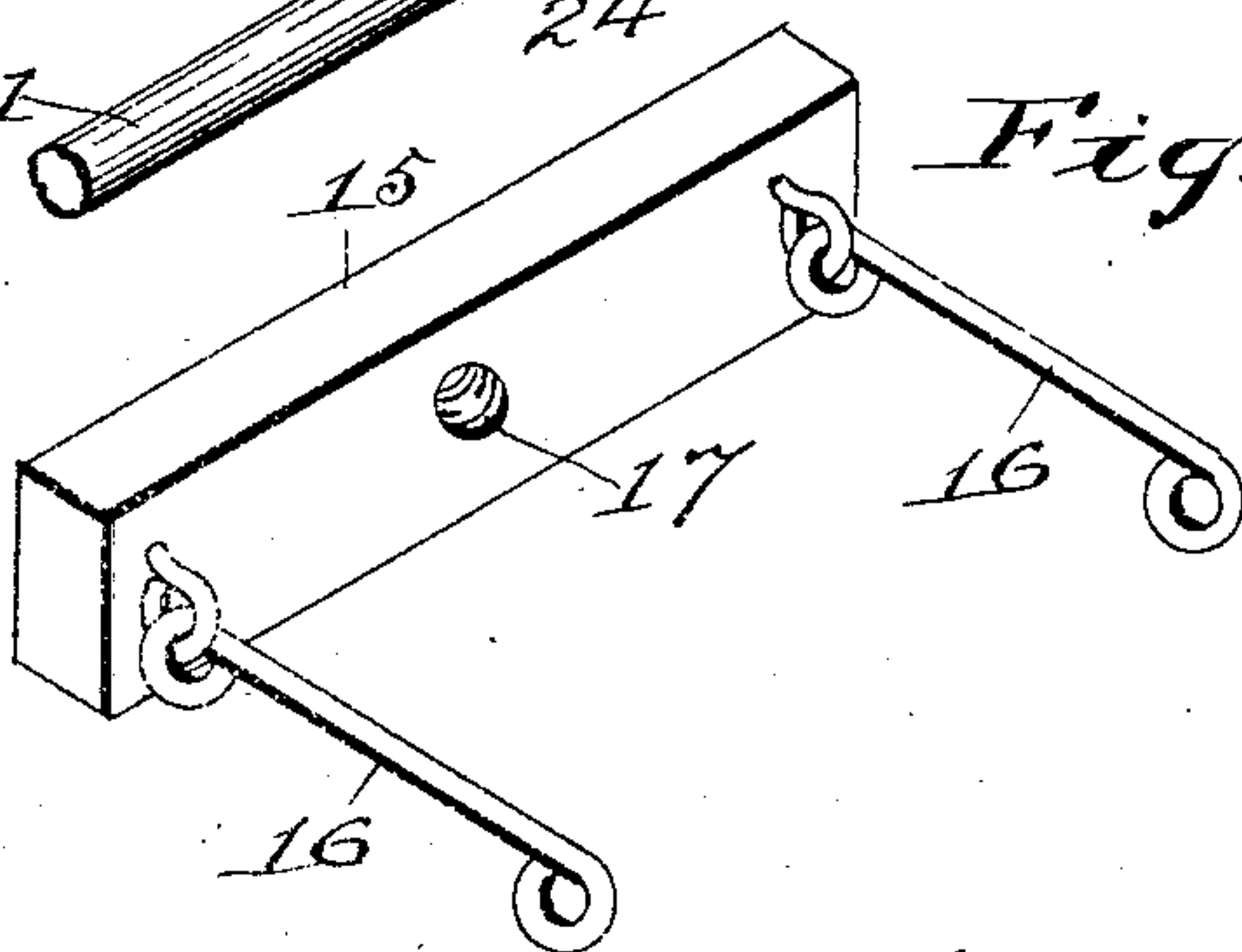
