J. & W. MURRAY.

2 Sheets—Sheet 1.

Corn and Cob Grinder.

No. 2,459.

Patented Feb. 12, 1842.

Fig. 2.

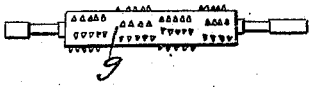


Fig. 1.

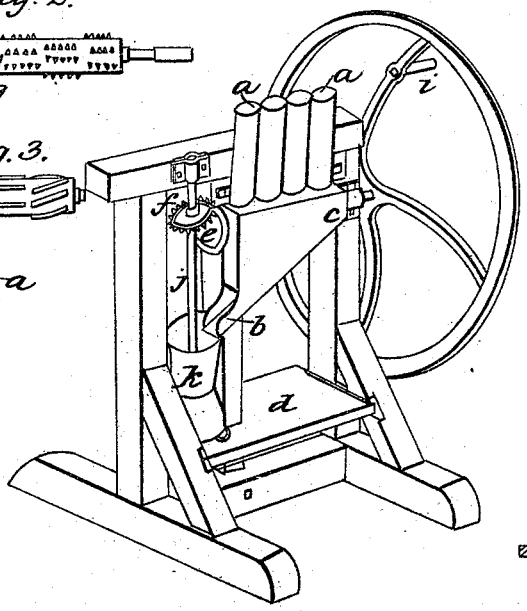


Fig. 5.

Fig. 3.

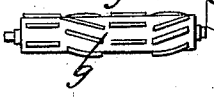
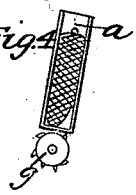
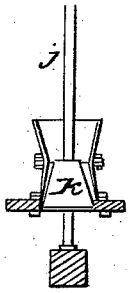


Fig. 4.





Witnesses:

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2 Sheets—Sheet 2.

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Corn and Cob Grinder.

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Fig. 6.

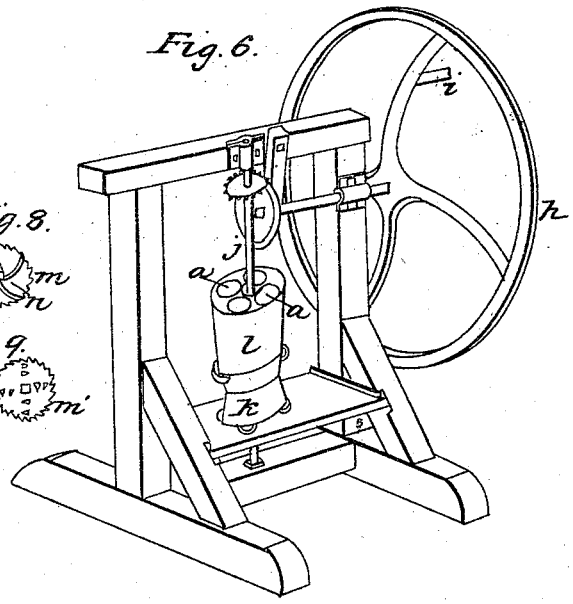


Fig. 8.

Fig. 9.

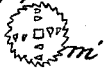
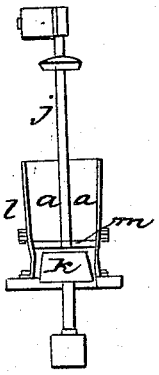


Fig. 7.



Witnesses:

John Cochrane

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UNITED STATES PATENT OFFICE.

WM. MURRAY AND JAS. MURRAY, OF BALTIMORE, MARYLAND.

MACHINE FOR BREAKING AND GRINDING CORN AND CORNCOBS.

Specification of Letters Patent No. 2,459, dated February 12, 1842.

To all whom it may concern:

Be it known that we, WILLIAM MURRAY and JAMES MURRAY, of the city of Baltimore, in the State of Maryland, have invented an Improved Machine for Breaking and Grinding Corn in the Cob or Ear so as to Prepare it for Feed for Stock; and we do hereby declare that the following is a full and exact description thereof.

In our machine, the ears of corn are to be dropped endwise into tubes, of which there may be any desired number. In a machine of the ordinary size, we generally employ four such tubes. At the lower ends of these tubes the corn is subjected to the action of teeth, cutters, or breakers, which are made to revolve so as to break, or cut off, the lower ends of the ears, and to reduce them into pieces which ought not to be longer, and may be much shorter, than the diameter of the ear, by which operation they are prepared for being ground; to effect this, they are made to fall from the breakers, or cutters, into a grinding mill, which may be made in the form of a common coffee, or bark, mill.

In Figure 1, in the accompanying drawing, we have represented our machine in the form in which we prefer to make it; in this figure, *a*, *a*, *a*, are the tubes into which the ears of corn are to be dropped; these may be made of cast-iron, or of other suitable material. Fig. 2, represents a toothed shaft, or cylinder, *g*, which extends horizontally along under the lower ends of the tubes *a*, *a;* the teeth, or cutters, upon the cylinder break, or cut off, the lower ends of the ears, and act, therefore, in a direction requiring the least amount of power for effecting this object. The form of the teeth, or cutters, may be varied, and yet produce the desired effect; Fig. 3, shows a form of the teeth differing from those in Fig. 2. Fig. 4, shows a section through one of the tubes and of the toothed shaft *g*. Fig. 5, represents a cylindrical piece of heavy wood, or other article, which may be passed into the tubes, over the ears of corn, to aid by its gravity in forcing them down, when they become short.

A fly-wheel *h*, is attached to one end of the shaft *g*, which may be turned by the handle *i; e*, is a bevel-wheel on the opposite end of said shaft, which gearing into the bevel-wheel *f*, gives motion to the vertical shaft *j*, of the grinding mill *k*; and this mill, being similar to a bark, or coffee, mill, may be set to grind fine, or coarse, as may be desired, in the same way in which such mills are set. The broken ears that fall from the breakers, are conducted into the mill, *k*, upon the inclined bottom, *b*, *c*, of the box, within the upper part of which the breaking shaft is inclosed.

Our machine may be varied in form in different ways, and in Fig. 6, we have represented it with the parts differently arranged, but still operating on the same principle. In this figure, the tubes *a*, *a*, are shown as inclosed within a circular case *l*, placed upon the grinding mill *k;* this part being shown in section in Fig. 7. In making it in this form, the breaker assumes that of a revolving disk, with teeth, or cutters, on its upper surface, as shown at *m*, *m'*, Figs. 8, and 9. The disk *m*, is to be fastened to the shaft *j*, and may, as in the former case, be furnished either with knives, or teeth, of any suitable form; *n*, *n*, Fig. 8, may represent knives, which we have sometimes used in this machine, fastened to the disk. The broken pieces of the ear pass into the mill around the edge of the disk *m*, which is of such size as to admit of this. We have represented the tubes as placed vertically, but they may be placed obliquely, provided the obliquity is not such as to retard the ears in their descent.

Having thus fully described the nature of our invention, and shown the manner in which the same is carried into operation, what we claim as new in the above described machine, and desire to secure by Letters Patent, is—

The combining of the tubes *a*, *a*, into which the ears of corn are to be separately dropped, with a breaker, or cutter, which may be either cylindrical, or in the form of a wheel, or disk, but is to be so arranged, as herein set forth, as that the breakers, or cutters, shall break, or cut off, the lower ends of the ears of corn, so as to prepare them to enter a mill within which they are subsequently to be ground.

WM. MURRAY.
JAS. MURRAY.

Witnesses to the signature of William Murray:
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Witnesses to signature of James Murray:
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M. E. JONES.