No. 774,395. PATENTED NOV. 8, 1904.

G. PETERS.

CORN HUSKING MACHINE.

APPLICATION FILED JUNE 18, 1904.

NO MODEL. 3 SHEETS—SHEET 1.

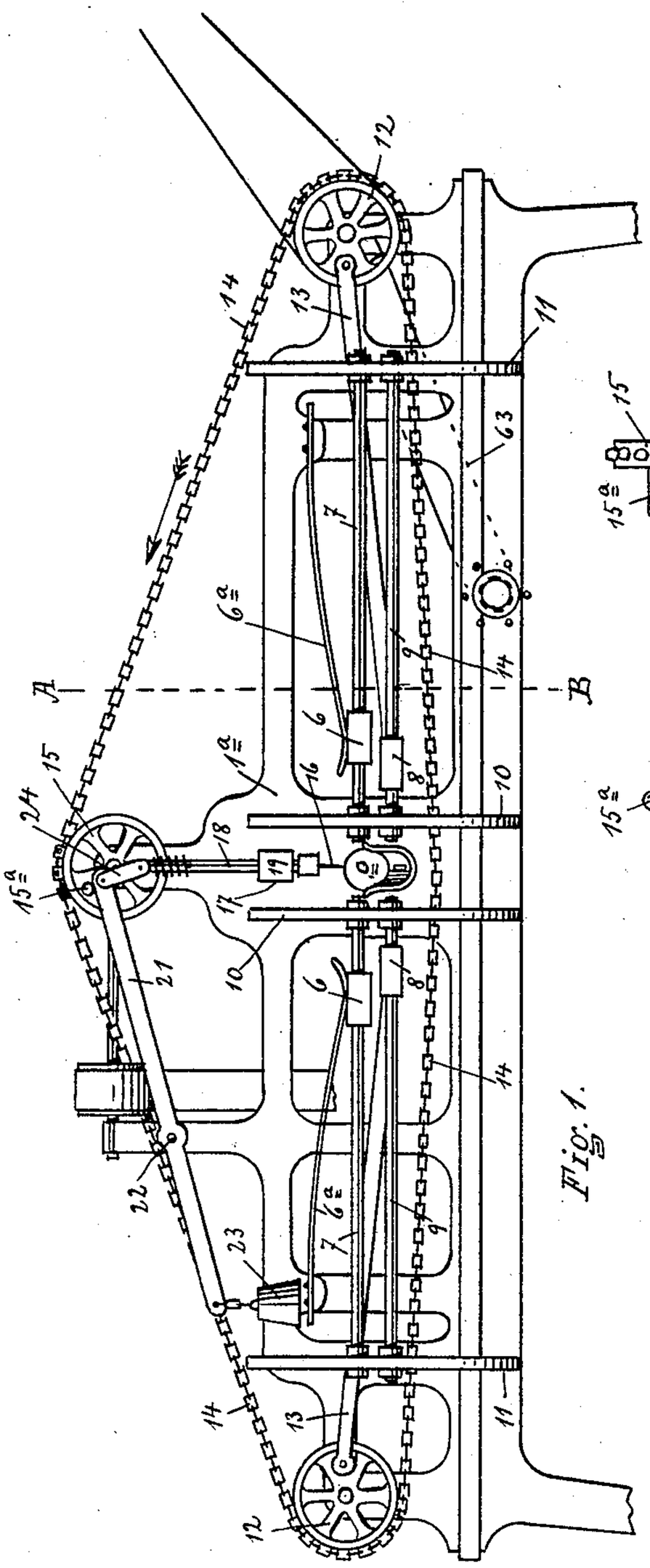

Fig. 1.

