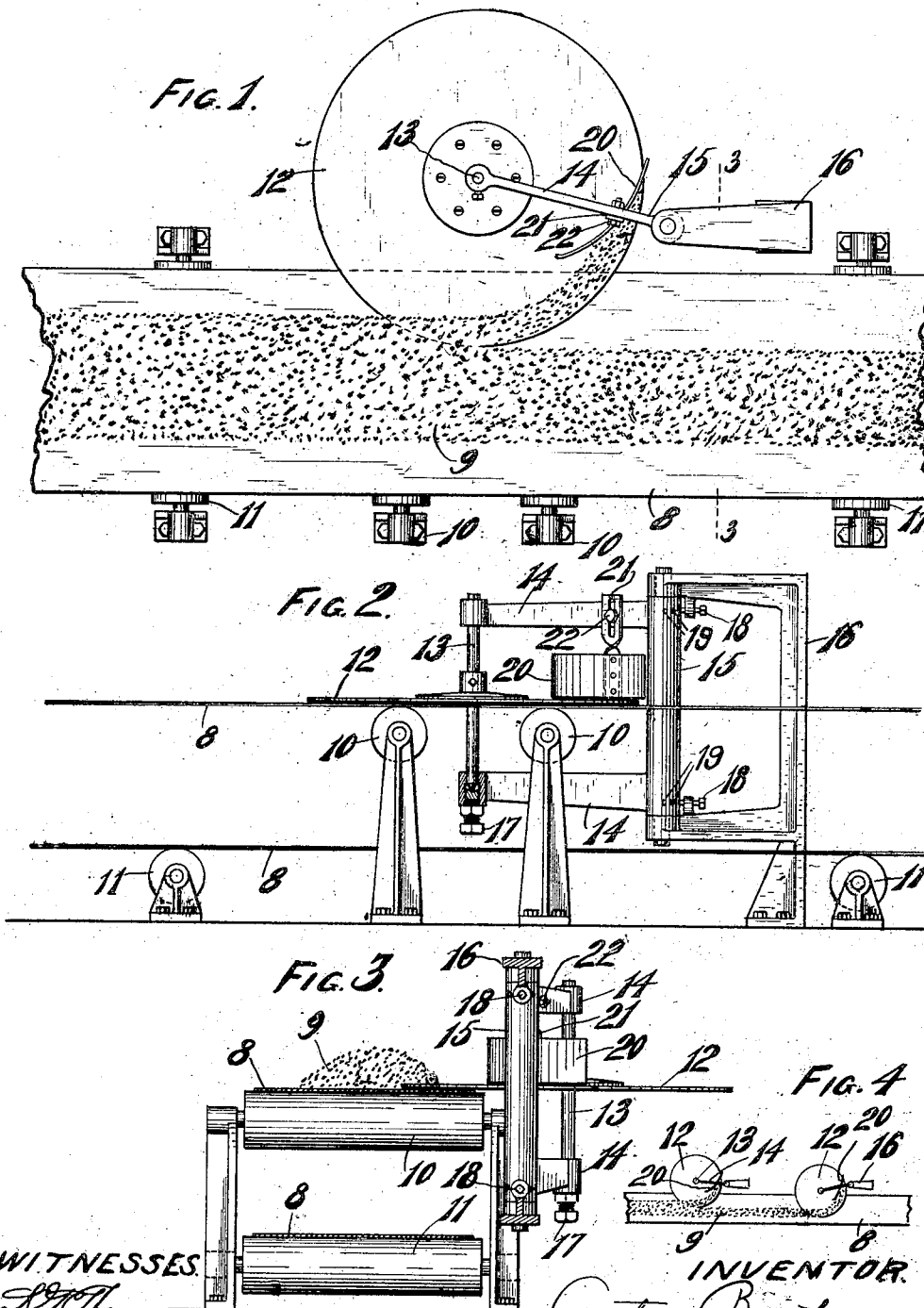


A. BROTZ.
UNLOADER FOR CONVEYERS.
APPLICATION FILED MAY 24, 1911.

1,045,939.

Patented Dec. 3, 1912.



WITNESSES

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UNLOADER FOR CONVEYERS.

1,045,939.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANTON BROTZ, a citizen of the United States, residing in Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in Unloaders for Conveyers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in unloaders for conveyers and more particularly to devices for unloading material from belt conveyers.

It is one of the objects of this invention to provide an unloader for conveyer belts which may be adjusted to unload a portion of or all of the material conveyed by the belt.

A further object of the invention is to provide a conveyer belt unloading apparatus in which a plurality of unloaders may be positioned alongside of but at different points of a conveyer belt to discharge a predetermined amount of the material at said different points.

A further object of the invention is to provide an unloader for conveyers which may be actuated by frictional contact with the conveyer belt and by the material carried thereby.

A further object of the invention is to provide an unloader for conveyers which is in the form of a disk adapted to roll sideways on the surface of the belt and beneath the material carried thereby.

With the above, and other objects in view, the invention consists of the unloader for conveyers and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in the several views Figure 1 is a plan view of the complete unloader shown in connection with a conveyer belt and in the operation of discharging a portion of the material carried by the belt; Fig. 2 is a side view thereof; Fig. 3 is a transverse sectional view; and Fig. 4 is a diagrammatic plan view of two of the unloaders shown unloading material from a belt at different points.

