

No. 742,172.

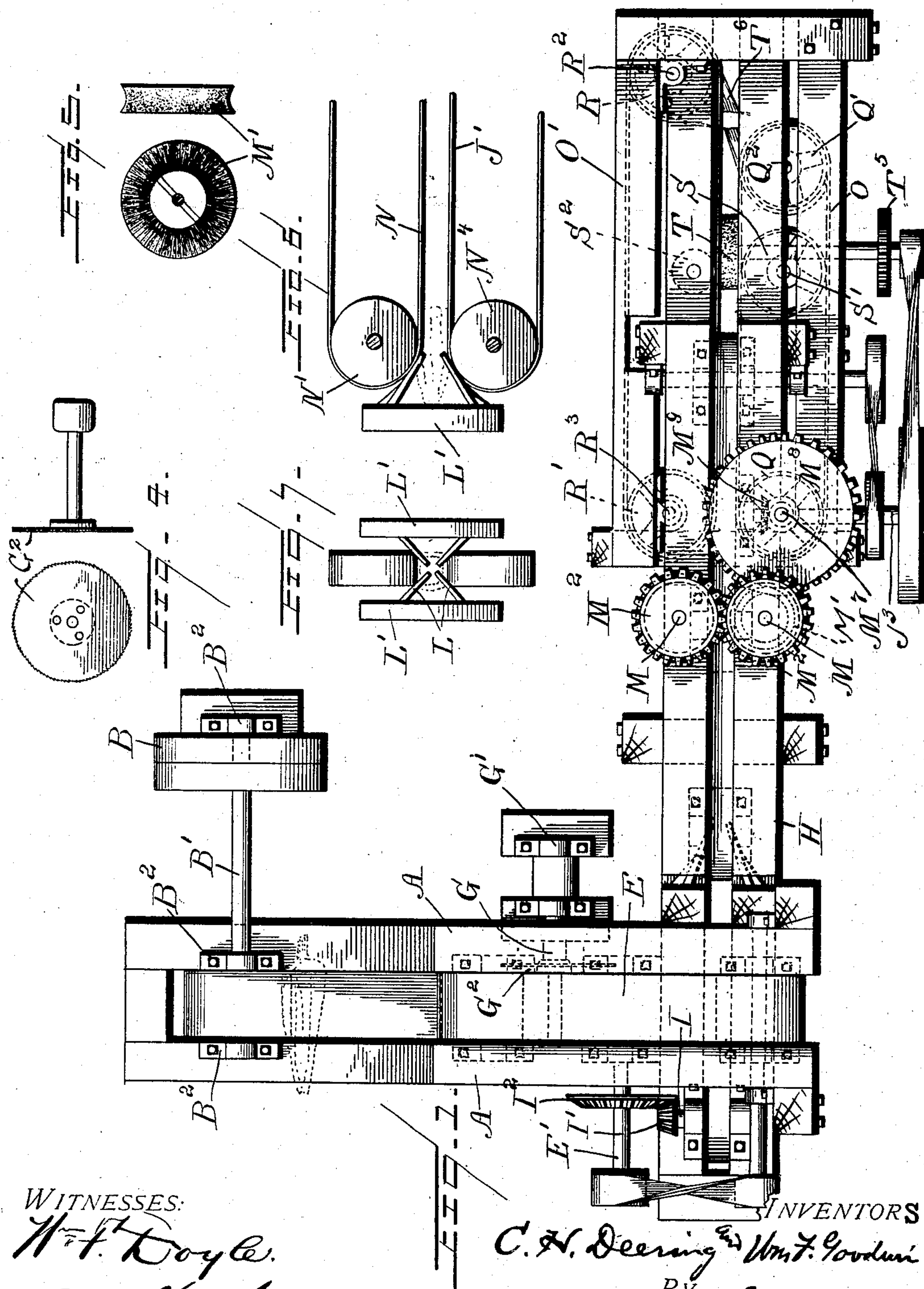
PATENTED OCT. 27, 1903.

