

No. 894,804.

PATENTED JULY 28, 1908.

A. W. THOMAS.
CORN CUTTER KNIFE.
APPLICATION FILED OCT. 6, 1906.

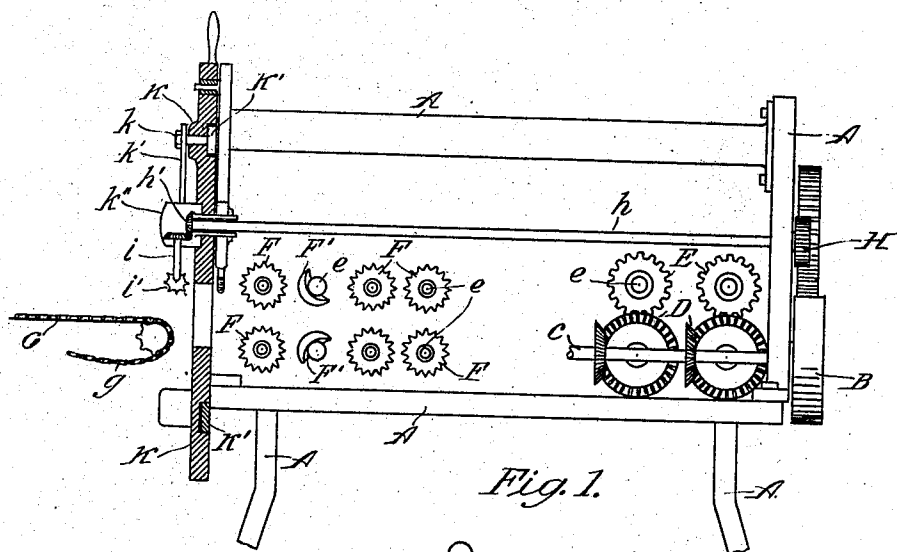


Fig. 1.

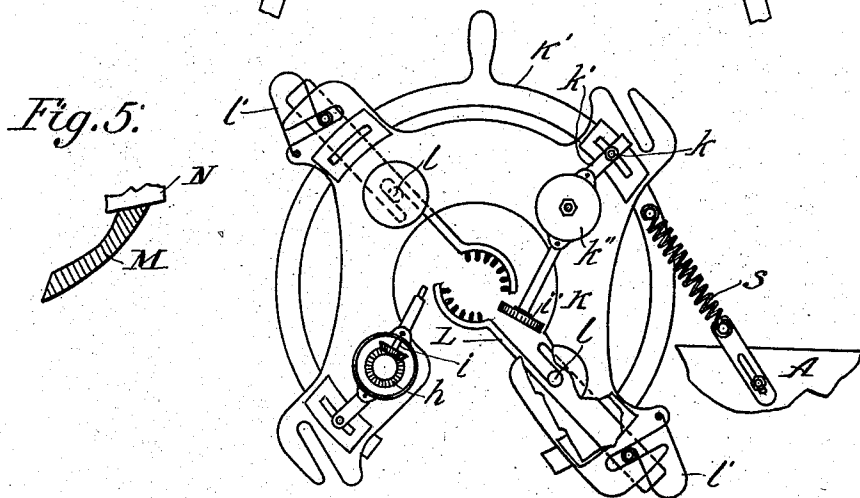


Fig. 2.

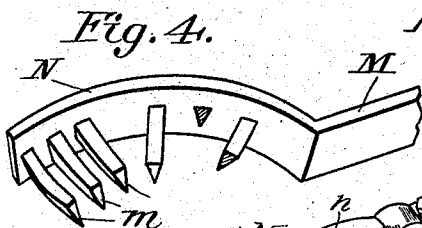


Fig. 4.

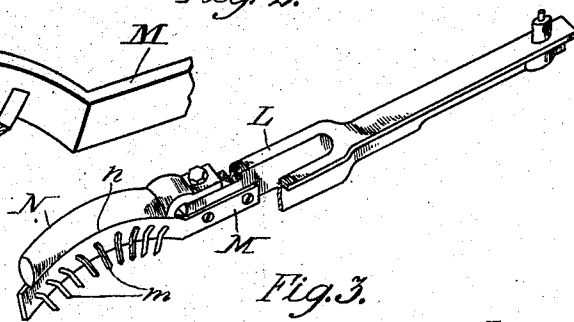


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBION W. THOMAS, OF ROME, NEW YORK, ASSIGNOR TO THE BURT OLNEY CANNING COMPANY, OF ONEIDA, NEW YORK.

CORN-CUTTER KNIFE.

No. 894,804.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed October 6, 1906. Serial No. 337,697.

To all whom it may concern:

Be it known that I, ALBION W. THOMAS, citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Corn-Cutter Knives, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved corn-cutter knife, and I declare that the following is a full, clear, concise and exact description thereof sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

The invention comprises a form of blade with cutting edges mounted thereon and applicable to use for various purposes, particularly in a corn-cutting machine for opening the kernels as the cobs are passed through the machine, and I illustrate it in one form and connection in the accompanying drawings wherein I show one method and manner of its use.

In the drawings Figure 1 is a side view of a corn-cutter machine, partly in section, illustrating in a general way the location of sufficient parts of a well-known machine to identify the knife and its supporting member. In Fig. 2 I show the head-plate of a machine with the brass circle mounted thereon, a part of the head-plate being cut away to show the member on which the knife-arm is mounted, and another part being removed to show another detail which will be pointed out. Fig. 3 is a perspective view of the knife-arm and the knife. Fig. 4 is a view from the rear showing the cutting blades mounted on the blade member, two of the blades being broken to show the triangular cross section of the blades. Fig. 5 is a longitudinal section view through one of the blades.

