

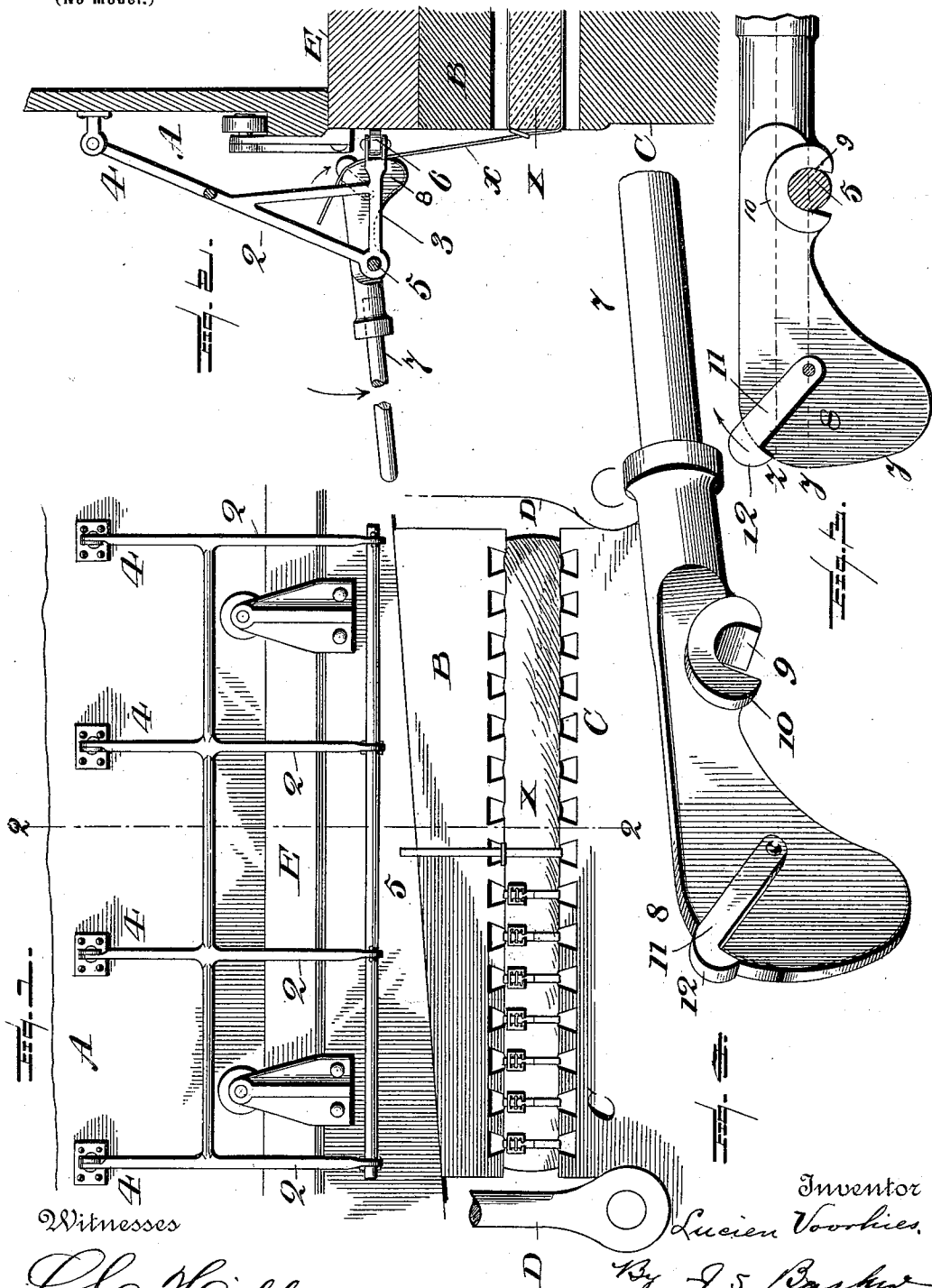
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Patented Mar. 27, 1900.

L. VOORHIES.
BALE BAND TIGHTENER.

(Application filed Oct. 31, 1899.)

(No Model.)



Witnesses

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BALE-BAND TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 646,333, dated March 27, 1900.

Application filed October 31, 1899. Serial No. 735,411. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN VOORHIES, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Bale-Band-Tightener Devices, of which the following is a specification.

My invention has for its object to produce a device for tightening the bands which encircle a package and are used to hold the same under compression preparatory to their being fastened in place upon the package or bale; and the invention consists of an improved device of this character so constructed and arranged as to catch the bale-band and apply thereto a straight and powerful pull, which will operate effectively to take the slack out of the band, so that after the band is fastened and the pressure taken from the bale there will be very little expansion of the bale.

Certain features of my invention particularly adapt it for use in connection with the compresses used for baling cotton; but other features of the invention are applicable to bale-band stretchers or tighteners which may be used in connection with the baling or packaging of other materials than cotton. Therefore, while I shall in this case illustrate my invention in connection with a cotton-compress and describe it as used in the baling of cotton, I do not intend thereby to limit my invention to its use in connection with this particular material.

In the accompanying drawings, Figure 1 is a side elevation of so much of a cotton-compress as is necessary to illustrate the application of my invention, the support for the bale-band tighteners being shown applied thereto and in position for use. Fig. 2 is a sectional side view of the invention and so much of a compress as is necessary to illustrate its arrangement and attachment thereto. Fig. 3 is a side view of the bale-band tightener on an enlarged scale, and Fig. 4 is a perspective view of the same.

