No. 770,639. PATENTED SEPT. 20, 1904.

J. D. HIDY.

CORN HUSKING MACHINE.

APPLICATION FILED AUG. 31, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

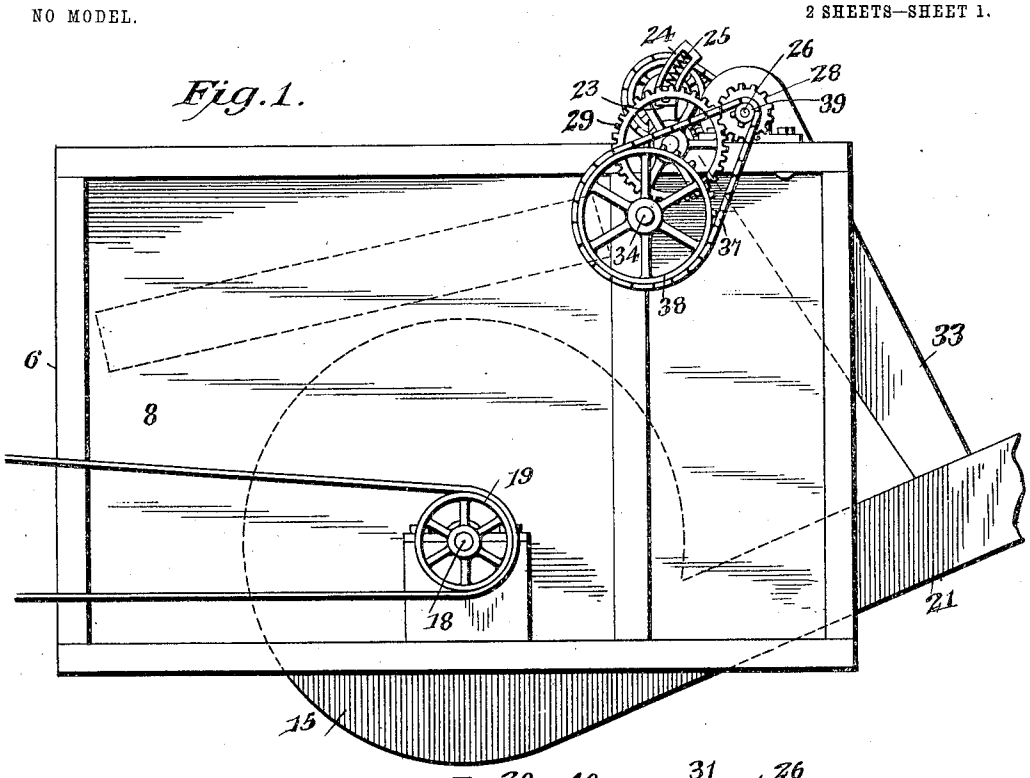
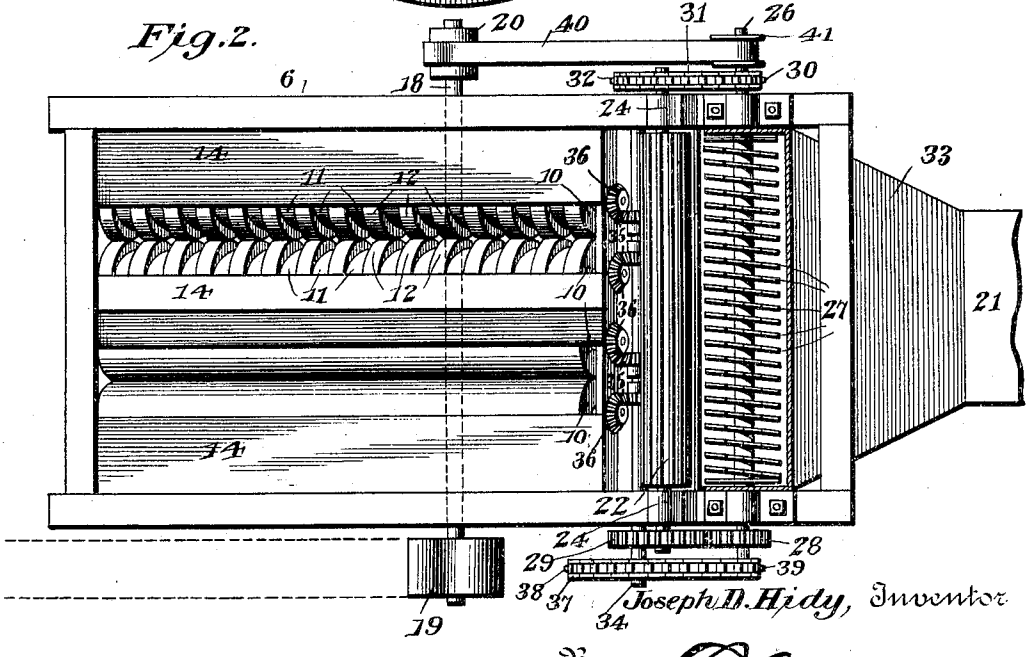


