

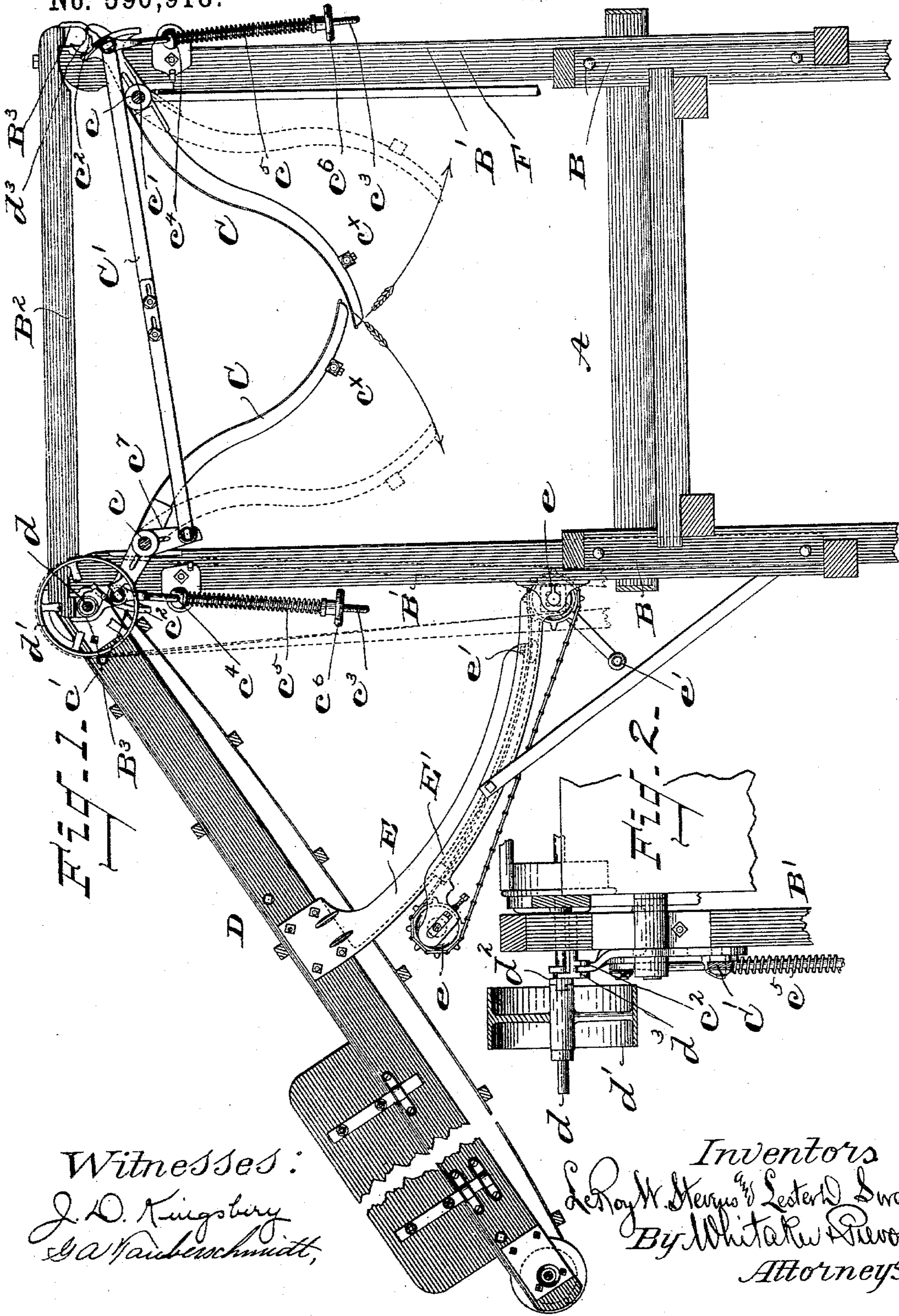
(No Model.)

2 Sheets—Sheet 1

LE ROY W. STEVENS & L. D. SWART.  
CORN HUSKING MACHINE.

No. 596,918.

Patented Jan. 4, 1898.



Witnesses:  
J. D. Kingsbury  
G. A. Paubenschmidt,

Inventors  
Le Roy W. Stevens & Lester D. Swart  
By Whitaker & Brewster  
Attorneys.

