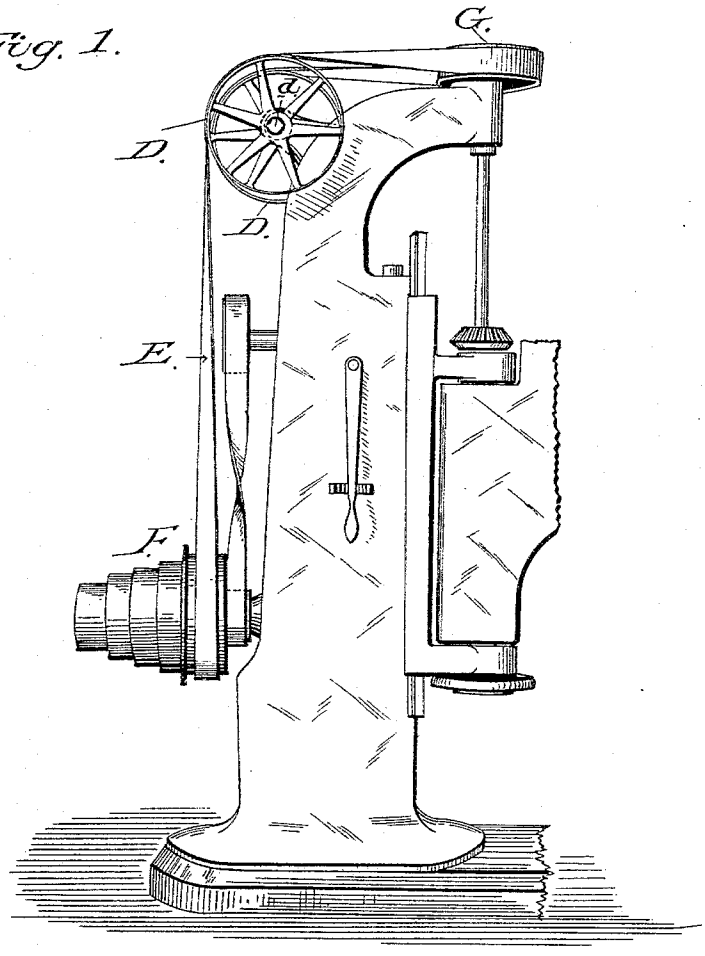
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S. W. PUTNAM.

BELT TIGHTENER.

No. 369,364. Patented Sept. 6, 1887.

Fig. 1.



Witnesses
P. W. Fowler,
N. H. Patterson

Inventor
Salmon W. Putnam,
By his Attorneys
A. H. Evans and Co

N. PETERS. Photo-Lithographer. Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

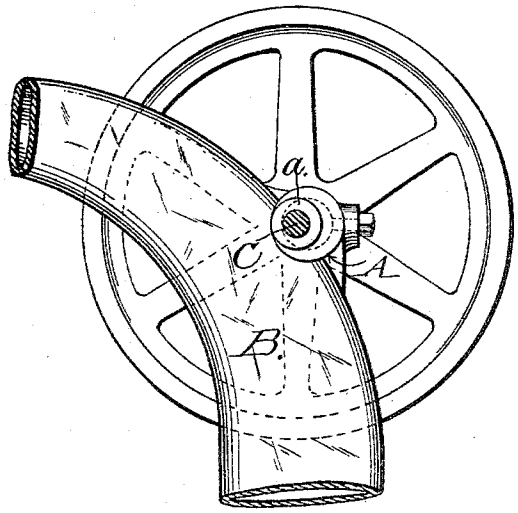


Fig. 3.

