

No. 858,609.

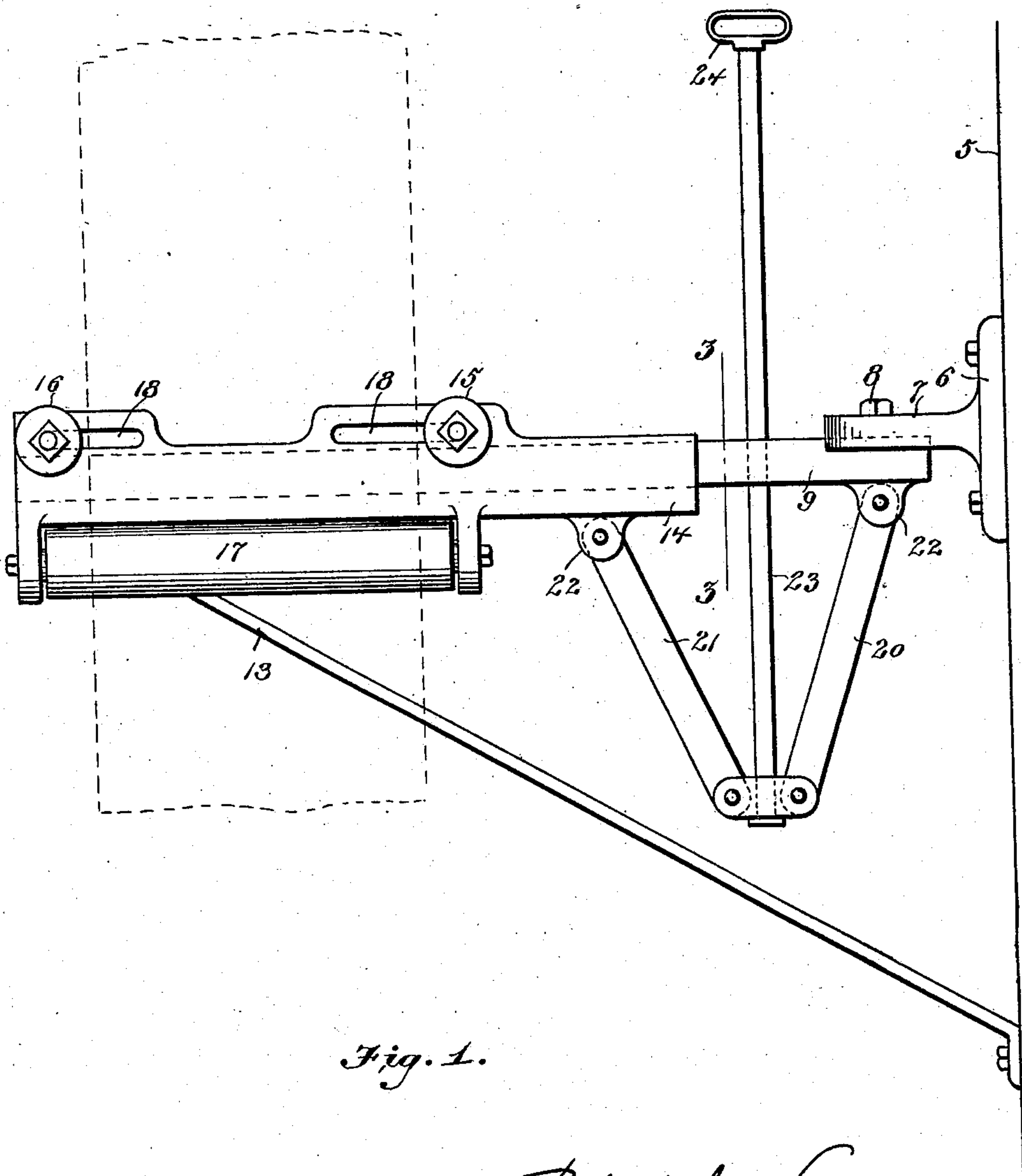
PATENTED JULY 2, 1907.

R. J. LEE.

## BELT GUIDE AND SHIFTER.

APPLICATION FILED APR. 10, 1907.