In the drawings, A represents the housing of a cotton-press.

B represents the upper stationary platen, and C the lower platen, which is reciprocated

by the links D, which are operated in the usual manner.

E represents the sliding wedge, which is combined with the upper platen B and by which the latter is adjusted.

The parts thus far referred to are of common construction and need not be described or illustrated in detail.

The support for the bale-band tighteners proper consists of a plurality of brackets in which is supported a rod 5, which serves as the fulcrum for the bale-band tighteners proper. The brackets in which are supported the rod 5 are preferably hinged at 4 to the housing of the compress and are substantially triangular in shape, each consisting of a downward and outward extending leg or member 2 and a substantially horizontal inward-extending leg or member 3, the rod 5 being mounted in the portions of the brackets where these legs or members unite. The inner ends of the members 3 of the brackets bear against the wedge E of the compress, and in order to permit the wedge to be moved without causing undue friction upon the brackets they are provided with bearing-rollers 6, which rest against the face of the wedge.

By hinging the support for the band-tighteners in the manner described it is possible to swing it upward and out of the way of the operatives when it is not desired to use the band-tighteners. When it is let down, as represented in the drawings, it is in proper position to support the band-tighteners, one or more of which may be used simultaneously, as desired.

The band-tightener proper consists of a lever having a suitable handle 7, a head 8, and an intermediate socket 9, which fits over the fulcrum-rod 5. I prefer that the socket 9 should be open in order to facilitate its being readily applied to and removed from the fulcrum-rod. The band-tightener lever is suitably strengthened adjacent to the fulcrum-socket 9 by the flanges 10, which are arranged, preferably, one on either side of the lever. The head 8 is expanded, as represented in Fig. 3, and its outer end or face is curved, being preferably arranged on the arc of a circle struck from the center of the fulcrum-socket as a center between the lines $y\ y$ in Fig. 3.

11 indicates a band-clamp pivoted to the head 8 of the lever and provided with a head 12, which overlies a portion of the edge of the head 8 of the lever. The portion z of the edge of the lever-head, which is opposite to the head of the clamp 11, is eccentric to such clamp and its head, so that when the clamp is swung in the direction of the arrow, Fig. 3, there is an open space left between the surface z of the band-tightener lever and the head 12 of the clamp. Into this space the end of the bale-band may be inserted, and if then the clamp be brought into engagement with the bale-band and the tightener-lever be moved in the direction of the arrow, Fig. 2, the band will be tightly grasped and held by the band-tightener device.

It will be observed by reference to Figs. 2 and 3 that the bale-band when grasped by the band-tightener in the manner just described comes gradually into engagement with that part of the head 8 which is concentric or substantially concentric with the fulcrum about which the lever turns as the lever is moved, as indicated by the arrow in Fig. 2. This construction insures that the direction of the pull imparted by the lever to the band is the same throughout the entire effective movement of the band-tightener. The importance of this will be apparent, as it permits the band-tightening lever to be mounted in such relation to the bale X as to draw upon the bale-band x in the direction which is most advantageous for the taking up of the slack in the band, and when the band-tightener lever is thus mounted the pull of the lever throughout its entire movement is maintained in the advantageous direction indicated.

It will be understood that the band-tightener levers may be made in different sizes to suit the different kinds of work to which they are applied and that they may be fitted to be worked by hand, as indicated in the drawings, or by machinery. It will also be understood that such levers may be supported in a manner different from that shown, though when used in connection with a cotton-compress I prefer the form of support illustrated in the drawings.

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

1. The combination with a fulcrum or supporting bar, of a bale-band tightener consisting of a handle portion, a head with the edge of which the band engages, and an open fulcrum-socket, 9, between the handle and head, and a pivoted clamp having a head which

overlies a portion of the edge of the head of the band-tightener, substantially as set forth. 60

2. The combination with a fulcrum-bar or support of a band-tightener lever consisting of a handle portion, 7, an open fulcrum-socket, 9, and a head, 8, the latter having a face or edge substantially concentric with the fulcrum-socket, and a clamp, 11, pivoted to the head of the lever and formed with a head, 12, arranged opposite to a face or edge, z , of the head of the lever, and eccentric thereto, substantially as set forth. 70

3. In combination with a press, a band-tightener lever and a support for the lever consisting of a bracket pivotally connected at its upper end to the press, and having near its lower end a fulcrum-support with which the lever engages, and bearing or supporting members adapted to rest against the press, whereby the said bracket is adapted to rest in working position with the said fulcrum bearing relatively close to the bale or article being compressed, and being also arranged to be swung upon its pivotal connections so as to carry the said bracket and its bearing upward and out of the way of the operatives, substantially as set forth. 80

4. In combination with a press, a support consisting of a plurality of brackets extending out from the side of the press and pivotally united therewith at their upper ends, a fulcrum-rod mounted in and connecting such brackets, and a band-tightener lever loosely supported on said fulcrum-rod, and arranged to be adjusted from one position to another as occasion may require, substantially as set forth. 90

5. In combination with a press, a support consisting of a plurality of brackets of substantially-triangular shape, pivoted at their upper portions to the press, and a fulcrum-rod supported in the lower portions of said brackets, and band-stretcher levers supported upon said fulcrum-rod, substantially as set forth. 95

6. In combination with a press having a movable wedge, E, for adjusting one of the platens, a support for a band-tightener, consisting of a frame pivoted to the press above said wedge, and provided with antifriction-bearings adapted to rest against the said wedge when the frame is in working position, substantially as set forth. 100

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