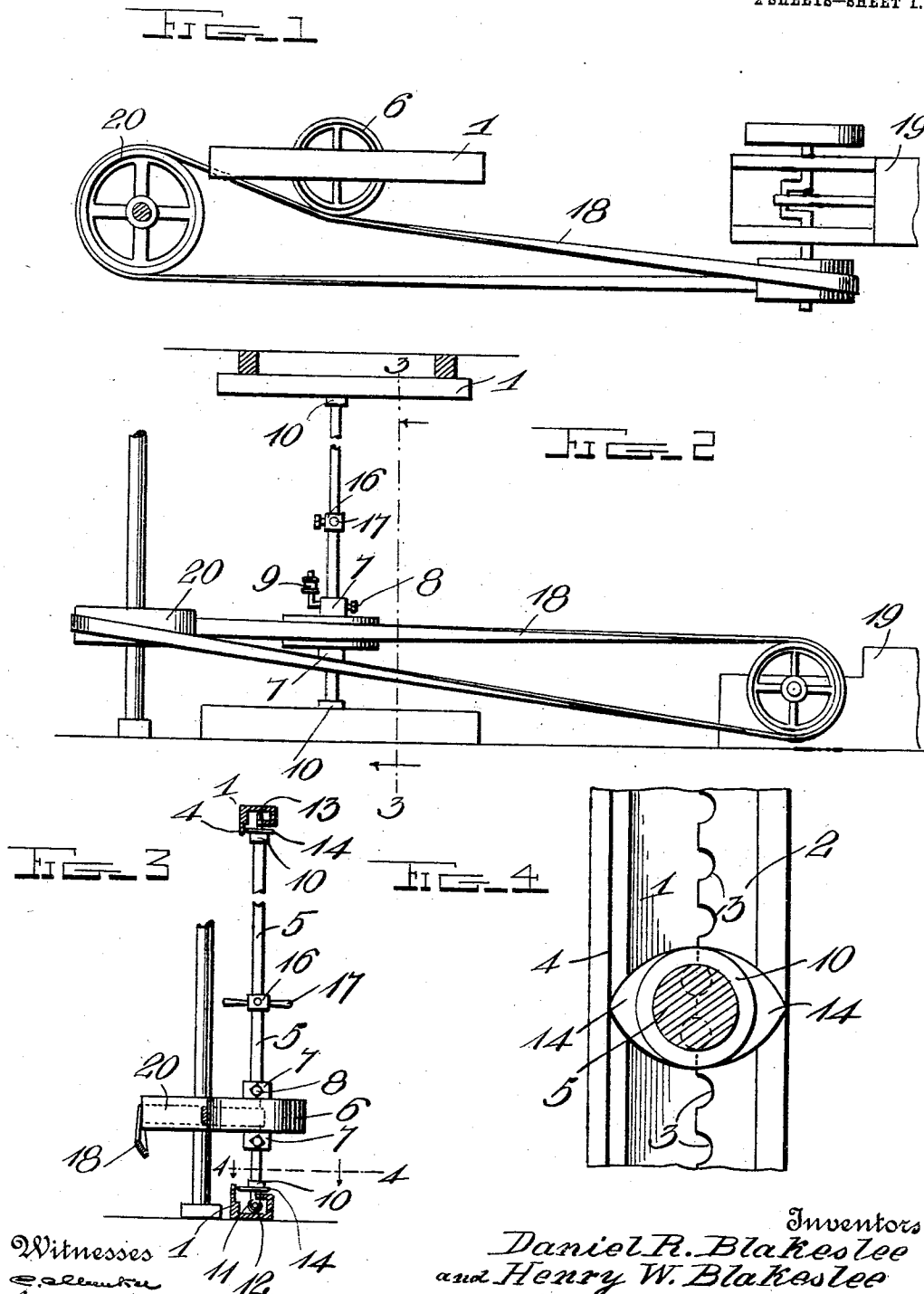


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 BELT TIGHTENER.
 APPLICATION FILED JUNE 21, 1909.

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Patented Nov. 23, 1909.
 2 SHEETS—SHEET 1.