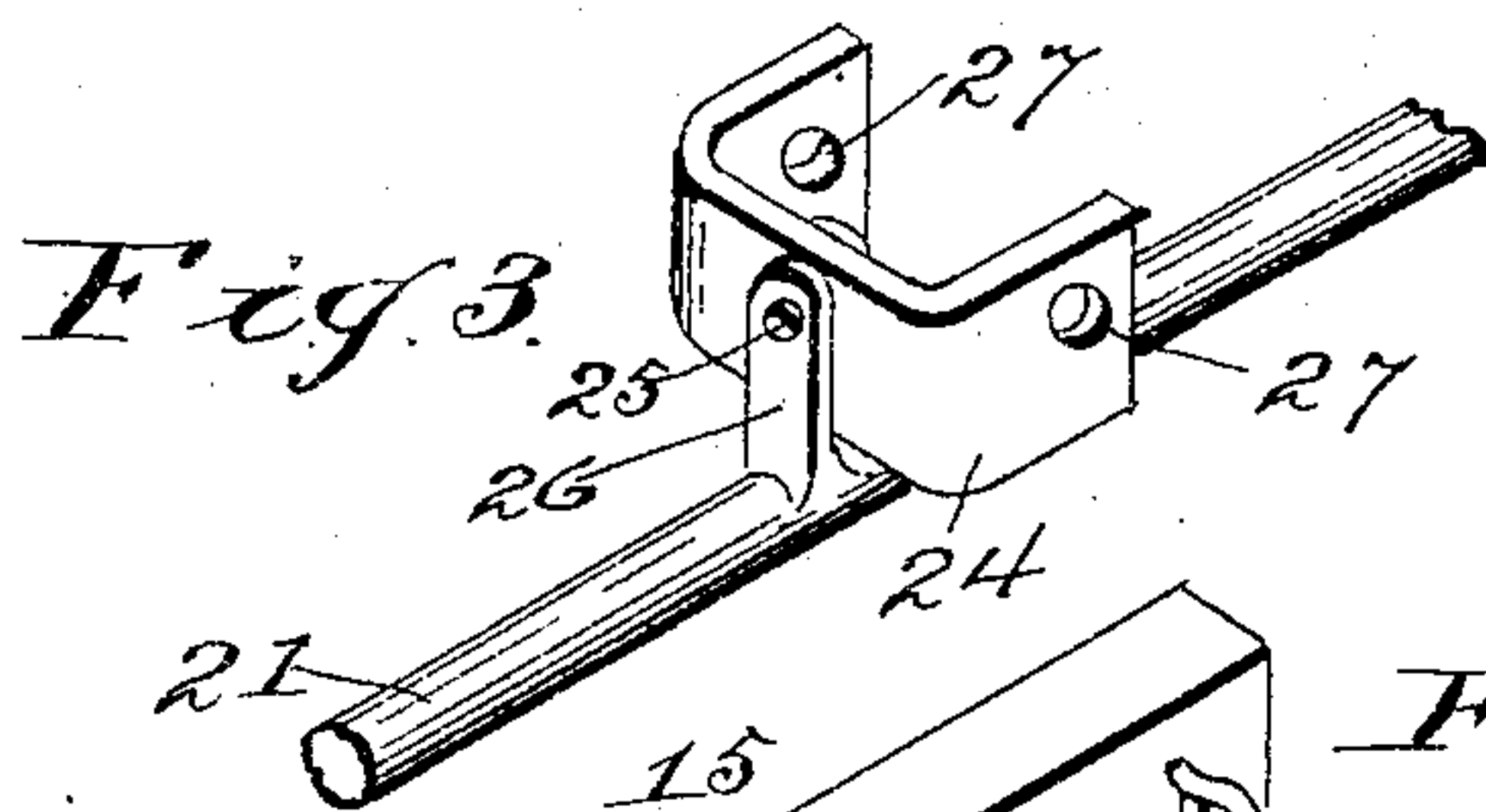
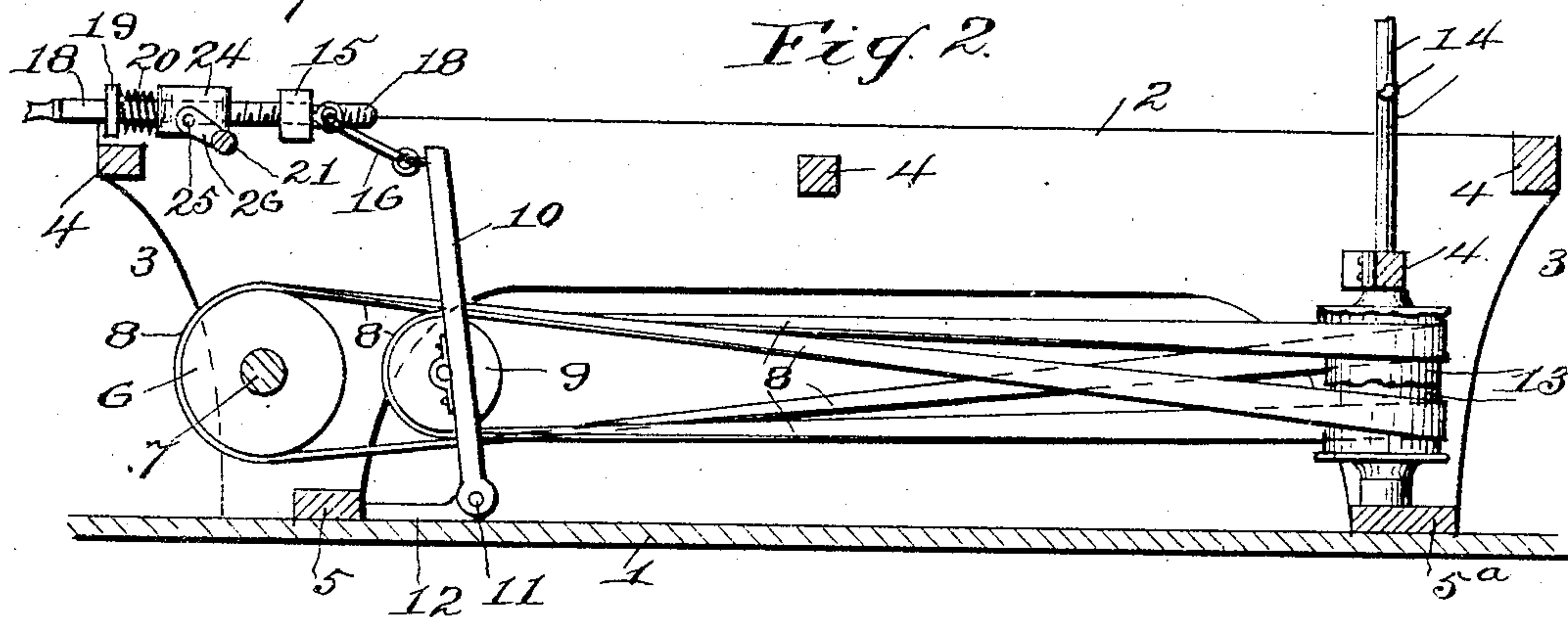
