No. 731,178. PATENTED JUNE 16, 1903.

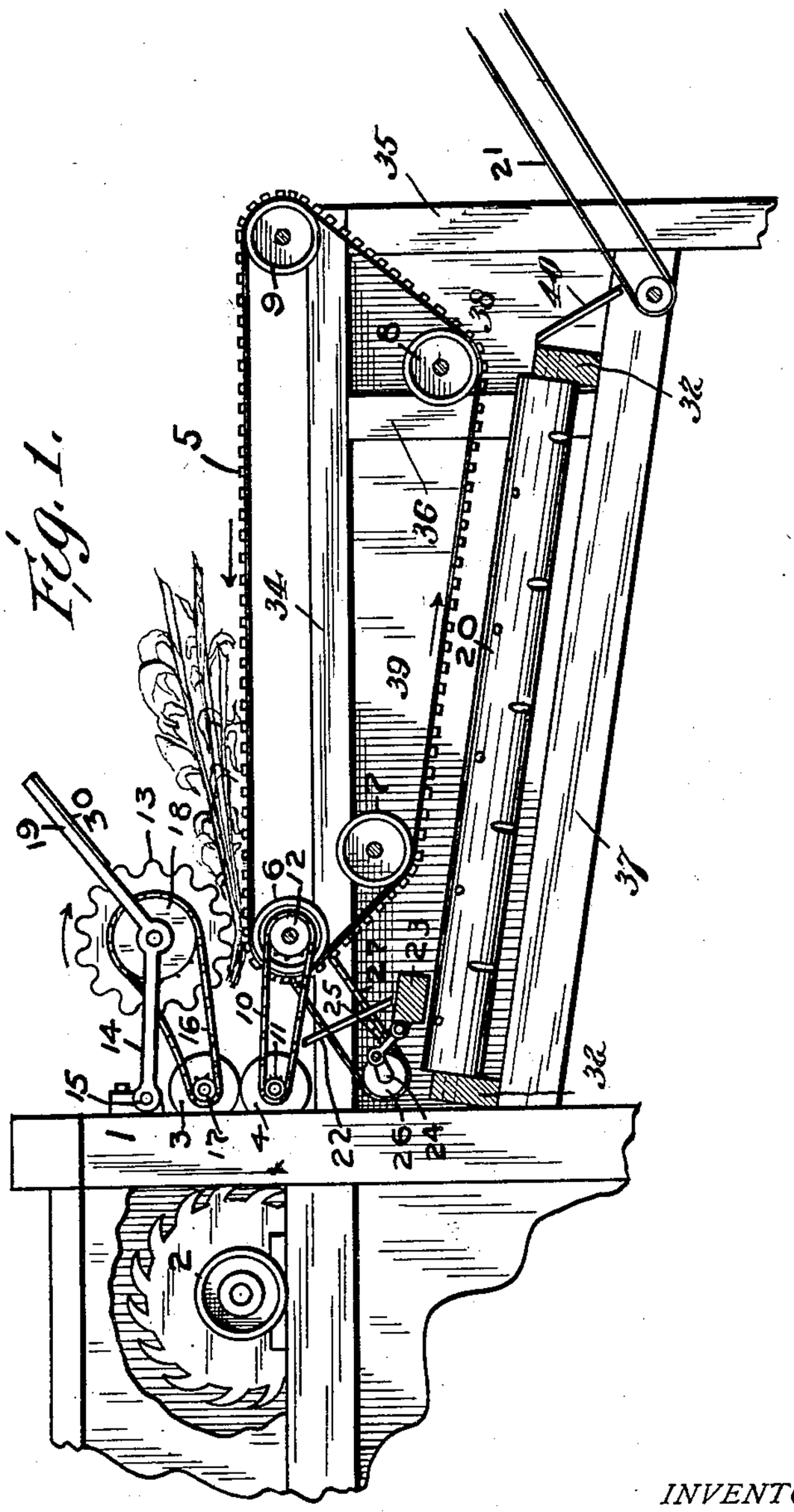
J. R. HALL.

