

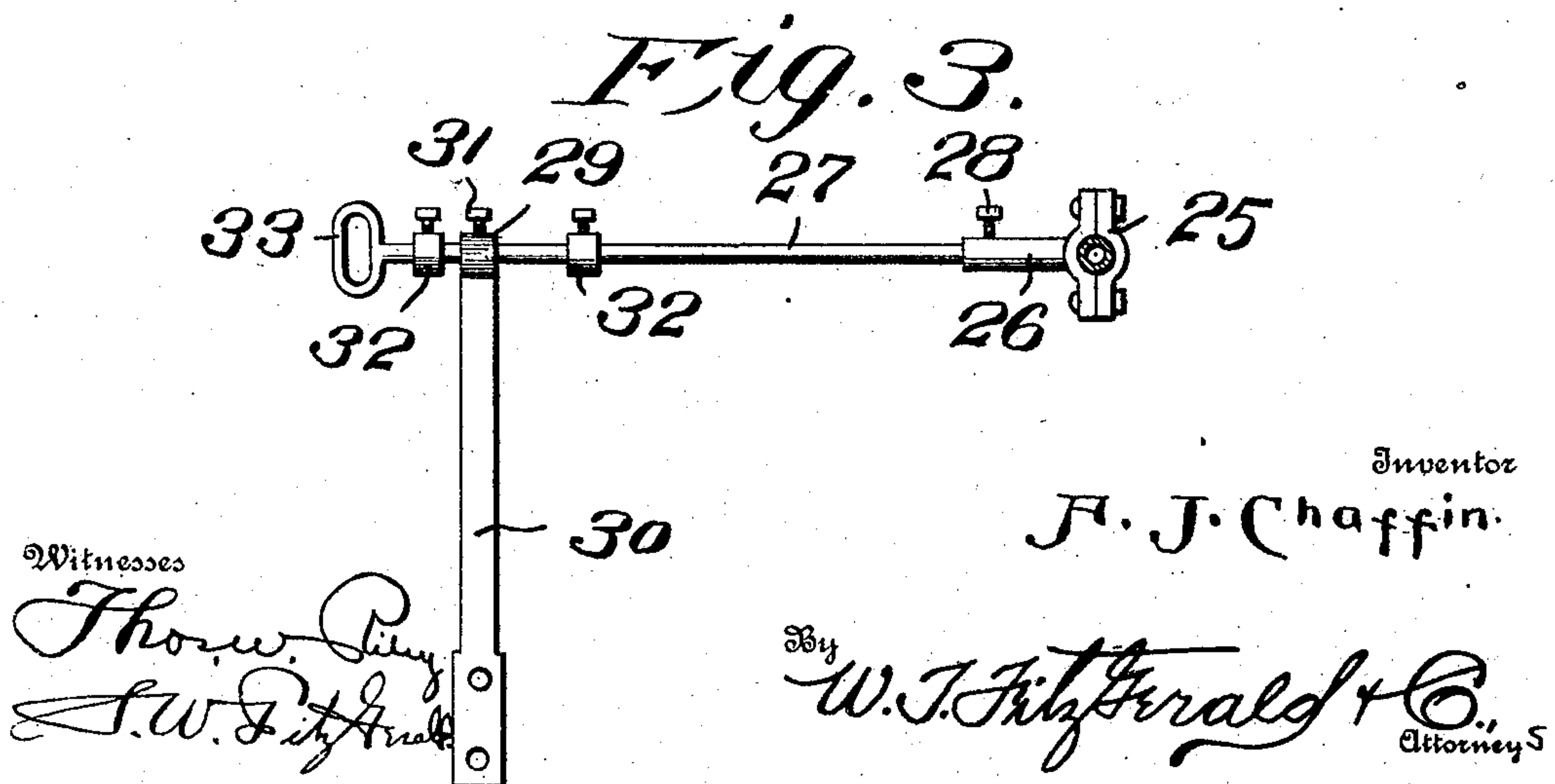
