

(No Model.)

E. B. HAWKES.
BELT CLAMP.

No. 505,103.

Patented Sept. 19, 1893.

FIG. 1.

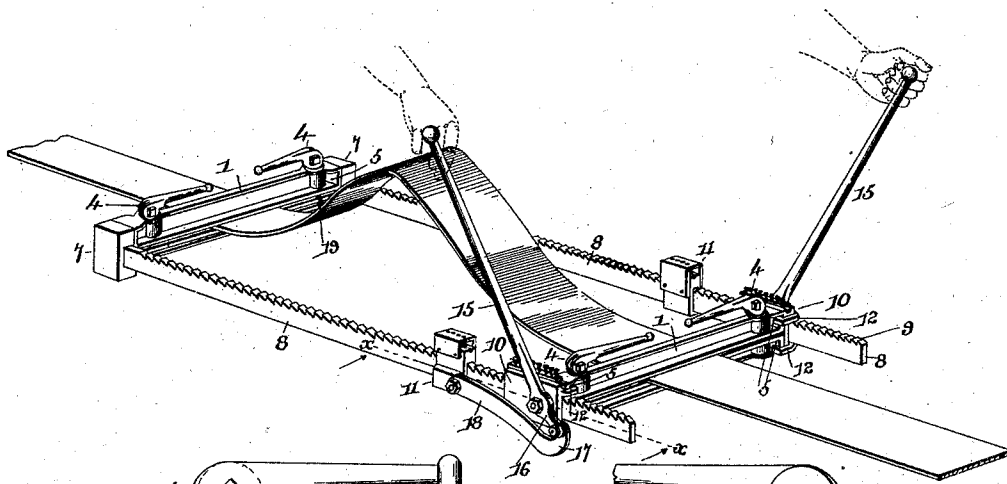


FIG. 2.

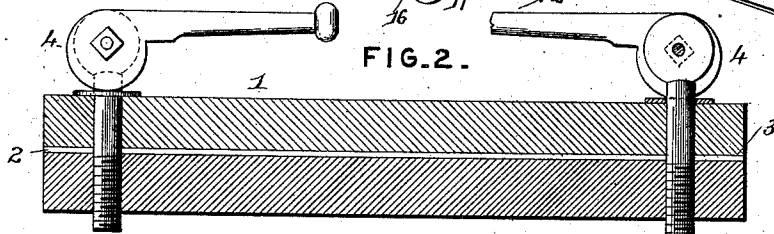


FIG. 3.

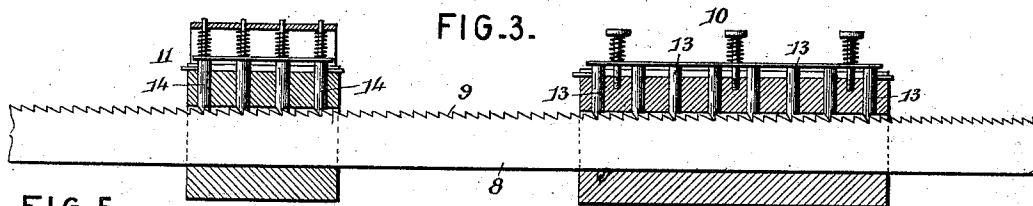


FIG. 5.

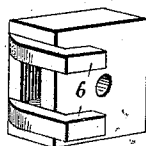


FIG. 6.

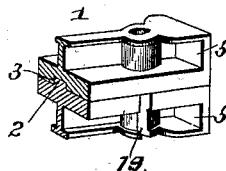
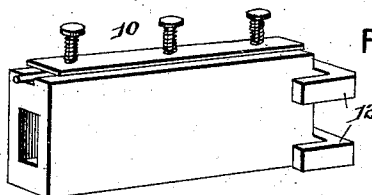


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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BELT-CLAMP.

SPECIFICATION forming part of Letters Patent No. 505,103, dated September 19, 1893.

Application filed March 10, 1893. Serial No. 465,400. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. HAWKES, a citizen of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented a new and useful Belt-Clamp, of which the following is a specification.

This invention relates to certain new and useful improvements in belt-clamps, and has for its object to simplify the construction of devices of this class, and to arrange the same for rapidity of application in operative position and positive action.

With these and other ends in view, the invention consists of the construction and arrangement of the parts thereof as will hereinafter be more fully described and claimed.

In the drawings: Figure 1 is a perspective view of a belt-clamp shown in operative position. Fig. 2 is a longitudinal sectional view through the center of one of the end-clamps. Fig. 3 is a longitudinal sectional view through one side of the clamp. Fig. 4 is a detail perspective view of one of the catch-dogs and the attachments thereon, looking toward the inner side of the same. Fig. 5 is a detail perspective view of one of the heads attached to the rear part of the rack-bars, looking toward the inside of the same. Fig. 6 is a sectional perspective of a portion of one of the end-clamps showing the sockets thereof.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates an end-clamp that is duplicated in the present device and comprises an upper and lower section, said sections being separable and the lowermost one having a rib 2, on the upper surface thereof that is arranged to align and fit into a groove 3 in the opposite section. Supplemental clamps 4 are movably connected to the opposite ends of the said clamp 1, and comprise a vertical stem that passes through the upper section of the clamp 1 and is screwed into the lower section of said clamp. A cam-head is pivotally connected to the upper end of each stem and is provided with an operating handle, whereby, when the said supplemental clamps are turned inwardly they force the upper section of each of the

end-clamps downwardly upon the lower section. The opposite ends of the sections of the end-clamps 1 are formed with partially inclosed sockets 5, and said end-clamps are applied over the belt adjacent to the connected ends thereof, or such ends of the same as are to be connected, and caused to firmly engage the same through the mechanism and construction set forth.

