C. A. WINTERS.

CONVEYER BELT CLEANER.

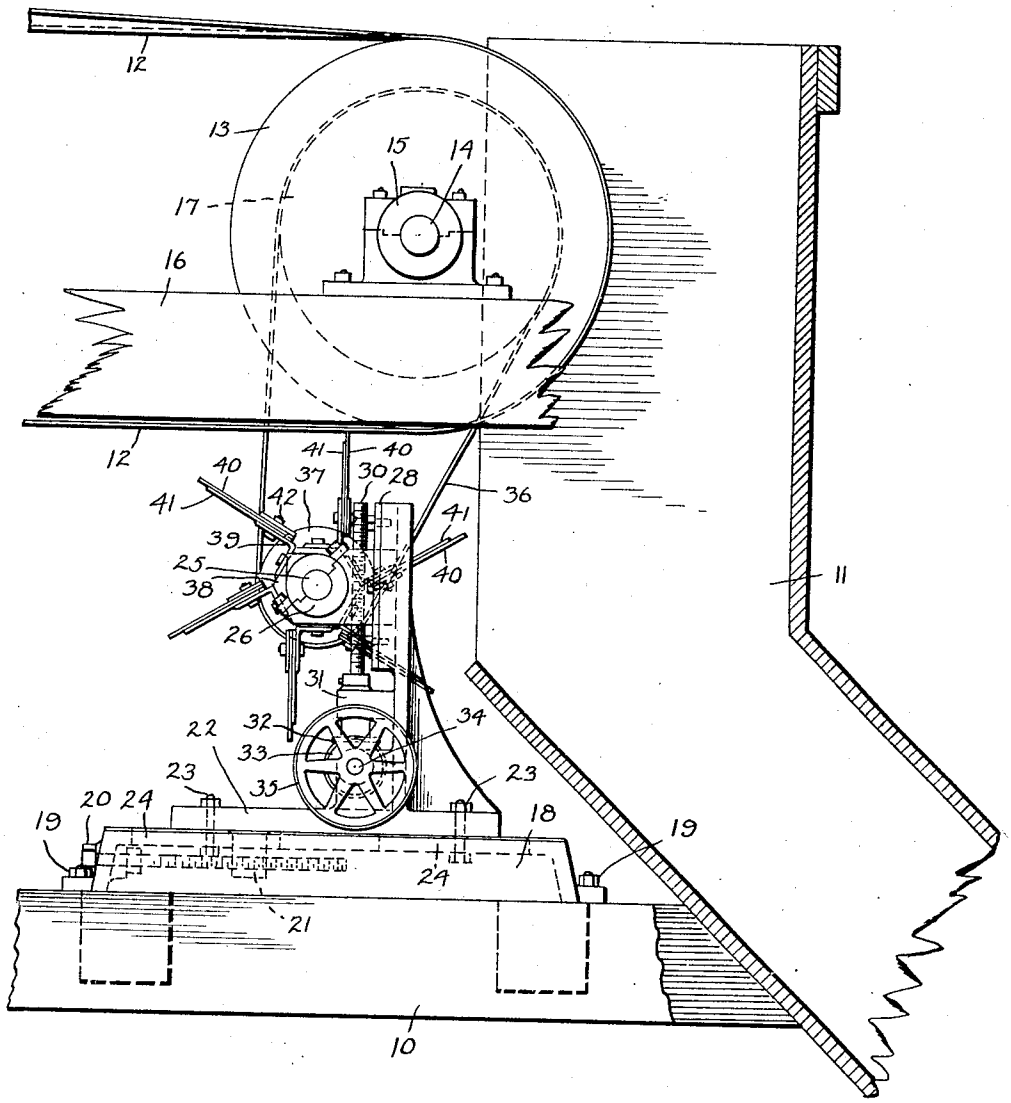
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1,330,967.

Patented Feb. 17, 1920.

2 SHEETS—SHEET 1.

Fig. 1.