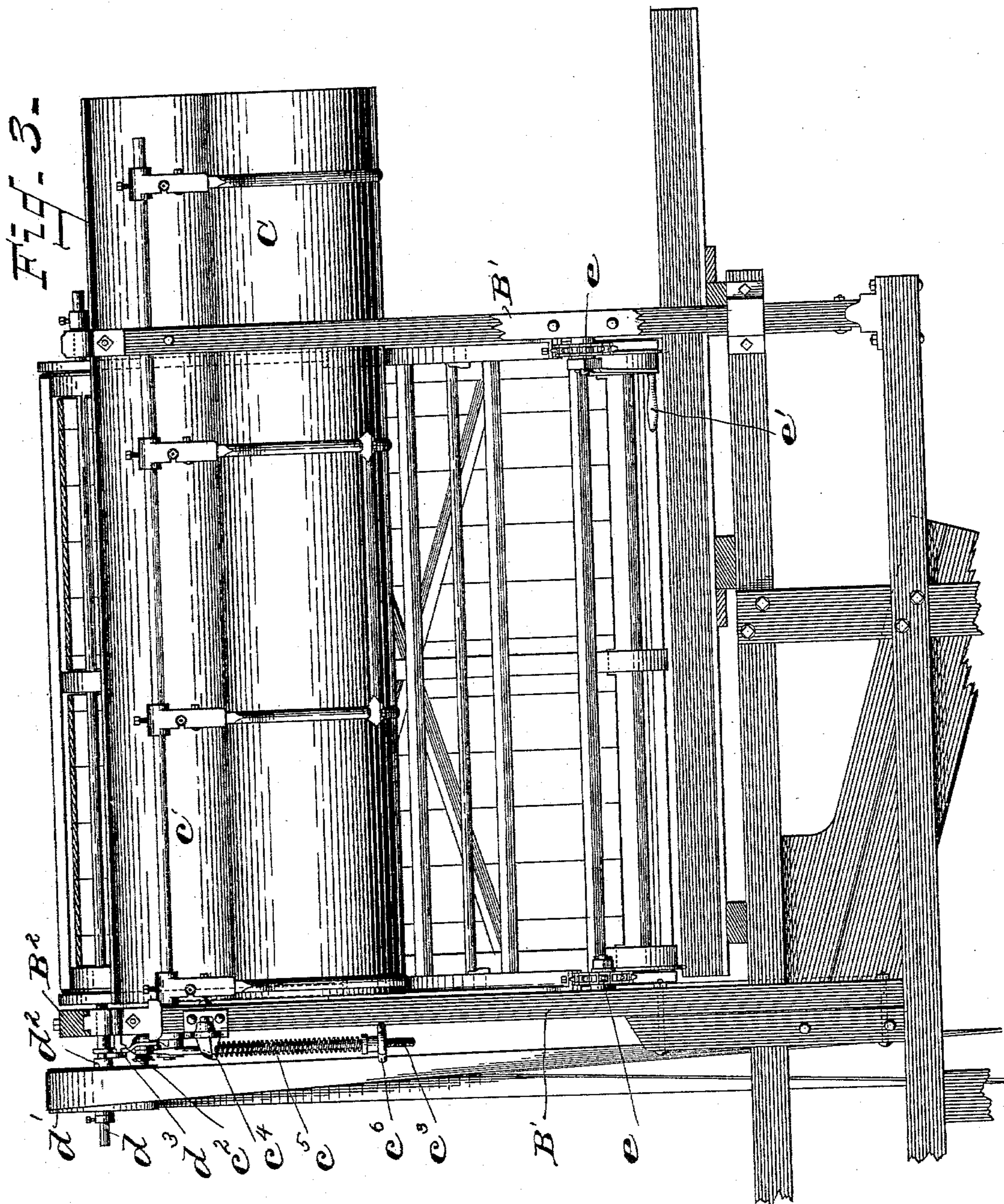
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Attorneys

# UNITED STATES PATENT OFFICE.

LE ROY W. STEVENS AND LESTER D. SWART, OF AUBURN, NEW YORK,  
ASSIGNORS TO THE A. W. STEVENS & SON, OF SAME PLACE.

## CORN-HUSKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 596,918, dated January 4, 1898.

Application filed November 8, 1895. Serial No. 568,257. (No model.)