The rear end-clamp has a pair of sockets at each side of the rear part of the same, removably engaged by a pair of hooks 6, formed with the rear inner surfaces of heads 7, to which are secured horizontally-extending parallel rack-bars 8, having teeth 9 in the upper edges thereof. Each of the rack-bars 8 is of similar construction, and in the following description only one of the same will be referred to.

On each rack-bar is adjustably mounted front and rear catch-dogs 10 and 11, the catch-dog 10 having a pair of hooks 12, that engage the front sockets of the front end-clamp 1, and when the proper tension is applied the front and rear end-clamps are thus detachably connected. The front catch-dog 10 is of considerable width and is supplied with a series of eight spring-actuated detents or vertically-disposed pawls 13, that are arranged to engage with the teeth of the rack-bar and can be disconnected if desired, it being seen that the slot through the said catch-dog is sufficiently large to allow the dog to be moved over the rack-bar with which it engages when the said detents or pawls 13 are disengaged from the teeth. The rear catch-dogs 11 are also of such width as to support four spring-actuated detents or vertically-disposed pawls 14, that are also arranged to be disengaged from the teeth of the rack-bar with which they engage, and the slot therein is large enough to permit the said dog 11 to be moved over the rack-bar with which it is in engagement without impediment.

To the outer side of the dog 10 is pivotally connected a lever 15, having a downwardly-extending arm 16 beyond its pivotal point, that is pivotally connected to the upturned or crank end 17 of the lever 18, that has its opposite end pivotally connected to the outer side of the catch-dog 11. By this means it

will be observed that the two catch-dogs are connected to each other for simultaneous or alternate operation; and by moving the lever 15 forward, the catch-dog 11 is moved backward over the rack-bar to retain a proper spaced distance from the catch-dog 10, against which the lever 18 is drawn on the rearward stroke of the said lever 15, and draw the catch-dog 10 toward the said catch-dog 11, and consequently pull the front end-clamp 1 and the belt held thereby toward the rear end-clamp, while at the same time the unrelaxing tension of the rear-end-clamp will form a stable support to practicably acquire the operation set forth. As before set forth, the rack-bar is duplicated on opposite sides of the device, and a lever is therefore situated on said opposite sides and in connection with the two rack-bars similar to the lever 15, that are adapted to be alternately operated, first one in a forward direction and the other rearwardly, and vice versa, thereby applying an equal tension on the front clamp as well as the back clamp and stretching the belt in a regular manner and causing the latter to be doubled up between the two end-clamps, as shown in Fig. 1, when slack may be taken up, if necessary, or if a broken belt is being repaired the two ends of the same may be drawn together and attached.

The advantages of the device herein set forth are manifold and will appear from time to time to those using the device; and it is obviously apparent that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In Fig. 6 an opening 19 is shown formed in the lower half of one end of one of the end-clamps, whereby said half of the clamp may be swung away from engagement with the screw-shank in connection with the cam head when engaging the end-clamp with the belt from the side of the latter. This forms a simple and convenient means of making the end-clamp readily applicable to the belt without using a complex mechanism. In this connection it will be understood that the cam-head is slightly loosened to permit the said lower part of the end-clamp to be laterally moved, and after the belt is in position in the end-clamp the screw-shank of the cam-head will be caused to engage the lower part of the end-clamp and assume the form shown.

Having described the invention, what is claimed as new is—

1. In a belt-clamp, the combination of oppositely-disposed end-clamps, a pair of rack-bars having heads with hooks thereon engaging opposite sides of one of said clamps, a pair of catch-dogs on each rack-bar connected to each other, and one of each pair of which is supplied with hooks removably engaging the oppositely-situated end-clamps, and a lever connected to one of each of said pairs of catch-dogs for operating the same to draw the end-clamps toward each other, substantially as described.

2. In a belt-clamp, the combination of a pair of end-clamps, each composed of two separable sections having operating cams in connection therewith for the purpose of closing the same against the belt, a pair of rack-bars having heads at one end of each, supplied with hooks arranged to engage the end-clamp at one end, a pair of catch-dogs on each rack-bar having spring-actuated detents or vertically-disposed pawls therein, a lever connecting each pair of catch-dogs, and an operating handle or lever for said catch-dogs, one of each pair of said catch-dogs having hooks at the inner side thereof to engage the end-clamp opposite to that engaged by the heads on the ends of the rack-bars, substantially as described.

3. In a belt clamp, the combination of oppositely situated belt engaging clamps, opposite catch-dogs at the end of one of said clamps, and pairs of rack-bars passing loosely through the catch-dogs, and means for feeding the catch-dogs along said rack-bars, substantially as specified.

4. In a belt-clamp, the end-clamps 1, carrying sockets, the rack-bars 8, the catch-dogs 10 and 11, and the lever connections attached to the catch-dog 11 and pivoted on the catch-dog 10, substantially as described.

5. The end-clamps 1 each carrying sockets at both ends, the head 7 fitted to the socket of the rear clamp, the catch-dogs fitted to the sockets of the front clamp, the rack-bars 8 passing through the head 7 and catch-dogs 10, the catch-dogs 11 loosely fitted on the rack-bars, and the levers 15 pivoted to the catch-dogs 10 and having a link connection with the catch-dog 11, substantially as described.

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

EDWARD B. HAWKES.

Witnesses:

LILLEY B. CASWELL,
EDDIE CUTTER.