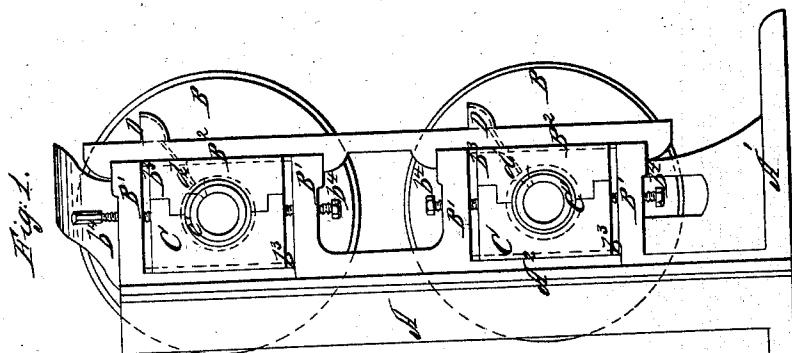
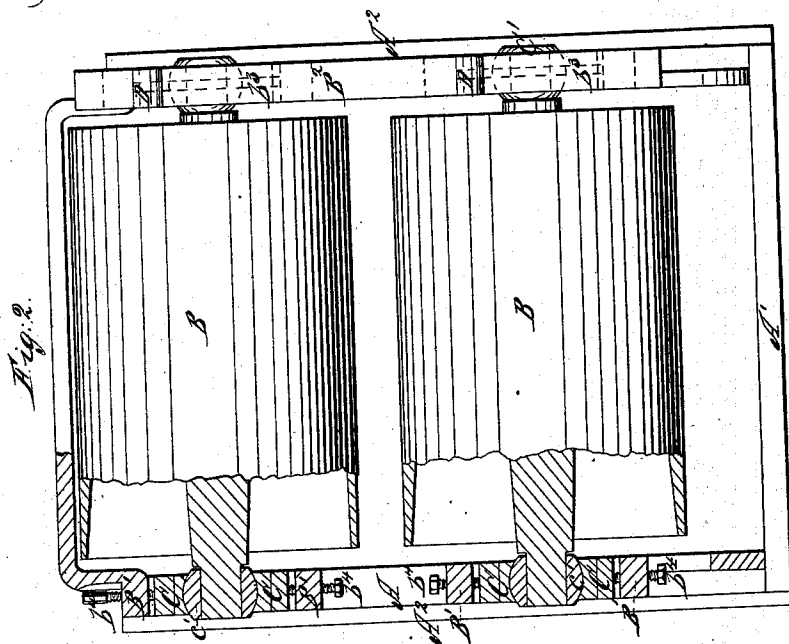


A. B. Nimbs,

Band Pulley.

N^o 47,323.

Patented Apr. 18, 1865.



Witnesses:
B. H. Muehler
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Inventor:
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UNITED STATES PATENT OFFICE.

A. B. NIMBS, OF BUFFALO, NEW YORK.

IMPROVEMENT IN TENSION-PULLEYS.

Specification forming part of Letters Patent No. 47,323, dated April 18, 1865.

To all whom it may concern:

Be it known that I, A. B. NIMBS, of the city of Buffalo, county of Erie, and State of New York, have invented certain new and useful Improvements in Tension-Pulleys for Tightening Machinery-Belts; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a side elevation of my improvement. Fig. II is a front elevation, partially in section, of same.

The nature of this invention consists, first, in the construction of a rectangular sliding frame of cast-iron for the support of the tension-pulleys, so that a frame of the greatest strength and rigidity is produced, having in itself sufficient weight to give the required tension to the belt; second, in the construction of the journal-boxes in two parts—an outer and inner part—the inner box being a spherical sleeve and the outer box a spherical socket, into which the inner box is inserted, by which the journals of the shafts running therein are prevented from binding or heating, when from any cause said journal-boxes have been or may be moved from their normal position; third, in supporting the tension-pulleys in a weighted sliding or hinged frame by means of journal-boxes so constructed and arranged as to be capable of ready adjustment to keep the axis of the tension-pulleys in exact line with that of the driver and prevent the belt from running off or working sidewise on the pulleys, without such adjustment causing the journals of the pulleys to bind or run hard in the boxes.