Fig. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

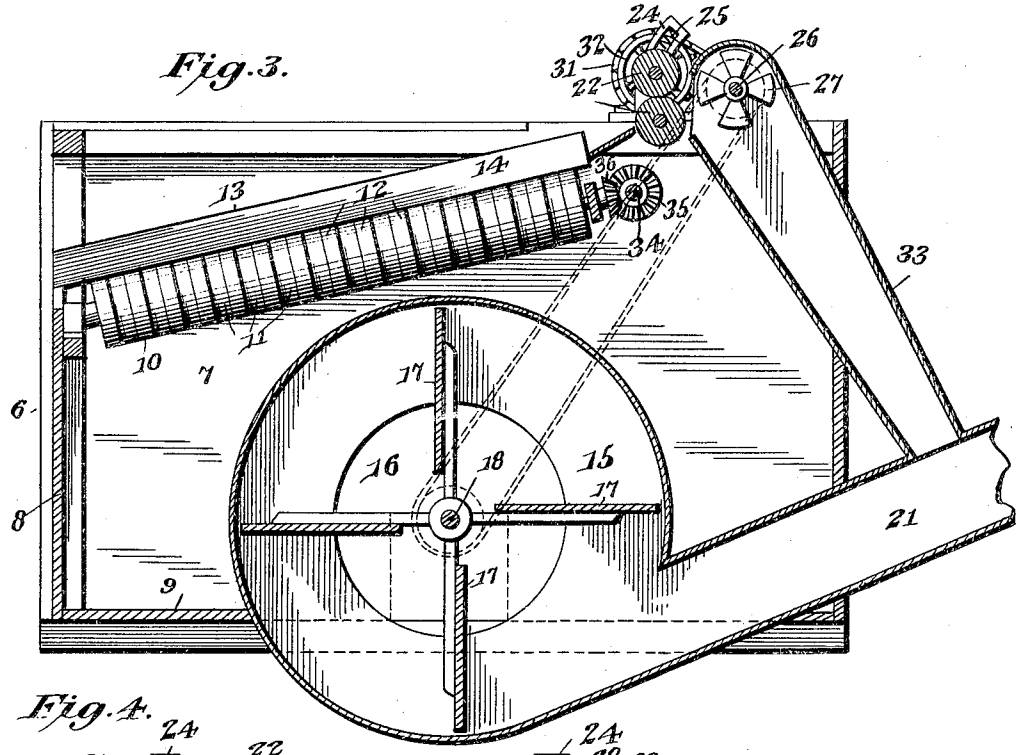


Fig. 4.

