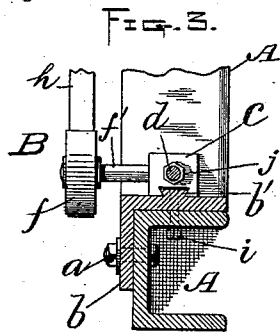
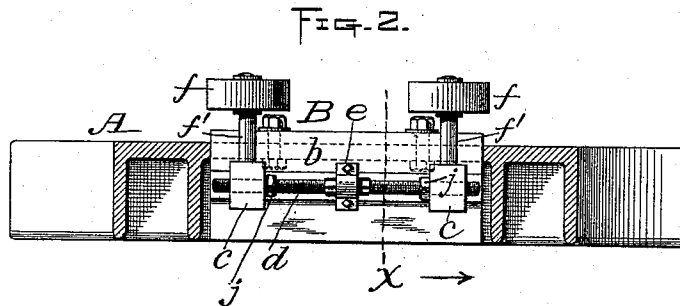
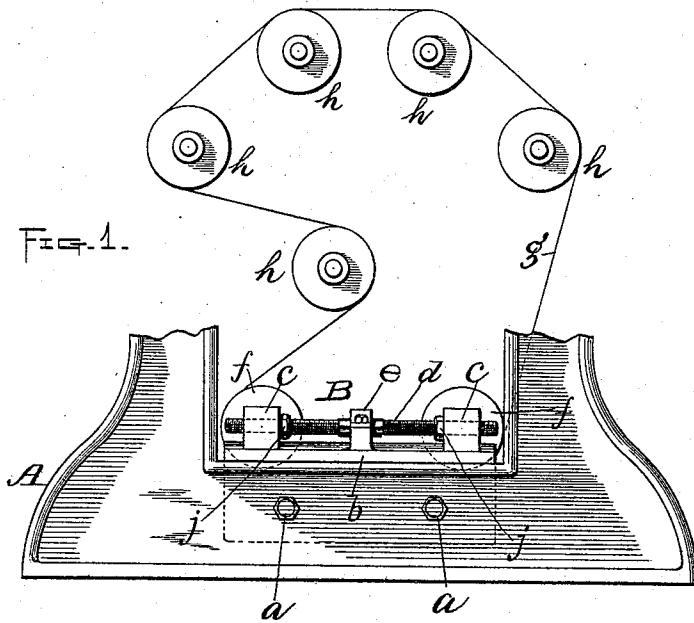


(No Model.)

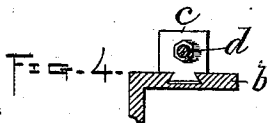
R. M. WHITNEY.
BELT TIGHTENER.

No. 532,255.

Patented Jan. 8, 1895.



Witnesses,
Walter B. Nourse.
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Inventor,
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UNITED STATES PATENT OFFICE.

RANDALL M. WHITNEY, OF JEFFERSON, MASSACHUSETTS.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 532,255, dated January 8, 1895.

Application filed August 3, 1894. Serial No. 519,351. (No model.)

To all whom it may concern:

Be it known that I, RANDALL M. WHITNEY, of Jefferson, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Belt-Tighteners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a front side view of my improved belt-tightener applied to use. Fig. 2 is a top or plan view thereof. Fig. 3 is a vertical, transverse section taken on line x Fig. 2, looking in the direction of the arrow, and Fig. 4 shows a modification in the construction which will be hereinafter described.

The object of my invention is to provide a simple and effective device for tightening endless belts when they become slack by stretching from use, and consists of a stationary, detachable plate, having two slide-blocks mounted thereon, at each side of a central, stationary bearing, and adapted to be moved longitudinally by turning a double screw-shaft, fitted to turn, but not to move longitudinally, in said central, stationary bearing, and also fitted to turn in threaded openings in said slide-blocks, whereby, when said screw is turned in one direction, pulleys mounted on the slide-blocks may be moved apart to tighten the belt, and toward each other to loosen and remove the same, when the screw is turned in the opposite direction, as will be hereinafter more fully set forth.

In order that others may better understand the nature and purpose of my said invention, I will now proceed to describe it more in detail.

In the drawings A represents part of the stationary frame of a machine to which my improved belt-tightening device B is attached by means of bolts a . Said device consists of the plate b having the guide-way b' ; the slide-blocks c, c , fitted to slide longitudinally on said guide-way, at each side of a central stationary bearing e , the double screw d fitted to turn but not to slide longitudinally in said central bearing e on the plate b , and to also turn in longitudinal threaded openings formed in the slide-blocks, and the pulleys f, f , mounted and fitted to turn on suitable studs

f', f' projecting from the sides of said slide-blocks.

The plate b may be made of any desired shape adapted for fastening the same to the frame of the machine upon which my improved device is to be used, and the blocks c, c may be arranged to slide thereon in any suitable and convenient manner.

In Figs. 1, 2 and 3 I have shown a longitudinal, dovetail groove in the bottom of each block, and a correspondingly shaped flange or tongue on the plate to accomplish said result, while, in Fig. 4 I have shown a reverse construction, that is, the groove in the plate and the flange or tongue on the slide-blocks.

It is obvious that other similar constructions, unnecessary to illustrate, may be used for obtaining the same result, without departing from the principle thereof.

The device having been secured to the stationary frame, as shown, for instance, in Figs. 1, 2 and 3, the endless belt g is passed over both pulleys f, f , and the series of pulleys h of the machine, as is shown in Fig. 1, or as may be otherwise required according to the construction and purpose of said machine; when thus applied the blocks and their pulleys being located near the central bearing so as to admit of considerable outward movement to tighten the belt. Being thus applied and adjusted, it is obvious that by turning the double screw d in the proper direction in its stationary bearing e , the blocks and their pulleys may be moved apart, and any slack which may have been produced by the belt stretching may be removed and said belt put in a proper taut condition for use. Said operation, as will also be apparent, is very simple and expeditious to perform, and obviates the common practice of cutting and splicing the belt to properly tighten the same.

The slide-blocks may be held in position after adjustment by means of the set-screws i passed up through frame A, plate b and bearing against the under side of said blocks, and by set nuts j fitted over the screw d and turned up against the sides of the blocks, or in any other suitable and convenient manner. Said fastening devices are preferably used in practice, but not being an essential feature I reserve the right to use the same or not, as desired.

I am aware of the United States patents to M. L. Russell, No. 294,678, dated March 4, 1884, for improvements in belt tighteners and to D. W. Pedrick, No. 284,227, dated September 4, 1883, for improvements in chucks for planing valves, and make no claim to the constructions therein set forth.

What I do claim is the combination of elements as set forth in the following claim:

10 The combination of frame A, pulleys *h* and belt *g*, with a belt tightening device consisting of the angle-plate *b* having means for fastening it to frame A and provided with a longitudinal guide-way *b'*; the blocks *c, c*, fitted
15 to slide on said guide-way and having longi-

tudinal, threaded openings to receive the reversely threaded double screw *d*; the pulleys *f f* over which belt *g* passes, and whose studs *f' f'* are secured to slide-blocks *c, c*; the central stationary bearing *e* in which the screw 20 *d* is fitted to turn, and said screw *d* having shoulders at each side of stationary bearing *e* and threaded in reverse directions on opposite sides of said bearing, substantially as set forth and shown.

RANDALL M. WHITNEY.

Witnesses:

A. A. BARKER,
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