

(No Model.)

2 Sheets—Sheet 1.

H. J. McKEON.
BELT CLAMP.

No. 511,710.

Patented Dec. 26, 1893.

Fig. 1.

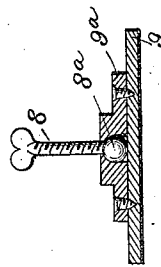
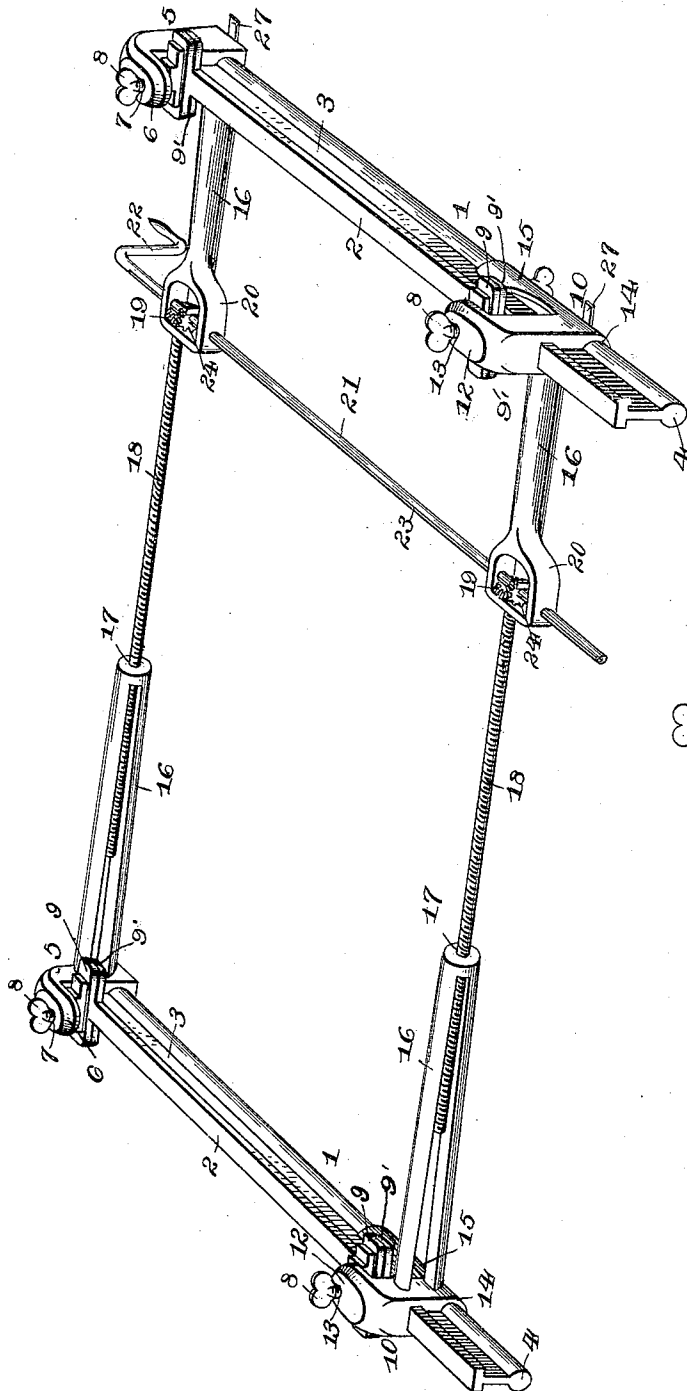


Fig. 5.