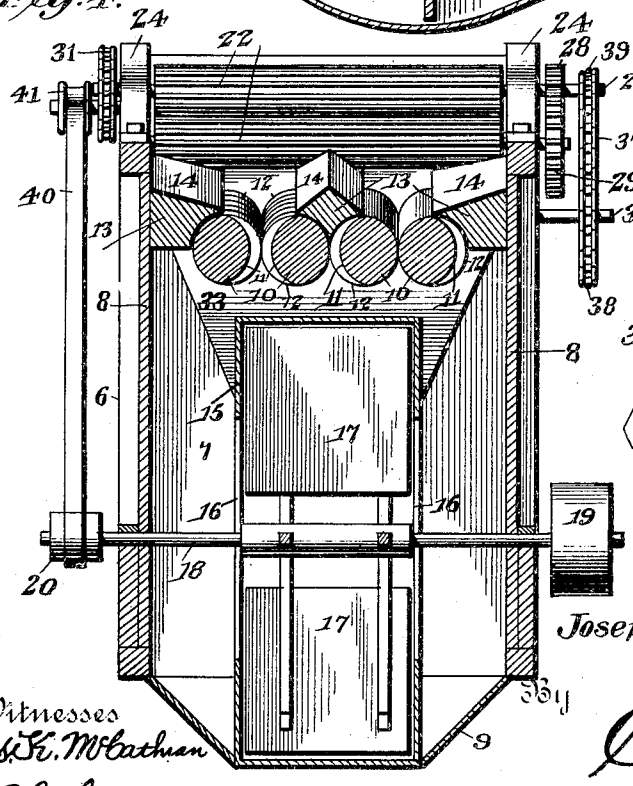
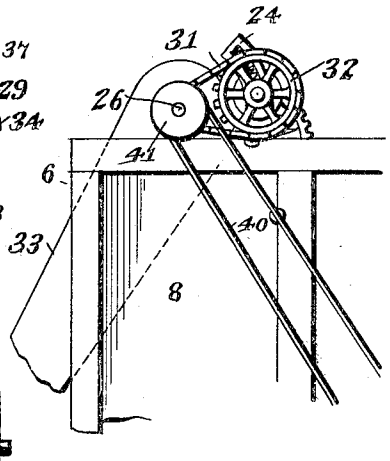


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH D. HIDY, OF WASHINGTON COURT-HOUSE, OHIO.

CORN-HUSKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 770,639, dated September 20, 1904.

Application filed August 31, 1903. Serial No. 171,404. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH D. HIDY, a citizen of the United States, residing at Washington Court-House, in the county of Fayette and State of Ohio, have invented a new and useful Corn-Husking Machine, of which the following is a specification.

In all corn-husking machines of which I am aware it has been necessary to provide mechanical devices of various sorts—such as pins, projections, and extra rollers—for effecting the engagement of the husks between the husking-rollers. These devices have proven very objectionable, as they loosen and shell the corn, thereby wasting it besides impairing the marketable value of the ears.

One object of the present invention is to provide mechanism which will thoroughly husk the corn and remove the silk therefrom without injuring the product, the ears passing over comparatively smooth surfaces, so that all projections and like objectionable features are obviated. This structure, moreover, is extremely simple, so that it may be manufactured at small cost.

Another object is to provide a husking-machine of the above nature that will operate rapidly without decreasing its efficiency.

A still further object is to provide shredding means in connection with the husker and to so construct the discharge from the husking mechanism that it will so constitute means for removing the shredded material.

An embodiment of the invention which is at present considered the preferable one is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the husking-machine. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal sectional view. Fig. 4 is a cross-sectional view. Fig. 5 is a detail elevation of a portion of the side opposite that illustrated in Fig. 1.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment of the invention illustrated a frame 6 is employed, within which is formed what may be termed a "vacuum-chamber" 7 by means of side walls 8 and a bottom 9. The top of this vacuum-chamber is the husking mechanism, which consists of longitudinally-disposed sets of rollers 10, journaled at their ends. These rollers are each provided in one side with a longitudinally-disposed series of transverse recesses 11, spaced apart sufficiently to form smooth-faced bosses 12. As a result of this construction the main body of the roller is disposed eccentrically to the axis thereof, while the peripheral surfaces of the bosses are located concentric to the same. The remainder of the peripheral faces of the rollers, exclusive of the portions having recesses, are preferably smooth and unbroken. The outer portions of the rollers of each set are covered with longitudinally-disposed guard-bars 13, the upper faces 14 of which are inclined toward the coacting portions of the rollers. Located within the vacuum-chamber is a fan-casing 15, having inlet-openings 16 in its opposite sides. A fan 17 of comparatively great capacity is located in the casing, being attached to a shaft 18, that passes through the casing and projects from the chamber. One end of this shaft carries a driving-pulley 19, to which the power for operating the machine is applied, the other end being also provided with a pulley 20. A discharge-spout 21 leads from the fan-casing through the chamber and projects from the rear of the machine.

Snapping-rolls 22 are located across the top of the machine adjacent to the upper ends of the husking-rollers. One of these rolls is journaled in stationary bearings, the other being revolubly mounted in movable bearings 23, slidably fitted in guide-brackets 24, that are curved, as shown. Springs 25, located in the guide-brackets and bearing against the boxings 23, urge the upper roller into coaction with the lower one. A shredder-shaft 26 is located in rear of the snapping-rolls and is provided with suitable knives 27, that shred the material passed through said rolls. This shaft 26 carries at one end a gear-wheel 28, meshing with another wheel 29, affixed to the

gudgeon of the lower snapping-roll. The other end of the shaft 26 carries a sprocket-wheel 30, which is connected, by means of a sprocket-chain 31, with another sprocket-wheel 32, affixed to the upper snapping-roll. The shredded material is carried to the discharge-spout 21 of the fan from the shredder by means of a downwardly and rearwardly inclined conduit 33, communicating at its lower end with said spout.

