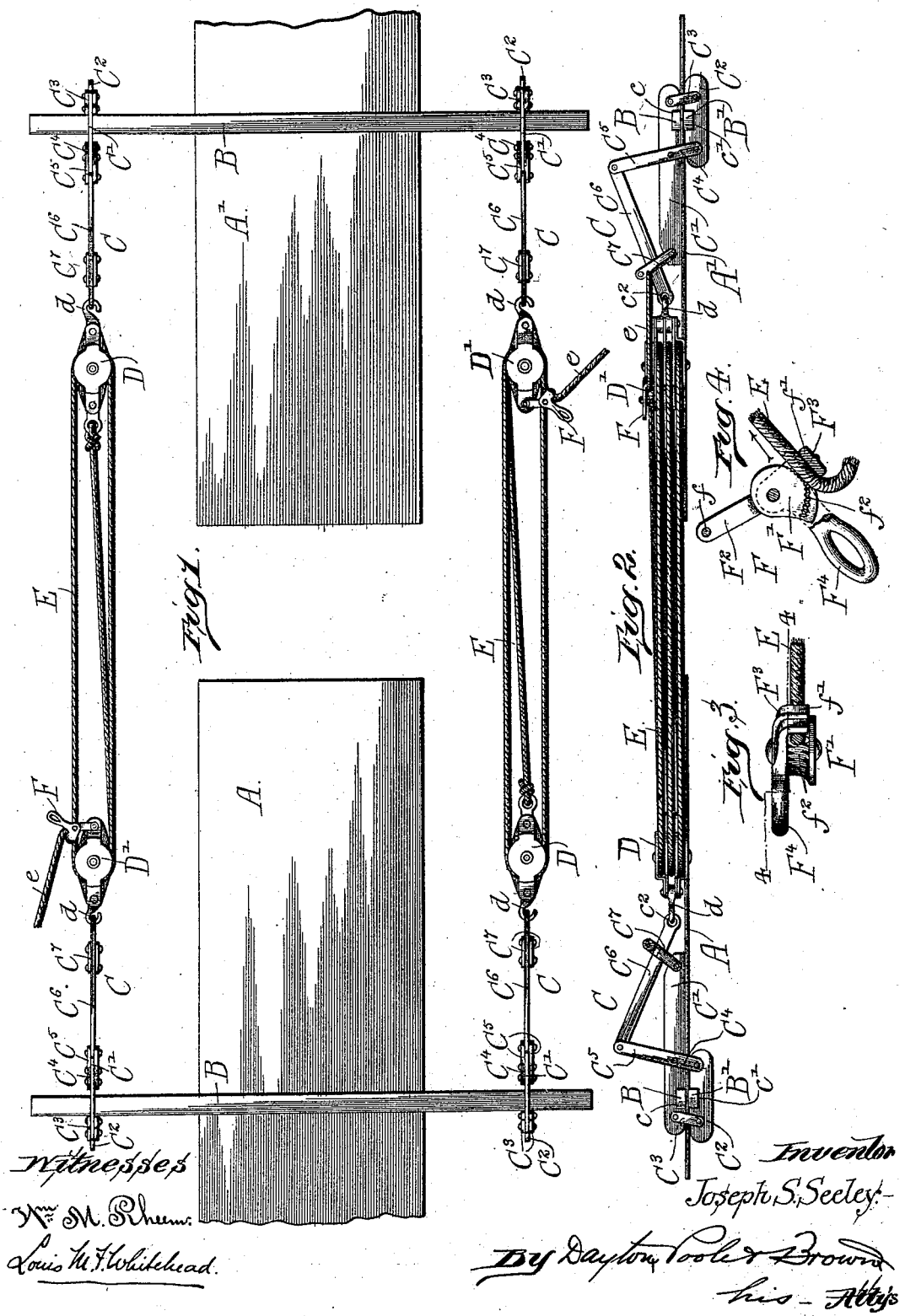
(No Model.)

J. S. SEELEY.

BELT TIGHTENER.

No. 492,972. Patented Mar. 7, 1893.



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JOSEPH S. SEELEY, OF FREMONT, NEBRASKA.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 492,972, dated March 7, 1893.

Application filed April 28, 1891. Serial No. 390,868. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. SEELEY, of Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Belt-Tighteners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in belt tighteners or devices for drawing together the ends of driving belts for the purpose of enabling the same to be easily joined.

The invention consists in the matters hereinafter described and pointed out in the appended claims.

In the accompanying drawings illustrating my invention: Figure 1 is a plan view of the parts constituting the same. Fig. 2 is a side elevation of said parts. Fig. 3 is a detail edge view of the rope clamp shown in Figs. 1 and 2. Fig. 4 is a sectional view taken upon line 4—4 of Fig. 3.

As shown in said drawings, A A′ are the ends of the belt to be joined.

B B′ indicate pairs of clamp bars, one of which is engaged with each end of the belt, said bars being placed at opposite sides of the belt and clamped against the same by means hereinafter described.

C C indicate, as a whole, clamping devices for holding the bars B B′ against the belt.

D D′ indicate pulley blocks which are connected with the clamping devices C C.

E is a rope trained over the pulleys of the blocks D D′, and F a rope clamp for holding the end of the rope.