# CORN HUSKER AND FODDER SHREDDER.

APPLICATION FILED DEC. 10, 1900.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

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APPLICATION FILED DEC. 10, 1900.

NO MODEL. 2 SHEETS—SHEET 2.

FIG. 2.

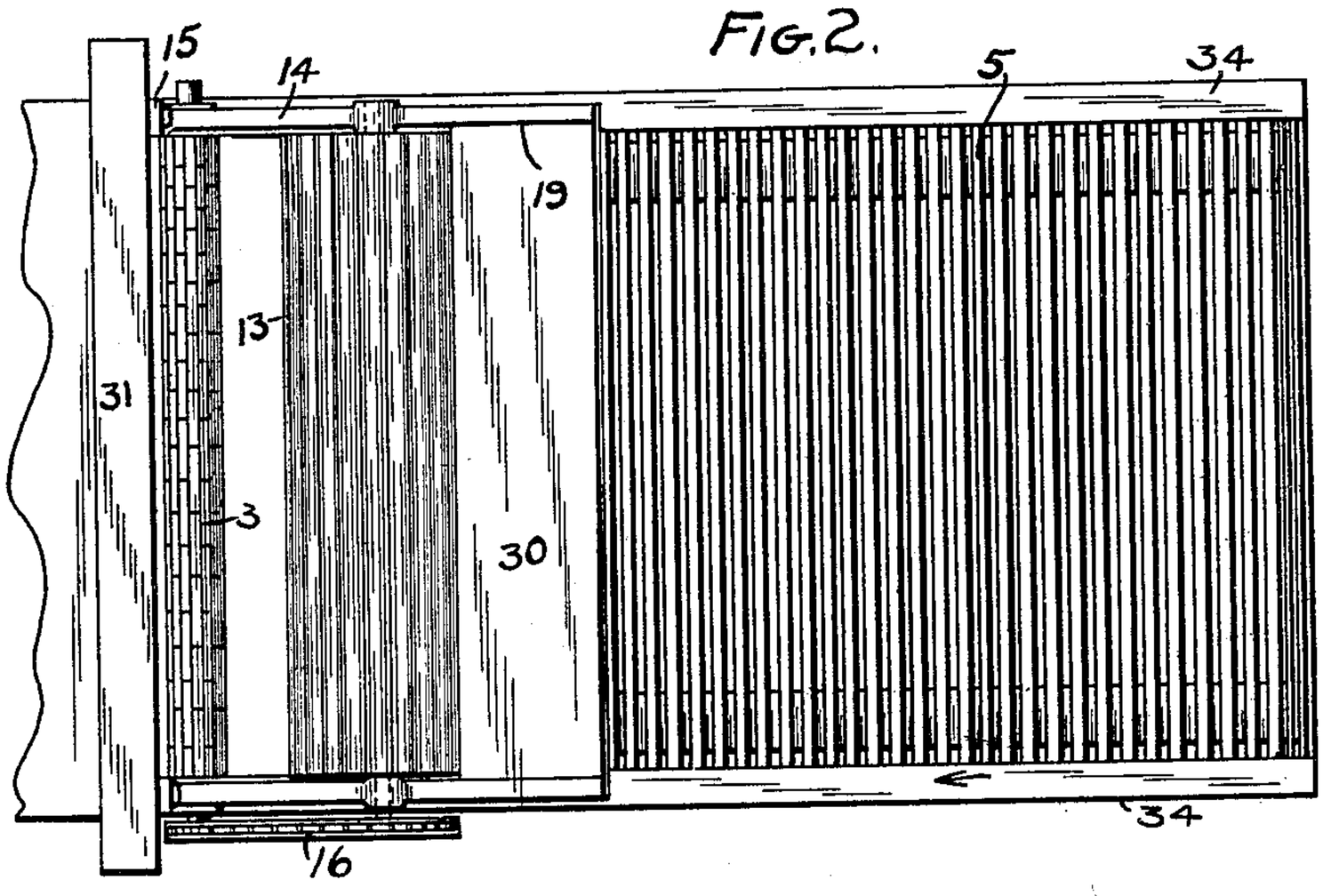
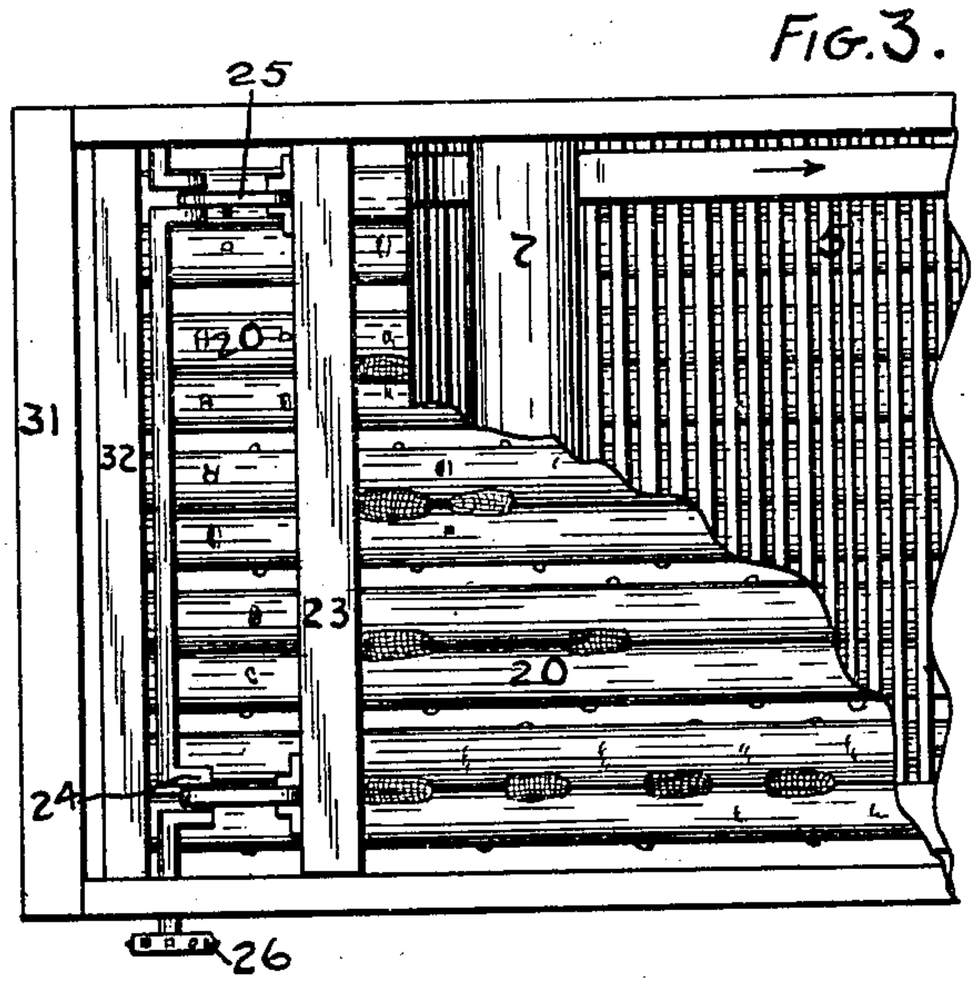



