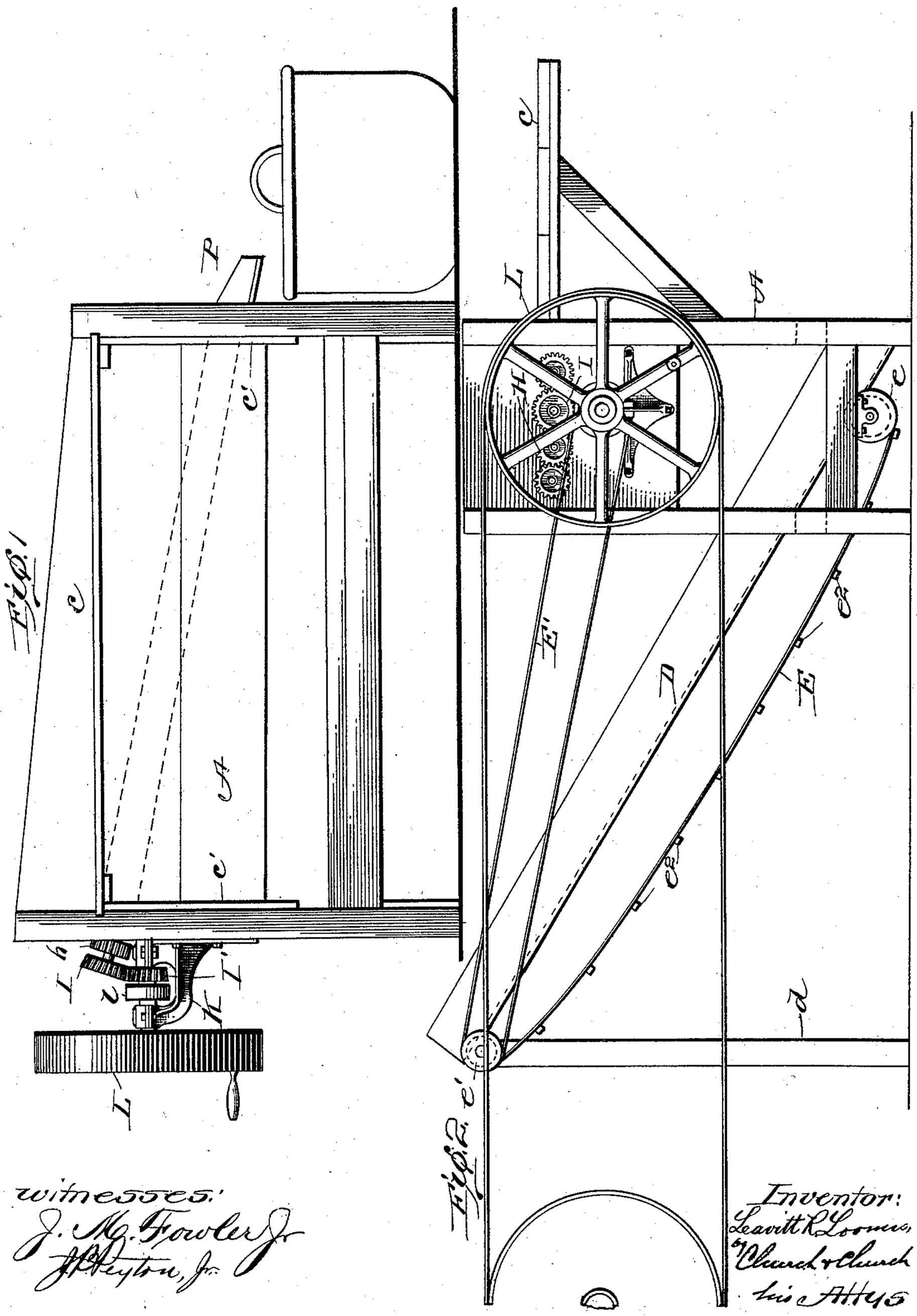
No. 705,770. Patented July 29, 1902.

L. R. LOOMIS.

CORN HUSKER.

(Application filed Dec. 14, 1901.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses:
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Fig. 3.

