

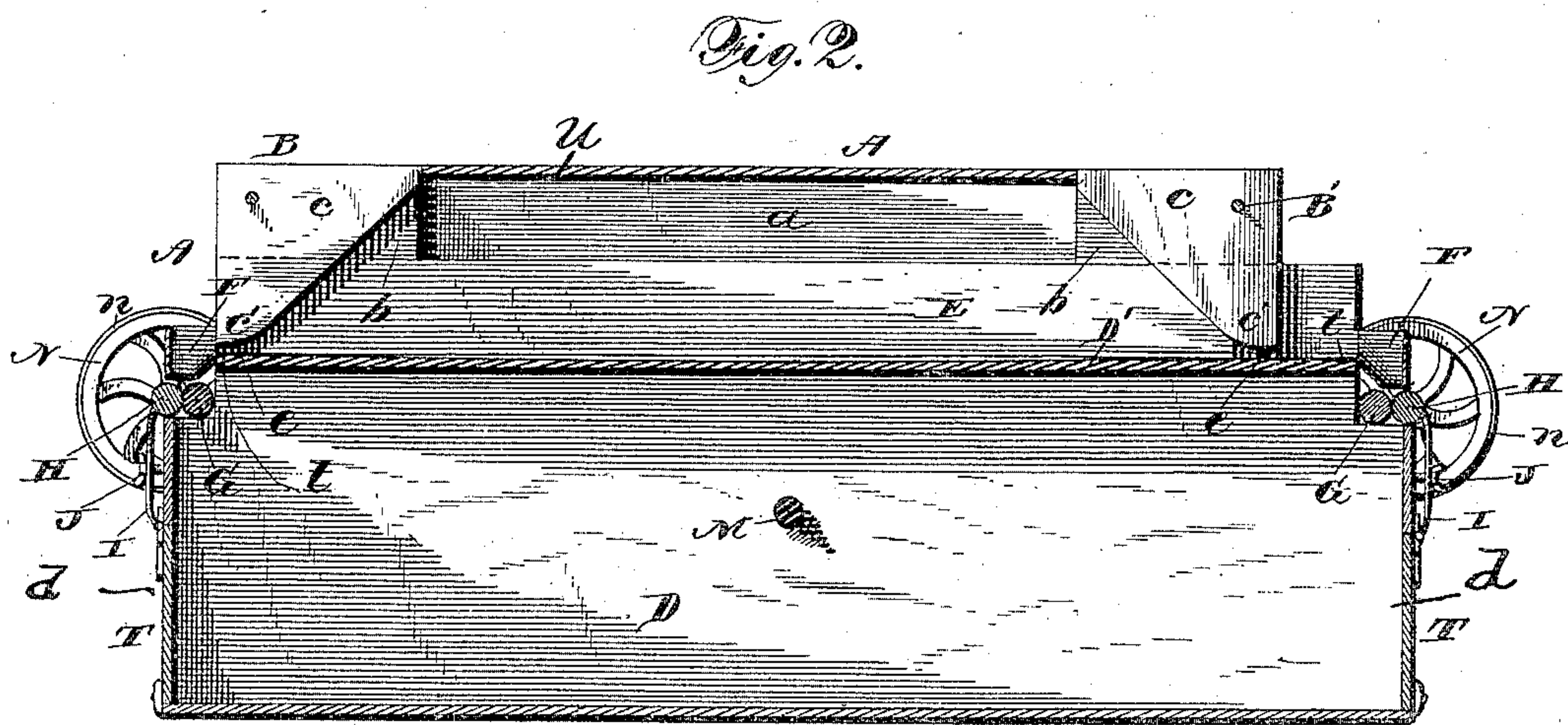
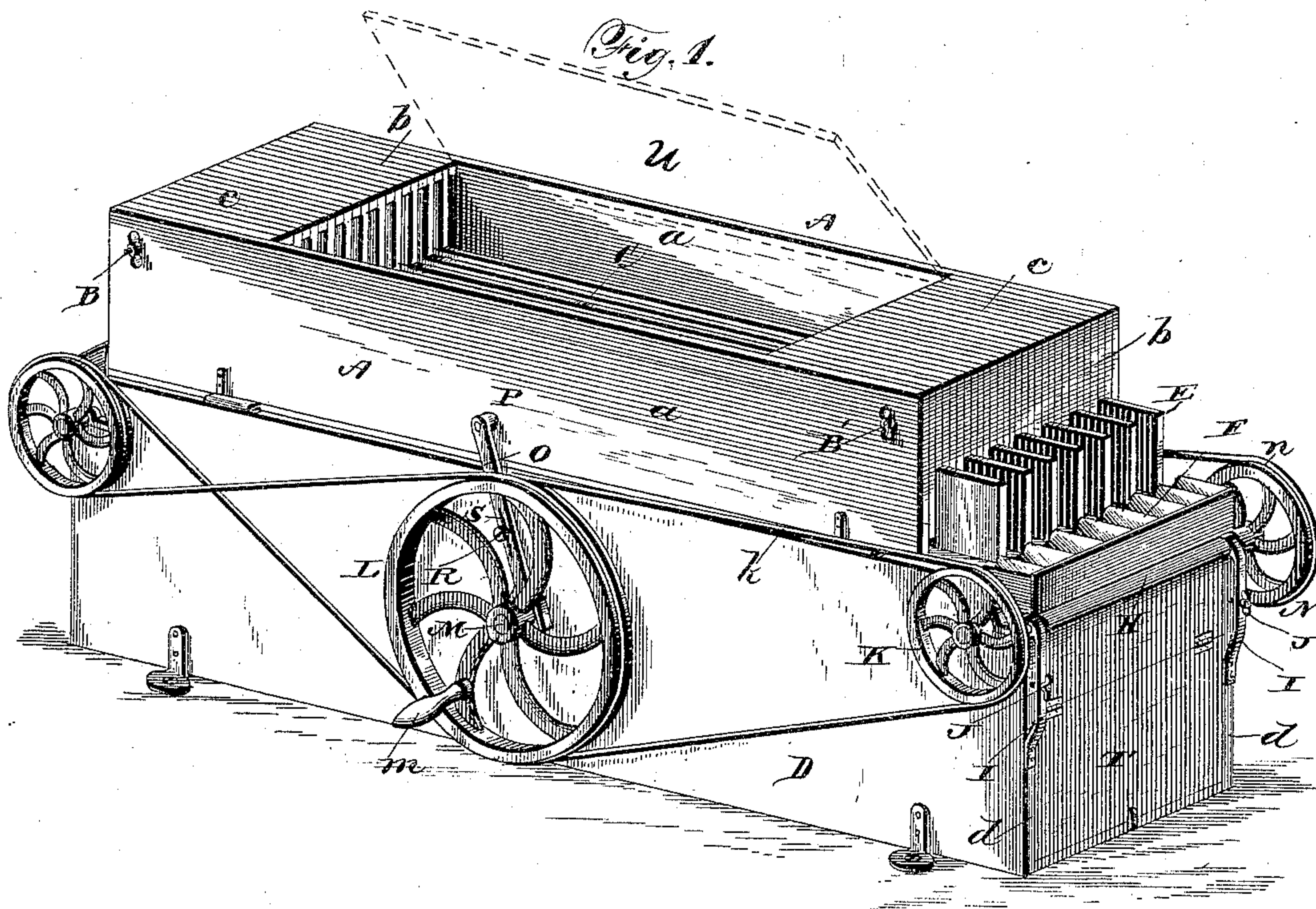
(No Model.)