C. H. DEERING & W. F. GOODWIN.
GREEN CORN HUSKER.

APPLICATION FILED JUNE 11, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

W. F. Doyle.
A. L. Hong 1

INVENTORS
C. H. Deering & Wm. F. Goodwin
BY
Edward C. Goodwin
Attorney

No. 742,172.

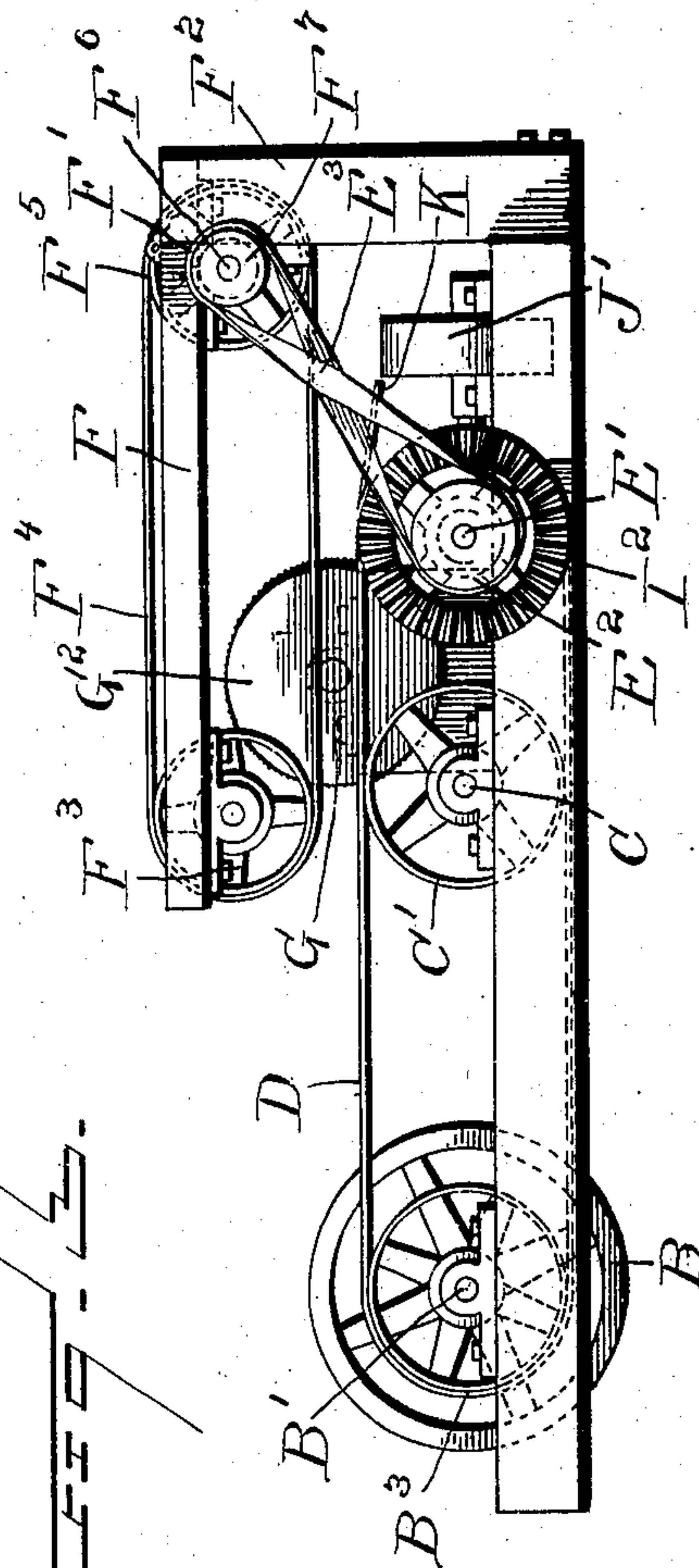
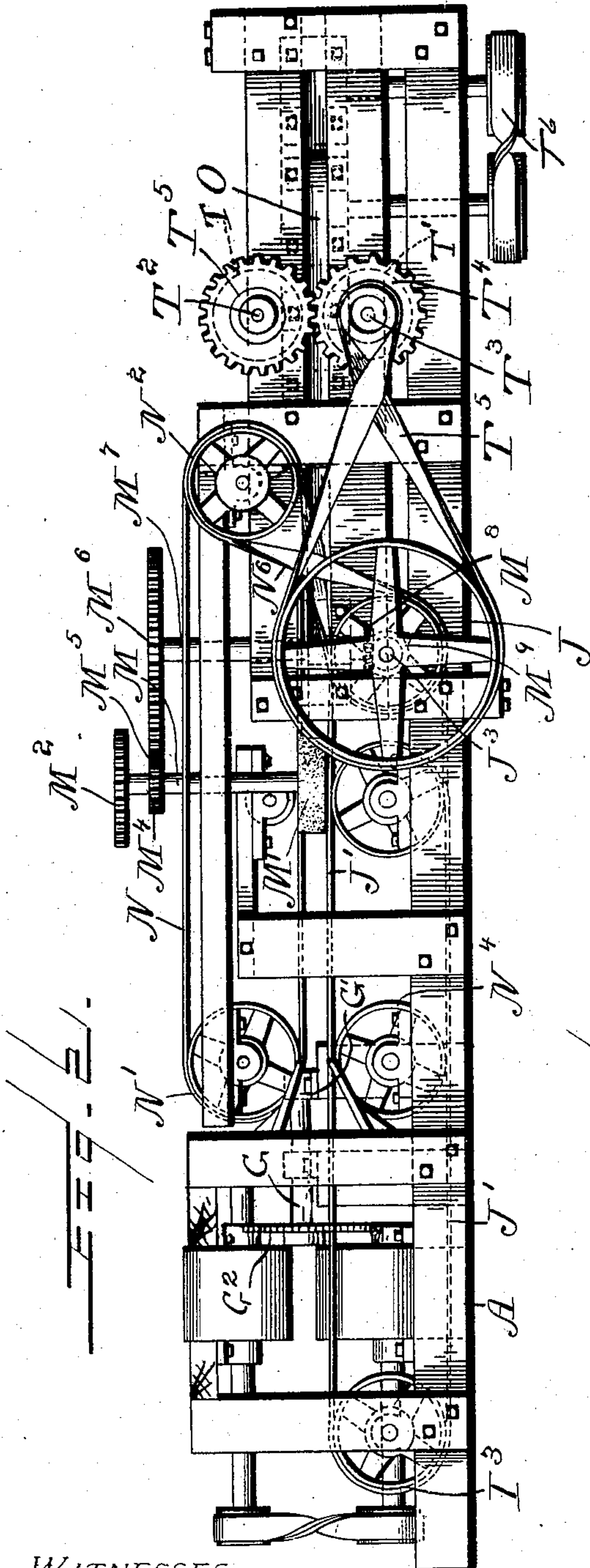
PATENTED OCT. 27, 1903.