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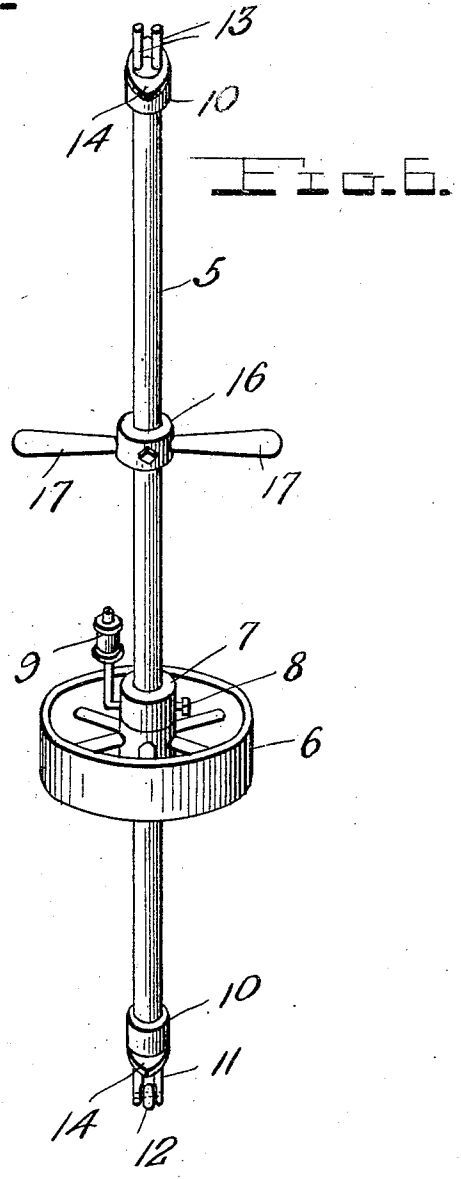
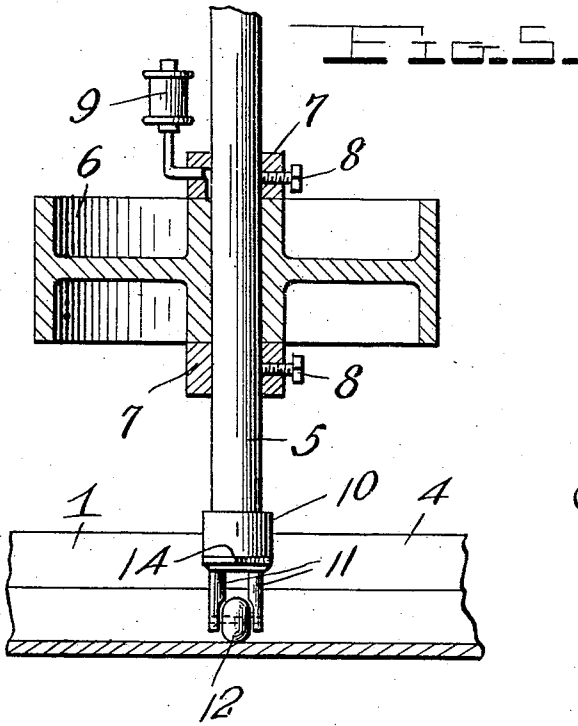
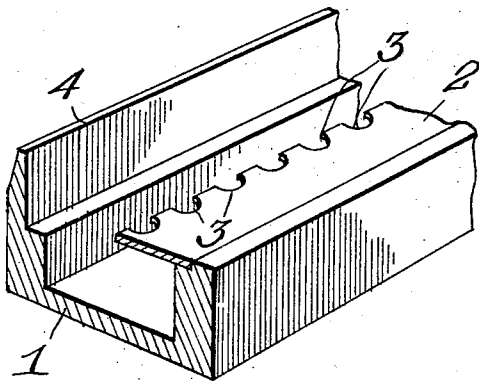


Fig. 7.



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UNITED STATES PATENT OFFICE.

DANIEL R. BLAKESLEE, OF VAN BUREN, INDIANA, AND HENRY W. BLAKESLEE, OF NOWATA, OKLAHOMA.

BELT-TIGHTENER.

941,226.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed June 21, 1909. Serial No. 503,516.

To all whom it may concern:

Be it known that we, DANIEL R. BLAKESLEE, a citizen of the United States, residing at Van Buren, Grant county, Indiana, and HENRY W. BLAKESLEE, a citizen of the United States, residing at Nowata, in the county of Nowata and State of Oklahoma, have invented certain new and useful Improvements in Belt-Tighteners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in belt tighteners.

One object of the invention is to provide an improved construction and arrangement of belt tightener by means of which a driving belt may be stretched and kept tight without moving the belt out of alinement with the drive wheels of the engine.

Another object is to provide a belt tightener which will be simple, strong, and durable in construction, efficient and reliable in operation, and particularly adapted for use in connection with oil wells and pumping machinery.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1, is a plan view of the invention showing the same in use. Fig. 2, is a side view thereof. Fig. 3, is a cross-sectional view on the line 3-3, of Fig. 2. Fig. 4, is a horizontal sectional view on the line 4-4 of Fig. 3. Fig. 5, is an enlarged detail section on the line 5-5 of Fig. 3. Fig. 6, is a detail perspective view of the tightener shaft and pulley; and Fig. 7, is a detail perspective view of a portion of a guide track and the tightening rack.