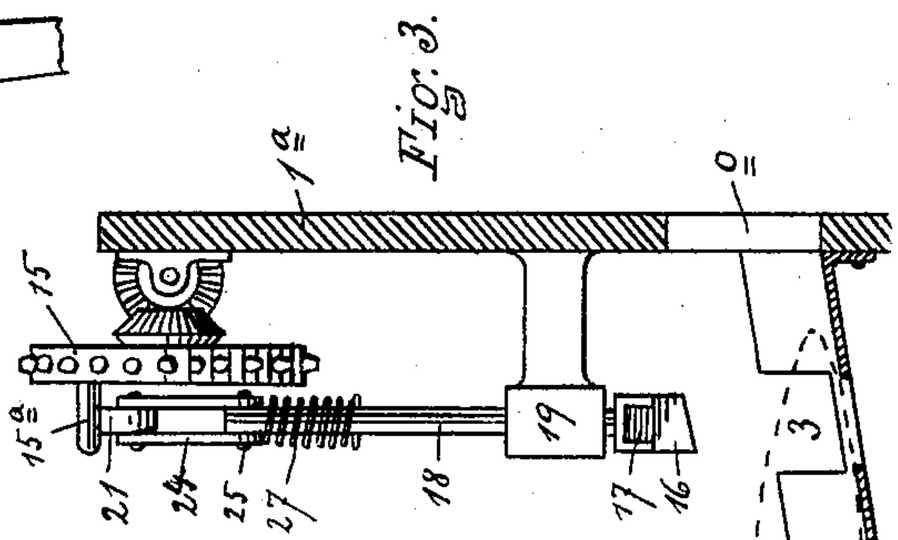

Fig. 3.

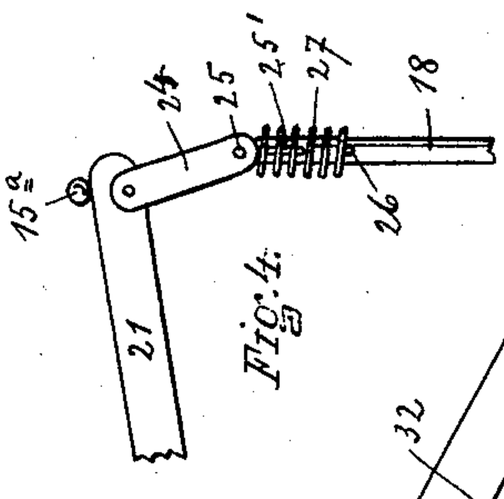

Fig. 4.

Fig. 2.