The husking-rollers are actuated from a transverse shaft 34, journaled in the machine and having oppositely-disposed sets of beveled gears 35, meshing with similar wheels 36, carried by the upper gudgeons of said husking-rollers. This gearing is so arranged that the rollers are revoluble at the same speed, and the recesses thereof will move simultaneously into coacting relation. The shaft 34 is driven from the shredder-shaft 26 by means of a sprocket-chain connection 37, passing about the sprocket-wheels 38 and 39, that are carried, respectively, by the shafts. The shredder-shaft is itself driven from the fan-shaft, and to this end a belt 40, passing about the pulley 20, also passes around a pulley 41, secured to one of the projecting ends of the shredder-shaft.

The operation of the machine is as follows: When the fan is revolving, it will be evident that the remainder of the mechanism will also be in movement and that a partial vacuum will be maintained in the vacuum-chamber. The cornstalks are fed between the snapping-rollers, and the ears removed thereby will gravitate onto the husking-rollers. As soon as the recesses of these rollers move into coacting relation and from beneath the cover or guard bars currents of air pass through the same, and consequently the husks and silk will be drawn between the rollers. As soon as these recesses pass out of alinement the smooth surfaces of the rollers will engage the husks and thoroughly remove the same, the ears gravitating down the rollers and passing from their lower ends entirely cleaned. The separated husks and silk will thus be in the vacuum-chamber and, being drawn by the fan into the casing, will be passed by the blast through the spout and from the rear of the machine. In the meantime the stalks will have been shredded and passed through the conduit into the discharge-spout of the fan, the fodder thus being discharged by the same fan which creates the blasts or currents through the husking mechanism.

A machine constructed in accordance with the present invention will thoroughly remove the husks and silk without materially injuring the ears or shredding the corn. This will be evident, as it will be seen that said ears travel over comparatively smooth surfaces, the bosses formed by the recesses being so arranged that they will not strike or impinge in the corn upon said ears. This machine will operate with comparatively great rapidity.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-husking machine, the combination with a vacuum-chamber, of an upright fan-casing located within the same and having an inlet in its upright side, a discharge-spout leading from the fan-casing and from the chamber, a fan located in the casing, coacting revoluble rollers constituting a portion of the walls of said chamber, one of said rollers having a plurality of transversely-disposed spaced recesses that extend but partially about the roller and move past the opposing roller during the revolution of said rollers, the remainder of the surface between the ends of the recesses coacting with the surface of the opposing roller to strip the husks, means for simultaneously revolving the rollers, and a guard extending over and fitting upon outer side of said roller having the recesses.

2. In a corn-husking machine, the combination with a vacuum-chamber, of an upright fan-casing located within the same and having its opposite side walls provided with inlet-openings communicating with said chamber, a discharge-spout leading from the casing, a fan journaled in the casing, coacting revoluble rollers located over the casing and constituting a portion of the top wall of the vacuum-chamber, said rollers having transversely-disposed spaced recesses that extend but partially about the roller, means for normally revolving the rollers and bringing the same into apposition to form channels therebetween to permit the passage of air to the vacuum-chamber, and guards located over the outer sides of the rollers and having downwardly-inclined upper faces constituting guides for the coacting portions of the rollers.

3. In a husking-machine, the combination with a vacuum-chamber, of means of exhausting the air therefrom, sets of coacting rollers constituting a portion of the walls of the chamber, the rollers of each set having transversely-disposed recesses, and means for rotating the rollers to alternately bring the recesses of each set into apposition, thereby forming channels through which the air may pass to the chamber.

4. In a husking-machine, the combination with sets of coacting rollers, the said rollers of each set being constructed to permit the passage of currents of air at intervals between them, of a fan for creating currents of air through the rollers, and means for rotating the rollers to cause said currents of air to alternate between the sets.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH D. HIDY.

Witnesses:
JAMES L. ZIMMERMAN,
POPE GREGG.