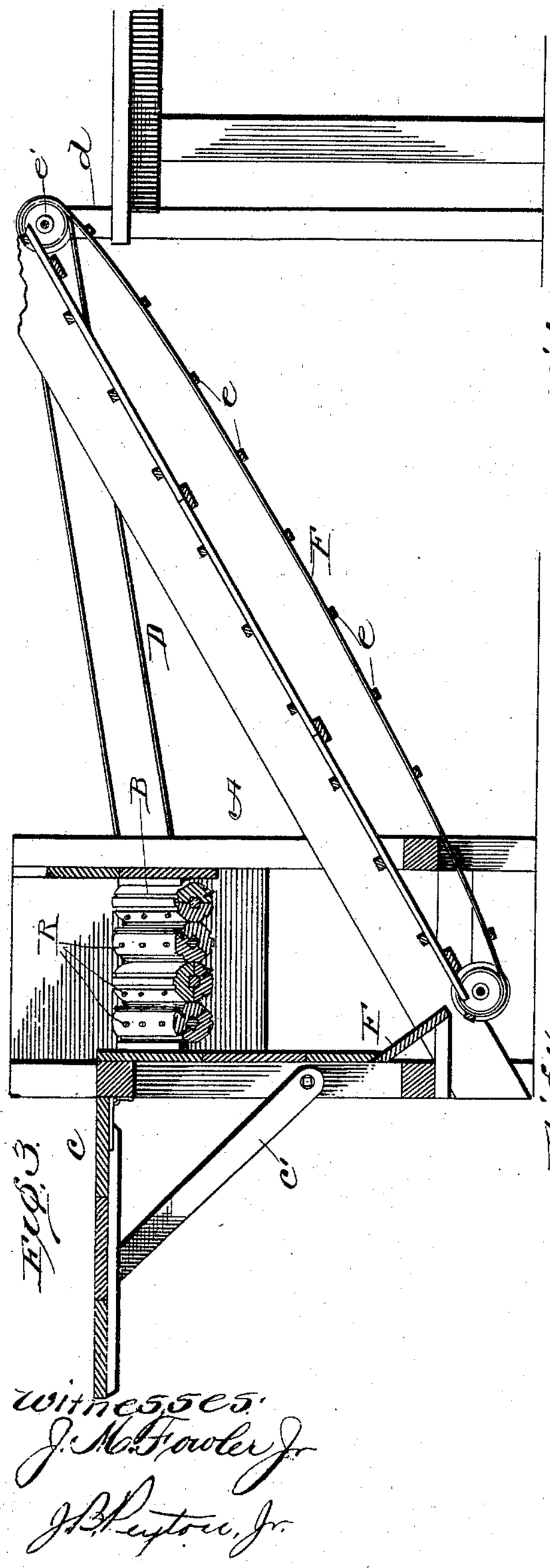


Fig. 5.

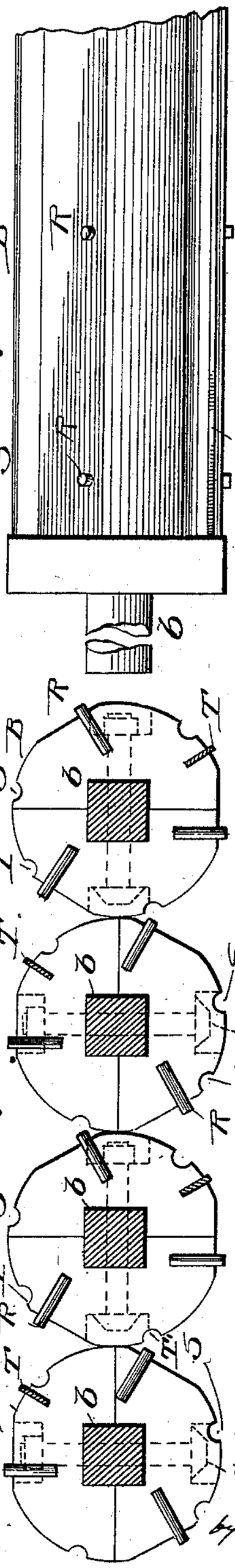
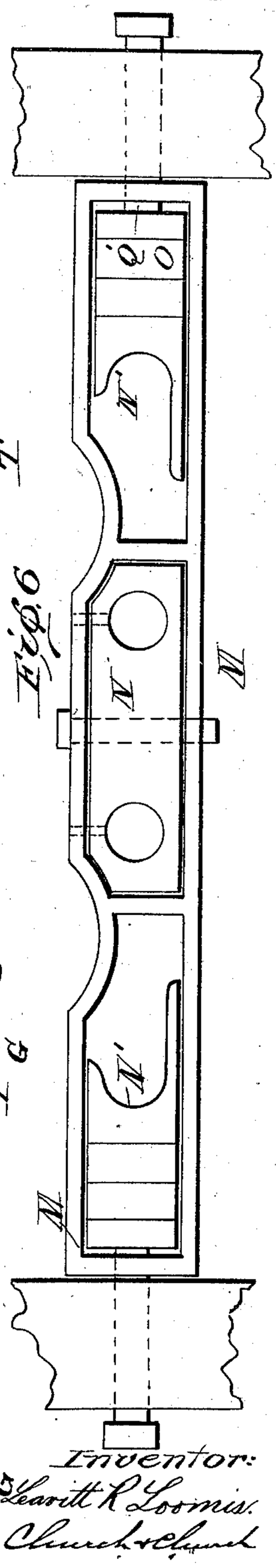


