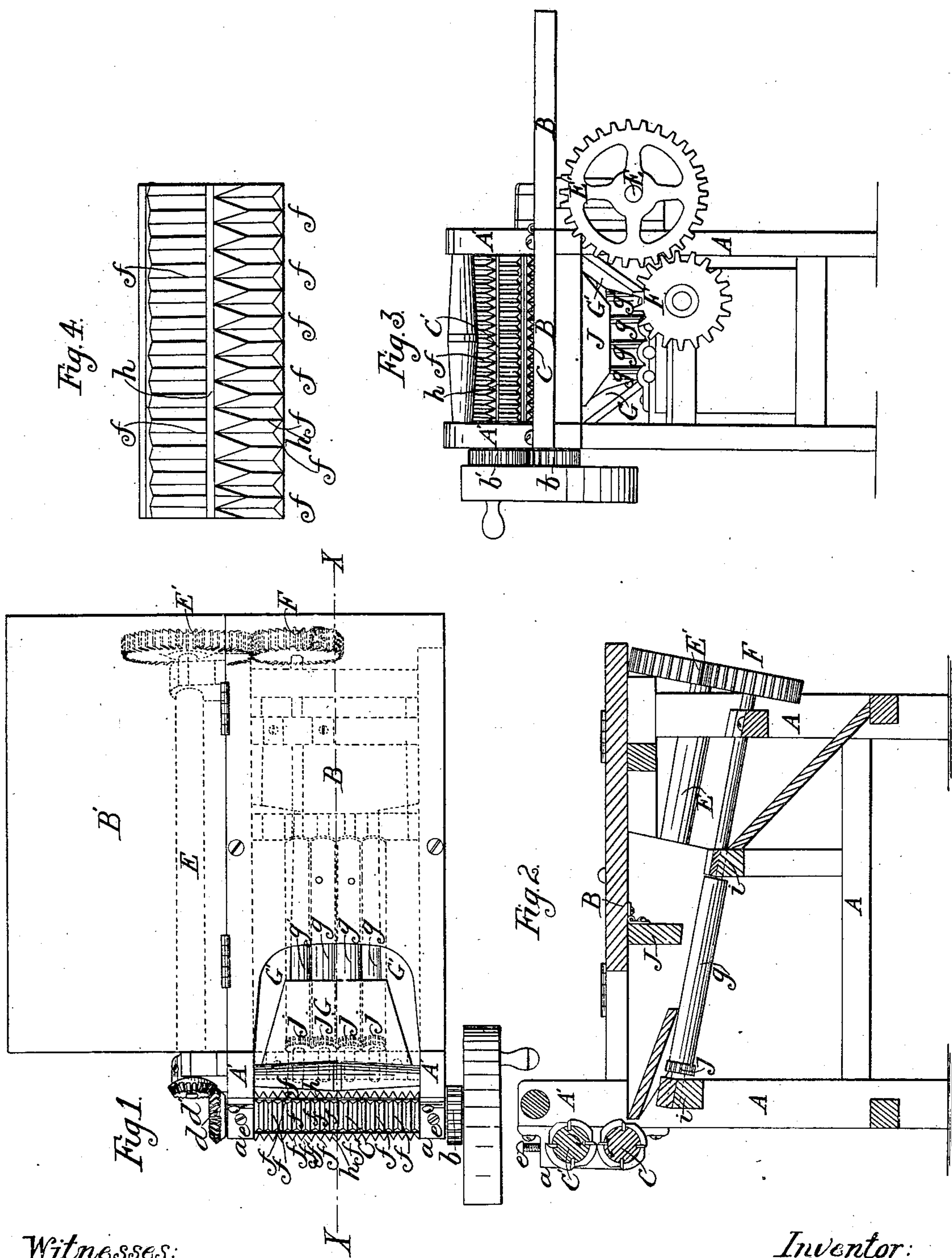


J. RUSSELL.
CORNSTALK CUTTER AND CORN HUSKER.



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United States Patent Office,

IMPROVEMENT IN CORNSTALK CUTTER AND CORN HUSKER.

JACOB RUSSELL, OF BROOKLYN, NEW YORK.

Letters Patent No. 60,643, dated December 18, 1866.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JACOB RUSSELL, of Brooklyn, in the county of Kings, and State of New York, have invented a Combined Cornstalk Cutter and Corn Husker; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top-view of the machine arranged for cutting cornstalks and husking corn.

Figure 2 is a longitudinal section taken in the vertical plane indicated by red line *x x*, fig. 1.

Figure 3 is an elevation of one end of the machine.

