No. 832,361. PATENTED OCT. 2, 1906.

L. B. BLEVINS.

CONVEYER BELT TIGHTENER FOR HARVESTERS.

APPLICATION FILED DEC. 20, 1905.

Fig. 1.

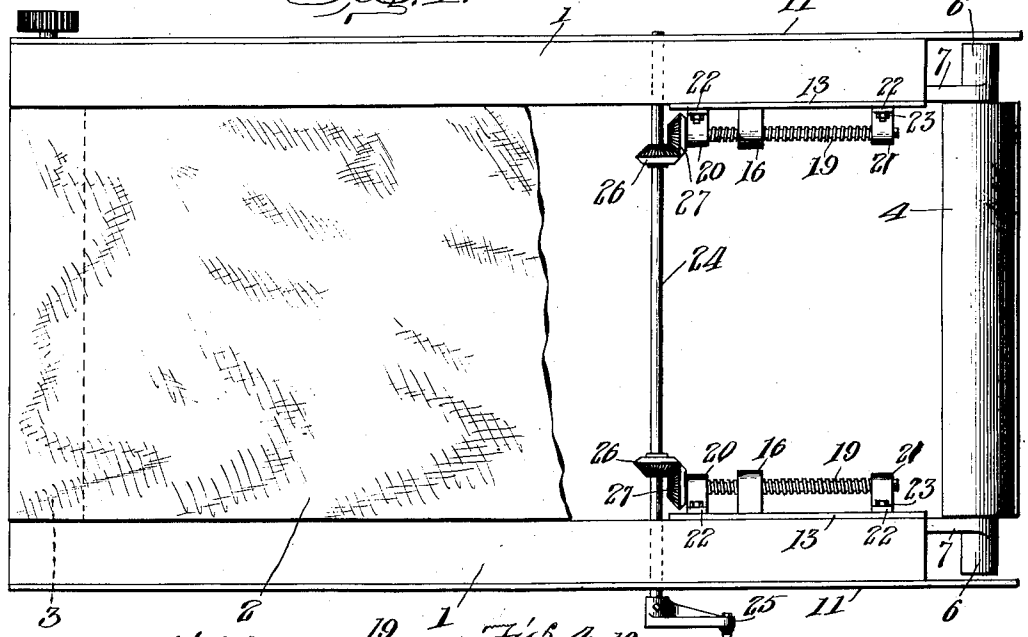


Fig. 3.

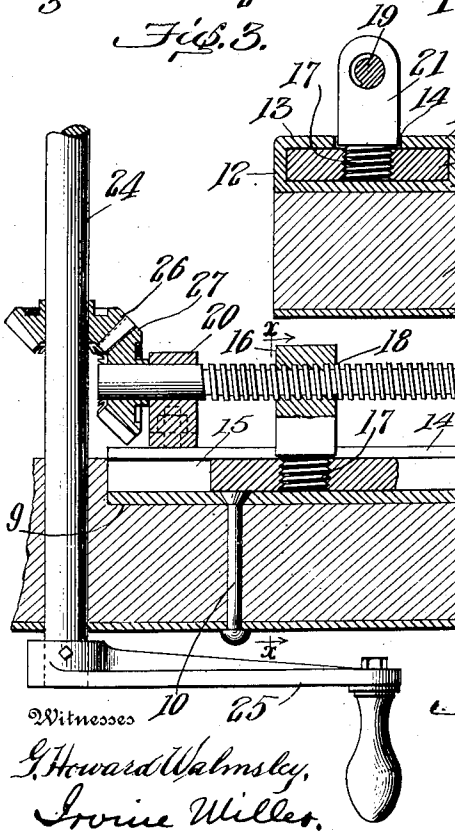


Fig. 4.

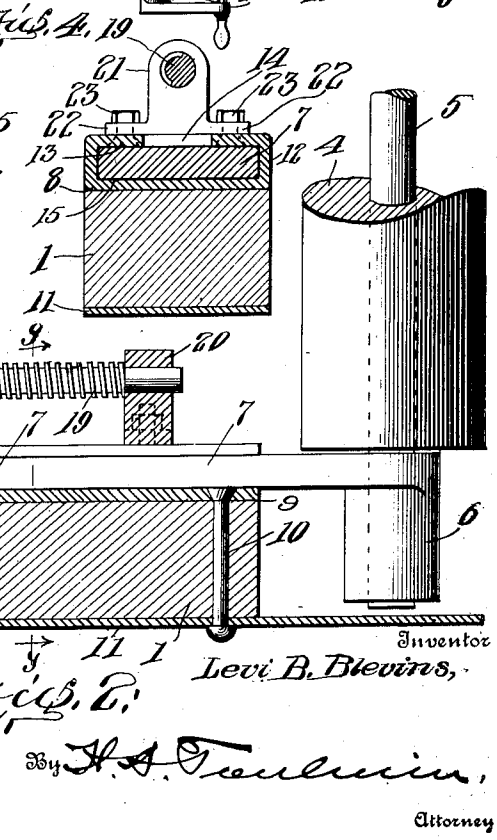


Fig. 2.

Witnesses

G. Howard Walmsley,

Irvine Miller.

Inventor

Levi B. Blevins,

By H. A. Toulmin,

Attorney

UNITED STATES PATENT OFFICE.

LEVI B. BLEVINS, OF DESLACS, NORTH DAKOTA.

CONVEYER-BELT TIGHTENER FOR HARVESTERS.

No. 832,361. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed December 20, 1905. Serial No. 292,546.