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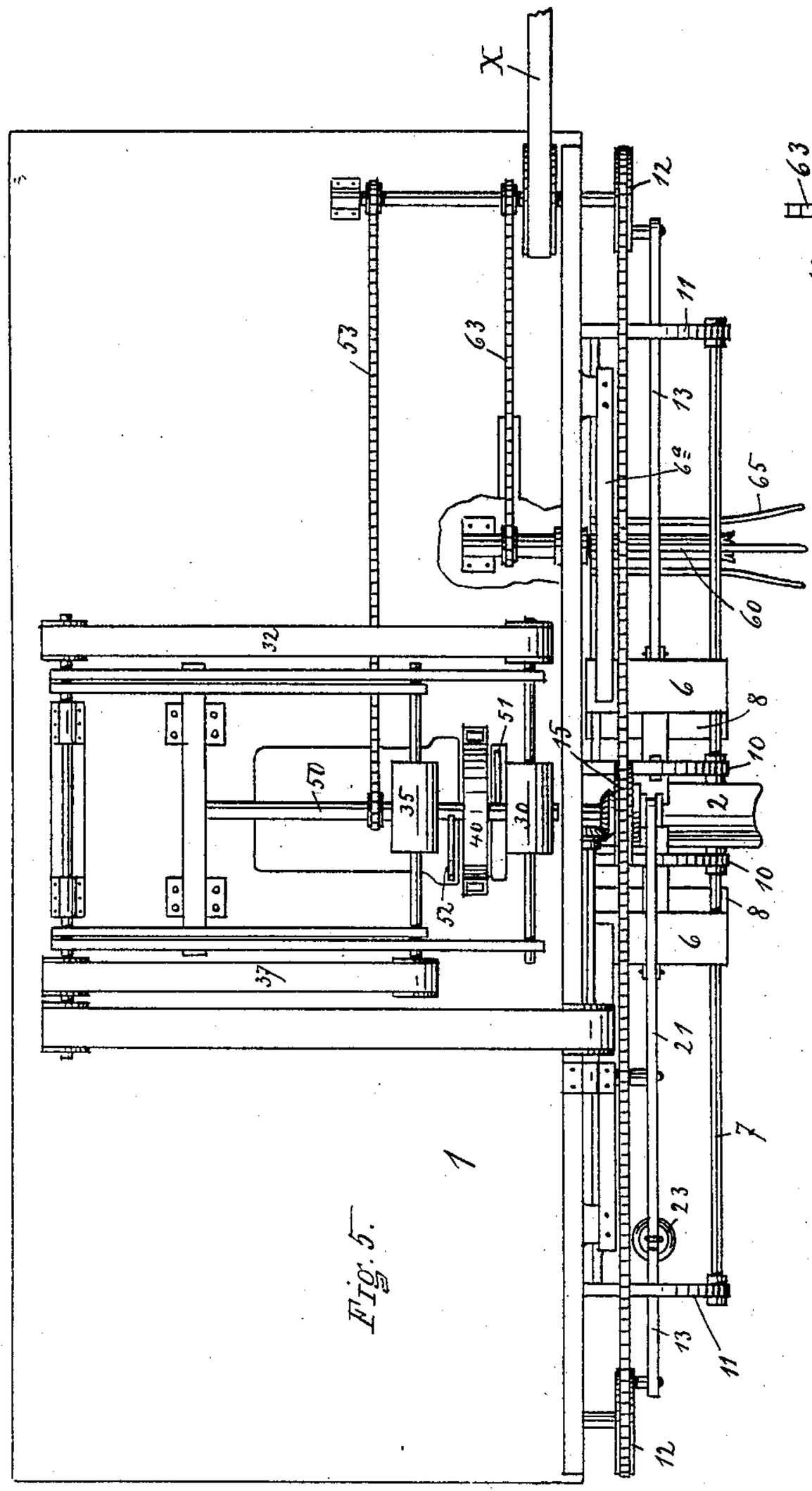

Fig. 5.

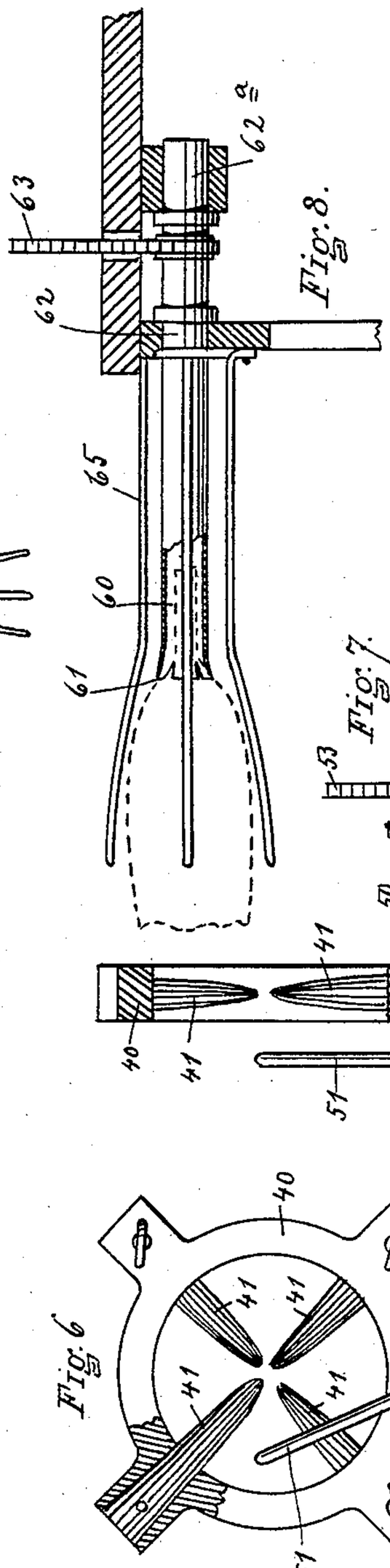

Fig. 8.