FIG. 3.

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# UNITED STATES PATENT OFFICE.

JOSEPH R. HALL, OF INDIANAPOLIS, INDIANA.

## CORN-HUSKER AND FODDER-SHREDDER.

SPECIFICATION forming part of Letters Patent No. 731,178, dated June 16, 1903.

Application filed December 10, 1900. Serial No. 39,281. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH R. HALL, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Corn-Husker and Fodder-Shredder; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to novel features in the construction and arrangement of the parts of a corn-husking and fodder-shredding machine.

One feature of the invention consists in providing a gravity-depressed corrugated feed-roll over the inner end of the main conveyer that coöperates with the said conveyer in effecting a proper feed and the combination therewith of a deflecting-board that extends from the feed-roll toward the front part of the feeding apparatus and is inclined upwardly from the feed-roll. This deflecting-board and the feed-roll are mounted on a pair of arms or bars pivoted to the front part of the machine, so as to ride by gravity upon the fodder being fed into the machine, and the lower part of the feed-roll extends below said deflecting-board. The effect of this is to provide a sort of feed-gate at the inner end of the conveyer and in close proximity to the snapping-rolls to prevent the possibility of the hands of an attendant becoming caught between the snapping-rolls and also to form a bar to arrest the movement of the upper portion of the mass of material on the conveyer, and the feed-roll being positively driven and extending below the deflecting-board or rear portion of the gate coacts with the conveyer below said deflecting-board or gate to force the fodder between the snap-rolls. This causes a constantly uniform feed. These and the other features of my invention will fully appear in the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a side elevation of the front portion of the machine with parts cut away to represent a side elevation of the machinery in which the invention resides. Fig. 2 is a plan of the front portion of the machine. Fig. 3 is a plan of the husking-rolls and coöperating parts, the guard-board being removed and other parts broken away to more fully present the invention.

In the machine herein shown a suitable frame is provided having, among other parts, an upright 1 on each side and a cross-piece 31 at the top.

2 is a shredding-cylinder mounted crosswise and horizontally in the machine and to which the fodder is fed mechanically between the snap-rolls 3 and 4. The ears of corn are forced off by said snap-rolls as the fodder passes between them. The portion of the machine so far described is old.

In front of the snap-rolls a slatted feed-conveyer 5 is mounted on the rolls 6, 7, 8, and 9, which at each end are rotatably mounted on the sides of the frame formed by the uprights 1, horizontal beams 34, uprights 35 and 36, and inclined lower beams 37. 38 and 39 are side walls of this frame. This framework at the front part of the machine is not new nor are the rollers 6 and 9, mounted at each end upon the beams 34. The roller 7 is mounted on a bearing (not shown) on the under side of the beam 34 and the roller 8 in a similar bearing (not shown) on an outer face of the uprights 36. The side walls 38 and 39 form a feed-trough in the bottom of which the feed conveyer or carrier operates.

The feed conveyer or carrier is driven by the chain 10, running from the sprocket-wheel 11 on the shaft of the snap-roll 4 to the sprocket-wheel 12 on the shaft of roller 6. The fodder is placed or fed upon the conveyer 5 and by it is carried under the feed-roll 13, the surface of which is longitudinally corrugated and causes it as it is rotated to grasp and force the fodder between the snap-rolls. The feed-roll 13 is mounted horizontally above the roller 6, that carries the inner end of the conveyer in a pair of horizontal bars 14, pivotally mounted at 15 to the frame-uprights 1 just over the snap-roll 3. This permits the feed-roll to be moved downward by gravity and to ride freely on the fodder, according to the bulk or amount passing under it. The surface of the roll 13 has no openings in it whereby the stalks of fodder can catch in the roll. It is driven by the chain 16, extending from the sprocket-wheel 17 on the shaft of the snap-roll 3 to the sprocket-wheel 18 on the spindle of said feed-roll 13.

A pair of arms 19 are rigidly connected with the bars 14 and extend forward and upward therefrom on each side of the feed-roll 13 to

carry the board or gate 30, which acts as a guard or fender to prevent any fodder passing above the feed-roll and has a gate that forms a guard which effectively prevents an attendant from getting his hands caught between the snapping-rolls when feeding grain thereto. Furthermore, the board or gate 30 coacts with the feed-roll and the feed conveyer or carrier in regulating the quantity fed to the snapping-rolls and preventing the latter from becoming choked, for said board or gate forms a bar to arrest the movement of the upper portion of the mass of material on the feed conveyer or carrier. This construction makes a very simple, economical, and positive feed mechanism, there being in addition to the conveyer merely the feed-roll 13. One effect of the construction is that the operation and speed of the feed-roll are regulated and controlled by the snap-roll, so that there will be a relative uniformity of movement of the two rolls. Since none of the fodder can catch in the feed-roll or pass above it, it all passes between said roll and the conveyer with uniformity and without hindrance or interference.