Inventor

Witnesses

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By his Attorneys,

Harry J. McKeon,

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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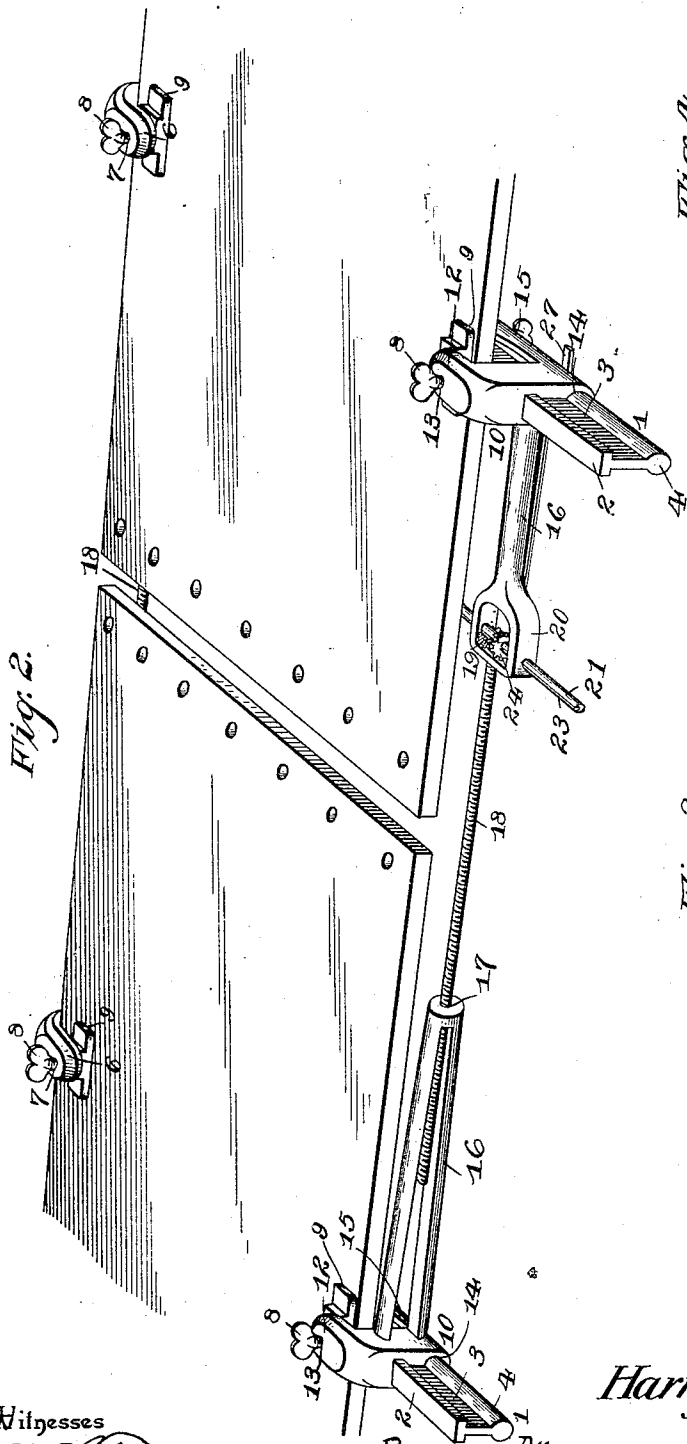


Fig. 4.

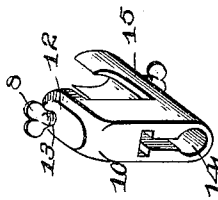
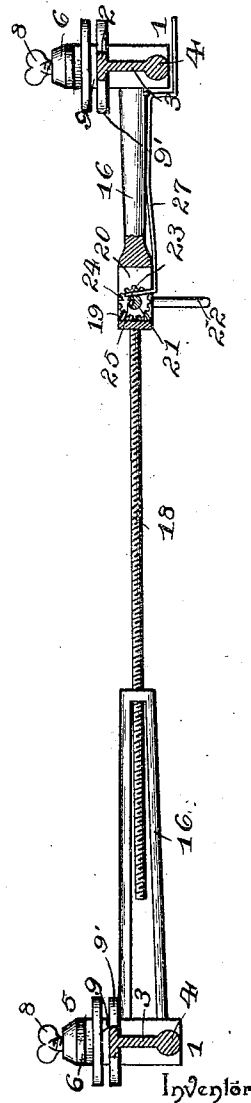


Fig. 3.



Witnesses

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W. S. Duwall

By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

HARRY J. MCKEON, OF LE ROY, MINNESOTA.

BELT-CLAMP.

SPECIFICATION forming part of Letters Patent No. 511,710, dated December 26, 1893.

Application filed September 23, 1893. Serial No. 486,273. (No model.)

To all whom it may concern:

Be it known that I, HARRY J. MCKEON, a citizen of the United States, residing at Le Roy, in the county of Mower and State of Minnesota, have invented a new and useful Belt-Clamp, of which the following is a specification.

