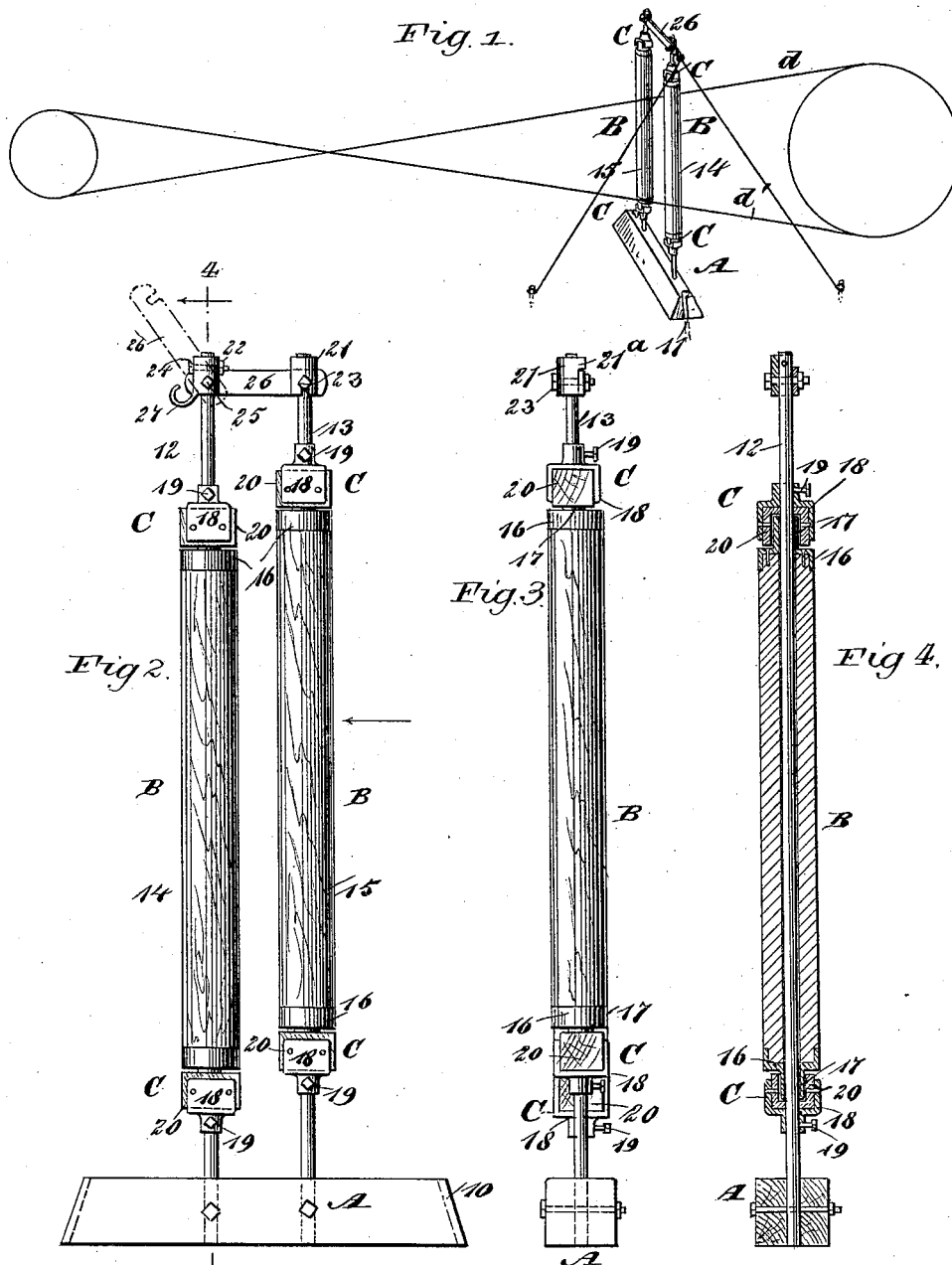


(No Model.)

W. L. SCHWALLER.
BELT GUIDE.

No. 489,334.

Patented Jan. 3, 1893.



WITNESSES:
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WILLIAM L. SCHWALLER, OF HALBUR, IOWA.

BELT-GUIDE.

SPECIFICATION forming part of Letters Patent No. 489,334, dated January 3, 1893.

Application filed April 5, 1892. Serial No. 427,845. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SCHWALLER, of Halbur, in the county of Carroll and State of Iowa, have invented a new and useful Improvement in Belt-Guides, of which the following is a full, clear, and exact description.

My invention relates to an improvement in belt guides, and has for its object especially to provide a guide adapted for use in connection with steam thrashing outfits, corn-shellers, or any other machinery run by a long belt in the open air; and the prime object of the invention is to provide a mechanism of simple and economic construction capable of being conveniently manipulated and transported, whereby the belt will be held in place and guided even in the face of a high wind, obviating all undue friction, wear and tear upon the belt and machinery now incident thereto when many of the guides at present in use are employed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the guide, illustrating its use in connection with a belt; Fig. 2 is a front elevation of the guide; Fig. 3 is a side elevation of the guide and an end view of its base; and Fig. 4 is a vertical section taken practically on the line 4-4 of Fig. 2.

In carrying out the invention a base A, is provided in connection with two guides B, the latter being vertically located. The base A, may be of wood, or angle iron, or of any suitable or approved material, and may be of any desired length. At its ends the base is preferably provided with vertically disposed grooves 10, adapted to receive a wedge 11, or an equivalent fastening device for holding the base firmly upon the surface of the ground.