Fig. 7.

Fig. 6

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NO MODEL. 3 SHEETS—SHEET 3.

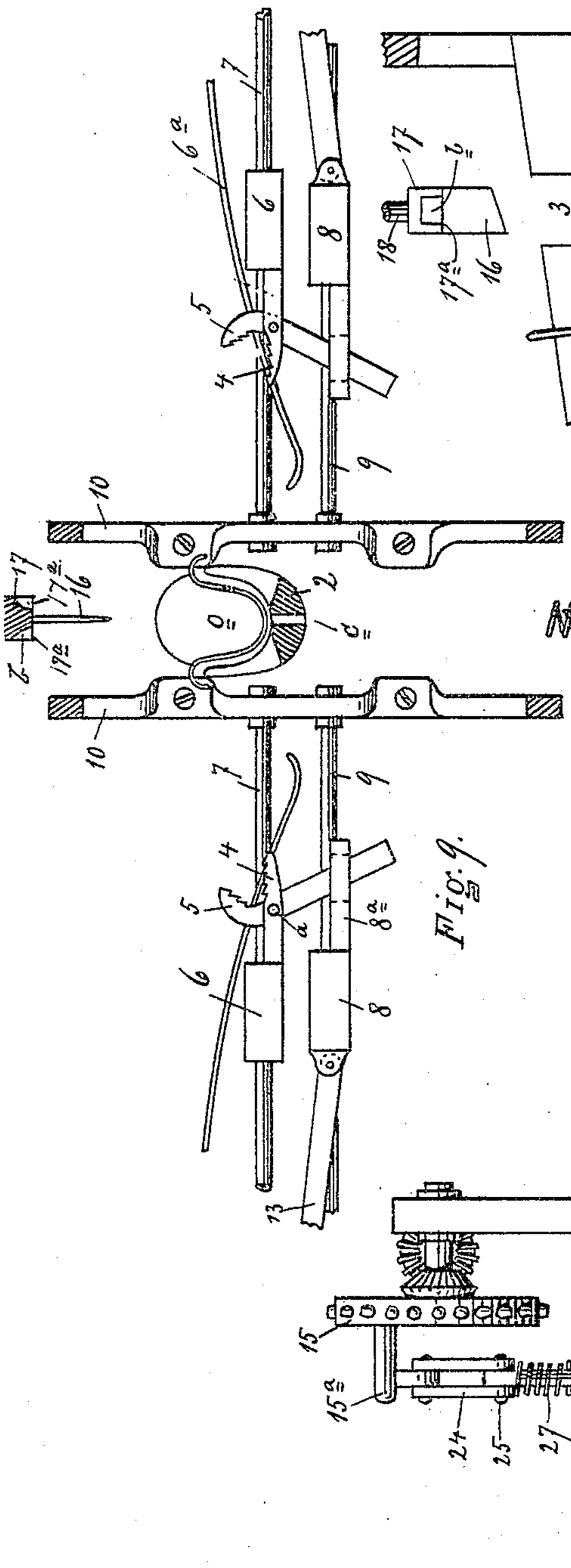

FIG. 9.

FIG. 11.