Letters of like name and kind refer to like parts in each of the figures.

A represents the tension-pulley frame, rectangular in form, the whole frame being made of cast-iron and of sufficient weight to give the required tension to the belt, by which the greatest strength and rigidity are given thereto. The bottom cross-piece is extended, as shown at A', forming a table. Longitudinal tongues A² are formed on the sides of the frame, which fit into grooves in the guide-posts between which the frame moves.

B represents the tension-pulleys, two in

number, each bearing on one stretch of the belt they are required to tighten.

C C' represent the journal-boxes, made in two parts—an outer and inner part—the inner box, C', being a spherical sleeve within which the journal of the tension-pulley runs, (meaning by the term "spherical sleeve" a sphere or ball having a cylindrical hole bored through its center for the reception of the straight journal of the shaft running therein,) and the outer box, C, being a spherical socket within which the spherical sleeve C' is contained. The outer box or socket, C, is divided into two halves, to permit of the insertion of the spherical sleeve therein.

The outer box, C, is supported in the frame A in a manner to provide for its vertical adjustment, by being placed in the rectangular spaces formed by the projected jaws B' and removable cap B², bolted to the jaws, the cap allowing of the insertion of the boxes and holding them in place when in. The vertical sides of the boxes are grooved and corresponding tongues formed on the frame and cap, as shown at b², which guide the boxes in their vertical adjustment. Set-screws b⁴, working through the jaws B', above and below the boxes, furnish the means for the vertical adjustment of the boxes.

D represents oil-cups formed on the cap B², which communicate with the journals through the holes d', bored through the outer and inner box, the hole through both the outer and inner box being countersunk to keep open the communication with the oil-cup during any variation of the position of the boxes in their adjustment. A piece of gas-pipe or tubing may be inserted into the inner box, projecting through an enlarged hole to the oil-cup, which will also prevent the inner box turning or rolling too much in the outer box.

The advantages of this invention may be briefly set forth, as follows:

First. By making the tension-pulley frame in one solid casting it may be given a strength and rigidity it is impossible to obtain by any framing of wood, or wood and iron; also a certain amount of weight being required in any case, it involves no additional expense to put such weight into the frame itself, while the important element of strength and rigidity is obtained thereby.

Second. From the construction of the journal-box with the spherical sleeve and socket, any change in the position of the journal-boxes, supporting the same shaft, with reference to each other, does not affect the freedom of the journals, since the spherical sleeve will simply rock or roll in the socket and accommodate itself to the changed position of the shaft-journal. This construction also produces a journal-box peculiarly applicable to lines of shafting in machine-shops, elevators, &c., as it prevents the journals running therein from binding and heating, when, from any cause—such as settling of building, &c.—they may get out of “line,” thus saving a great loss by friction in the power transmitted, and greatly increasing their durability. In its adjustable feature it also furnishes a ready means of bringing them back when, from any cause, they may be out of line.

Third. This feature is especially valuable in its connection with the tension-pulleys and frame, which are frequently used in places (for tightening elevator driving-belts, for example) in which the distance from the driving-pulley to the tension-pulleys is so great

and the circumstances of position and operation such that it is extremely difficult to bring in line and keep in line the shafts of the tension-pulleys with that of the driver, so as to cause the belt to travel fairly and without side motion over them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Supporting the tension-pulleys B in a frame, A, of cast-iron, having in itself sufficient weight to give the required tension to the belt, substantially as described.

2. The combination of the spherical sleeve C', within which the straight journal of the shaft runs, with the spherical socket C, for the purposes and substantially as set forth.

3. Supporting the tension-pulleys B in the frame A by means of journal-boxes C C', made capable of adjustment, to bring the tension-pulley shafts in line with that of the driver, without such adjustment causing them to bind the journals running therein.

A. B. NIMBS.

Witnesses:

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