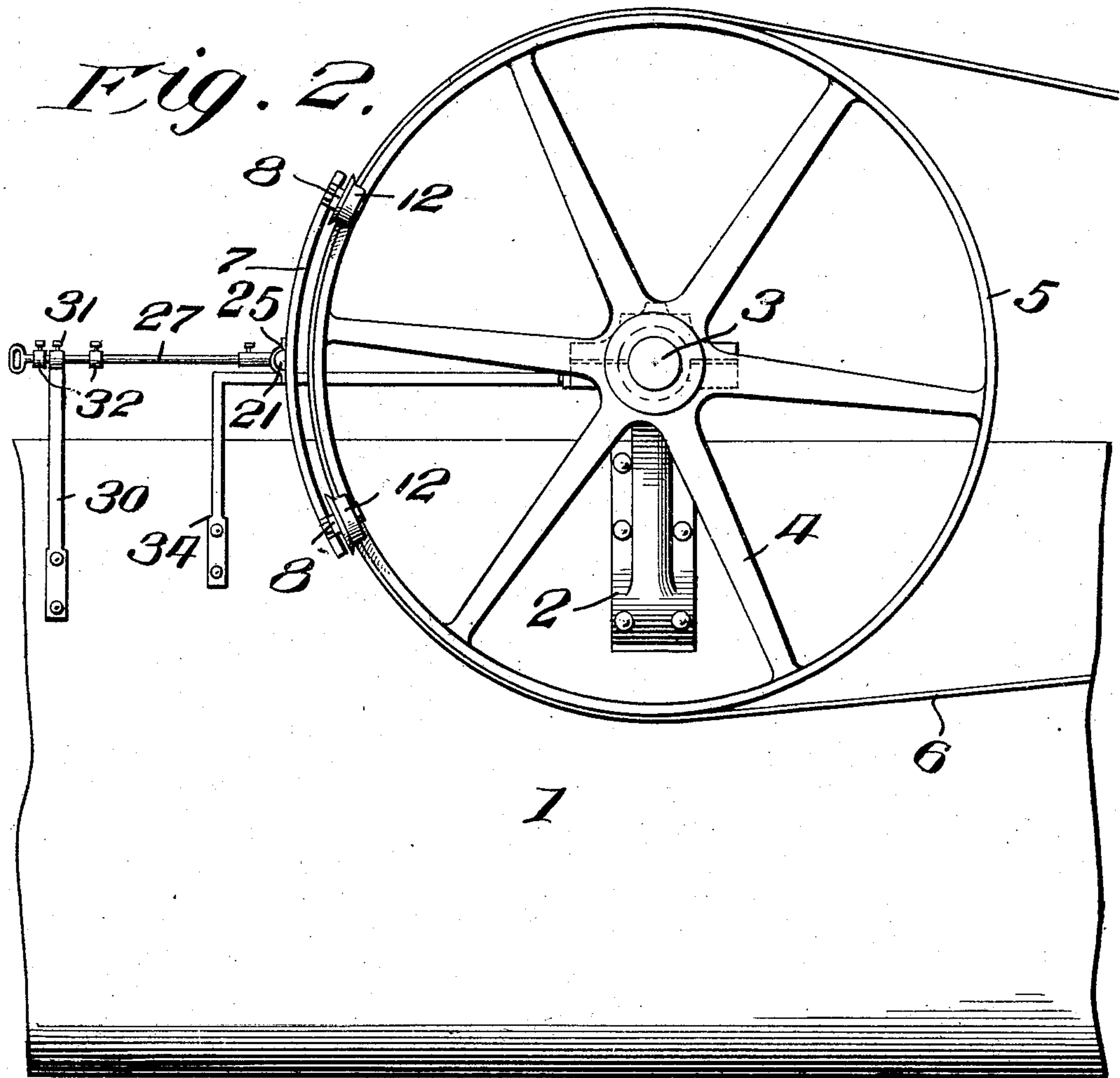