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WITNESSES

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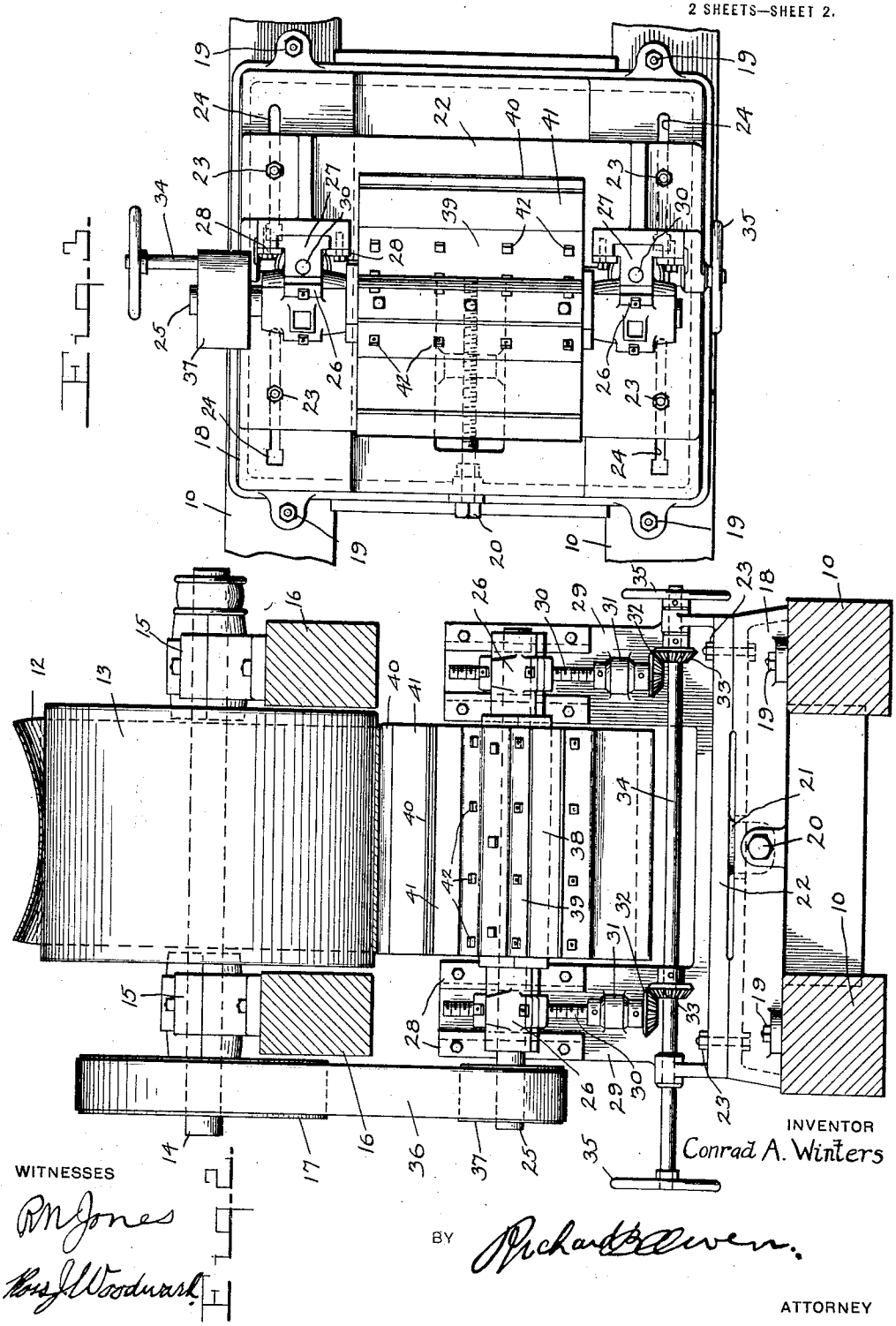
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CONRAD A. WINTERS, OF ANACONDA, MONTANA.

CONVEYER-BELT CLEANER.

1,330,967. Specification of Letters Patent. Patented Feb. 17, 1920.

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To all whom it may concern:

Be it known that I, CONRAD A. WINTERS, a citizen of the United States, residing at Anaconda, in the county of Deerlodge and State of Montana, have invented certain new and useful Improvements in Conveyer-Belt Cleaners, of which the following is a specification.

This invention relates to an improved conveyer belt cleaner and the principal object of the invention is to provide a cleaner which may be associated with a conveyer belt and driven from one of the pulley shafts, the cleaner being mounted beneath the conveyer and including a carriage adjustably mounted upon a base and carrying bearings for a drum shaft adjustably mounted for vertical adjustment.

Another object of the invention is to provide improved means to adjust the carriage upon the base so that a driving belt for the drum shaft may be held at the proper tightness.

Another object of the invention is to so mount the bearings for the drum shaft that they may be simultaneously adjusted to raise or lower the drum shaft and thus move the cleaning blade to engage the lower flight of the conveyer belt the desired amount.

Another object of the invention is to provide an improved construction of drum which drum includes cleaning blades releasably held in place so that the blades may be removed when desired.

This invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a view showing the improved belt cleaner in side elevation and in operative position with respect to a conveyer belt;

Fig. 2 is a view showing the improved conveyer belt cleaner in front elevation and in operative connection with a conveyer belt; and

Fig. 3 is a top plan view of the improved conveyer belt cleaner.