2 SHEETS—SHEET 1.



*Fig. 1.*

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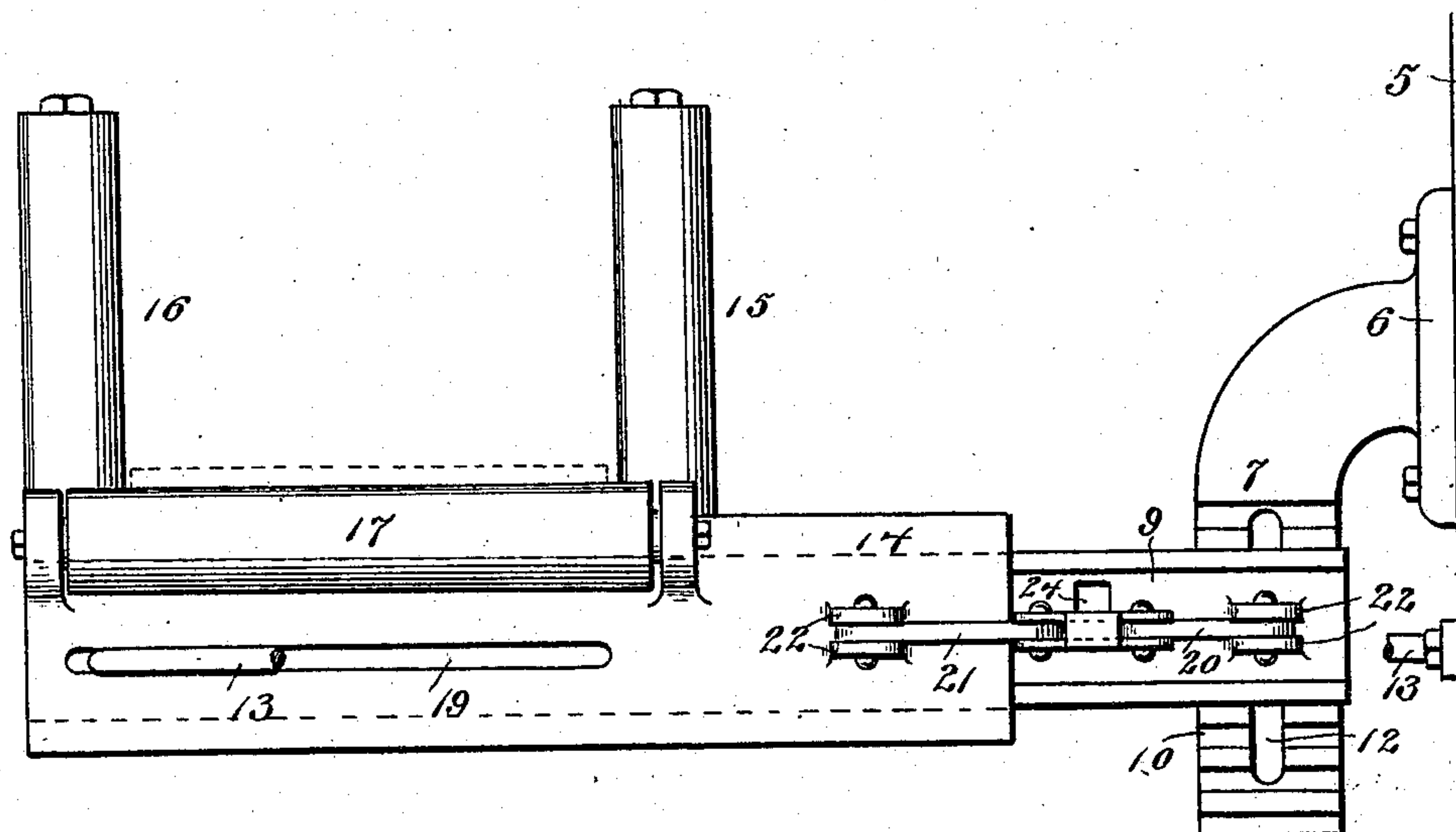


Fig. 2.