The ears of corn which are torn from the fodder by the snap-rolls fall upon the husking-rolls 20, which are arranged in pairs and mounted at each end in the cross-piece 32, secured on the beams 37. These rolls are rotated by means not here shown, but familiar to all skilled in the art, so that the two rollers of each pair turn toward each other to catch the husks and pull them away from the ears of corn. There is nothing new in the husking-rolls herein shown or in the mounting and the means for driving them. The corn passes over said rolls and over the board 40 and upon the discharge-conveyer 21. To assist in the movement of the corn down over said husking-rolls and to prevent lodgment in accumulation of corn, especially where husks are caught between the rolls and hold the ears of corn stationary, I provide the rollers 7 and 8 for lowering the under side of the conveyer 5 to bring it in close proximity to and parallel with the series of husking-rolls, whereby the slats of the conveyer knock down the ears of corn, thus coöperating with the husking-rolls to separate the ears of corn from the husks and always moving the ears of corn downward and out of the machine. This is an important invention to prevent the choking of the machine and the interruption of its operation.

To coöperate with the arrangements of the conveyer or carrier in keeping the machine clear of accumulations of ears of corn, I provide the horizontal push-bar 23, that is located above but near to the series of husking-rolls near their inner ends, extending entirely across the series. It is constantly reciprocated upon the husking-rolls by the links 25, connected with the crank-shaft 24, mounted on the under side of the beams 34 and driven by the chain 27 from the roller 6, that runs over the sprocket-wheel 26 on said crank-shaft. To prevent the ears of corn when dropping from the snap-rolls lodging behind the bar 23, I provide a stationary guard-board 22, secured at each end to the sides of the frame of the front part of the machine and extending down inclined to a point immediately above the bar 23. The lower end of the plate must not extend behind the rear edge of the bar when in its outward limit of movement.

From the foregoing description it is clear that the corn will drop down upon the husking-rolls in front of the bar 23 and the husks thereof will be caught by the husking-rolls, and the reciprocating movement of the bar 23 against the ears of corn will separate the ears from the husks and push the ears down within the grasp of the conveyer 5. With the construction I have devised no ear can possibly escape the action of the bar 23, for it extends across the entire series of husking-rolls. The same is true of the conveyer 5, and therefore there is no chance for this machine to choke under any circumstances, and the continued and uniform operation of the machine, whether in feeding or in discharge of the ears of corn, will not be interrupted at any time.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a corn-husker and fodder-shredder, the combination of an endless feed conveyer or carrier, a board or gate pivoted and inclined rearwardly down toward the discharge portion of the feed-carrier, said board or gate forming a bar to arrest the movement of the upper portion of the mass of material on the feed conveyer or carrier, and a positively-driven feed-roll carried by the rear portion of the board or gate, having its lower side which coacts with the feed conveyer or carrier below said gate adapted to rise and descend therewith, substantially as described.

2. A corn-husker and fodder-shredder including an inwardly-movable conveyer, a corrugated feed-roll, bars pivoted to and extending forward horizontally from the framework to hold the roll over the inner end of the conveyer, means for rotating the feed-roll so the lower edge will move inward toward the mouth of the machine, arms rigidly secured to the feed-roll-supporting bars and extending forward and inclined upward from the feed-roll, and a horizontal plate secured in an inclined position to said arms with its edge parallel with and close to said feed-roll.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

JOSEPH R. HALL.

Witnesses:
V. H. LOCKWOOD,
LAURA HITT.