Fig. 4.

Fig. 6.



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UNITED STATES PATENT OFFICE.

LEAVITT R. LOOMIS, OF HUMPHREYSVILLE, NEW YORK.

CORN-HUSKER.

SPECIFICATION forming part of Letters Patent No. 705,770, dated July 29, 1902.

Application filed December 14, 1901. Serial No. 85,960. (No model.)

To all whom it may concern:

Be it known that I, LEAVITT R. LOOMIS, of Humphreysville, in the county of Columbia, State of New York, have invented certain new and useful Improvements in Corn-Huskers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in apparatus for husking corn, the objects of the invention being to provide an apparatus which will completely remove the husk from the ears and separate the ears from the stalk without injuring the ears or grains of corn and which will also deliver the stalk, husk, and leaves in good condition for subsequent handling, bundling, &c., separate from the husked ears.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of an apparatus embodying the present improvements. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical section taken at right angles to Fig. 2 and looking in the opposite direction from Fig. 2. Fig. 4 is a detail section through the rolls on an enlarged scale. Fig. 5 is an elevation of a section of one of the rolls. Fig. 6 is a detail of one of the bearings for one end of the rolls.

Like letters of reference in the several figures indicate the same parts.

The letter A indicates the main frame, which may be of any suitable form, size, or construction, but is preferably a simple timber frame of general rectangular form and adapted to carry within it the shucking-rolls B. The number of pairs of rolls employed is also immaterial, two pairs being embodied in the machine illustrated, all mounted in an inclined plane and being held at the ends in bearings, to be presently described. At one side of the frame above the plane of the rolls is a horizontal feed-table *c*, preferably hinged to the frame and supported by a bracket or brace *c'*, thereby adapting it for folding to facilitate storage or transportation. On the opposite side of the frame and extending diagonally upward from a point below the rolls is a conveyer for the stalks, shucks, and fodder which pass through the rolls. This conveyer is preferably supported by the supplemental frame D, connected at the lower end with the main frame A and, if desired, suitably supported at the outer end by legs or braces *d*. The conveyer itself is formed by belts E, running over rollers *e e'* and having transverse slats e^2, as is usual in conveyer construction. One of the rollers, preferably the roller *e'*, is a drive-roller and receives its motion from the drive-gearing through a belt E', and the stalks, husks, &c., are directed onto the conveyer by the hopper side or guide-board F. (Shown clearly in Fig. 3.)

The husking-rolls B, before referred to, are preferably hard-wood rolls made in solid halves and mounted on metal cores or shafts *b*, Figs. 4 and 5, the halves being clamped in position by suitable through-bolts G, shown in dotted lines in said figures, and in addition have metal bands applied to the ends. The rolls are arranged in pairs and receive their motion through gear-wheels H, Fig. 2, meshing together. One of the shafts *b* is extended beyond its gear-wheel *h* and receives a miter-gear I, the latter meshing with a gear I' on a drive-shaft supported in a bracket K and adapted to receive a belt-pulley L, through which motion is imparted to the shaft, and a second belt-pulley *l*, over which the belt E' for the conveyer passes. The bearings in which the rolls are mounted are preferably supported in metal cross-frames M, Fig. 6, the central rolls being mounted in fixed but removable boxes N, while the side rolls of each pair are mounted in adjustable boxes N'. The boxes N' are held up to working position with an elastic pressure, as by the rubber springs O, and the adjustment is secured by set-screws O', adapted to exert pressure against the rubber spring and adjustable boxes, as will be readily understood. The cross-frames M at opposite ends of the machine are arranged one much higher than the other, thereby giving the rolls a sufficient inclination to insure the feeding of the shucked ears of corn down over said rolls toward the

discharge end of the machine, where said ears are received by a chute P and conducted off into a suitable receptacle.

