

Jan. 29, 1946.

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2,393,724

CONVEYER BELT CLEANER

Filed Aug. 14, 1944

2 Sheets-Sheet 1

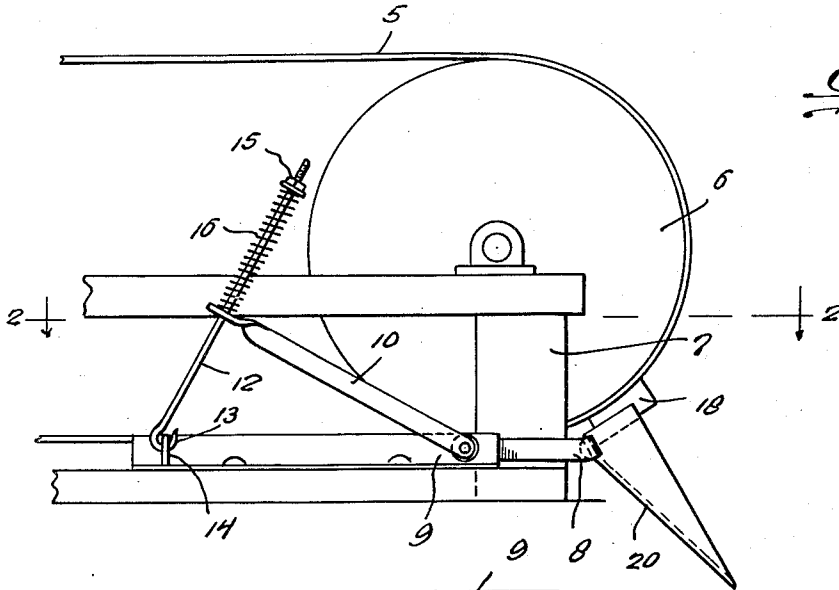


Fig. 1.

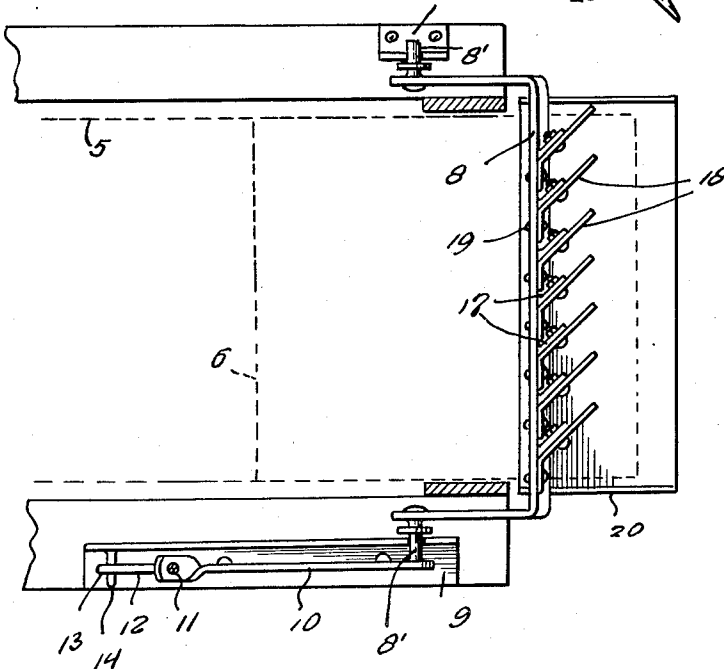


Fig. 2.