*To all whom it may concern:*

Be it known that we, LE ROY W. STEVENS and LESTER D. SWART, citizens of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Corn-Husking Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention consists in the novel features of construction and combination of parts hereinafter fully described, reference being had to the accompanying drawings, which illustrate one form in which we have contemplated embodying our invention, and the said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents an end view of a portion of the machine, showing the feeding-table, the hopper, and the feeding-conveyer. Fig. 2 is a detail view, partly in section, showing the mechanism connected with the hopper for automatically throwing the conveyer into and out of operation. Fig. 3 represents a side view of the portion of the machine shown in Fig. 1.

In the drawings we have shown so much of the corn-husking machine as is necessary to a clear understanding of our invention.

A represents the feeding-table of the machine supported in the main frame B. The main frame is provided with vertically-extending standards B' on opposite sides of the machine, connected at the top by suitable braces or cross-bars B<sup>2</sup>. Above the table A is a hopper, which is formed by two curved wings C C, pivotally mounted upon rock-shafts c c, which are supported in bearings secured to the standard B', the said wings approaching each other at their lower end so as to form a hopper. At the front end of the machine each of said rock-shafts is provided with an outwardly-extending arm c', provided at its outer end in this instance with a segmental portion in the form of a cam c<sup>2</sup>. To each of the arms c' is pivoted a rod c<sup>3</sup>, which passes through a guiding-aperture in a bracket c<sup>4</sup>, pivotally mounted on the stand-

ard B', the said rod being surrounded by a coiled spring c<sup>5</sup>, which is interposed between the said bracket and an adjusting-nut c<sup>6</sup> on the outer end of said rod. These springs and rods serve to hold the wings C in the position shown in Fig. 1, with the end of one overlapping the end of the other until a sufficient weight of cornstalks has been deposited upon them when they will move from the overlapping position onto one in which the ends of the two wings will be more nearly opposite to each other. The tension of the spring c<sup>5</sup> can be adjusted by means of the nut c<sup>6</sup>, so that the hopper can be set to make the movement described automatically when any desired weight of stalks has accumulated therein. In order that the movement of the two wings C C shall be simultaneous and equal, they are connected for joint operation by means of an adjustable coupling-bar C', pivotally secured in this instance to a short arm c<sup>7</sup> on one of the rock-shafts c and to the arm c' of the other rock-shaft.

D represents the feeding-conveyer, which is of any usual or preferred construction. This conveyer has its driving-shaft d at the upper end of the same constructed to engage bearing portions B<sup>3</sup>, secured to the upper ends of the standards B', and the said conveyer is given any desired angular position with respect to the machine by means of an adjustable support intermediate its ends. In this instance we have shown the conveyer-frame provided with segmental brackets E, having a sliding engagement with similarly-shaped brackets E', supported by the main frame of the machine, the said brackets E' being provided at their inner and outer ends with sprocket-wheels e e, over which passes a sprocket-chain secured at e' to the inner end of the segmental brackets E. A suitable crank or other operating device is provided for rotating one of said sprocket-wheels e, so as to move the conveyer into any desired position.

The driving-shaft d of the conveyer D is provided with a band-wheel d' for rotating the same, and we also provide a device operated by one of the arms c' for throwing the conveyer into and out of operation automatically by the operation of the wings C. In

this instance we have shown the shaft  $d$  provided with a sliding clutch member  $d^2$ , secured to said shaft and adapted to engage the hub of the band-wheel  $d'$ , which runs loosely on said shaft.

$d^3$  represents a sliding clutch-shipping device having a part mounted to slide in one of the standards  $B'$  or a part connected therewith, the said shipping device having a part engaging a groove in the clutch member  $d^2$  and having also a grooved part which is engaged by one of the segmental cams  $c^2$  on the outer end of the arm  $c'$ . (See Figs. 1 and 2.)

The general shape of the hopper is preferably of the form shown, the sides inclining inward from the top toward the bottom. The function of this is twofold. It concentrates the stalks and delivers them to the center of the table and away from the edges of the table, so that two operators can be placed at the table, one at each side, and it also enables the weight of the stalks to act upon the sides and force them apart to cause them to turn on their pivots and effect the stoppage or interruption of the feed of the conveyer.