To all whom it may concern:

Be it known that I, LEVI B. BLEVINS, a citizen of the United States, residing at Deslacs, in the county of Ward and State of North Dakota, have invented certain new and useful Improvements in Conveyer-Belt Tighteners for Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to conveyer-belt tighteners for harvesters, or, in other words, to mechanism for maintaining a proper tension upon the canvas or conveyer-belts which form a part of the mechanism of harvesting-machines.

The invention has for its object to provide a simple and efficient mechanism whereby the desired tensioning may be readily effected, the construction being such as to require a minimum of power to provide the necessary tension, and also such as to maintain itself in adjusted position, dispensing entirely with pawls and ratchets or other retaining or locking mechanism.

To these ends my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claim.

In the accompanying drawings, Figure 1 is a plan view of a structure embodying my invention in one form, the conveyer-belt or canvas being partly broken away to show the underlying construction. Fig. 2 is an enlarged detail sectional view taken through one side of one end of Fig. 1 in a plane parallel with the conveyer-belt. Fig. 3 is a detail view taken in section upon the line x x of Fig. 2 and looking in the direction of the arrows, and Fig. 4 is a similar view taken on the line y y of Fig. 2 and looking in the direction of the arrows.

In the said drawings, 1 indicates the parallel frame-bars which support the conveyer-belt 2. This latter passes around a driving-roller 3, mounted in one end of the bars 1, and also around an idle roller 4, supported at the other end of the frame-bars by the adjusting mechanism which I have devised. The roller 4 is mounted on a shaft 5, which has its bearing in sleeves 6, carried by slide-bars 7. Each slide-bar 7 is mounted to slide longitudinally of the corresponding frame-bar 1 in a suitable guideway 8, secured to the inner face of said frame-bar, which is recessed or cut away, as indicated at 9, to receive said guideway. Each guideway is preferably formed of a sheet or bar of metal, secured to the inner face of the frame-bar by bolts or rivets 10, which pass through the frame-bar and also through the external steel plate 11, with which the frame-bar is reinforced on its outer side. The margins of the bar or plate from which the guideway is formed are first bent outward parallel with each other, as indicated at 12, and then inward toward each other, as indicated at 13, leaving between their edges a slot 14 for the passage of the threaded projection or nut hereinafter referred to. There is thus formed an internal recess or way 15, in which the body of the slide-bar 7 fits and slides. Each slide-bar is provided with a nut or threaded projection 16, connected thereto in any suitable way—as, for instance, by having its threaded lower end 17 screwed into the body of the bar, as shown in Fig. 2. This nut or threaded portion extends out through the slot 14, which is formed to accommodate it, and its projecting portion is provided with a threaded aperture 18. A screw-shaft 19 fits this threaded aperture, said screw-shaft being mounted to revolve without moving longitudinally in bearings 20, carried by brackets 21, mounted on the guideway 8 near each end thereof. These bearing-brackets straddle the slot 14 and are provided with lugs 22 on each side thereof, through which they are secured to the top flanges 13 of the guideway 8 by means of bolts 23.

The construction just described is duplicated on the inner face of each of the frame-bars 1, and there is mounted in said frame-bars a transverse shaft 24, provided with a removable crank-handle 25, by means of which it may be readily rotated. The shaft 24 has mounted thereon near each frame-bar a bevel-gear 26, and each screw-shaft 19 is provided at one end with a bevel-gear 27, meshing with the corresponding bevel-gear 26 on the operating-shaft 24.

It will be seen that when the canvas or conveyer-belt has become slack and requires tensioning the crank-handle 25 may be applied to the operating-shaft 24 and said operating-shaft may be thereby rotated. Such rotation will be transmitted simultaneously through the bevel-gears 26 and 27 to both screw-shafts 19, and these latter by their engagement with the nuts or threaded projections 16 on the slide-bars 7 will move these latter simultaneously outward, increasing the distance between the bearings 6 of the

roller 4 and the roller 3 at the other end of the frame-bars, thereby taking up the slack of the belt and giving to it the desired tension. It will be readily understood that by reason of the employment of the screw-shafts for effecting this movement an efficient tension may be obtained by the application of a relatively small amount of power to the operating-shaft. It will also be seen that the parts will remain in any position to which they may be adjusted, so that I am enabled to dispense with the ratchet-wheels and retaining-pawls or other retaining or locking devices usually employed in mechanism of this description. If the tension is too great, it may readily be relieved by rotating the operating-shaft in the opposite direction, and in either case all that is required is to apply the crank-handle and turn the operating-shaft in the proper direction to the desired extent.

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

In a mechanism of the character described, the combination, with parallel frame-bars, and an idle roller, of guideways seated on the inner faces of the frame-bars and having longitudinal T-shaped slots therein, slide-bars fitting in said guideways and having threaded apertures therein, bearings for the idle roller on the projecting ends of said slide-bars, projections having threaded portions extending through the slots of the guideways and engaging said threaded apertures, threaded apertures in the outer ends of said projections, bearing-brackets mounted on said guideways near the ends thereof and extending across the slots therein, screw-shafts mounted in said bearing-brackets engaging the threaded apertures of the slide-bar projections and having bevel-gears on their extremities, an operating-shaft mounted in the frame-bars provided with bevel-gears to mesh with the bevel-gears of the screw-shaft, and means for operating said shaft, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEVI B. BLEVINS.

Witnesses:
J. G. WATERHOUSE,
G. H. WILLIAMS.