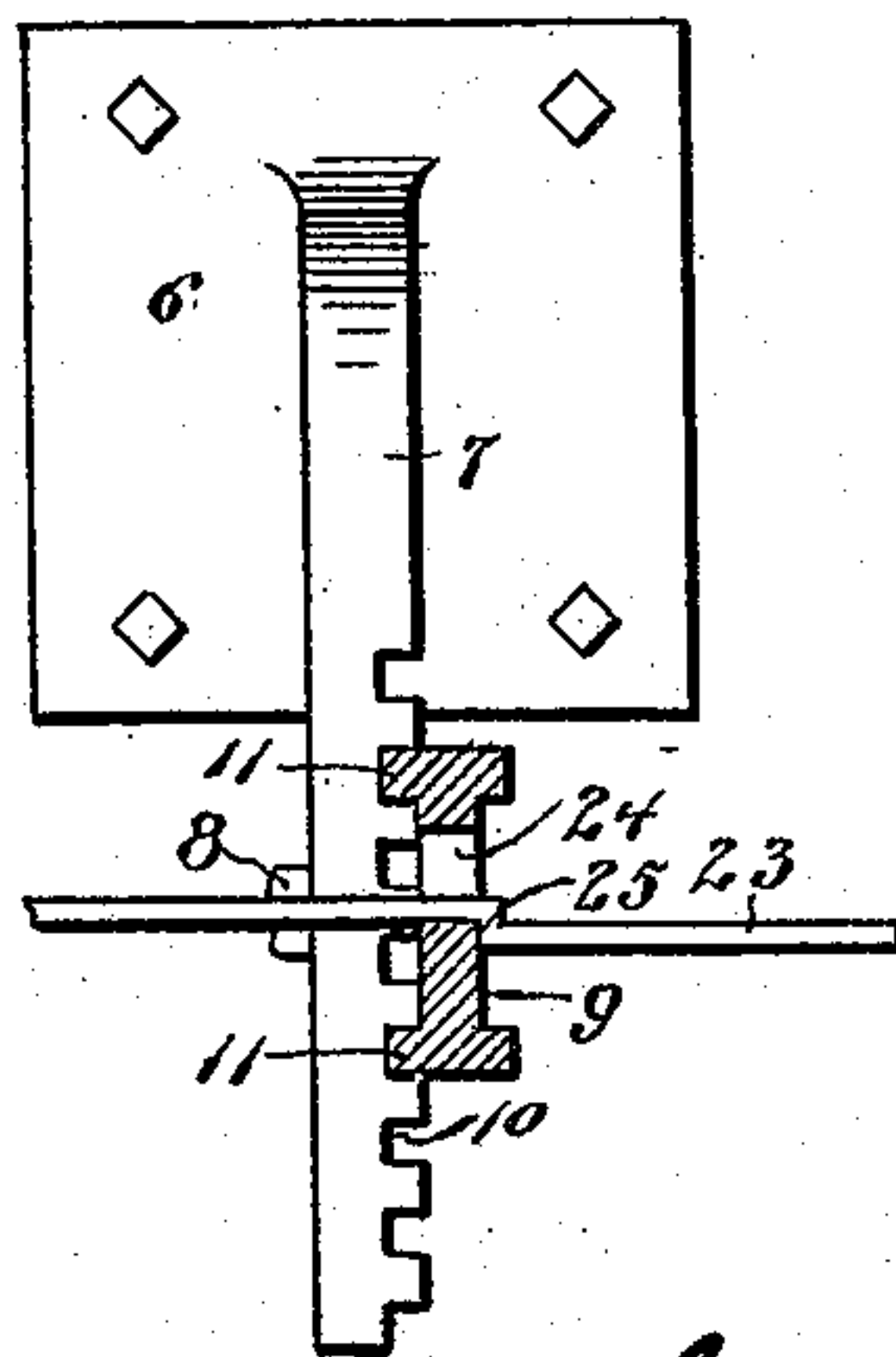


Fig. 3.

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# UNITED STATES PATENT OFFICE.

ROBERT JEHIEL LEE, OF PANOLA, ILLINOIS.

## BELT GUIDE AND SHIFTER.

No. 858,609.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed April 10, 1907. Serial No. 367,456.

To all whom it may concern:

Be it known that I, ROBERT JEHIEL LEE, a citizen of the United States, residing at Panola, in the county of Woodford and State of Illinois, have invented certain new and useful Improvements in Belt Guides and Shifters, of which the following is a specification.