The clamping devices C C are four in number and are all alike, one pair of said clamping devices being engaged with each pair of clamp bars B B′ at opposite ends of the same and at either side of the belt, in the manner clearly shown in Fig. 1. The said clamping devices are made as follows:

C′ C^2 are bars arranged edge to edge, parallel with each other, and provided with opposite notches *c c′* to receive the clamp bars B B′. The bar C′ is made considerably longer than the bar C^2 and said bars are connected by means of parallel links C^3 C^4 pivoted to said bars at opposite sides of the notches *c c′*, in the manner illustrated (Fig. 2). The link C^4 is extended beyond the bar C′ to form a lever arm C^5 by which power may be applied to the link C^4 for the purpose of moving the said bars toward and from each other, the bars being separated from the said links and brought perpendicular to the bars and being drawn together when the links are inclined with reference to the bars. The said links C^3 C^4 are preferably made double or in pairs with the links of each pair on opposite sides of the bars, in the manner clearly shown in Fig. 1.

C^6 is a bar pivoted to the outer end of the lever arm C^5 and provided at its end opposite said lever arm with an eye c^2 for engagement with a hook *d* on the block D or D′.

C^7 is a link pivoted to the bar C′ and engaging the bar C^6 in such manner as to form a guide for the outer or free end of said bar C^6 and to hold the said free end of said bar C^6 adjacent to the free end of the clamp bar C′. Said bar C^6 is arranged to slide freely through the link C^7 so that the bar C^6 may be drawn endwise by a tension given through the medium of the ropes and pulleys, with the effect of drawing the arm C^5 into an inclined position with relation to the clamp bars and forcing the said clamp bars together. Said arm C^5 is preferably made of considerable length relatively to the distance between the pivots of the links C^3 C^4 so that said arm operates with considerable leverage in drawing the clamp bars together.

In the operation of the device above described a pair of clamp bars is placed on opposite sides of each of the belt ends to be joined, the clamping devices are then engaged with the clamp bars by inserting the ends of said bars through the notches *c c′* of the clamping devices, the pulley-blocks are then engaged with the clamping devices and the rope drawn taut. The tension produced by the tightening of the ropes has the effect of drawing or forcing the clamp bars against the ends of the belt so as to firmly clamp or hold the same and prevent the belt from slipping through the clamp bars, and at the same time serves to draw together the ends of the belt into the position in which they are to be secured by the fastening device employed. After the ends of the belt have been drawn

together the ropes E E are secured and the device serves to hold the belt ends together during the time that the joint is being made.

The rope clamp F consists of a block F′ connected with the frame of the pulley-block D′ by means of an arm F^2 attached to the said block and pivoted at its end to the sheave by means of a pivot *f*. A clamp arm F^3 is pivoted to the block F′ and is provided with a laterally bent arm or jaw *f′* which is arranged opposite an eccentric clamping surface f^2 of the block F′. Attached to the clamp jaw F^3 is a handle F^4. The loose end of the rope E is carried through the clamp F, the eccentric F′ of which is so arranged that the rope will pass freely through the clamp when the rope is being tightened. When it is desired to secure the rope the free end of the latter is thrown backwardly, as shown at *e* (Fig. 1), thereby drawing bodily backward the clamp and bringing the same into such position that the strain on the rope tends to swing the clamp jaw F^3 toward the larger end of the eccentric clamp surface f^2 and thereby secures the rope from movement. The clamp thus constructed releases the rope automatically when the rope is drawn taut in the direction to draw together the pulley blocks.

The belt tightener above described is of great advantage for use in the case of elevator belts and other belts which must be operated upon within a restricted space, by reason of the smallness and compactness of all the parts of the device.

I claim as my invention—

1. A belt tightener comprising clamp bars adapted to engage the belt, and clamping devices acting on said bars, consisting of movable parallel bars C′ C^2, links connecting said bars, a lever arm attached to one of said links, and means connected with the outer end of said lever arm for drawing or forcing together the clamp bars and for drawing together the ends of the belt, substantially as described.

2. The combination with the clamp bars B B′, of a clamping device consisting of parallel bars C′ C^2, links connecting said bars, a lever arm C^5 connected with one of said links, a bar C^6 connected with the outer end of said lever arm, and a link C^7 connected with the bar C′ and engaging the bar C^6, substantially as described.

3. The combination with the clamp bars B, B′, of a clamping device consisting of parallel bars C′, C^2, having notches within which the clamp bars are secured, links connecting said bars, a lever arm C^5 connected with one of said links, a bar, C^6, connected with the outer end of said lever arm and a link, C^7, connected with the bar, C′, and engaging the bar C^6 substantially as described.

4. A belt tightener comprising clamp-bars arranged in pairs, those of a pair being movable toward and from each other, clamping devices engaging the bars and operating to give the bars their clamping movement, pulley blocks attached to said clamping devices, ropes passing through said pulley blocks, and a rope clamp upon one of the pulley blocks for holding the rope, substantially as described.

5. A belt tightener comprising clamp bars for engaging the belt, clamping devices for forcing together said bars, consisting of two parallel clamp-bars C′ C^2, links connecting the same, a lever arm attached to one of said links, a bar C^6 attached to said lever arm, a link C^7 connected with the bar C′ and engaging the said bar C^6, pulley blocks connected with the ends of the bar C^6, ropes passing through said pulley blocks, and a rope clamp attached to one of each pair of said pulley blocks, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOSEPH S. SEELEY.

Witnesses:
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