C. H. DEERING & W. F. GOODWIN.
GREEN CORN HUSKER.

APPLICATION FILED JUNE 11, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

W. F. Doyle
A. L. Hough

INVENTORS
C. H. Deering & *W. F. Goodwin*
BY
Edward C. Goodwin
Attorney

UNITED STATES PATENT OFFICE.

CHARLES H. DEERING, OF SACO, AND WILLIAM F. GOODWIN, OF
BIDDEFORD, MAINE.

GREEN-CORN HUSKER.

SPECIFICATION forming part of Letters Patent No. 742,172, dated October 27, 1903.

Application filed June 11, 1903. Serial No. 161,073. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. DEERING, residing at Boom road, Saco, and WILLIAM F. GOODWIN, residing at 5 Mason street, Biddeford, in the county of York, State of Maine, citizens of the United States, have invented a certain new and useful Machine—viz., a Green-Corn Husker—of which the following is a specification.

10 This invention relates to new and useful improvements in corn-husking apparatus; and it consists in the provision of mechanism in which ears of corn are fed by endless carriers, the butt-end of the ear sawed off, there-
15 by loosening the husks from the ear, after which the husks are slitted longitudinally by suitable knives and the husks removed from the ear by means of suitable rotary brushes.

20 The invention consists, further, in various details of construction and combinations and arrangements of parts, which will be herein-after fully described and then specifically defined in the appended claims.

Our invention is illustrated in the accompanying drawings, in which—

30 Figure 1 is a top plan view of our improved husking apparatus. Fig. 2 is a side elevation. Fig. 3 is an end elevation; Fig. 4, detail views of the saw for cutting off the butt of the ear. Fig. 5 is a detail view of the rotary brush. Fig. 6 is an enlarged detail view in elevation, showing the manner in which the husks are slitted longitudinally; and Fig. 7 is an end view of the construction shown
35 in Fig. 6.

Reference now being had to the details of the drawings by letter, A designates horizontal beams forming the base portion of the machine, and B designates a driving-pulley
40 which is mounted upon a shaft B', said shaft being journaled in suitable bearings B². A second shaft C (shown in Fig. 3 of the drawings) is also journaled in suitable bearings, and a pulley C' is keyed to rotate with said shaft, and an endless belt D travels about
45 said pulley C and a pulley B³, which is keyed to rotate with the shaft B', also about a pulley E, which is fixed to rotate with a shaft E'.

50 F designates a beam which is pivoted at F' to the upright post F², and said beam carries a pulley F³, mounted in suitable bear-

ings, and F⁴ designates an endless belt passing about the pulley F³ and a similar pulley F⁵, which is mounted upon and rotates with the shaft F⁶. A spring F⁸ is provided to hold
55 the beam F in a suitable horizontal position, but so arranged as to allow the beam to yield when ears of different diameters are passed between the endless belts D and F⁴.

Mounted on a shaft G, journaled in bearings G', is a circular saw G², the outer face of which is positioned adjacent to one of the longitudinal edges of the endless carrier D.

The shaft F⁶ has a pulley F⁷, about which and a pulley E² upon the shaft E' an endless
65 belt E³ travels, said belt being crossed in order to drive the belt F⁴ in the same direction with the travel of the belt D.

At right angles to the beams A is a portion of the framework of the apparatus, (designated by letter H,) and journaled in suitable bearings in the right-angled extension of the frame is a shaft I, Fig. 1 of the drawings, having a beveled pinion I' thereon, which is in mesh with a bevel-pinion I², keyed to the
75 shaft E', and keyed to the shaft I is a pulley I³, (shown clearly in Fig. 2 of the drawings,) about which and a pulley J, Fig. 2 of the drawings, an endless belt or carrier J' travels, said pulley J being keyed to rotate with
80 the shaft J³.

Referring to Fig. 3 of the drawings, K designates an inclined plate which is positioned over a portion of the pinion-wheel I² and is provided to allow the ear of corn which is fed
85 forward on the carrier D to be deposited upon the endless carrier J', positioned at right angles to the carrier D. For slitting the husks longitudinally after the butt of the ear has been severed by the saw G², we provide four
90 cutting-knives, (designated by letters L and clearly shown in Figs. 6 and 7 of the drawings.) These knives are fastened to stationary portions L' of the frame and are arranged with their free ends directed toward a com-
95 mon point, the four ends of said knives being so positioned that the husks upon an ear of corn as the latter is being fed longitudinally between said ends will be slitted longitudinally at four locations, thus loosening the
100 same from the ear and rendering the husks in condition to be removed from the ear eas-