The operation of the device will be as follows: The machine being in operation and the clutch member  $d^2$  being coupled with the band-wheel  $d'$ , the conveyer D will carry the stalks up and deposit them in the hopper formed by the wings. When a sufficient weight of stalks has accumulated in the hopper to overcome the resistance of the springs  $c^5$ , the wings C C will move a short distance apart, as hereinbefore described. During this movement the arms  $c'$ , connected with the rock-shafts  $c$ , will move upwardly, and the segmental cam  $c^2$ , which is in engagement with the shipping device  $d^3$  on the side of the machine adjacent to the carrier D, will operate said shipping device, thus removing the clutch  $d^2$  from engagement with the band-wheel  $d'$  and instantly stopping the operation of the carrier D, so that no stalks will be delivered into the hopper while the wings C are in this position. The hopper and conveyer remain in the same position until the operator by grasping the rod  $c^x$  opens the hopper and thereby deposits the stalks upon the table. As soon as the stalks have been delivered from the hopper on the operator's releasing the rod  $c^x$  the springs  $c^5$   $c^5$  will raise the wings C C into their normal position and the segmental cam  $c^2$  will throw the clutch member  $d^2$  again into operative relation with the band-wheel, thus starting the conveyer again.

It is desirable that the hopper shall deliver only a certain amount of stalks to the table at a time, as an excess of material is in the way of the operator and increases the labor. By manipulating the adjusting-nuts  $c^6$  the amount delivered at one time to the hopper can be regulated to the desired quantity, depending upon the weight of the stalks. When the stalks are large and heavy, the springs should be adjusted to sustain the greater weight, and when the stalks are smaller then

the springs should be adjusted to cause the hopper to operate under a lesser weight of material, thus equalizing the feed to the table.

In order that the conveyer D may be set up on either side of the machine, the standards  $B'$   $B'$  on both sides of the machine are provided with bearings  $B^3$  to support the upper end of the conveyer, and each of the rock-shafts  $c$   $c$  is provided with a segmental cam  $c^2$ , engaging the sliding shipping device  $d^3$ , as will be seen in Fig. 1.

It will also be noticed by reference to Figs. 1 and 3 that the table A may be approached from either side, and that there is a rod  $c^x$  on each of the wings C, so that the operator, if there is only one, may stand upon either side of the table to feed the machine, or if two operators are employed one may stand on each side of the table A and feed the machine. In the latter case the stalks will be delivered by the conveyer D over the head of one of the operators, but without interfering in any way with the proper feeding of the machine.

By reference to Fig. 3 it will be noticed that the wings C C of the hopper project beyond the end of the supporting-framework formed by the standards  $B'$ . This is necessary to accommodate long stalks of corn, and it will be readily seen that the framework can be provided with wings of greater or less length as required for the work to be done without increasing the length of the machine itself, as it is not desirable to have the machine-frame any longer than is necessary.

It may sometimes be desirable to stop the conveyer when the hopper is empty or before the weight in the hopper is sufficient to shift the clutch of the conveyer. In such case the operator can at any time stop the conveyer by grasping the rod  $c^x$  nearest him and pulling the wing toward him. The movement may be only enough to effect the shipping of the clutch or may be sufficient to dump the stalks in the hopper upon the table. If it is desired to have the parts remain in position after the conveyer is stopped, the wings are opened sufficient to permit the stalks to descend so far in the hopper that on releasing the bar  $c^x$  the springs will cause the stalks to be grasped between the ends of the wings, which will prevent the return of the wings to their overlapped position, and the conveyer will remain in a position of rest. This enables the operator to control the delivery when a small amount of lighter corn intervenes in a general heavier grade of corn. As the hopper is actuated by the weight within it, in such cases more than the amount desired at one time would be deposited upon the table; but by stopping the conveyer in the manner just described this can be avoided and the corn delivered to the table in the desired quantities without readjusting the springs.

What we claim, and desire to secure by Letters Patent, is—

1. In a corn-husking machine the combination with a feeding-table accessible to an operator at each side of the machine, of a hopper above said table, said hopper being composed of sections normally held closed at its lower side, and means at each side of the machine whereby the operator at that side can open the hopper, substantially as described.

2. In a corn-husking machine the combination with a feeding-table in front of the husking mechanism, and accessible to an operator at each side of the machine, of a concentrating-hopper extending longitudinally of said table and opening centrally of the table to deposit the material longitudinally of the table and centrally between the operators at each side of the machine, substantially as described.

3. In a corn-husking machine the combination with the feeding-table accessible to an operator at each side of the machine, of a hopper extending longitudinally above said table, said hopper being composed of sections normally closed at its lower side and means at each side of the machine whereby the operator at that side can open the hopper to deposit contents centrally of the table, substantially as described.