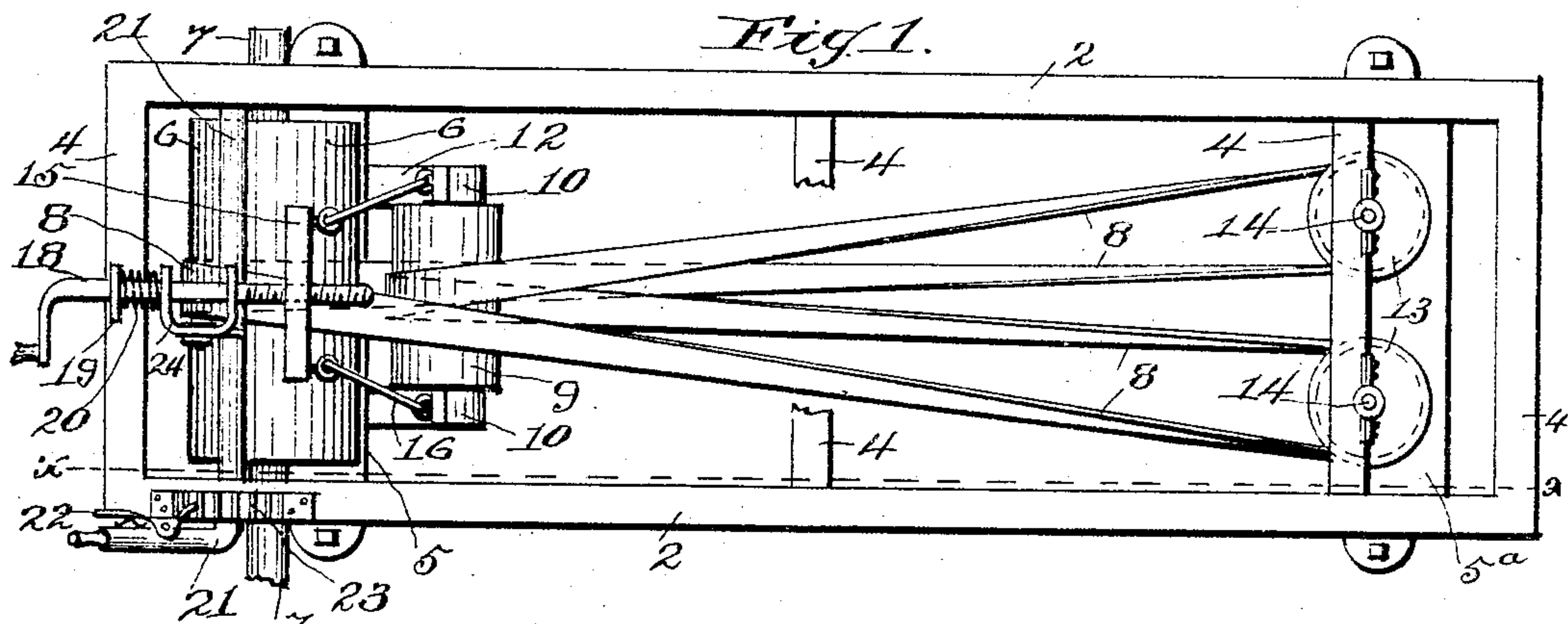


