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C. R. RANEY ET AL

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EAR CONVEYER FOR HUSKING ROLLS

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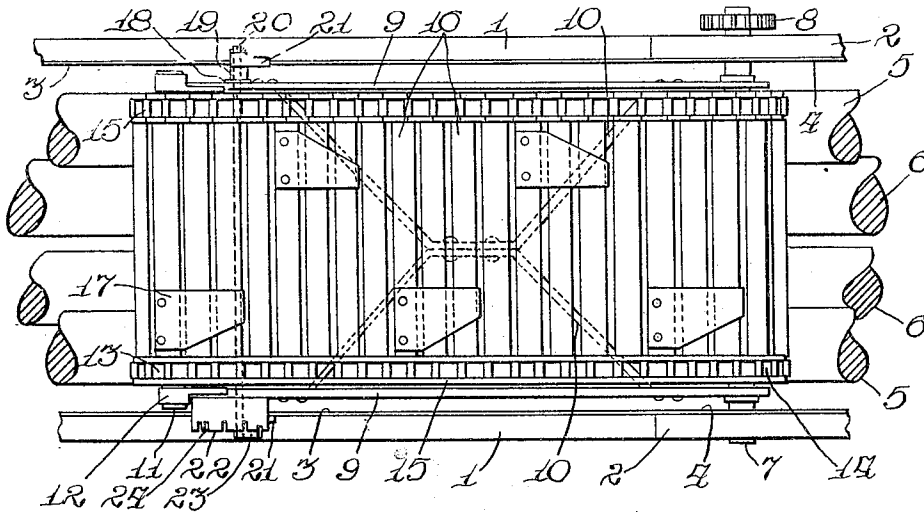


Fig. 1

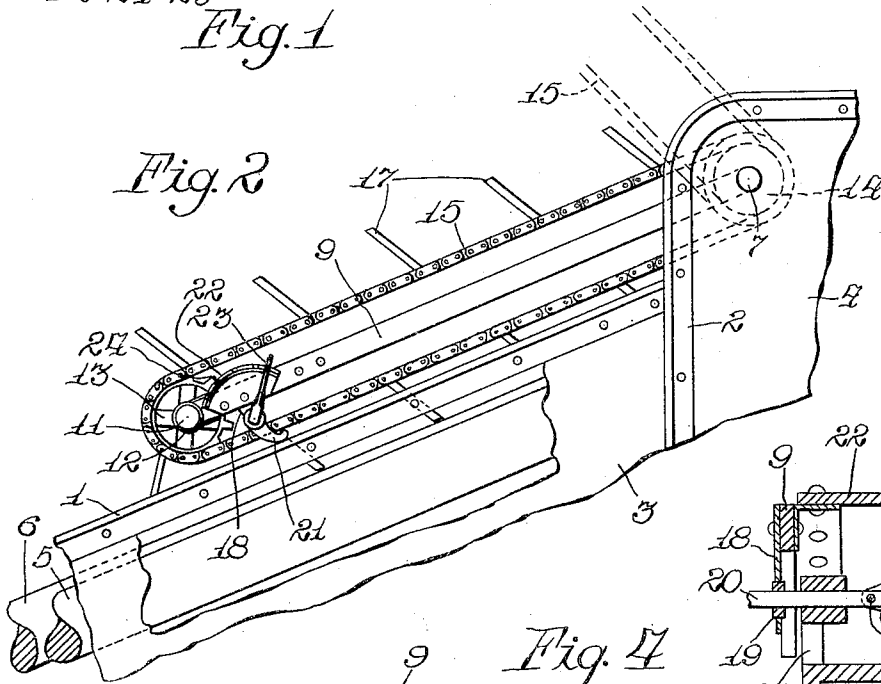


Fig. 2

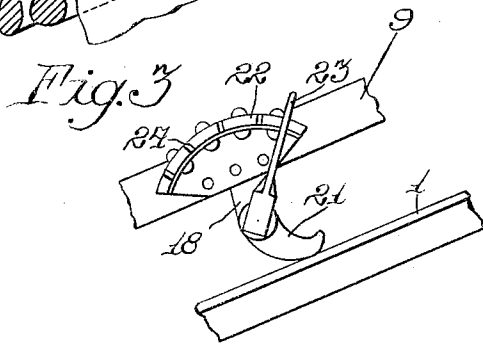
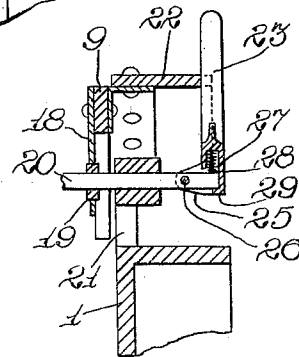