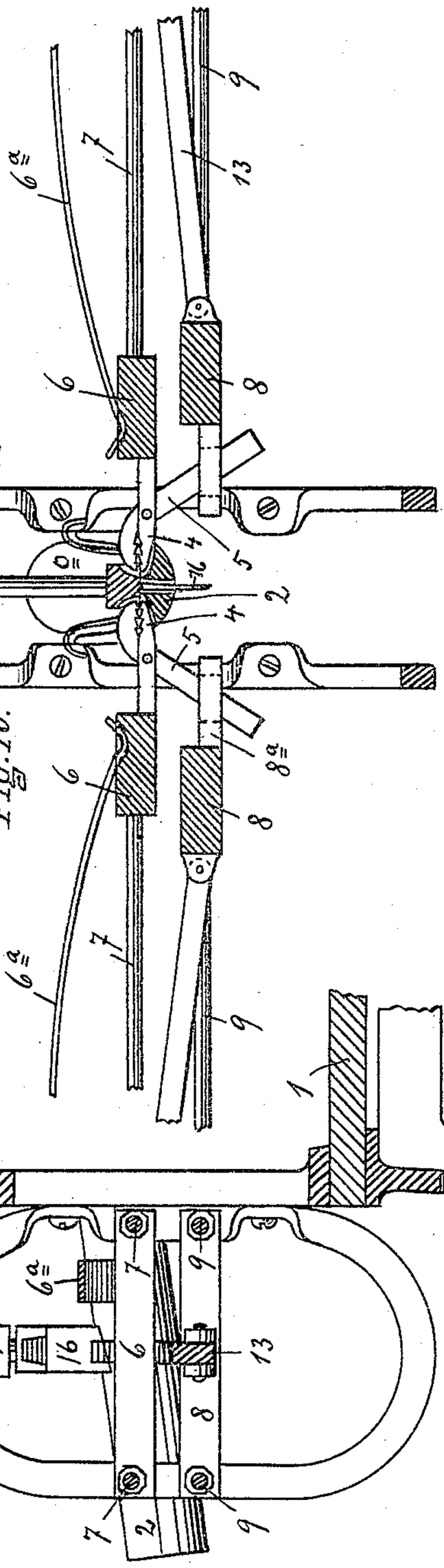

FIG. 10.