No. 842,174.

PATENTED JAN. 29, 1907.

A. J. CHAFFIN.  
BELT GUIDE AND HOLDER.  
APPLICATION FILED OCT. 4, 1906.

2 SHEETS—SHEET 2.





# UNITED STATES PATENT OFFICE.

AARON J. CHAFFIN, OF RIPON, WISCONSIN.

## BELT GUIDE AND HOLDER.

No. 842,174.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed October 4, 1906. Serial No. 337,378.

*To all whom it may concern:*

Be it known that I, AARON J. CHAFFIN, a citizen of the United States, residing at Ripon, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Belt Guides and Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in belt guides and holders, and more particularly to that class adapted to be used in connection with engines for retaining a belt upon the driving-wheel; and my object is to provide a device of this class which is adapted to be disposed into engagement with the edges of the driving-wheel to hold the belt thereon.

A further object is to provide means for removing the device from engagement with the wheel, whereby the belt may be removed or inserted thereon.

A still further object is to provide means to adjust the parts of the device, whereby it may be used in connection with driving-wheels of various widths.

Other objects and advantages will be hereinafter referred to, and more particularly pointed out in the claims.

In the accompanying drawings, which are made a part of this application, Figure 1 is an end elevation of a boiler, showing the driving-wheel and supporting-shaft mounted thereon. Fig. 2 is a side elevation thereof. Fig. 3 is a detail elevation of a portion of the operating mechanism removed from the boiler. Fig. 4 is a detail sectional view of a portion of the device; and Fig. 5 is a detail view, partly in section and on an enlarged scale, of a portion of the supporting mechanism for the device.

Referring to the drawings, in which similar reference-numerals designate corresponding parts throughout the several views, 1 indicates a boiler, which may be of the usual or any preferred form, to which is secured a bracket 2, in the upper end of which is rotatably mounted one end of a driving-shaft 3, and this shaft has secured to its outer free end the usual form of belt-wheel 4, which is constructed in the usual manner and provided with a flange 5, around which is adapted to take the usual form of driving-belt 6.

It has been found in practice that when a long driving-belt is employed and subjected to

strong blasts of air that the belt is frequently blown from the belt-wheel, and to overcome this objection and prevent the belt from leaving the wheel I have provided my improved guide or holder, which consists of a curved beam 7, to each end of which is secured a cross-head 8, said cross-heads having ribs 9 at their central portion, between which are located the ends of the curved beam 7, and the cross-heads are secured to the beam by passing a bolt 10 through the cross-heads and beam and securing the same therein by nuts 11. To the outer ends of the cross-heads 8 are secured guide-wheels 12, said wheels being provided with the usual form of tread 13, at one edge of which is disposed a flange 14, the wheels 12 being secured to the cross-heads 8 by means of a stub-shaft 15, which is provided at one end with a head 16 and with a threaded reduced portion 17 at its opposite end, the reduced portion being disposed through elongated slots 18, formed in the ends of the cross-heads 8, by which means the guide-wheels 12 may be adjusted to fit different-sized belt-wheels. The shaft 15 is held in its adjusted position by means of a nut 19, which takes onto the threaded portion of the reduced end 17, the cross-head being clamped between the nut 19 and a shoulder 20, formed by reducing the end 17, and by which construction it will be seen that the wheels 12 are left free to rotate.

The tread 13 of the wheels 12 are adapted to engage and travel along the edge of the flange 5, so that the driving-belt will be firmly and securely held upon the flange, the flanges 14 of the wheels 12 engaging the outer surface of the driving-belt and regulating the adjustment of the beam 7 toward the belt-wheel.

The beam 7 is supported in position by means of a shaft 21, said shaft being yieldingly secured at its inner end to a bracket 22, disposed at any suitable point upon the boiler, while the opposite end thereof is secured to the central portion of the beam 7, the inner end of shaft 21 having a double clevis 23, one end of which is disposed over and secured to the shaft 21, while the opposite end thereof is secured to the bracket 22 by disposing through said bracket and clevis a pin 24.