Fig. 3

Fig. 4



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EAR CONVEYER FOR HUSKING ROLLS

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This invention relates to corn pickers.

More particularly it relates to improvements in an ear forwarder adapted to operate over the husking rolls of a corn picker.

The principal object of the invention is to provide an improved ear forwarding means adjustable with respect to the husking rolls.

Another object is to provide such a device which may be pivotally mounted on its driving shaft whereby it may be lifted unto an upright position so as to gain access to the husking rolls for cleaning or repairing without disconnecting the driving mechanism.

The objects of the invention are attained by the construction illustrated in the drawing and described in the detailed description to follow.

Figure 1 is a plan view of a portion of a conventional husking unit in which the invention is embodied;

Figure 2 is an elevation of the structure shown in Figure 1;

Figure 3 is an enlarged elevation of the conveyer adjusting means; and,

Figure 4 is a section showing the same elements as Figure 3.

The device of this invention is suitable for use in connection with any of the well known corn husking units which embody a series of parallel husking rolls. The drawing illustrates the invention as embodied in a husking unit such as shown in the copending U. S. application Serial No. 435,728, filed March 14, 1930. As the construction and mode of operation of such husking units are well known, only such parts have been shown as are associated with the ear forwarding device of this invention.

A pair of downwardly extending frame members 1 in the form of angle bars and a second set of angle bars 2 having vertical portions joining the bars 1 form the frame structure which supports the ear forwarding means. Plates 3 and 4 are attached to the frame members. Two outer husking rolls 5 positioned adjacent the frame members 1 and 2 near the husking rolls 6 positioned at a lower level than the rolls 5 and in cooperating position with respect thereto illustrate the husking means. The husking

rolls may be driven in any well known manner. A shaft 7 is positioned transversely of the husking rolls near the upper end thereof and is rotatably mounted with respect to the plate members 4. A chain sprocket 8 is attached to one end of the shaft 7 and comprises means for driving said shaft. A frame structure for supporting the conveyer of the ear forwarding device consists of flat side bars 9 and the braces 10 rigidly secured to said bars 9 and to each other. The bars 9 are rotatably mounted at their upper ends on the shaft 7. At the lower end of the bars 9 a shaft 11 is mounted for rotation in bearing brackets 12, which are rigidly secured to the bars 9. Chain sprockets 13 are rigidly secured to the shaft 11 near each end on the inside of the brackets 12. Similarly the chain sprockets 14 are rigidly attached to the ends of the bar 7 in alignment with the sprockets 13.

An endless conveyer extends around the frame structure. The conveyer consists of a pair of chains 15 which pass over the chain sprockets 13 and 14 and a series of slats 16 secured to the chains and extending therebetween. A series of resilient flaps 17 are attached at spaced intervals to the slats 16.

At the lower end of the frame structure a bracket 18 is secured to each of the frame bars 9 near the lower end. A bearing 19 is mounted in each of the brackets 18 and a shaft 20 extends through said bearings and laterally beyond the brackets 18 at each side of the frame structure. Cam members 21 are secured to each end of the shaft 20 and are positioned to engage the respective frame members 1, as clearly shown in Figures 3 and 4. The shaft 20 is square in cross section to facilitate the mounting of said cam members.