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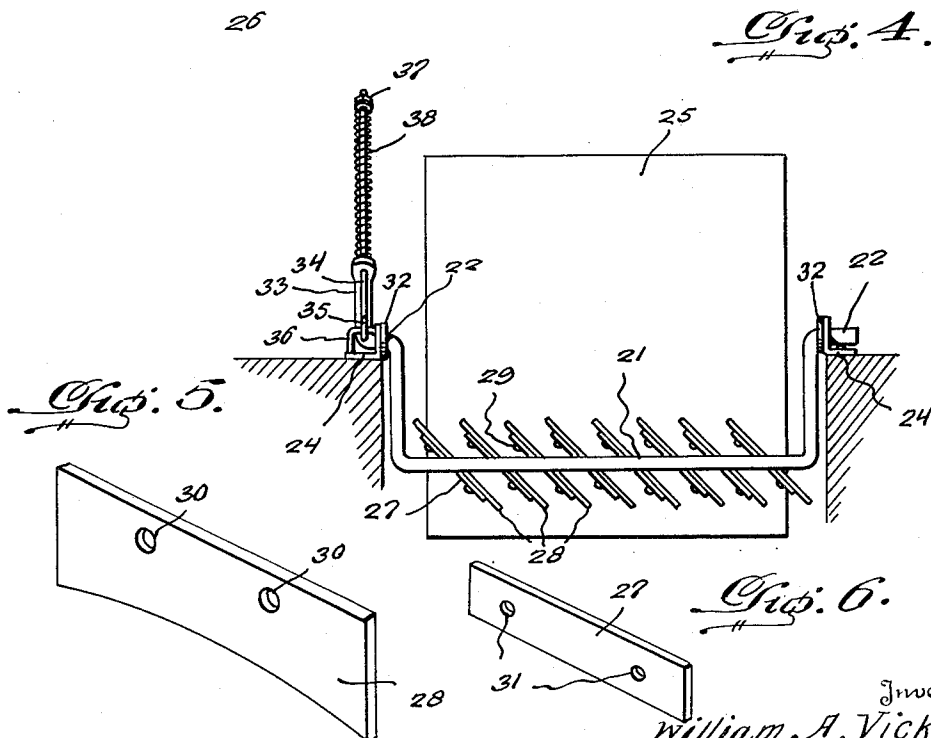
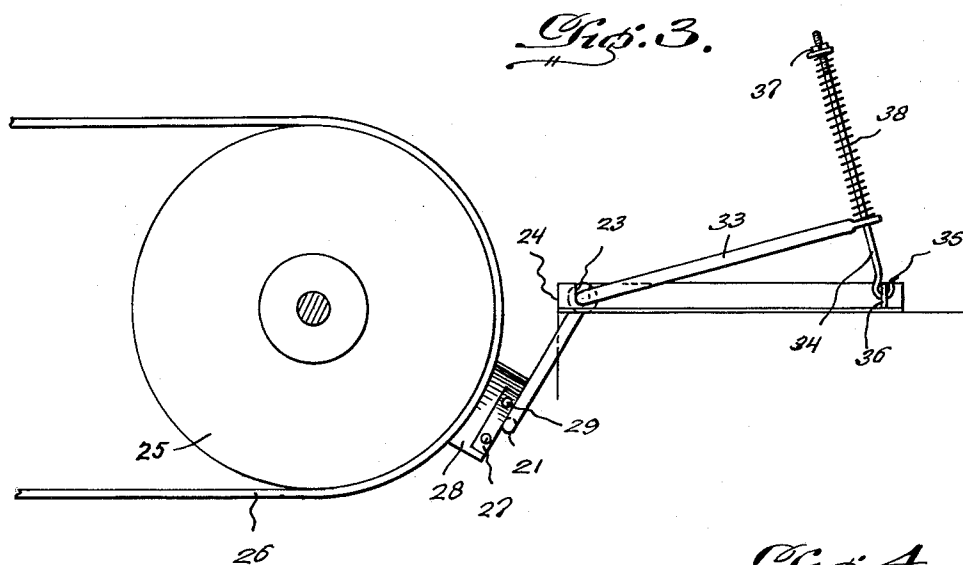
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CONVEYER BELT CLEANER

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Application August 14, 1944, Serial No. 549,408

3 Claims. (Cl. 198—230)

The present invention relates to new and useful improvements in cleaning attachments for conveyer belts and has for its primary object to provide a plurality of scraper blades supported in an inclined position with respect to the surface of the belt and yieldably held in scraping engagement therewith to remove particles of material which may cling to the belt.

It is also an object of the present invention to provide supporting means for a group of scraper blades having their ends disposed in overlapping relation with respect to each other and also providing a chute attached to the scraper blade supporting means and adapted to receive material scraped from the belt for depositing the same in the chute provided for the conveyer.

A still further object is to provide means for easily and quickly mounting the scraper attachment in position with respect to the conveyer belt without necessitating any changes in the construction thereof.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the scraper attachment shown in position with respect to the conveyer belt.

Figure 2 is a top plan view thereof with parts broken away and shown in section.

Figure 3 is a side elevational view of a modified form of the invention.

Figure 4 is a partial cross section and elevational view thereof.

Figure 5 is a perspective view of one of the scraper blades, and

Figure 6 is a similar view of one of the attaching plates for the blades.

Referring now to the drawings in detail and first with respect to the form of the invention illustrated in Figures 1 and 2 of the drawings, the numeral 5 designates a conveyer belt mounted for traveling over a roller 6 of conventional construction, the roller being journaled in a supporting frame 7.

The belt cleaner comprises a substantially U-shaped bar 8 disposed transversely of the belt

and its ends are provided with trunnions 8' pivotally supported in brackets 9 secured to the supporting frame 7 at opposite sides of the roller.