As the machines in connection with which I illustrate my invention are well known they need not be fully illustrated or described. I will, therefore, illustrate in the drawings by A the frame portions of the machine which has power-pulley B mounted on a shaft C which carries beveled gears D and gears E by which power is transmitted to the shafts *e* which carry the notched rollers F and the scrapers F' by which the cobs are passed through the machine from the carrier-trough G provided with chain *g*. By suitable gears

H power is transmitted to shaft *h* and to the beveled gear *h'* whence it is transmitted to shaft *i* and the tooth-wheel *i'* which takes the corn-cobs from the carrier and drives them to the machine. The head-plate is shown as K and it is grooved to receive the brass circle K' which carries studs *k* which pass through a slot in the head-plate K and on which is mounted the rod *k'* which is integral with or secured to the core *k''* in which shaft *i* is mounted. In this way the swinging of the circle turns the core *k''* which in turn swings the tooth-wheel *i'* toward or away from the center of the opening through which the corn passes to the machine, the circle being normally held in a given position by the spring S secured to a fixed portion of the frame A. The notched rollers F and the scrapers F' are also spring mounted to accommodate different size ears. As all these parts are well-known in the art they need not be further described or their construction or functions more fully explained.

On the head-plate K are mounted the knife-arms L which are pivoted on studs *l* by slotted bearings so that as they swing to and fro they are slightly moved in or out to accommodate the blade to different sized cobs, being held normally in position by springs *l'*. The slotted bearing at the end of the knife-arm provides that the cutting portions will be moved in and out substantially radially and not simply swung on their central bearing. In Fig. 3 one of these knife-arms is illustrated which is applicable to a left-hand machine, while in Figs. 1 and 2 illustrate a righthand machine, the figures showing, however, the construction of the cutting-members and their position in the machine. These knife-arms are also known in the art and the construction of different styles and their mounting and adjustment will be readily understood.

A variety of blades have been used in corn-cutting machines, some of them being designed to cut the kernels from the cob, others to cut off the top of the kernel, and still others to cut open the kernel, but these have been found objectionable in the tendency to clog or pass undesirable material into the product.

My invention comprises a knife which is found to be free from these defects, the principle of it being that it comprises several cutting-points which open the top of the kernels to permit the contents to be pressed there-

from without cutting the skins or other parts from the cob. While the position and arrangement of the blade is shown in Fig. 2 it is illustrated in detail in Fig. 3, etc.

5 On the end of the knife-arm L I mount a curved bar M, the curvature being such that a group of four of these will substantially make a circle around the opening through which the cobs pass. From the concave
10 face of this arm project the cutting-members *m* which by general description consist of pins mounted in the arm and bent rearwardly in the direction the corn passes and outwardly from the arm. They are substantially of triangular shape in cross section, one
15 of the edges being sharpened and disposed toward the feed end of the machine to thereby present a convex cutting edge to the corn as it passes through the machine; and they
20 terminate in a point, the end being filed off to a plane at an acute angle with the front edge and an obtuse angle with the rear edge so as to project in a point the cutting edge of the peg. The knife-arm M is screw mounted so
25 as to be readily removed to permit a new set of cutters to be mounted without causing any substantial delay in the work of the machine. These cutting members are mounted about the same distance apart as the width of
30 a kernel of an ordinary ear of corn, so that each row of kernels will be cut by at least one of the blades, and there are sufficient number of these sets of teeth or blades to completely surround the cob as it passes through the machine. At the same time these cutting members
35 or blades project from the concave surface of the arm a sufficient distance to permit the skin of the kernel to pass between the cutting blades or members and far enough
40 away on the arm on which these cutting members are mounted to prevent any clogging. The arm L also carries a scraper N whose concave surface *n* lies nearer the center than the edge of the arm M so as to keep the cob
45 from contact with the arm M which carries the cutting blades.

It will be seen that the use of cutting mem-

bers in the form of pins secures a knife in which there are no channels formed by the cutting members and of considerable length 50 in which particles of corn may be retained and the knife clogged. The extent of each of the cutting blades at the point where it joins the knife arm is, in my device, no greater than the diameter of the pin of which 55 the blade is formed, which feature is of importance in securing a knife which will not clog in use.

Having described my invention, what I claim as new and desire to secure by Letters 60 Patent, is:

1. In a corn cutting machine, a cutting member comprising a knife arm a portion thereof being curved to conform to the corn to be cut, and a plurality of blades carried 65 by and disposed in planes radial with reference to the curved portion of said knife arm, each of said blades consisting of a pin secured at one end in and projecting from said knife arm and of triangular form in cross-section, 70 and each of said blades being bent rearwardly in the direction of the movement of the corn, whereby one of the apices of each of said blades will form a convex cutting edge for the corn as it passes the said cutting member. 75

2. In a corn cutting machine, a cutting member comprising a knife arm, a blade carried by and disposed in a plane at right angles to said knife arm and parallel with the direction of movement of the corn to be cut, 80 said blade consisting of a pin secured at one end in and projecting from said knife arm and of triangular form in cross-section, and said pin being bent rearwardly in the direction of movement of the corn, whereby one 85 of the apices of said blade will form a convex cutting edge for the corn as it passes the said cutting member.

In testimony whereof I affix my signature in presence of two witnesses.

ALBION W. THOMAS.

Witnesses:

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