My invention relates to improvements in that class of devices employed for stretching and holding belts when applying them to pulleys and during the operation of lacing or fastening the same and usually known as belt-clamps or stretchers.

The objects of my invention are to produce a new and improved clamp or stretcher, the same being so constructed as to be readily applied to belts of different widths; to effectually clamp without injuring the same; and to be readily operated or adjusted so as to draw evenly the two ends together whereby the lacing or other fastening means may be applied.

Various other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view in detail of a clamp constructed in accordance with my invention. Fig. 2 is a similar view, the same being in position upon a belt. Fig. 3 is a longitudinal sectional view of the clamp. Fig. 4 is a detail in perspective of one of the sliding castings. Fig. 5 is a detail in section of one of the belt-clamps and its screw.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the practice of my invention I employ opposite transversely disposed parallel guide-bars 1, the same being provided or formed upon their upper sides with a horizontal flange or head 2, below the same formed with a vertical web 3, and at their lower edges with a cylindrical rib or bead 4, the whole combining to form a guide for the purpose hereinafter described. Formed integral with, or secured to, in this instance, the left end of each bar 1, is an inverted L-shaped clamp 5, whose upper end constitutes an overlapping head 6. These heads 6 are provided with threaded perforations 7, and in each is mounted a clamp-

ing-screw 8 whose lower end terminates in a clamping-head 9 adapted to impinge and clamp upon a belt without marring the same. The flanges 2 of the guide-bars are provided opposite the heads 6 with extensions 9'. 55

Mounted loosely for movement upon the guide bars 1 are cast-metal slides 10, the same having upper overlapping heads 12 similar to the heads 6 of the castings 5, and also provided with threaded perforations 13 that correspond with the perforations 7 of the castings 5 and in which are mounted similar binding or clamping-screws 8. The lower perforations of the movable castings 10 are provided with perforations 14 that correspond to the shape of the guide-bars 1 in cross-section, and their under sides are extended or widened as at 15 to form elongated bearings which receive the guide-bars so that as will be obvious the castings are slidable upon the bars, and may be secured thereon by set screws 10^a. From the inner side of each casting 5 and 10 there extends an arm 16, the arms of the castings of one guide-bar or at one side of the device, having longitudinal bores 17 interiorly threaded, and in the same have mounted threaded feed-rods or shafts 18, whose outer ends terminate in beveled pinions 19. The opposite arms 16, which align with the rods or shafts 18, are provided at their inner ends with loops or eyes 20, the eye of one arm being in transverse alignment with that of the other. A transverse shaft 21 is journaled in these eyes and extends at a right angle to and in front of the rods or shafts 18. This shaft 21 is as wide as the guide-bars and at one end is provided with a crank 22 through the medium of which the shaft may be rotated. The shaft is further provided with a longitudinal groove 23, and within each of the eyes 20 there is mounted upon the shaft a beveled pinion 24, each of which is provided with a feather 25 mounted in the groove 23 of the shaft and capable of sliding upon the shaft, though, as will be seen, it will rotate with the shaft the same as the companion pinion. Each pinion is engaged by the forked end of a pivoted shifting-lever 27, mounted in the eye 20, whereby either of the said pinions may be shifted out of engagement with the adjacent pinion 19. These 100

pinions 24 are at right angles to and engage with the pinions 19, so that any motion imparted to the pinions 24 will be transmitted from them to the pinions 19 and to the screw-threaded shafts 18.

This completes the construction of the device, and the operation thereof is as follows: The ends of the belt are slipped under the overlapping heads 6, and hence lie between the same and the flanges on the upper sides of the transverse guide-bar 1, it being understood that previous to such insertion the movable clamps have been slid upon the guide-bars so as to permit of the insertion of the ends of the belt, and therefore render the device applicable to the width thereof. The belt is drawn by hand as tight as can be and the shaft 21 revolved so as to feed the screws 18 out from the arms 16 which they occupy. This causes a separation of the two members or guide-bars 1. The binding or clamping-screws 8 are now operated so as to clamp tightly upon the ends of the plate, after which the shaft 21 is rotated in the opposite direction, the feed-screws 18 entering farther into the bored arms 16 and consequently contracting or drawing the two members of the clamp together and stretching the belt so that finally the ends thereof meet and are held in position during the application of the fastening devices. After the fastening-devices have been applied the binding or clamping-screws are loosened and the movable clamps slid outward upon the guide-bars and the device removed from the belt.