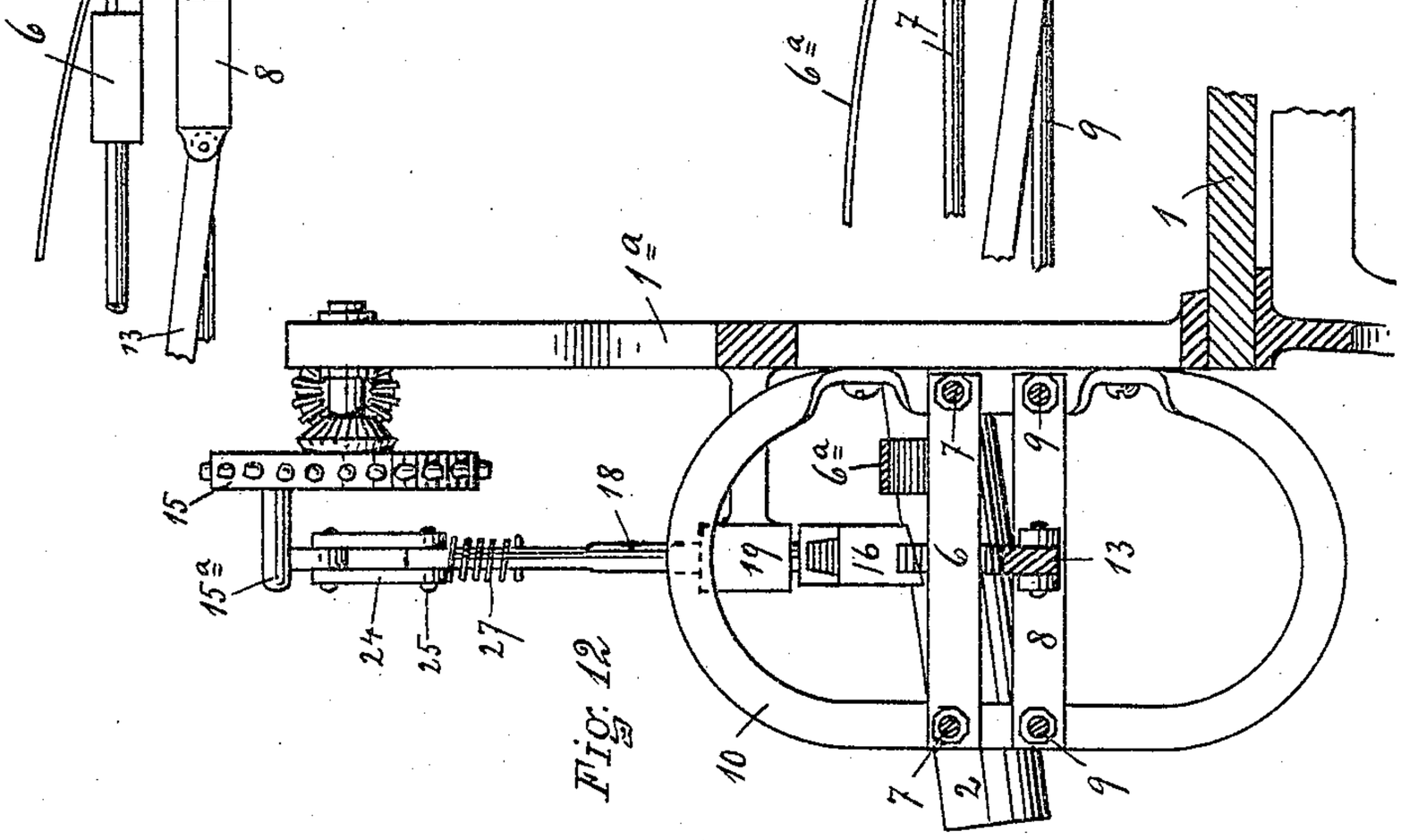

FIG. 12

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No. 774,395. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

GEORGE PETERS, OF CLINTON, NEW YORK.

CORN-HUSKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 774,395, dated November 8, 1904.

Application filed June 18, 1904. Serial No. 213,061. (No model.)

To all whom it may concern:

Be it known that I, GEORGE PETERS, of the village of Clinton, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Corn-Husking Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

The object of my invention is to provide a machine for husking corn, particularly green or unmatured corn, such as is used by canning-factories, and a machine which will effectively and satisfactorily perform the work of husking corn.

In the drawings, Figure 1 shows what may be considered a front view of my machine. Fig. 2 shows an end view as seen from the right of Fig. 1. Fig. 3 shows a detail relating to the mechanism for splitting the end of the ear preparatory to removing the husks. Fig. 4 shows further details of the mechanism shown in Fig. 3. Fig. 5 shows a plan view of the machine. Fig. 6 shows details relating to mechanism for removing silk and stray husks. Fig. 7 shows further details relating to the same. Fig. 8 shows details of the device employed for severing the husks at the base of the ear. Fig. 9 shows details of the husk-removing mechanism in what may be termed the "open position." Fig. 10 shows the same in what may be termed the "closed position." Fig. 11 shows other details with reference to the husk-removing mechanism. Fig. 12 shows a section taken on line A B of Fig. 1 with certain of the parts to the left of the section-line.

Referring to the reference letters and figures in a more particular description, 1 indicates the frame of the machine, which is in the nature of a table supported on legs, with an upright portion 1^a on what may be considered the front edge of the table. The upright frame 1^a is provided with an opening *o*, through which the ears pass as they are husked, and immediately in front of this opening is provided a trough-like receiver 2, wherein the ears are placed at the commencement of the operation. This receiver is provided with cut-outs at either side, as indicated at 3. Arranged at either side of the receiver 2 are the stripping-jaws, consisting of a fixed jaw 4 and a movable jaw 5. The jaw 4 is mounted on a slide 6, which slide is mounted on rods 7, constituting guides or ways therefor. The jaw 5 is provided with an elongated shank, which passes through an opening in a part 8^a of the slide 8, mounted to slide on rods or ways 9. The rods or ways 7 and 9 are mounted in yokes or loops 10 11, secured to the frame of the machine. For operating the stripping fingers or jaws there is provided a wheel 12 with a crank-pin and a connecting-rod 13, extending between the crank-pin and the slide or head 8. The jaw 5 is pivoted on the slide or head 6 at *a*. For driving the stripping mechanism arranged on opposite sides of the receiver 2 there is provided a sprocket-chain 14, passing around the wheels 12, at the opposite ends of the machine, and also over the sprocket-wheel 15, arranged at the middle of the machine and in a somewhat elevated position with reference to the receiver 2.