ily by subsequent operation of our machine. A frictional feeding-belt N passes about the pulleys N' and N², and directly underneath the pulley N' is a pulley N⁴, said pulleys being mounted upon suitable shafts and the pulley N⁴ being provided to hold the endless carrier J' against the ear as it is being fed between the pulleys N' and N⁴, thereby steadying the ear while the husks are being slitted. Mounted upon the vertical shafts M, Fig. 2 of the drawings, are two rotary brushes M', a detail view of one of said brushes being shown in Fig. 5 of the drawings, and M² and M³ designate pinion-wheels, which are geared together. M⁴ designates a pinion-wheel which rotates with one of the shafts M and is in mesh with a pinion-wheel M⁶, keyed to rotate with a shaft M⁷, whereby a rotary movement may be imparted to the pinion-wheels M². By means of a belt N⁶, said belt also passing about the pulley J, motion is imparted from the shaft J³, and by means of bevel gear-wheels M⁸ and M⁹ the shaft M⁷ is driven from the shaft J³.

Referring to Fig. 1 of the drawings, it will be observed that two endless belts (designated by letters O and O') are provided, the former of which passes about the pulleys Q and Q', which are keyed to the shafts Q² and M⁷, respectively, while the belt O' passes about pulleys R and R', which are keyed to rotate with the shafts R² and R³, respectively. An intermediate pulley S is mounted upon a shaft S' and is directly opposite a pulley S² at a position adjacent to the two inner longitudinal portions of the endless belts O and O' and provided for the purpose of holding the two portions of the endless belts in such a position that the husks of the corn will be properly acted upon by the rotary brushes T and T', which are positioned one above the ear and one beneath, only one of said brushes, however, being shown in the top plan view, Fig. 1. Said brushes T and T' are mounted upon the shafts T² and T³, respectively, Fig. 2 of the drawings, and pinion-wheels T⁴ and T⁵ are keyed to rotate with said shafts and are in mesh with each other, a rotary movement being imparted to pinion T⁴ by means of the crossed belt T⁷, which travels about the circumference of the large wheel, which is keyed to the shaft J³. Motion is communicated to the shaft R² from the shaft Q² by means of a crossed belt T⁶, a portion of which is shown in solid lines in Fig. 1 of the drawings.

It will be observed that the portions of the endless carrier or belt J' which operate upon the ears to feed the same forward are disposed in horizontal planes, while the pulleys about which the belts or carriers O and O' travel are in horizontal planes, which will bring the portions of the belt which act upon the ears in vertical planes or planes at right angles to the planes in which the carriers J' and N are disposed. This arrangement of apparatus is for the purpose of first allowing

diametrically opposite portions of the ear to be engaged by the carriers J' and N while being acted upon by the brushes M' and after the ear has passed the brushes M' and it is desired to allow the second set of brushes, which are disposed in vertical planes, to contact with the portions of the husks which are not acted upon by the first set of brushes.

The operation of the invention is as follows: Ears of corn are placed upon the endless belt or carrier D, an ear of corn being illustrated in dotted lines in Fig. 1 in the position which it will assume upon the carrier. As the carrier travels in the direction indicated by the arrow in Fig. 1 as the ear approaches a position intermediate the pulleys F³ and C' it will be held by said pulleys and by the endless carrier F⁴, which coöperates with the carrier D while the butt-end of the ear is being cut off by the saw G². This being done, the ear is conveyed forward by the two carriers D and F⁴ and deposited upon the plate K. Said plate being inclined, the ear will roll down onto the endless carrier J', which travels at right angles to the direction of travel of the carriers D and F⁴, and the ear will be carried in a direction at right angles to its travel before being deposited upon the carrier J' and lengthwise of the carrier J'. As the ear approaches the slitting-knives L the butt-end of the ear will be held securely by the pulleys N' and N⁴ during the slitting process which cuts the husks, and the endless carrier J', coöperating with the endless belt N, will convey the ear to and between the first set of rotary brushes, which are mounted upon the shafts M, and as the ear passes between said brushes, which are in rotation, portions of the husks of the ear will be loosened from the ear and also the silk underneath the husks. After this operation the ear, with portions on opposite sides being relieved of husks, is conveyed still farther by the endless carrier J' until the ear reaches the two endless belts or conveyers O and O', which are disposed in vertical planes, thus presenting vertical contact-surfaces to the two portions of the ear which have been relieved of the husks and silk, and the ear is carried forward by the endless belts O and O' and passed between the second set of brushes T and T', which are disposed in vertical planes and which serve the purpose of removing the remaining husks and silk from the ear which are not removed by the passage of the ear between the first set of brushes, after which the ear, with the husks and silk removed, may be conveyed by any suitable means to any desired location.