J. E. FENNER & D. BRUNSON.

OAT HULLING MACHINE.

No. 335,688.

Patented Feb. 9, 1886.



WITNESSES

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JAMES E. FENNER AND DAN BRUNSON, OF KANSAS CITY, MISSOURI.

OAT-HULLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,688, dated February 9, 1886.

Application filed August 13, 1885. Serial No. 174,298. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. FENNER and DAN BRUNSON, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Oat-Hulling Machines; and we do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to new and useful improvements in machinery for removing the hulls from oats; and the object is to provide a device of this kind that will be simple in construction, reliable in operation, and adapted to meet the wants of the farm and household; and to these ends the novelty consists in the construction and combination of parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same letters of reference indicate the same parts of the invention.

Figure 1 is a view in perspective of our improved oat-hulling machine as it appears set up and ready to operate, and Fig. 2 is a longitudinal section of the same.

A is a reciprocating hopper of peculiar construction, being composed of two sides, *a a*, secured to a series of pieces, *b c*, by bolts *B B'*. The pieces *b* are rectangular in shape, and on each side is a triangular piece, *c*, and between it and the next triangular piece is an oblong strip, *C*, the hopper being built up of a series of the rectangular and triangular pieces and strips in this order.

D is the body of the machine, and its top is closed by a board, *D'*, extending almost the entire length of the machine, and forming a bottom for the hopper A.

