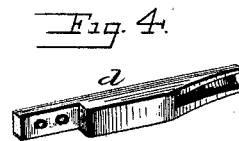
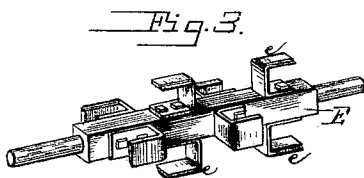
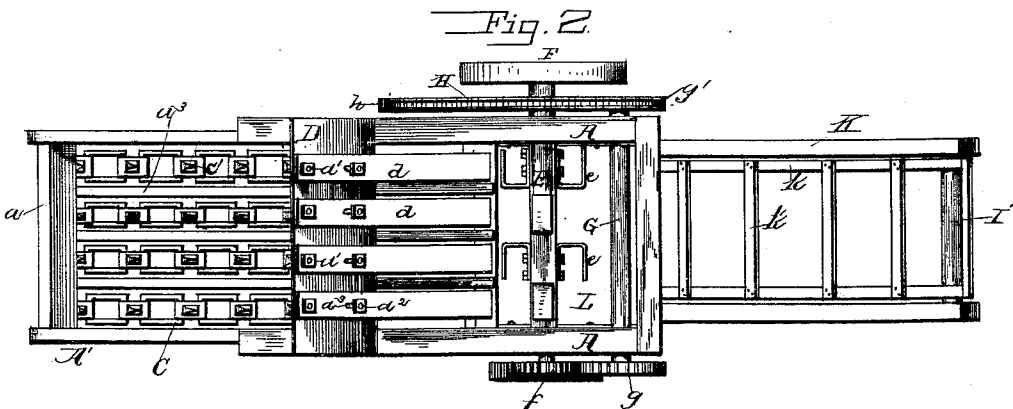
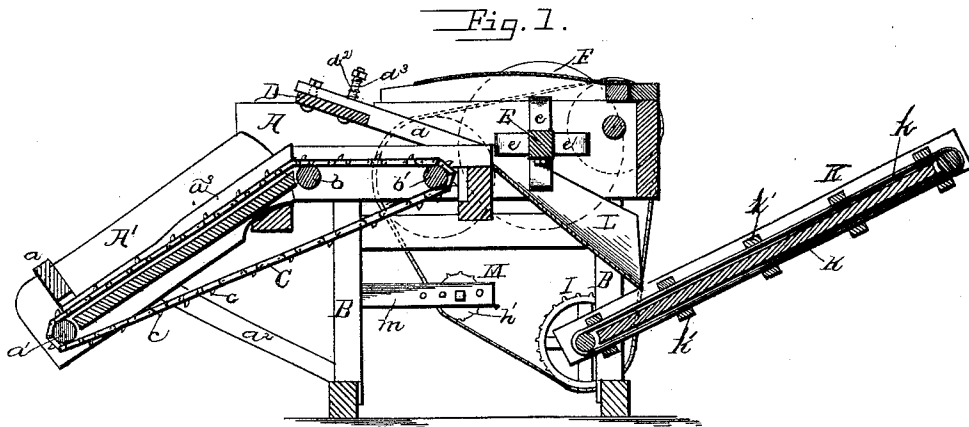


(No Model.)

D. FRESE.
FEED CUTTER.

No. 406,896.

Patented July 16, 1889.



Witnesses:

F. R. Cornwall

L. S. Bacon

Inventor:

Diedrich Frese

By Joseph H. Hunter
Attorney

UNITED STATES PATENT OFFICE.

DIEDRICH FRESE, OF LAMOILLE, ILLINOIS.

FEED-CUTTER.

SPECIFICATION forming part of Letters Patent No. 406,896, dated July 16, 1889.

Application filed January 24, 1889. Serial No. 297,364. (No model.)

To all whom it may concern:

Be it known that I, DIEDRICH FRESE, a citizen of the United States, residing at Lamaille, in the county of Bureau and State of Illinois, have invented certain new and useful Improvements in Feed-Cutters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved feed-cutter; and it consists in the construction and arrangement of parts hereinafter described and claimed.

The object of my invention is to provide a machine which will quickly cut ear-corn with or without husks into a form applicable for feeding purposes, and at the same time to mangle or break the same, thus rendering it more desirable for food. I attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a top plan view with cover removed, and Fig. 3 is a detail view of the knives. Fig. 4 is a detail view of one of the fingers.

In the drawings, A represents the frame of the machine, and B the legs or supports. Located at the rear of the frame and secured thereto is an inclined conveyer-trough A', having a lateral cross-piece or partition a and a roller a' at its exterior or outer end. This trough A' is braced and held in place by braces a², extending from the lower part of the legs upward. The trough is divided into a series of parallel compartments formed by partitions a³, which are secured to its bottom and project upward and extend the entire length of the trough and into the body of the machine, terminating near its center. A roller b is mounted in the frame at the head of the conveyer-trough, its periphery being slightly above the bottom of the trough. Another roller b' is journaled in the frame near its center at the ends of the partitions a³. Over rollers a', b, and b' travel endless iron chains C, there being as many chains as there are compartments. These chains C have projections or teeth c on their outer faces.