Above the receiver 2 there is arranged a splitting and pressing device consisting of a knife 16, set in a head 17, which at its lower end affords shoulders 17^a on either side of the shank part of the knife. The head 17 with its knife is mounted on a vertical stem 18, which is mounted in a fixed bearing 19 from the frame and is arranged to make a reciprocating motion vertically. For operating the knife 16 there is provided on the wheel 15 a crank-pin 15^a, which is adapted to strike on the end of the lever 21 and depress the same. The lever 21 is pivoted to the frame at 22 and is provided with a counterweight 23 or other suitable means for returning the lever 21 to the position shown in Fig. 1, and particularly with the knife 16 in the elevated position. The lever 21 is connected with the stem 18 of the knife by means of links 24, which links engage, by means of a cross-pin, in a slotted opening 25 in the upper end of the stem 18. Below the slot there is provided a pin 26, af-

fording a support for the lower end of the spring 27, which spring operates to hold the cross-pin of the links 25 in the upper end of the slot 25′ under ordinary circumstances and under ordinary usage of the device. In case the knife meets with an undue amount of resistance the spring 27 will yield and prevent breakage or damage to the machine. The knife-head 17 is provided in its opposite sides with a recess *b*, which is adapted to afford a clearance for the gripping jaws or fingers 5 when it is closed.

The receiver 2 is provided with a slotted opening *c* through the bottom to provide a clearance for the knife 16 and is also provided with a peculiar form of cross-section at this point, as shown particularly in Fig. 9, so as to receive the end of the jaw or gripping-finger 4, with the gripping-face thereof practically forming a continuation of the surface of the bottom of the receiver 2 when the jaws 4 are moved to their position contiguous to the receiver 2.

Behind the opening *o*, through which the ear passes as the husks are removed, there are provided a pair of rollers 30 and 31, mounted on spring-supported bearings, so that the rollers may open and close to accommodate ears of varying sizes, and between these rollers the ear is passed after passing the opening *o*. The rollers 30 and 31 are one or both driven, as required, the upper one being shown in the drawings as driven by a belt 32. To the rear of the rollers 30 and 31 is still another set of rollers 35 and 36, also mounted on spring-bearings to afford them opportunity to open and close to accommodate themselves to varying sizes of ears. The upper one of these rollers is also shown as being driven by a belt 37. Between the rollers 30 and 31 on the one side and 35 and 36 on the other there is provided a brush-frame 40, which is of circular form, particularly as shown in Fig. 6, and, as shown in Fig. 6, supports four inwardly-projecting brushes 41, between the free ends of which the ear is passed by the rollers mentioned after passing through the opening *o*.

For cleaning the silk and husk from the brushing device 40 there is provided, extending transversely of the table 1, a shaft 50. This shaft is provided with a pair of arms or beaters 51 52, which swing close to the front and rear of the brushing device in their revolutions and serve to remove any silk or husks which are caught in the brush and might otherwise interfere with its operation. For driving the shaft 50 there is provided a sprocket-chain 53, extending to a continuation of the shaft on which the sprocket-wheel 12 is mounted on the right-hand end of the machine.

Preparatory to introducing the ears of corn into the machine for husking it is desirable to loosen or sever the husks at the base of the ear. For this purpose I have provided a circular cutter 60, which consists, essentially, of a tube with a knife-edge 61 at the end and mounted in a bearing at 62 and rotated by means of the sprocket-chain 63, extending to the same shaft on which the sprocket-wheel 12 is mounted. To protect the operator from contact with the cutting edge of this cutter and also to assist in centering the ear and preventing it from rotating, there are provided a number of spring-fingers 65, mounted on a fixed support and surrounding the cutter, as shown.