By means of the shifting levers 27 before described, it will be seen that either of the pinions 24 may be thrown out of engagement with its companion pinion 19 so that that side of the device will remain stationary or inoperative while the other side moves, and thus any unevenness of tension in the belt may be corrected.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

From the foregoing description in connection with the accompanying drawings it will be seen that I have provided a very cheap, simple, and effective belt-clamp or stretcher, that may be conveniently applied to and upon any width of belt desired, and which will effectually stretch and hold the belt during the operation of applying the lacing or other fastening, and this, too, without any marring of the belt.

The clamping-screws 8 have balls 8^a formed on their lower ends, which are by recessed plates 9^a secured to the clamping-heads 9, so that said heads remain stationary while the screws rotate.

Having described my invention, what I claim is—

1. In a belt-clamp, the combination with the opposite bars 1 having the upper horizontal

flanges 2, the lower parallel beads 4, and the intermediate vertical webs 3, of the opposite stationary clamps 5 at the ends of the bars 1 and provided with overlapping heads, the threaded clamping-screws arranged therein, the movable clamps arranged on the bars 1 and having openings corresponding with the bars and having overlapping heads provided with clamping-screws, means for adjusting the movable heads upon the bars 1, and adjusting devices between the bars 1, substantially as specified.

2. In a belt-clamp, the combination with the opposite transverse guide-bars, a stationary clamp at one end of each bar and movable clamps upon the bars, of arms extending inwardly from each clamp, those at one side being bored and threaded, and those at the opposite side terminating in eyes having bearings, longitudinal threaded shafts arranged in the threaded bores and extending into the eyes of the opposite arms and provided with beveled pinions, a transverse shaft grooved and arranged in the bearings of the eyes and having a crank at one end, and pinions arranged in the eyes and engaging the pinions of the companion shafts, one of said pinions of the transverse shaft having a feather for engaging the groove, substantially as specified.

3. In a belt-clamp, the combination with the opposite bars 1 having the upper flanges 2, vertical webs 3, and lower beads 4, the opposite stationary clamps 5 at the ends of the bars 1 having the overlapping heads 6 and threaded clamping screws 8, the movable clamps 10 having openings corresponding with the guide-rods in cross-section and the lower extensions 15 and overlapping heads 12 and the clamping-screws 8, of the opposite arms 16 extending from each of the clamps, those of one arm being bored and threaded and those of the other terminating in eyes 20 having bearings, the threaded adjusting shafts 18 arranged in the threaded bores and terminating at their inner ends in the eyes 20, the pinions 19 arranged thereon, the transverse crank-shaft 21 arranged in the bearings of the eyes and having the groove 23 and the crank 22, and the pinions 24 arranged on the transverse shaft within the eyes and engaging the pinions 19, one of said pinions 24 having a feather engaging the groove 23, substantially as specified.

4. In a belt-stretcher, the combination with the opposite transverse guide-bars, each terminating at one end in a fixed clamp, of adjusting devices between the guide-bars, movable clamps mounted on the bars and provided with perforations, the clamping-screws 8 arranged in the perforations and each terminating at its lower end in a ball 8^a, the clamping-head 9, and the recessed securing-plate 9^a receiving the ball and secured to the clamping-head, substantially as specified.

5. The combination with the opposite transverse guide-bars, the opposite clamps mounted on the guide-bars, arms extending inwardly

through the clamps those at one side being
bored and threaded, and those at the opposite
side terminating in eyes, longitudinal, thread-
ed shafts arranged in the threaded bores and
5 terminating in the eyes in pinions, a trans-
verse crank shaft arranged in the eyes and
provided with a groove, pinions arranged upon
the transverse shaft and having feathers en-
gaging the groove, and shifting levers pivoted
10 on the eyes and loosely engaging said pinions

of the transverse shaft, substantially as speci-
fied.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

HARRY J. McKEON.

Witnesses:

HENRIETTA WYCKOFF,
J. M. WYCKOFF.