This conveyer belt cleaner is so constructed that it may be used in connection with a conventional type of belt conveyer and will be supported upon the supporting beam 10 adjacent the chute 11 and beneath the conveyer belt 12 to engage the lower flight thereof. This conveyer belt 12 passes around a pulley 13 mounted upon a shaft 14, the shaft being mounted in the bearing 15 carried by the beam 16 and having one end portion extended as shown in Fig. 2 to carry the pulley wheel 17.

This cleaner is provided with a base 18 which rests upon the supporting beam 10 and is held in place by the fastener bolts 19. An adjusting screw 20 extends longitudinally of the base and is permitted rotary movement but held against longitudinal movement. This adjusting screw extends through the depending ear 21 of the carriage 22 and from an inspection of Fig. 1, it will be readily seen that when the adjusting screw is rotated, the carriage will be moved longitudinally upon the base. In order to releasably hold the carriage in an adjusted position upon the base and further in order to guide the sliding movement of the carriage, there has been provided bolts 23 which extend through openings in the carriage and through slots 24 of the base. When the bolts are loosened, the carriage may be moved longitudinally upon the base by turning the adjusting screw but when tightened, the carriage will be securely held in the adjusted position. It will thus be seen that these bolts serve as securing means for the carriage when adjusted and when being adjusted will serve as means to guide the movement of the carriage.

A drum shaft 25 is mounted in the bearings 26 and as these bearings are provided with shoes 27 slidably mounted in the tracks formed by the strips 28 carried by the standard 29 of the carriage, it will be readily seen that the drum shaft 25 may be vertically adjusted. In order to vertically adjust this drum shaft, there has been provided supporting screws 30 rotatably mounted in bearings 31 carried by the standard and passing through the internally threaded openings formed in the shoes 27 as shown in Fig. 3. These supporting screws 30 carry gears 32 which mesh with gears 33 mounted upon the actuating shaft 34 and from an inspection of Fig. 2, it will be readily seen that when this actuating shaft 34 is rotated through the medium of one of the turning wheels or hand wheels 35, the supporting screws or threaded shafts 30 will be rotated, thus vertically adjusting the drum carrying shaft 25. This shaft 34 has been provided with a hand wheel at each end for convenience sake thus permitting the shaft to be rotated or turned from either end. A belt 36 passes around the pulley wheel 17 and

around a pulley wheel 37 carried by the drum shaft 25 to transmit rotary movement from the pulley shaft 14 to the shaft 25.

Upon this drum shaft there is mounted a drum 38 which drum carries plates or strips 39 of angle iron, the outer side portions of which extend radially from the drum to provide supporting or carrying flanges for the cleaning plates 40 and back plates 41. These plates are held in place through the medium of bolts 42 thus permitting the cleaning plates and back plates to be removed when necessary. From an inspection of Fig. 1 it will be readily seen that when in use, the drum shaft will be vertically adjusted to bring the shaft in the proper position for the cleaning plates to engage the lower flight of the conveyer belt 12 as this drum rotates and that therefore any material which may cling to the belt, will be scraped from the lower flight and thrown into the chute 11. It will be further noted that after the drum shaft has been adjusted to the proper position, the carriage may be moved longitudinally upon the base thus tightening the belt 36 and preventing slipping of the belt upon the pulleys 17 and 37. I have therefore provided a belt cleaner which is so constructed that it may be used in connection with a conventional type of belt conveyer and have further provided a cleaner which may be vertically adjusted to bring the cleaning blades into the proper engagement with the lower flight of the conveyer belt.

What is claimed is:—

1. The combination of a conveyer including a roller and a belt passing about the roller and a cleaning element for the belt comprising a base, a carriage adjustably connected with the base, a rotatable cleaning element for the conveyer belt connected with the carriage for vertical adjustment into and out of position for engagement with the conveyer belt, a belt for transmitting rotary movement from the roller to the cleaning element, and means to adjust the carriage upon the base to tighten the belt transmitting rotary movement to the cleaner.

2. The combination of a conveyer including a cleaner comprising an adjustable carriage associated therewith, a slidable cleaning means mounted on said carriage, a belt for transmitting power from the conveyer to the cleaning means, and means for adjusting the carriage to tighten the belt.

3. The combination of a conveyer including a cleaning element for the belt comprising a base, a carriage adjustably connected with the base, a rotatable cleaning element slidably connected with the carriage, a pulley secured to the shaft of the cleaning element, a belt connecting the conveyer with the pulley for transmitting rotary movement to the cleaning element, and means for adjusting the carriage upon the base to tighten the belt.

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

CONRAD A. WINTERS.

Witnesses:
EDWARD BURKE,
GEORGE V. GOODWIN.