D represents an obliquely-disposed cross-piece secured to the upper edges of the frame near the rear thereof. On the top of this cross-piece are loosely held downwardly-inclined fingers d, having concave under inner faces. These fingers are arranged, respectively, over the compartments and chains. They are loosely held in place by bolts, as d', passing through their upper ends and the cross-piece. The degree of movement of the fingers is governed by the adjustment of the nuts on the top of the bolts d'. The openings through which the bolts pass admit of a considerable vertical movement of the lower or inner ends of the fingers, as shown in dotted lines, Fig. 1.

To normally hold the fingers down and yet permit of their upward movement, pins d² are secured to the cross-piece D, which extend up through openings in the fingers, their outer ends being surrounded by spiral springs d³, abutting against nuts on the top of the pins and the upper face of the fingers.

Located adjacent to the end of the fingers and chains is a rectangular shaft E, journaled in the frame A. On this shaft are secured the knives e, which are formed of steel in substantially U shape, one arm being made fast to the shaft. The knives have sharp cutting-edges, and are arranged alternately on the shaft in pairs at right angles to the preceding pair, the members of each pair being directly opposite each other and opposite the ends of the compartments of the conveyer-trough.

The shaft E has a pulley-wheel F on its outer end and a pinion f' on its opposite end, meshing with a pinion g, secured to a shaft G, which extends across the machine and has a sprocket-wheel g' on its opposite end, over which passes a chain H, which also passes over sprocket-wheels h and h' on the ends of roller b and roller I, which latter is located at the lower end of an elevator K at the front of the machine. This elevator K is provided with a carrier or belt k, having cross-pieces k' thereon, the belt passing over roller I at the lower end and a roller I' at the upper end of the elevator. Below the knives and ends of the fingers is a chute or hopper L, which con-

ducts the material onto the elevator, from whence it is discharged into any suitable receptacle.

5 A chain-tightener M is placed on the frame, it consisting of an arm *m*, having a series of holes in its end, in which is placed a roller-bearing shaft, the chain traveling over the roller on the shaft, the shaft being held in place by a nut on the inner face of the arm.
 10 It will thus be seen that as the ear-corn is placed in the conveyer-trough the projections *c* on the chains C carry them up and force them under the concaved ends of the fingers, which gather and hold them until they
 15 are struck by the knives. The ears of corn are thereby cut up into small pieces and fall onto the hopper below. The cap or top prevents the cut portions from flying out of the machine. The arrangement of the springs
 20 on the fingers allows of their slightly yielding, thereby relieving the machine and knives of the shock caused by the impact of the knives.

I am aware that many minor changes in
 25 the construction and arrangements of the parts of my machine may be made and substituted for those shown and described without in the least departing from the nature and principle of my invention.

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

1. In a feed-cutter, the combination, with the frame, of the inclined conveyer-trough
 35 having parallel compartments therein, yielding fingers above the compartments, shaft E, having knives arranged thereon, the endless chains traveling in the conveyer-trough and beyond the same, having projections thereon,
 40 the partitions *a*³, and the gearing for moving the several parts, substantially as described.

2. In a feed-cutter, the combination, with the frame, of an inclined conveyer-trough having endless chains traveling therein and beyond its end, which are provided with pro-
 45 jections, the partitions *a*³, the inclined yielding fingers above the chains in close proximity thereto, a rectangular shaft at the end of the conveyer-trough, and fingers and knives arranged on the shaft, and gearing for oper-
 50 ating the several parts, substantially as described.

3. The combination, with the frame and inclined conveyer-trough, of the endless chains extending beyond the trough having projec-
 55 tions thereon, the partitions *a*³, the inclined yielding fingers having concave under faces, the shaft E, the U-shaped knives arranged alternately on the shaft, the hopper below the knives, the elevator into which the hopper
 60 discharges, and gearing for operating the several parts, substantially as described.

4. The combination, with the frame and inclined conveyer-trough, of the obliquely-
 65 disposed cross-piece, the fingers adjustably secured thereon, the pins *d*³, extending through the cross-piece and fingers, spiral springs surrounding the pins, nuts on the ends of the pins, the endless chains in the conveyer-trough extending beyond the same, the rotat-
 70 ing knives arranged at the ends of the fingers, and gearing for operating the knives and chains, substantially as described.

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

DIEDRICH FRESE.

Witnesses:

FRED. C. RANKIN,
 O. GOSSETT.