Referring to the drawing the numeral 8 indicates a conveyer belt of ordinary construction which is adapted to convey the ma-

terial 9 on the upper surface of its upper portion. The belt is supported on upper rollers 10 and lower rollers 11. A discharge disk 12 extending over the upper portion of the belt and one or more upper rollers and engaging the upper surface thereof is carried by a vertical shaft 13. The shaft is journaled in the arms 14 of the swing frame 15 and the swing frame is supported by and has its bearing in the standard 16 positioned alongside of the conveyer belt 8. The lower end of the vertical shaft is pointed and rests on top of an adjusting bolt 17 threaded in the lower arm to provide for adjusting the disk with relation to the belt. The swing frame 16 which may be swung horizontally to have the disk overlap the belt more or less is held in adjusted position by means of bolts 18 threaded in the standard 16 and entering the apertures 19 provided in the swing frame 15.

In order to discharge the material from the disk a deflecting plate 20 is adjustably connected to the upper arm 14 of the swing frame and depends downwardly therefrom at an angle and its lower edge is positioned to just clear the upper surface of the disk and to deflect material off the edge of the plate. The deflecting plate is provided with an upstanding slotted arm 21 and a bolt 22 extending through the slot and threaded into the upper arm 14 serves to adjustably connect the deflecting plate to said arm.

In the operation of the unloader as shown in Figs. 1, 2 and 3, a portion of the material carried on the belt will slide on the edge portion of the disk and the frictional contact of the disk with the belt and the material will impart movement to the disk and the disk in rotating will carry the engaged portion of the material off the belt. When the portion of the disk carrying the material passes beneath the deflecting plate the said plate will deflect said material off the edge of the disk and as the material is continuously fed to the disk the operation will be practically continuous.

It is to be understood that the portion of the material which is beyond the plane of movement of the disk shown will be engaged by one or more other similar unloading devices with the disks thereof overlapping the conveyer belt to a greater extent than the disks shown.

Fig. 4 indicates a belt being unloaded by 110

two of the devices in the manner just described.

If it is desired to discharge all of the material from the belt at one point the disk is swung to overlap the portion of the belt carrying the material so that all of the material will slide on the disk and be carried off thereby.

It will also be noted that where a plurality of unloading disks are positioned alongside of a conveyer that any one or more of the disks may be swung out of engagement with the belt to permit the material to be carried thereby and unloaded at other points.

While the disk is shown as rotated by frictional contact with the belt and the material it may be desirable in some cases to positively rotate the disks by a belted or geared connection with a source of motion and it is to be understood that the specification and claims contemplate unloaders operating in this manner.

From the foregoing description it will be seen that the unloader is very simple in construction and operation and may be adjusted to discharge all or a portion of the material carried by the belt at one point or at a plurality of points.

What I claim as my invention is:

1. An unloader for a conveyer, consisting of a revoluble disk journaled in a support and positioned to overlap a conveyer belt to receive material thereon to remove material carried by the belt.

2. An unloader for a conveyer, comprising a support, a frame adjustably carried thereby, and a revoluble disk journaled in the frame and positioned to overlap a conveyer belt to receive material thereon to remove material carried by the belt.

3. The combination with a conveyer belt, of unloading means therefor, consisting of a plurality of disks journaled in supports located at different points alongside of a conveyer belt, said disks overlapping the belt and each succeeding disk overlapping the belt to a greater extent than the preceding disk to remove material from said belt.

4. The combination with a conveyer belt, of unloading means therefor, comprising a

plurality of frames adjustably located at different points alongside of a conveyer belt, and disks journaled in said frames and positioned to overlap the belt, each succeeding disk overlapping the belt to a greater extent than the preceding disk to remove material from said belt.

5. The combination with a conveyer belt, of unloading means therefor, comprising a plurality of supports located at different points alongside of a conveyer belt, frames adjustably connected to said supports and arranged to be swung in a horizontal direction, and disks journaled in said frames and positioned to overlap the belt, each succeeding disk overlapping the belt to a greater extent than the next preceding disk to remove material from said belt.

6. The combination with a conveyer belt, of unloading means therefor, comprising a plurality of supports located at different points alongside of a conveyer belt, frames adjustably connected to said supports and arranged to be swung in a horizontal direction, disks journaled in said frames and positioned to overlap the belt, each succeeding disk overlapping the belt to a greater extent than the next preceding disk to remove material from the belt, means for adjusting the height of the disk with relation to the belt, and a deflecting plate adjustably carried by the frame and positioned to deflect the material off of the disk.

7. An unloader for a conveyer, comprising a support, a frame swingingly carried thereby and provided with projecting arms, means for locking the frame in a fixed position, a vertical shaft journaled in the arms, means for adjusting the shaft vertically, a disk carried by said shaft, a deflecting member carried by the frame and extending above the disk, and means for adjusting the vertical height of said deflecting member.

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

ANTON BROTZ.

Witnesses:

O. A. KROOS,
ROY J. MILLER.