The beam 12 and parts carried thereby are adapted to be moved into or out of engagement with the belt-wheel, and to this end I have secured to the shaft 21, between the



clevis 23 and beam 7, a clamp 25, having a tubular socket 26 on one side thereof into which is disposed one end of a rod 27, said rod being adjustably held within the socket 5 by means of a set-screw 28, the outer end of the rod 27 being disposed through a head 29 at the upper end of a bracket 30, the rod 27 being held in its adjusted position by disposing a set-screw 31 through the head and into 10 engagement with the rod, and the longitudinal movement of the rod is limited by disposing a collar 32 upon the rod at each side of the head 29, and to more readily operate the rod I have provided a handhold 33 at the 15 free end thereof. The shaft 21 is held in a horizontal position by disposing a supporting-arm 34 below said shaft, so that the shaft will rest and travel thereon.

In operation the set-screw 31 is loosened 20 and the curved beam and portions carried thereby are moved out of engagement with the belt-wheel 4 by directing a pull upon the rod 27 and swinging the shaft 21 upon its pivot-point, and after the belt 6 has been disposed upon the flange 5 the shaft 21 is again 25 swung inwardly until the flanges 14 of the wheels 12 encounter the outer surface of the belt, which action will dispose the tread of the wheels 12 at each edge of the flange 5, after which the set-screw 31 is again tightened, 30 thereby holding the wheels 12 in their adjusted position at each edge of the belt and flange, and by this construction it will be seen that the belt will be firmly held in position upon the belt-wheel. It will also be 35 seen that by providing this construction the engine can be out of true with the machinery being driven, the wheels 12 serving to hold the belt upon the belt-wheel.

40 What I claim is—

1. The combination with a belt-wheel and a belt on said wheel; of guide-wheels at each edge of said belt and wheel, a beam, a cross-head at each end of said beam, means to ad- 45 justably secure said guide-wheels to the cross-heads and additional means to move said guide-wheels into or out of engagement with said belt and belt-wheel.

2. The combination with a belt-wheel and 50 a belt thereon; of a shaft, means to support said shaft, a beam at one end of said shaft, a cross-head at each end of said beam having

elongated slots therein, guide-wheels carried by said cross-heads adapted to engage the edges of said belt and wheel, and means dis- 55 posed through said slots to adjustably secure said guide-wheels to the cross-heads.

3. A device of the class described comprising the combination with a belt-wheel and a belt disposed thereon; of a shaft, a bracket at 60 one end of said shaft, means to yieldingly secure said shaft to the bracket, a beam at the opposite end of said shaft, cross-heads on said beam, guide-wheels adjustably secured to said cross-heads and means secured to said 65 shaft to adjustably secure said guide-wheels into or out of engagement with said belt and belt-wheel.

4. A belt-guide of the class described comprising a beam, cross-heads on said beam, 70 guide-wheels adjustably secured to said cross-heads, a shaft supporting said beam, means to yieldingly support said shaft, a rod secured to said shaft, and means to secure 75 said rod whereby the shaft and parts carried thereby will be held in its adjusted position.

5. A guide of the class described comprising a shaft, a supporting-bracket at one end of said shaft, means to yieldingly secure said shaft to the bracket, a beam at the opposite 80 end of said shaft, guide-wheels, means to secure said guide-wheels to said beam, a rod adjustably secured to said shaft, means to limit the longitudinal movement of said rod, and additional means to hold said rod in its 85 adjusted position.

6. A guide of the class described comprising a shaft, a bracket at one end of said shaft, means to pivotally secure said shaft to the bracket, a supporting-arm for said shaft, a 90 beam at the free end of said shaft, cross-heads at each end of said beam, guide-wheels adjustably secured to said cross-heads, a clamp on said shaft, a rod, means to adjustably secure said rod to the clamp and addi- 95 tional means to limit the longitudinal movement of said rod.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AARON J. CHAFFIN.

Witnesses:

A. B. CARTER,  
S. W. LURCH.