4. In a corn-husking machine the combination with the feeding-table accessible to an operator from both sides of the machine, of a hopper extending longitudinally above said table, a conveyer discharging into said hopper and automatic means for controlling the amount delivered to said hopper by the weight of stalks in said hopper, substantially as described.

5. In a corn-husking machine the combination with the feeding-table accessible to an operator from both sides of the machine, of a hopper extending longitudinally above said table, of a conveyer extending transversely of said table and delivering into said hopper and automatic means for delivering a predetermined amount of stalks to said table, substantially as described.

6. In a corn-husking machine the combination with the feeding-table accessible to an operator from both sides of the machine, of a concentrating-hopper extending longitudinally of said table and a conveyer discharging into said hopper, substantially as described.

7. In a corn-husking machine the combination with the feeding-table, of a hopper above the same composed of sections normally held closed at its lower side, a conveyer discharging into said hopper, stopping mechanism for said conveyer operatively connected with said hopper-sections and means adapted to be operated by the operator for opening the hopper and thereby stopping the conveyer, substantially as described.

8. In a corn-husking machine the combination with the feeding-table accessible to an operator from both sides, of a hopper above the table composed of sections normally held

closed at its lower side, a conveyer discharging into said hopper, stopping mechanism for said conveyer, operatively connected with said hopper-sections and operating means within the reach of the operator at both sides of the machine for dumping said hopper and thereby stopping the conveyer, substantially as described.

9. In a corn-husking machine the combination with the feeding-table, of a hopper above the same, a conveyer discharging into said hopper, and automatic means for controlling the amount delivered to the hopper by the weight of stalks in the hopper, substantially as described.

10. In a corn-husking machine the combination with the feeding-table, of a conveyer having its discharge end above said table, actuating mechanism for said conveyer and means for stopping and starting the same, a hopper intermediate the said conveyer and table, said hopper being operatively combined with the said controlling mechanism, whereby the act of discharging the hopper stops the conveyer, substantially as described.

11. In a corn-husking machine the combination with the feeding-table, of a hopper located above the same and provided with pivotally-supported wings separably held in closed position, a conveyer for delivering stalks into said hopper, driving mechanism for said conveyer including a movable clutching device and a part connected with said wings, and operatively engaging said clutching device to stop the conveyer when the hopper has received sufficient weight to move the said wings in a direction to open the hopper, substantially as described.

12. In a corn-husking machine the combination with the feeding-table, of a hopper located above the same and provided with pivotally-supported wings, springs for holding said wings in a closed position, a conveyer for delivering stalks to said hopper, driving mechanism for said conveyer, a movable device for throwing the said mechanism into and out of gear, a part connected with one of said wings for operating said movable device to stop the conveyer when the wings of the hopper are moved in a direction to dump the hopper, and adjusting devices for varying the tension of said springs, substantially as described.

13. In a corn-husking machine the combination with the table accessible to operators from both sides, of the hopper provided with pivotally-supported wings, a conveyer for delivering stalks to said hopper, a movable device for throwing said conveyer into and out of operation, devices for supporting said conveyer on both sides of the machine, and a part connected with each of said wings adapted to engage said movable device to stop the conveyer when the wings are moved in a direction to dump the hopper, substantially as described.

14. In a corn-husking machine the combi-

nation with the feeding-table, of a hopper located above the same, a conveyer for delivering stalks to the hopper, a movable device for throwing the conveyer into and out of operation, a part connected with the hopper for operating said movable device to stop the conveyer when the wings of the hopper are moved in a direction to dump the hopper, said wings being so adjusted as to be moved by the weight of stalks therein, substantially as described.

15. In a corn-husking machine the combination with the feed-table, of a hopper above the same provided with pivotally-mounted dumping-sections, springs operatively connected with said sections and forming the sole means for holding them in closed position, a conveyer for delivering material into said hopper, and a link having one end connected with each of said sections at opposite sides of their respective pivotal supports for securing the simultaneous movement of said wings, substantially as described.

16. In a corn-husking machine the combination with the feed-table, of a hopper above the same provided with pivotally-mounted dumping-sections, springs operatively connected with said sections and forming the sole means for holding them in closed position, an arm operatively connected with each of said sections, said arms extending on opposite sides of the pivotal connections of said sections, an adjustable link connecting said arms for securing the simultaneous movement of said sections and a conveyer for delivering material into said hopper, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

LE ROY W. STEVENS.  
LESTER D. SWART.

Witnesses:

CHARLES B. QUICK,  
WALTER L. FAY.