E E are a series of longitudinal tongues secured to the bottom *D'*, and extending upward into the hopper. The rectangular end pieces, *b*, rest on the tops of the tongues, and the triangular pieces *c* extend downward on each side of the tongues. The hopper has a longitudinal or end motion upon said series of tongues.

This constitutes the feeder. As the oats are dropped into the hopper, they fall into the channel formed by the tongues E E and strips C C, and of course the grain ranges itself longitudinally in said channels, the width of which correspond to about the width of two grains of oats. It will thus be seen that as the hopper is reciprocated the strips C catch in the beard on the hull and push the grain forward, and as the strips come back or move in the direction of the beard they slip freely over the beard, while at the same time any tendency of the grain to return with the strips is overcome by the beard engaging the stationary tongues E E. From this operation the grain is gradually propelled forward, and as the beard extends from the germ end entirely to the blossom end it follows that the grain moves forward germ end first, so that no matter how the grain falls into the channels in the hopper, all of the grain which falls with the germ end to the right will pass out the right-hand side of the machine, while those that fall with the germ end to the left will pass out at that side. The sides of the tongues and strips may be slightly roughened to facilitate their engagement with the beard of the grain, and thus insure its passage through the channels. By slackening the bolts *B B'* the triangular pieces *c* may be adjusted so that their lower ends, *c'*, will form an opening, *e*, to admit of one grain passing out at a time, and as there are two of these outlets between each pair of tongues it follows that a number of grains will be simultaneously fed out in proportion to the size of the machine and the number of tongues used.

F F are a series of funnels leading from the outlets *e* to a pair of horizontal rollers, G H, whereby the grain is conducted germ end first between said rollers. These rollers have their surfaces covered with rubber or other similar material, and one of them, G, is permanently journaled in the body D, while the other one, H, is journaled in the upper ends of a pair of spring-arms, I, secured to the ends *d* of the body. These spring-arms are provided with adjusting-screws J, by means of which the pressure of the rollers may be adjusted or regulated as desired.

The roller G is provided with a pulley, K, driven by a belt, *k*, from a driving-wheel, L,

mounted upon a shaft, M, and operated by a handle, *m*. At the other end a similar belt, pulley, and wheel are used, except that the belt is crossed to give the proper motion to the roller G. The roller H is likewise provided with a pulley, N, and belt *n*, driven by a wheel (not shown) on the shaft M on the opposite side of the body D, similar to the one on the rear side just described.

O is a lever having its upper end secured to a stud, P, fixed on the side of the hopper, and its lower end forked to span an eccentric on the shaft M. This lever is provided with a slot, *s*, which works on a screw-stud, R, adjustably secured to the body of the machine, and which forms the fulcrum of the lever, so that as the wheel is rotated to operate the rollers the lever gives a reciprocating motion to the hopper, and this motion may be increased or diminished to secure the proper feed of the grain.

The operation of the machine is as follows: The oats having been placed in the hopper fall into the channels, and by the reciprocating motion of the hopper are fed out of the outlets *e* into the funnels F F, germ end first, as hereinbefore described, and in this position pass between the rollers G H, which are so adjusted as to grasp the butt-ends of the hulls, and as they continue to revolve carry the hulls between them, but force the kernels out at the blossom ends of the hulls, so as to separate them entirely from the hulls. The hulls having passed between the rollers the kernels follow them, and both fall into the body, from whence they are removed through the doors T, separated, and the kernels cleaned, in the usual manner.

u is an ordinary hinged-cover to prevent the grain from being thrown out of the hopper when the machine is in operation. The ends *t* of the top D', immediately in line with the outlet, are inclined rearwardly to facilitate the ends *c'*, leaving the grain and prevent any tendency on the part of the hopper drawing the grain backward in its return motion.

Having thus fully described our invention, what we claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the feed-hopper A, composed of the sides *a a*, pieces *c b*, strips C, and the bolts B B', of the body D, provided with top board, D', having tongues E E, substantially as described.

2. The hopper A, composed of the sides *a a*, strips C, and triangular and rectangular pieces *c b*, in combination with the body D, having top board, D', provided with a series of tongues, E E, and the rollers G H, as set forth.

3. The hopper A, composed of the sides *a a*, strips C, and triangular and rectangular pieces *c b*, in combination with the body D, having top board, D', provided with a series of funnels, F F, and tongues E E, and the rollers G H, as set forth.

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

JAMES E. FENNER.
DAN BRUNSON.

Witnesses:

E. H. BRADFORD,
H. J. ENNIS.