No. 786,354.

PATENTED APR. 4, 1905.

W. G. GAUM.
BELT TIGHTENER.

APPLICATION FILED JULY 16, 1904.



Witnesses
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WILLIAM G. GAUM, OF PANTHER, WEST VIRGINIA.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 786,354, dated April 4, 1905.

Application filed July 15, 1904. Serial No. 216,681.

To all whom it may concern:

Be it known that I, WILLIAM G. GAUM, a citizen of the United States, residing at Panther, in the county of McDowell and State of West Virginia, have invented certain new and useful Improvements in Belt-Tighteners, of which the following is a specification.

This invention relates to belt-tighteners, and particularly to the class having a friction-pulley located between the driving-pulley and the pulleys of the shafts to be driven.

The object of the invention is to provide in a belt-tightener especially applicable to planing-machines for sizing timber and to molding-machines a novel and peculiar device for swinging the friction-pulley and for adjusting it to vary its swinging movement that the belt may be tightened without stopping the belt-pulleys and that the belt may be started and stopped by said device.

A further object of the invention is to provide in a belt-tightener a yoke pivotally connected to a swinging pulley, a screw-shaft for adjusting or varying the swing of the pulley, and a hand-crank shaft having a shoe slidable on the screw-shaft for swinging the said pulley.

As far as known to me belt-tighteners of this character are devoid of means or devices for throwing the driving-belt into and out of action through the medium of a hand-crank shaft sliding a screw-shaft connected to a tightening-pulley without turning the screw-shaft, the latter capable of being turned independently to vary the play or swing of said pulley regardless of the position of the crank-shaft. Therefore it is the purpose of this invention to remedy the defects and overcome the disadvantages and objections found in other belt-tighteners of this character and to provide a device capable of giving the tightening-pulley a double adjustment with the belt and the said pulley either in or out of action.