The guides B consist of two vertical shafts 12 and 13, secured at their lower ends in the base A. These shafts are placed at predetermined intervals apart, and may be solid,

though preferably they are made tubular and may be of any length. Each shaft is adapted to carry a friction roller, the roller upon the shaft 12 being designated as 14, and that upon the shaft 13 as 15. These rollers are not quite as long as the shaft, as they are adapted to be vertically adjusted thereon. The rollers may be made of wood or they may consist simply of piping. When made of wood, as shown in the drawings, each roller is provided with two metal heads 16, one of which is securely fastened at each end, and these heads are provided with trunnions 17, each trunnion being tubular in order that the shaft may pass through it freely.

Above and below each roller a box C, is held to slide upon the shaft carrying the roller. These boxes consist of a metal socket or casing 18, through which the shaft passes, and the boxes or casings may be held firmly at any desired point upon the shaft through the medium of the set screws 19, passing through them, or equivalent fastening devices may be used. Each metal casing or socket is provided with a lining 20, of wood, Babbitt metal, or other appropriate material. The linings are secured to the sockets or casings of the boxes, the shaft passes through the linings, and the linings are of such thickness that when they are in the sockets or casings of the boxes, openings will be formed of just sufficient diameter and depth to receive the trunnions or spindles of the rollers. A partial sleeve is attached to the upper end of each shaft 12 and 13, the sleeves being designated as 21 and 22. The sleeves are flat upon one side of the shafts, and are held in place by bolts 23 and 24 passing through them and through the shafts. The partial sleeve 21 on its flat face is provided with ears 21^a at the top. A bolt 25, is passed through the partial sleeve 22, which bolt is adapted to constitute the pivot for a latch 26. This latch is adapted to extend horizontally across the space between the two shafts 12 and 13, and to engage with the bolt 23, upon the partial sleeve 21, and when in engagement with this bolt the latch will be beneath the ears 21^a. All of the bolts are provided with suitable nuts; therefore, when the latch has been brought to an engagement with the bolt 23, by tightening up

the nut of that bolt the latch will be firmly held in its horizontal position. The partial sleeve 22 upon its outer face, is provided with an attached hook 27; and the attachment
 5 between the latch 26 and the bolt and the sleeve 21, is effected by producing a recess in the latch, as shown in dotted lines, Fig. 2.

Thrashing machines and similar imple-
 10 ments that are run in the open air, are connected with the driving pulley of the engine by means of a crossed belt, as shown in Fig. 1, and to facilitate the description of the application of the guides to the belt, I designate
 15 that portion of the belt passing off the top of the driving pulley as the upper belt *d*, and that portion of the belt passing over the lower portion of the driving pulley as the lower belt *d'*. The guide is preferably placed between the driving pulley of the engine and
 20 the point where the cross in the belt is made. The latch 26, is unloosened from connection with the partial sleeve 21 on the shaft 13, and is carried upward, as is shown in dotted lines in Fig. 2, and the position of the guide device
 25 is such that the upper belt *d* may then pass down between the two friction rollers to an engagement with the inner face of what may be termed the rear one, and the lower belt *d'* will then be in engagement with the outer
 30 face of what may be termed the forward or front friction roller, as is likewise shown in Fig. 1. It will thus be observed that the belt will be not only guided but supported, and that even in a high wind the belt will always
 35 travel in perfect alignment, as one portion of the belt is supported by one roller and the other portion by the other roller; and as the surfaces of the rollers with which the belts are to engage face the wind, the latter can
 40 not force the belts out of alignment, but will simply crowd them closer to the rollers; and it is further obvious that when the belt is so supported and guided, where the belts cross there will be comparatively no frictional con-
 45 tact, and the contact of the belts upon the pulleys will be only that which must of necessity exist. The hook 27, is adapted to receive one end of one or more braces, their other ends being adapted to enter the ground;

the function of the braces is to support the
 50 device in an upright position against the force of the wind.

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

1. A belt guide, consisting of a base, shafts
 attached to the base, friction rollers adjust-
 able longitudinally upon the shafts, and a
 latch mechanism connecting the shafts at
 their upper ends, as and for the purpose speci-
 60 fied.

2. A belt guide, consisting of a base, shafts
 attached to the base, friction rollers capable
 of longitudinal movement upon the shafts,
 boxes located upon the shafts, one above and
 65 one below each roller, the said boxes being adjustable to and from the rollers, and a latch device located near the upper ends of the shaft and adapted to connect them, as
 and for the purpose set forth.

3. A guide device for belts, consisting of a
 base, shafts secured at one end to the base,
 friction rollers mounted upon the shafts, ca-
 pable of longitudinal movement and pro-
 75 vided with trunnions at their extremities, and boxes located above and below the friction rollers also adjustable upon the shafts, said boxes being provided with a locking mechanism and being adapted to receive the trunnions of the rollers, as and for the purpose
 80 set forth.

4. A belt guide consisting of a base, tubu-
 lar shafts secured at one end to the base, a
 latch device connecting the upper ends of the
 shafts, friction rollers loosely mounted upon
 85 the shafts, having longitudinal movement thereon and provided with trunnions at their extremities, and boxes longitudinally adjustable upon the shafts and located above and below the rollers, the boxes being provided
 90 with sockets for the reception of the trunnions of the rollers, as and for the purpose set forth.

WILLIAM L. SCHWALLER.

Witnesses:

HENRY DREES,
 WM. RUPPER.