In the embodiment of the invention, we employ upper and lower guide tracks 1, one of which is preferably secured to the floor and the other to the ceiling rafters of the room or building in which the device is located. In each of the guide tracks 1, is arranged a rack bar 2, which is preferably in the form of a metal plate having in its free edge a series of semi-circular notches 3, the purposes of which will be hereinafter

described. Formed on each of the guide tracks is a retaining flange 4, the flange of the lower track projecting upwardly, and on the upper track downwardly. Adapted to be engaged with the tracks 1, is a belt tightening shaft 5, on which is loosely mounted a belt engaging wheel or pulley 6, said pulley being retained in operative position on the shaft by means of upper and lower stop collars 7, which are secured to the shaft by set screws 8, or other suitable means. The upper stop collar 7 is preferably provided with an oil cup 9, whereby the pulley is lubricated. On each end of the shaft 5, is secured a head 10, and projecting beyond the lower ends of the shaft is a pair of rack engaging pins 11, which project into the lower guide track and are adapted to engage two of the notches 3, in the lower rack. Between the lower ends of the pins 11, is revolubly mounted a supporting roller 12, which is adapted to engage and travel on the bottom of the lower track, as shown. Projecting from the upper end of the shaft 5, is a pair of upper rack engaging pins 13, which project into the upper track and are adapted to engage the notches 3, in the rack 2, thereof. On the opposite sides of the heads 10, of each end of the shaft are formed laterally projecting lugs 14, which are adapted to engage the flanges 4, and thereby hold the pins 11 and 13 into engagement with the notches 3, in the upper and lower rack bars 2, when the belt is disengaged from the pulley 6, of the tightening shaft 5. At a suitable position on the shaft 5, is secured a collar 16, having arranged thereon laterally projecting handle bars 17, whereby the shaft 5, may be turned in the guide tracks and the pins 11 and 13 at the opposite ends of the shaft engaged with the next adjacent notches of the racks.

In arranging the tightener, the pulley 6, is engaged with one stretch of the belt 18, which extends from the drive wheel of the engine 19, to the power wheel 20. The wheel 20, may be arranged at any suitable distance from the engine and the tightening device arranged in position to engage the belt, as shown. The power wheel 20, is mounted to revolve in a horizontal plane and the belt from the engine will be given a quarter twist where the same is engaged by the tightening pulley 6, and by turning the shaft in the manner described to successively

engage the pins 11 and 13, with the notches of the rack to bring the shaft 5, and pulley 6, nearer to the power wheel, the slack in the belt will be taken up and the belt stretched to the desired degree. The pressure of the belt against the pulley 6, will normally hold the pins 11 and 13, in operative engagement with the notches of the racks and should the belt break or be otherwise disengaged from the pulley, the lugs 14, coming into engagement with the flanges 4, will prevent the shaft from falling out of engagement with the tracks.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various 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 the invention, as defined in the appended claims.

Having thus described our invention, what we claim is:

1. In a belt tightener, a pair of guide tracks, rack bars arranged in said tracks, a tightening shaft, means on said shaft to engage said rack bars, whereby the shaft is held in its adjusted position to tighten the belt, means to turn said shaft to bring the rack engaging elements thereon into successive engagement with the teeth of the rack, and a belt engaging pulley loosely mounted on the shaft.

2. In a belt tightener, a pair of guide tracks having arranged thereon stop flanges, rack bars arranged in said tracks, said bars having formed therein a series of notches, a belt tightening shaft, rack engaging pins arranged on the opposite ends of the shaft to engage the notches in said rack bars, whereby said shaft is held in adjusted position in said tracks, collars arranged on said shaft, lugs formed on said collars and adapted to hold said shaft in position, a supporting roller revolubly mounted between the rack engaging pins at the lower ends of said shaft, said roller being adapted to travel in

said lower track, a belt engaging pulley loosely mounted on said shaft, pulley retaining collars secured to the shaft to hold the pulley in place, and an operating handle secured to the shaft, whereby the latter may be turned to successively bring the pins thereon into engagement with the notches of the rack.

3. In a belt tightener, a pair of guide tracks, rack bars arranged therein, a belt tightening shaft, pins on opposite ends of said shaft to engage the teeth of the racks, whereby said shaft is held in adjusted position in said tracks, means to turn said shaft to bring the rack engaging pins into successive engagement with the teeth of the rack, and a belt engaging pulley loosely mounted on said shaft.

4. In a belt tightener, a pair of guide tracks having arranged thereon stop flanges, rack bars arranged in said tracks, a belt tightening shaft, pins on opposite ends of said shaft to engage the teeth of the rack bars, whereby said shaft is held in adjusted position in said tracks, and means at opposite ends of said shafts to engage the stop flanges of the guide tracks and hold the shaft in adjusted position.

5. In a belt tightener, a pair of guide tracks having longitudinal stop flanges, rack bars arranged in said tracks, a belt tightening shaft, pins on opposite ends of said shaft to engage the teeth of the rack bars, and collars at opposite ends of said shaft, having lugs to engage the stop flanges of the racks to hold said shaft in adjusted position in the tracks.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

DANIEL R. BLAKESLEE.
HENRY W. BLAKESLEE.

Witnesses to the signature of D. R. Blakeslee:

JOHN J. HOWARD,
CHARLES A. WESTFALL.

Witnesses to the signature of H. W. Blakeslee:

KATE MCKEEHEN,
CHARLES I. WEAVER.