This invention is a belt-guide and shifter, and has for its object an improved mechanism of this kind especially adapted for use in connection with traction engines, by means of which the belt will be held on the pulley, and which can also be employed to throw the belt off the pulley.

In the accompanying drawings, Figure 1 is a plan view of the invention. Fig. 2 is a side elevation. Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

Referring specifically to the drawings, 5 denotes the boiler of a traction engine, only so much thereof being shown as will suffice to show the connection of the invention therewith. A bracket of any shape to suit the requirements of different makes of traction engines is bolted to the boiler in front of and slightly below the bottom of the belt-pulley. The bracket comprises a base 6 and a forwardly and downwardly presented arm 7. To the arm is clamped by means of a bolt 8 a horizontally presented I-beam 9. The arm has notches 10 on one side to receive the flanges 11 on one side of the beam. The arm also has a vertical slot 12 through which the bolt 8 passes to permit vertical adjustment of the beam in an obvious manner. Between the outer end of the beam and the boiler is a stay-rod 13 which, for the sake of clearness, is shown partly broken away in Fig. 2.

On the beam 9 is mounted a slide 14 which carries vertically disposed rollers 15 and 16, respectively, and a horizontal roller 17. The spindles of the rollers 15 and 16 are mounted in slots 18 in the slide to permit adjustment of said rollers to different widths of belts. The slide has a slot 19 through which the stay-rod 13 passes so that the movement of the slide will not be interfered with thereby.

At 20 and 21 are indicated toggle-arms connected at one end to the beam 9 and the slide 14, respectively. The beam and slide have ears 22 between which the toggle-arms extend and are pivotally connected. The opposite ends of the toggle-arms are connected to an operating rod 23 which extends through an opening 24 in the beam 9 to the platform of the engine so as to be within easy reach of the attendant or engineer, and has a handle 24. The rod also has an offset portion forming a shoulder 25 which is for a purpose to be hereinafter described.

In use, when the belt is to be placed on the belt-pulley, the operator grasps the handle 24 and raises the rod 23 sufficiently to allow the shoulder 25 to pass through the opening 24, the opening being sufficiently large to allow this to be done. Then by drawing the rod toward him the toggle-arms straighten out which has the effect of moving the slide outwardly on the beam. The slide is moved in this direction until the inside of the roller 15 is in line with the outer edge of the belt-pulley, and the rod 23 is then released. The belt is now placed on top of the pulley with its lower portion between the rollers 15 and 16 and on top of the roller 17. The belt is then forced upon the center of the pulley by turning the pulley backward. At the same time the slide is forced inwardly on the beam by the action of the belt until the shoulder 25 drops over the edge of the opening 24. This position proper is when the belt runs on the center of the pulley and is fixed by the length of that portion of the rod 23 between the shoulder 25 and its connection with the toggle arms 20 and 21. To throw the belt off the pulley while it is in motion, the rod is released by disengaging the shoulder 25 as before, and then drawing the rod toward the operator until the slide moves outwardly sufficiently to bring the inner edge of the belt to the outer edge of the pulley.

The advantage of the construction herein described is that it retains the belt on the pulley in windy weather, and also when the driver and the driven pulleys are not in line. It will also hold the belt on the pulley when the engine is backed to tighten the pulley. Furthermore, the belt can be thrown off the pulley without danger to the engineer and without his leaving the platform of the engine.

I claim:—

1. A belt-guide and shifter comprising a support having an opening, a slide mounted on the support, rollers carried thereby between which the belt travels, a toggle for operating the slide, and a rod connected to the toggle for actuating the same, said rod passing through the opening in the support and having a shoulder engageable over the edge thereof.

2. A belt-guide and shifter comprising a supporting bracket having a notched arm, an I-beam adjustably clamped to the arm, the flanges on one side of said beam fitting in the notches of the arm, a slide mounted on the beam, rollers carried thereby between which the belt travels, and means for operating the slide.

In testimony whereof I affix my signature, in presence of two witnesses.

ROBERT JEHIEL LEE.

Witnesses:

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C. E. McNAUGHT.