Figure 4 is an enlarged view of one of the slitting and cutting drums.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved machine which is designed for slitting and cutting up cornstalks, separating the ears of corn from the stalks, and then husking or removing the husks from the ears, as will be hereinafter explained. To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the frame or table of the machine which is adapted for containing and supporting the devices which cut the cornstalks, separate the ears of corn therefrom, and removing the husks from the ears. B represents the top of the table, and B' a hinged leaf, which latter is folded over the top, B, when the machine is to be used for cutting up cornstalks only. When the machine is used for cutting the stalks and husking the ears, then the leaf is opened as shown in figs. 1 and 3, so as to expose an opening for the descent of the ears of corn upon the husking rollers, *g g'*. This opening is made through one end of the table top B, as shown in figs. 1 and 2, so that the ears of corn will pass from the rollers, C C', which sever them from the stalks, to the rollers *g g'*, as will be hereinafter explained. The rollers C C' have their end bearings in boxes, *a a*, which are secured to the uprights, A' A', of the table; and these rollers are caused to rotate in opposite directions at an equal speed, by means of two spur-wheels, *b b'*, one of which is keyed on the driving shaft of roller C, and the other is keyed on the shaft of the upper roller C'. On one end of the shaft of roller C, a crank and fly-wheel is keyed, and on the opposite end of this shaft a bevel spur-wheel, *d*, is keyed, which engages with a corresponding wheel, *d'*, on an inclined shaft, E. This shaft is arranged on one side of and has its bearings upon frame A, and on the front end of this shaft a large spur-wheel, E', is keyed, which engages with a spur-wheel, F, on the extended end of one of the husking rollers, *g'*. The upper roller, C', has India-rubber blocks inserted in its bearing boxes so as to press downward upon the ends of this roller with greater or less force, as may be desired. The adjusting screws, *e e*, which are tapped through the heads of bearing boxes, *a a*, admit of greater or less pressure being applied to the roller, C', so as to increase or diminish the elastic resistance of the springs. The two rollers are composed of circular knives, *f f*, arranged side by side for splitting the stalks of corn longitudinally, and a suitable number of longitudinal knives, *h h*, which intersect the circular knives in such manner as to cut up the stalks crosswise into suitable lengths to be used as food for cattle. The cutting edges of the upper and lower set of knives are arranged so as to cut opposite each other. These cutting rollers may be constructed in any suitable manner so that they will cut both laterally and longitudinally. In front of the lower cutting roller is an inclined board, G, which serves as a bridge, and conducts the ears of corn downward and delivers them upon the husking rollers, *g*, between the two inclined boards, G G'. The rollers, *g g'*, are non-elastic, that is to say, they are made of metal, or some other substance which is not elastic. These rollers are arranged side by side, and they incline toward the front of the machine; they have their end bearings upon horizontal transverse bars, *i i*, of frame A, and they are geared together at their upper ends by means of pinion spur-wheels, *j j*, which receive motion from the driving roller, *g'*. The spur-wheels *j* rotate the roller *g* in opposite directions, so that the husks will be caught between the bite of these rollers and stripped from the ears of corn. The boards, G G' G', form a kind of hopper for conducting the ears of corn from the cutting rollers, C C', and deliver the ears upon the roller bed, so that they will lie upon this bed in a direction with its length, as indicated in fig. 2. In order to prevent the ears of corn from sliding from the roller bed before they are husked, a hinged gate, J, is employed as shown in fig. 2, and hinged to the bottom of the table top, B, so as to arrest the corn in the husk until the husks are caught between the rollers, *g g'*. This gate or apron will swing back-

ward by the pressure of the ears against it, and allow the husked ears to pass downward and escape from the lower end of the roller bed. By the employment of inelastic husking rollers, as set forth, they will strip the husks from the ears without allowing the clean ears to be drawn down and crushed.

The operation of the machine is as follows: The several rollers composing the husking bed and the upper roller, C, are rotated by applying motion to the lower roller, C', as before explained. The cornstalks, with ears of corn attached, are put upon the table top, B B', and fed in a direction with their length between the cutting rollers, C C', which rotate in the direction indicated by the arrows in fig. 2, and cut the stalks transversely and longitudinally. At the same time the rollers, C C', separate the ears of corn from the stalks so as to allow the ears to slide down the inclined bridge, G, between the two inclined boards, G' G', and pass upon the husking bed which will separate the husks from the ears, discharge the former beneath this bed, and the latter from its lower end. When it is desired to cut up cornstalks from which the ears of corn have been previously stripped, the leaf, B', is turned over upon the table top, B, and the cornstalks fed up to the rotary cutting rollers, C C', as before described. I do not confine myself to any definite number of knives forming the cutting rollers, C C', as the number will be greater or less according to the diameter and length of said rollers, and also according to the degree of fineness required of the stalks when cut up. Nor do I confine my invention to any definite size and number of rollers constituting the husking bed.

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

1. The construction of rollers C C', of circular cutters *f f*, and longitudinal cutters *h h*, these latter intersecting the cutters *f*, so as to cut the stalks of corn crosswise at the same time that they are split longitudinally, and at the same time crowd the ears of corn back, substantially as described.
2. The husking bed, consisting of non-elastic rollers arranged in an inclined plane and rotated substantially as described, in combination with knives on rotary cylinders, which allow the stalks to pass between them, but crowd the ears of corn back upon the bed, substantially as set forth.
3. The inclined bridge G, interposed between the roller C' and the husking bed, substantially as and for the purpose described.
4. The yielding gate J, arranged over the inclined husking bed, so as to operate substantially as described.
5. A machine which is adapted for cutting up cornstalks, stripping the ears of corn from the stalks, and then separating the husks from the ears, substantially as described.

Witness my hand in matter of my application for a patent for a combined stalk cutter, and splitter, and husker.

JACOB RUSSELL.

Witnesses:

EDW. SCHAFER,

EDM. F. BROWN.