From the foregoing it will be observed that from the time the ear is placed upon the conveyor D the various steps in removing the husks are entirely automatic, comprising the cutting off of the butt-end of the ear, which loosens the husks, the directing the onward movement of the ear at right angles to the direction it takes when having the end severed

therefrom, the loosening of the husks by the slitting-knives, and then the removing of the husks by the means shown.

While we have shown a particular construction of apparatus embodying the features of our invention, it will be understood that we may make alterations in the apparatus without departing from the spirit of the invention.

10 Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A corn-husking machine comprising an endless conveyer on which the ears of corn
15 are fed into the machine, a pivoted beam, a pulley carried thereby, a stationary pulley, an endless belt mounted upon said pulleys, said belt so positioned that it will engage the ear of corn carried by the conveyer, a rotary
20 saw, and a pulley coöperating with the pulley upon said pivotal beam for holding the ear while the butt-end thereof is being severed, and means for slitting the husks and removing the same from the ear, as set forth.

25 2. A corn-husking machine comprising an endless conveyer, a beam pivoted to the frame of the machine, a pulley mounted upon said beam, a stationary pulley, an endless belt passing about said pulleys, a rotary saw for
30 severing the butt-end of the ear as it is carried forward by said conveyer and belt, an endless carrier positioned at right angles to said conveyer, an inclined plate designed to deposit the ear with the end severed upon
35 said endless carrier, slitting-knives between which said ear is conveyed, and rotary brushes for removing the husks after being cut, as set forth.

3. A corn-husking machine comprising
40 means for feeding the ear into the machine, and severing the butt-end thereof, an endless carrier on which the ear is deposited after the end is severed therefrom, a series of slitting-knives arranged at inclinations to each other,
45 an endless belt adapted to coöperate with said carrier to hold the ear while the husks are slitted and to feed the same forward after the husks are cut, and rotary brushes designed

to remove the husks from opposite sides of the ear while the latter is being conveyed forward by said carrier and belt, as set forth. 50

4. A corn-husking machine comprising means for feeding the ear into the machine, and severing the butt-end thereof, an endless carrier on which the ear is deposited after the
55 end is severed therefrom, a series of slitting-knives arranged at inclinations to each other, an endless belt adapted to coöperate with said carrier to hold the ear while the husks are slitted and to feed the same forward after the
60 husks are cut, and rotary brushes designed to remove the husks from opposite sides of the ear while the latter is being conveyed forward by said carrier and belt, and a second set of brushes rotating in planes at right an-
65 gles to the planes in which the first set of brushes are positioned, and a second set of conveyers for feeding the ear while the second set of brushes are acting upon the husks of the ear, and geared connections between
70 the movable parts of the apparatus, as set forth.

5. A corn-husking apparatus comprising means for feeding the ear into the machine, severing the butt-end of the ear, an endless
75 carrier upon which the ear is deposited after the ear is severed therefrom, slitting-knives for cutting the husks longitudinally, an endless belt coöperating with the endless carrier to hold the ear while the husks are being cut,
80 horizontally-rotating brushes designed to remove the husks which are cut at locations diametrically opposite, a set of conveyer-belts traveling in vertical planes designed to engage the ear of corn after it is acted upon by
85 said brushes, and a set of brushes mounted in horizontal planes adapted to remove the remaining husks from the ears when the latter are held by said vertically-moving belts, and geared connections between the movable
90 parts of the machine, as set forth.

CHARLES H. DEERING.

WILLIAM F. GOODWIN.

Witnesses:

JOHN P. DEERING,

GEORGE B. PERKINS.