The operation of the machine is substantially as follows: Power being applied by means of the belt X and the parts put in motion, the operator first applies the stem or shank end of the ear to the cutter 60. In so doing the portion of the stalk or support which is usually attached to the ear passes into the tubular cutter, while the cutting edge cuts a circular groove into the rear end of the cob through the husks, severing them. The ear is then withdrawn from the cutter and laid in the receiver 2, with the tip or outer end of the ear occupying a position between the recesses or cut-outs 3 in the receiver. This operation must be timed to conform to the movements of the machine and when the knife 16 is in its upper position. Immediately the knife 16 descends and splits the husks at the tip end of the ear into two parts, and the head 17, in which the knife 16 is mounted, descends on the husks and crushes them into a flat form between the under side of the head and the upper surface of the receiver at the point opposite the head. At this time the gripping or stripping jaws come forward by reason of the operation of the crank in the wheel 12 and the connecting-rod 13. The jaws come forward in an open position, for the reason that the connecting-rod 13 connects only with the lower slide 8, which operates on the lever-arm of the movable jaw 5. When the jaw 5 is operated to its open position, the further movement of the slide 8 results in carrying the slide 6 along its way and with it the lower jaw 4. The arrangement is such that the lower jaw 4 will pass under the split and compressed husks at the tip of the ear, while the upper jaw 5 will pass over the same. The reverse movement of the slide 8 first causes the jaw 5 to close down onto the compressed husks and the further movement to carry the slide and jaws away from the receiver. In order to insure the jaws closing firmly on the husks before they begin the movement laterally away from the ear, I provide a spring 6^a, which is adapted to engage with the slide 6 when in its closed-in position, and there may be a pocket provided in the top of the slide 6 to receive the end of the spring 6^a, and thereby secure the desired amount of friction or resistance to the initial movement of the slide 6. As the stripping-jaws pass laterally away from the ear in the receiver 2 they carry along the husks grasped by the jaws on each side of the

receiver, respectively, and strip them from the ear. As this operation is going on the husks pass out through the cut-away openings 3 and the ear of corn makes a forward movement past the said openings 3 and through the opening *o* in the frame. The ear is caused to move forward through the opening *o* by the draw on the husk as the strippers move away from the ear, and the tendency to move forward is aided by the husks passing around the corner, as between the grooved receiver 2 and the opening 3 in its sides. When the jaws have reached their open positions, the reverse movement on the connecting-rods 13 causes the jaw 5 to be moved into its open position, and the husks which were previously held drop out. When the ear of corn, after the husks have been removed, passes through the opening *o*, it is engaged by the rollers 30 and 31 and passes through the brushing device 40 and next between rollers 35 and 36, which carry it to an opening in the table through which it may be dropped or delivered onto a carrier belt or chute, as desired.

It is evident that numerous modifications and changes in and from the construction herein described may be made without departing from the spirit of my invention.

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

1. The combination in a corn-husking machine of an ear-receiver, a tip splitter and presser and laterally-moving stripping-jaws, substantially as set forth.

2. The combination in a corn-husking machine of a support for the ear, means for dividing the tip of the ear while in the support, and means for gripping the husks at each side of the divider and stripping them laterally from the ear, substantially as set forth.

3. The combination in a husking-machine of a knife arranged in the plane of the ear to split the tip, means for supporting the ear, a compressor to compress the split tip and jaws arranged to grasp the parts of the tip at each side of the knife and retire laterally, substantially as set forth.

4. The combination in a corn-husking machine of a trough-like receiver for the ear, having cut-outs at either side and an opening through the bottom, of a tip-splitting knife movable toward and from the receiver and into said opening, shoulders at the base of the knife to press the husks, and stripping-jaws arranged to enter the said cut-outs to grasp the husks and retire laterally, stripping the husk from the ear, substantially as set forth.

5. The combination in a husking-machine of means for supporting the ear, a presser for pressing the husks at the tip of the ear into a flattened form on the support, and stripping-jaws arranged to grasp the husks when compressed and retire laterally, stripping them from the ear, substantially as set forth.

6. The combination in a corn-husking machine of an ear-receiver, husk-stripping jaws provided on each side of the receiver and arranged to grip the husk and move laterally away from the receiver, and means for closing the jaws when adjacent to the receiver, moving the jaws laterally away and opening them when removed from the receiver, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 9th day of June, 1904.

GEORGE PETERS.

Witnesses:
ADA E. PETERS,
ANNIE WILKINSON.