An adjusting means for changing the relative angular position of the cam members 21 comprises a bracket 22 rigidly secured to one of the side bars 9 and an operating and locking lever 23. The bracket 22 has a laterally projecting engaging edge in the form of an arc having a series of spaced notches 24. The lever 23 is of a thickness which permits its engagement with the bracket 22

by sliding into the notches 24. The lever 23 has a pair of projecting ears 25 at the lower end spaced apart to engage opposite sides of the square shaft 20. A pin 26 in the end of the ears 25 pivotally secures the member 23 to the shaft 20. A bore 27 provides a seat for a compression spring 28 which engages the end of the shaft 24 tending to rotate the top of the lever 23 toward the shaft 20 and into engagement with the notches 24 in the bracket 22. A ledge 29 on the bottom of the lever 23 forms a stop to limit this rotating movement.

The operation of this device will be evident from the preceding description. Through the application of power and a driving chain, not shown, operatively engaging the chain sprocket 8, the shaft 7 is continuously rotated. As the bars 9, which form a part of the frame structure, are rotatably mounted on the shaft 7, the rotation of said shaft does not affect the position of the frame structure. The chain sprockets 14, which are rigidly mounted on the shaft 7, engage the chains 13 of the conveyer and continuously operate said conveyer. At the lower end of the frame structure, the cam members 21 engaging the frame members 1 support the frame structure and likewise the conveyer in spaced relation above the husking rolls 5 and 6. The shaft 7 is rotated to drive the conveyer with the portion adjacent the husking rolls moving downwardly. Ears of corn delivered to the husking rolls by any suitable means are engaged by the resilient pressure element 17 on the conveyer and are maintained in close contact with the husking rolls. It is sometimes desirable to adjust the position of the conveyer and ear forwarding means with respect to the husking rolls. By disengaging the lever 23 from the bracket 22, the forward end of the frame structure carrying the conveyer may be adjusted within a vertical distance equivalent to the difference in radius of the engaging surfaces of the cam members 21.

It is sometimes necessary to inspect and repair or clean accumulated material from the husking rolls. In the device of this invention the lower end of the frame structure and the conveyer carried thereby may be lifted upwardly, as shown by the dotted position in Figure 2. It is also apparent that the frame structure may be lifted while the mechanism is in operation, thereby bringing the portions of the husking rolls into view for inspection or repair.

Although a preferred embodiment of the invention has been illustrated and described, it is to be understood that any construction falling within the scope of the appended claims is contemplated as the invention.

What is claimed is:

1. In a corn picker having two adjacent frame members and a series of downwardly

inclined husking rolls mounted for operation between said frame members, an ear conveying means comprising a driving shaft mounted for rotation on said frame members transversely of the husking rolls at the upper end thereof, a frame structure pivotally attached at one end to said shaft, said structure consisting of a pair of spaced bars and braces rigidly connected to said bars, a shaft mounted for rotation at the lower end of the frame structure, spaced chain sprockets mounted on said shaft, spaced chain sprockets rigidly attached to the driving shaft, an endless conveyer extending around the frame structure and operatively engaging said sprockets, resilient pressure elements carried by said conveyer, means for adjustably supporting the lower end of the frame structure thereby regulating the height at which the conveyer operates above the husking rolls, said means including brackets projecting laterally beyond the conveyer at each side of the frame structure, and means to simultaneously alter the vertical position of said brackets relative to the frame members.

2. In a corn picker having two adjacent frame members and a series of downwardly inclined husking rolls mounted for operation between said frame members, an ear conveying means comprising a driving shaft mounted for rotation on said members transversely of the husking rolls at the upper end thereof, a frame structure pivotally attached at one end to said shaft, said structure consisting of a pair of spaced bars and braces rigidly connected to said bars, a shaft mounted for rotation at the lower end of the frame structure, spaced chain sprockets mounted on said shaft, spaced chain sprockets rigidly attached to the driving shaft, an endless conveyer extending around the frame structure and operatively engaging said sprockets, resilient pressure elements carried by said conveyer, means for adjustably supporting the lower end of the frame structure thereby regulating the height at which the conveyer operates above the husking rolls, said means comprising brackets rigidly attached to the opposite sides of the frame structure, a shaft rotatably carried by said brackets, cam members rigidly secured to the ends of said shaft and adapted to contact with the frame members, means for rotating said shaft, and means for locking said shaft in a plurality of positions.

In testimony whereof we affix our signatures.

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