In order to effect the shucking operation expeditiously without danger of injury to the ears of corn and in such manner as to discharge the stalks, husks, &c., in good condition for subsequent handling, the rolls B are provided with husking-pins R, which project slightly beyond the peripheries of the rolls and are adapted to enter semicircular recesses or grooves S in the coöperating roller. The face of each of the rollers in advance of and immediately surrounding the husking-pins R is flattened or cut away, so as to reduce the diameter of the roll at this point. Thus while the pin only projects slightly above the general peripheral line of the rolls nevertheless the pin projects a considerable distance above the actual surface of the roll surrounding the pin. The result of this construction is that the stalks, fodder, and husks drop into the space in advance of the pins and are readily caught thereby and carried through between the rolls, while the solid ears themselves are rejected or supported by the rolls during the time the husks are being torn therefrom.

For the purpose of severing the ear from the husk, stalk, &c., which has been drawn through between the rollers knives T are provided in each of the rollers adapted to coöperate with grooves T′ in the adjacent roller immediately in rear of the husking-pins R. Thus the pins having removed the husk from the ear, leaving the ear standing or lying above the rollers, the knives strike the stem near the ear, sever the same, and permit the ear to slide down the rolls and be discharged onto the spout P and so into the receptacle. The stalks, husk, &c., pass through the rolls, drop onto the conveyer and are carried out away from the machine and into position to be readily gathered up for bundling or for further manipulation.

In the operation of the machine the stalks of corn carrying the husks and ears are distributed on the feed-table horizontally and pushed by the attendant off of the feed-table and onto the husking-rolls, still maintaining their substantially horizontal position. Consequently although the ears are separated therefrom the stalks and husks are carried through the rolls while still maintaining such position or at least maintaining such relative order that they may be conveniently handled by the conveyer and discharged in shape for future manipulation.

Obviously power for running the machine may be derived from any suitable source, or the drive-pulley L may be in the form of a crank-handle for the manual application of power, or a crank-handle may be applied directly to said wheel; but it is preferred to drive the machine by suitable power, as a horse-power or engine.

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

1. In a corn-husker, the combination with the frame and drive-gear, of husking-rollers journaled in said frame and arranged in pairs, each of said rolls having a series of husking-pins mounted therein and having its diameter reduced immediately in advance of said pins, said reduced portion extending in a straight line longitudinally of the rollers and each roller having recesses for the reception of the ends of the pins on the coöperating roller, the rollers being so arranged as to bring a flat surface of one roller opposite the rounded surface of the coöperating roller; substantially as described.

2. In a corn-husker, the combination with the frame and drive-gear, of husking-rollers journaled in said frame and arranged in pairs, one of said rollers having a series of husking-pins mounted therein and having its surface flattened immediately in advance of said pins, said flattened surface extending in a straight line longitudinally of the roller and the other having recesses for the reception of the ends of said pins, the rollers being so arranged as to bring a flattened surface and a rounded surface into coöperation; substantially as described.

3. In a corn-husker, the combination with the frame and drive-gear, of husking-rollers journaled in said frame and arranged in pairs, one of said rollers having a series of husking-pins mounted therein and having its surface flattened immediately in advance of said pins, said flattened surface extending in a straight line from end to end of the roller, the other of said rollers having recesses for the reception of the pins and a cutting-blade and coöperating recess in said rollers in rear of said pins whereby the husk is first removed and then the ear severed from the stem; substantially as described.

4. In a corn-husker, a husking-roll formed in solid halves clamped on a central shaft having flattened surfaces on its periphery extending from end to end of the roll with husking-pins projecting from said flattened surfaces at the rear thereof, a knife extending from end to end of the roll and recesses and longitudinal grooves; substantially as described.

5. In a corn-husker, a husking-roll having flattened peripheral portions, pins projecting from said flattened portions at the rear thereof, and recesses in rear of said flattened portions, in combination with a coöperating roll having recesses for the pins and a knife extending from end to end of the roller in rear of said recesses adapted to enter the recess in the other roll in rear of the pins; substantially as described.

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