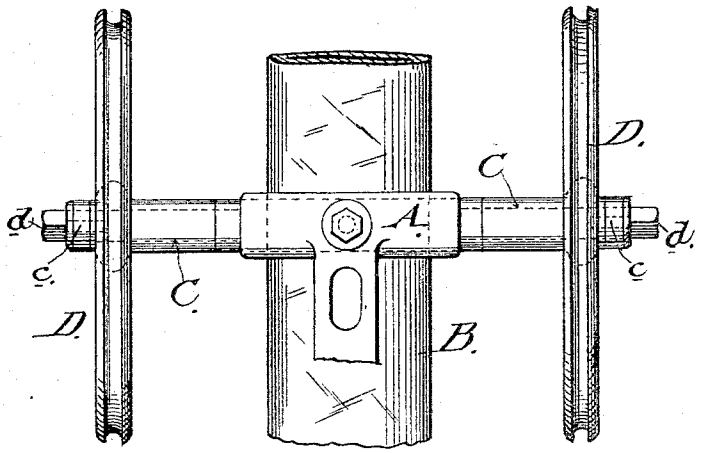
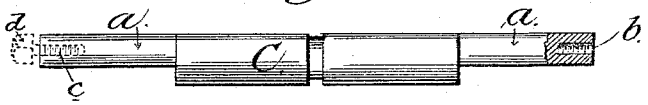


Fig. 4.



Witnesses
T. W. Fowler,
N. A. Patterson

Inventor
Salmon W. Putnam,
By his Attorneys
A. H. Evans & Co

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

SALMON W. PUTNAM, OF FITCHBURG, MASSACHUSETTS.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 369,364, dated September 6, 1887.

Application filed June 16, 1887. Serial No. 241,540. (No model.)

To all whom it may concern:

Be it known that I, SALMON W. PUTNAM, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Belt-Tighteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a portion of a drilling-machine having my invention applied thereto. Figs. 2, 3, and 4 illustrate enlarged detail views of my improvements.

My invention relates to means for tightening machine-belts; and it consists in the construction and combination of devices, which I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings I have illustrated my invention as applied to a metal-drilling machine, to which it is especially applicable. In a bearing, A, in the upper portion of the column B of the machine is suitably journaled a shaft, C, having end eccentric portions, *a*, as shown in Fig. 4, on which the idle-pulleys D are suitably mounted. A belt, E, passes from the cone or driving pulley F over the idlers D to the pulley G, which in the present case is the pulley to be driven, the peripheries of the pulleys F and G being modified according to the nature of the belt used, as when a flat belt is used the driving-pulleys should be made with a wider face than is customary; otherwise the belt in being shifted would run over the edge of the pulley when the eccentric was thrown to either extreme, as will be hereinafter set forth.

The ends of the eccentric shaft C are bored and internally threaded at *b* to receive the screw *c*, whereby the "idlers" are held in operative position on the shaft, said screws having nuts or squared heads *d*, whereby they may be engaged by a wrench or other tool to facilitate the adjustments of the eccentric shaft and the consequent tightening or loosening of the driving-belt.

From this description it is manifest that by applying a wrench to the nuts *d* the shaft C may be turned in its bearing to cause the end eccentrics, *a*, to increase or lessen the distance between the idlers and the driven pulley. As the distance between said pulleys is increased by the eccentric movement of the shaft the belt is tightened, the opposite effect being produced by moving the eccentric shaft so as to bring the idlers nearer the driven pulley.

By reason of the above construction I am enabled to regulate the tension of the belt in a positive manner and without the necessity of stopping the machine or "taking up" the belt, as the slightest movement of the eccentrics in or out affects the belt and alters or varies its tension—an important feature, owing to the variation in the amount of work thrown on the machine.

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

1. A belt-tightener comprising an eccentric shaft having idle-pulleys thereon between the driving-pulley and the pulley driven, whereby the movement of said shaft varies the distance between said idlers and last-named pulley and regulates the tension of the belt, substantially as herein described.

2. The idle-pulleys located between the driving and driven pulleys, and a belt engaging said pulleys, in combination with a shaft having an eccentric portion at each end, on which the idlers are mounted, and nuts or headed screws whereby said shaft may be rotated to regulate the tension of said belt, substantially as herein described.

SALMON W. PUTNAM.

Witnesses:

CHARLES A. BENNETT,

WILLIAM O. BUXTON.