With these and various other objects in view the invention consists in the novel construction and arrangement of parts and particularly in a device for giving a friction or

belt-tightening pulley independent double adjustment.

In the accompanying drawings, forming part of this application, Figure 1 is a top plan view showing the belt tightened. Fig. 2 is a section on the line *x x*, Fig. 1. Fig. 3 is a perspective view of the crank-shaft and its shoe. Fig. 4 is a perspective view of the yoke.

The same numeral references denote the same parts throughout the several views of the drawings.

The frame for the tightener may be of any suitable shape, and it may be secured to the floor or at any other convenient place desired in a planing mill or shop; but for the purpose of illustration it is here shown secured to the mill or shop floor 1 and has sides 2, open ends 3, an open top provided with suitable braces 4, and base-pieces 5 and 5", by means of which the frame is secured in proper position. The frame is set as desired relative to the driving-pulley 6, having a shaft 7; but it is preferably positioned with one end overhanging said pulley. The belt 8 extends over the pulley 6 above and below the friction or tightening pulley 9, which is journaled in a hanger 10, pivoted at 11 to arms 12, projecting from the base-piece 5 and which is parallel with the pulley 6, around two pulleys 13, which are perpendicular to the pulleys 6 and 9, to drive shafts 14, and then around the said pulley 9.

The device for putting the belt into and out of action, for tightening the belt, and for giving a double adjustment of the tightening-pulley 9 consists of a yoke 15, pivotally connected to the hanger 10 by links 16 and having a screw-threaded aperture 17, a screw-shaft 18, working through said aperture and provided with a collar 19, and a spiral spring 20, a hand-crank shaft 21, having a pawl 22 to engage a segment-rack 23, and a U-shaped shoe 24, pivoted at 25 to an arm 26 of the shaft 21 and having apertures 27 for the screw-shaft 18, so that the shoe may be slid on the shaft 18 between the spring and the yoke, according to the movement of the shaft

21. It is obvious that the shaft 21 is turned to the left to tighten the belt and when so turned and the belt requires further tightening the shaft 18 is screwed inwardly through the yoke. A slacking of the belt is produced by turning the shaft inwardly or toward the right, and a full movement of the said shaft in this direction will throw the belt out of action. It will be seen that the yoke is under spring tension all the time the belt is in action and that this tension may be varied as desired or as conditions may demand by simply turning the screw-shaft.

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

1. In a belt-tightener, the combination, with the driven pulley, the pulleys perpendicular to the said pulley, and the tightening-pulley pivoted parallel with the driven pulley, of the hand-shaft, a shoe pivoted thereto, a yoke connected to the pivoted pulley, and a screw-shaft slidable through the shoe and working through the yoke.

2. In a belt-tightener, the combination with a tightening-pulley, and the pivoted hanger in which the pulley is journaled, of the yoke pivotally connected to the hanger, a shaft

screwed through the yoke, a shoe slidable on the shaft, and the crank-shaft pivoted to the shoe.

3. In a belt-tightener, the combination, with a tightening-pulley, and the pivoted hanger in which the pulley is journaled, of a yoke pivoted to the hanger, a shaft screwed through the yoke, a spring carried by the shaft, a shoe slidable on the shaft between the yoke and the spring, and a crank-shaft to which the shoe is pivoted.

4. The combination with the frame having base-pieces, arms projecting from one of said pieces, a hanger journaled in the arms, and a tightening-pulley journaled in the hanger, of means for giving the pulley double adjustment comprising a yoke having links connecting it with the hanger, a shaft screwed through the yoke, a shoe slidable on the shaft, a shaft having an arm to which the shoe is pivoted, and a spring on the latter shaft to cushion the shoe.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM G. GAUM.

Witnesses:

HOOD PATTON,
SAMUEL HALL.