One of the trunnions 8' of the U-shaped supporting bar 8 is provided with a crank or lever extension 10 having an opening 11 in the end thereof through which a rod 12 is freely inserted, one end of the rod having a hook 13 engaged in an eye 14 attached to the frame 7, while the other end of the rod 12 is provided with a stop 15 with which one end of a coil spring 16 is engaged, the spring being mounted on the rod 12 and having its other end bearing against the free end of the extension 10 to yieldably urge the bight portion of the blade supporting member 8 in a direction toward the surface of the belt 5 at the under side of the roller 6 as will be apparent from an inspection of Figure 1 of the drawings.

A plurality of attaching plates 17 are welded or otherwise secured to the bight portion of the bar 8 and to each of which is secured a scraper blade 18 constructed of rubber or other suitable substantially rigid material. The inner edges of the scraper blades 18 are attached to the bar 8 by means of bolts 19.

As shown in Figure 2 of the drawings the attaching plates 17 and the scraper blades 18 are inclined with respect to the surface of the belt 5 and are disposed in overlapping relation with respect to each other so that the entire surface of the belt will come into engagement with one or more of the blades.

A chute 20 is attached to the bar 8 immediately beneath the blades 18 so that any material removed from the belt 5 will be deposited into the chute and conveyed to the regular conveyer chute (not shown).

In Figures 3 to 6 inclusive, the scraper blade supporting bar is shown at 21 having outturned ends or trunnions 22 pivotally supported in notches 23 or brackets 24 secured to a supporting structure adjacent the roller 25 over which the belt 26 travels.

The attaching plates 27 are welded at one edge in an inclined position to the bar 21 and to which the scraper blades 28 are attached by means of the bolts 29 inserted through the aligned openings 30 and 31 of the scraper blades and the attaching plates.

Thrust washers 32 are welded on the trunnions 22 to bear against the brackets 24.

One of the trunnions 22 is formed with an angular crank or lever extension 33 through the end of which the rod 34 is freely inserted, the rod being provided at one end with a hook 35

anchored, as at 36, to one of the brackets 24, while the other end of the rod 34 is provided with an adjustable stop 37 for engagement by the coil spring 38 carried by the rod to yieldably urge the scraper blades into engagement with the surface of the belt 26.

From the foregoing it will be apparent that the scraper blades will be yieldably held in scraping engagement with the surface of the belt to remove material therefrom and the scraper blades may be disengaged from the belt by releasing the hook 13 or 35, as the case may be.

The scraper blade supporting member in the form of the invention illustrated in Figures 3 and 4 may then be bodily removed by raising the same from the notches 23. By the same token, so can the blade supporting member 8 in the modification shown in Figures 1 and 2 be removed, provided, of course, that the bearings for the trunnions 8' are notched as indicated more clearly in Figure 2.

It is believed the details of construction, operation and advantages of the device will be readily understood from the foregoing without further detailed explanation.

What I claim is:

1. A belt cleaner as herein described, the same comprising a scraper blade supporting member having a plurality of scraper blades attached thereto, means pivotally supporting said member transversely with relation to the belt with the blades in wiping contact with the surface of the belt, a lever extension secured rigidly at one end to one end of the blade supporting member, a rod freely inserted in and longitudinally slidable through said lever extension and swingably supported at one of its ends, a stop on said rod adjacent its free opposite end, and spring means carried by the rod and at one end engaging the free end portion of said lever extension of said supporting member and at its opposite end engaging the stop on said rod, thereby creating a pressing influence on said supporting member

for urging the carried blades into wiping contact with the belt.

2. A belt cleaner comprising a rockable scraper blade supporting member having bladed provision for scraping contact with the belt, means pivotally supporting said member transversely of the belt and yieldably holding its bladed provision in wiping engagement with the surface of the belt and transversely across the belt, a lever extension at one end of said bladed supporting member and extending radially from the pivotal axis of said member, a rod freely inserted in and longitudinally slidable through said lever extension, said rod being swingably supported at one end thereof, and spring means carried by said rod and interposed under constant compression between said lever extension of said bladed supporting member and an adjustable stop on the free end portion of said rod whereby to create a pressing influence on said bladed supporting member for urging the bladed provision thereof into wiping contact with the belt.

3. The herein described belt cleaner comprising a rockable substantially U-shaped blade supporting member disposed cooperatively adjacent and extending transversely of the belt and having a bladed provision on its transverse body portion between the leg portions thereof for scraping contact with the belt, said member including trunnions at the ends of its leg portions, bearing brackets located and supported beyond opposite sides of the belt and having notches therein removably receiving the trunnions of said bladed supporting member for pivotally supporting said member, a lever extension secured to one end of said bladed supporting member and projecting radially from the pivotal axis of said member, and spring means constantly active upon said lever extension of said bladed supporting member so as to urge said member with its bladed provision into wiping contact with the surface of the belt.

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