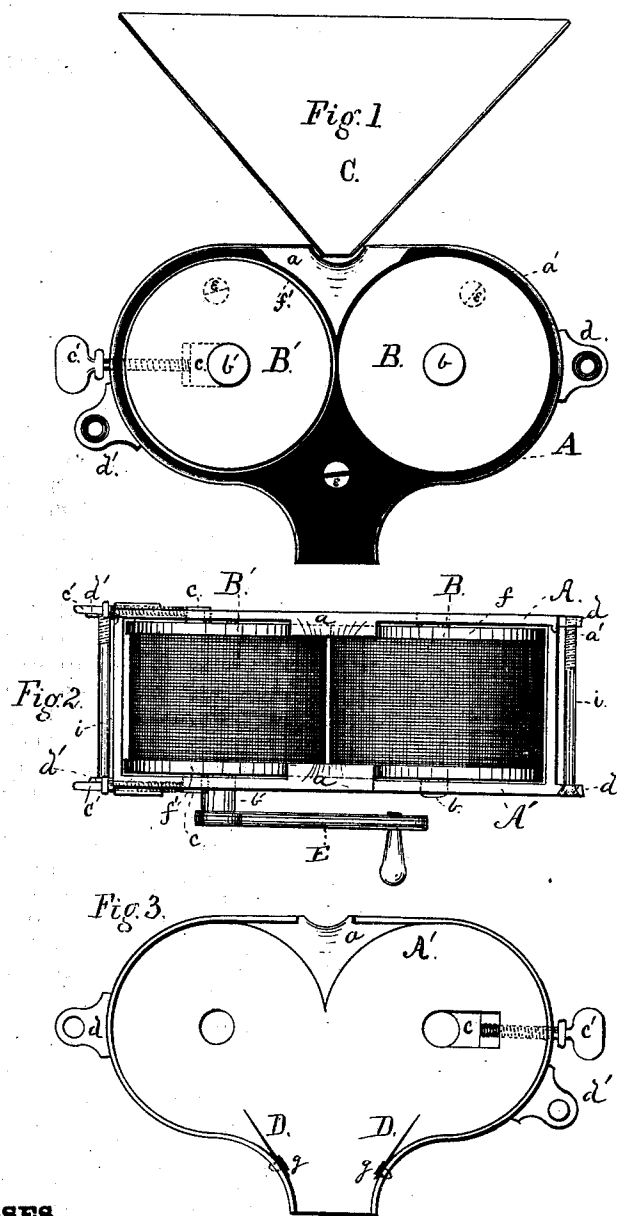


M. GRANT & J. J. HENRY.
Wheat-Cracking Machine.

No. 198,605.

Patented Dec. 25, 1877.



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MALCOLM GRANT AND JOHN J. HENRY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN WHEAT-CRACKING MACHINES.

Specification forming part of Letters Patent No. **198,605**, dated December 25, 1877; application filed November 21, 1877.

To all whom it may concern:

Be it known that we, MALCOLM GRANT and JOHN JOSEPH HENRY, both of the city of Baltimore, State of Maryland, have invented certain new and useful Improvements in Machines for Cracking Wheat; and we hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a front elevation of the said machine, the cover being removed in order to show the internal construction of the device; Fig. 2, a plan view of the same, the top and hopper being removed; and Fig. 3, a front elevation of the cover-casting.

The object of our invention is to furnish a machine for producing in a rapid and easy manner a superior grade of what is known as "cracked wheat," now extensively used as an article of food.

In cracking the grains it is desirable that the same should be merely subjected to pressure, and not scratched or abraded in any way. Any grinding action on the part of the machine results in diminishing the quantity of product in the form of cracked wheat, (a considerable portion being reduced to coarse flour,) besides impairing the appearance of the product, and, also, as a natural consequence, its salability. In passing through our machine the grains are subjected to simple pressure, whereby they are caused to crack into fragments of nearly uniform size, preserving, on the sides which originally constituted parts of the surface of the grain, its original gloss. Moreover, the loss of material in passing through the machine is almost inappreciable, nearly the whole of it being delivered in the form of the desired product—cracked wheat.

In the accompanying drawings, A A' are castings, constituting a box, the flange *a'* of the former fitting around the edge of the latter, the two being held together by means of a pair of screws, *i i*, passing through the lugs *d d' d'*. Within the box are journaled the rolls B B', having their cylindrical surfaces finely milled, as shown in Fig. 2, the milling extending nearly to the edge on either side. The milled portion on one or both rolls is

countersunk beneath the cylindrical surfaces of the rolls, so that when their unmilled surfaces are brought in contact a space will be left between the milled portions, which space will determine the size of the particles of cracked wheat.

The bearings of one of the rolls are made adjustable by means of the blocks *c c* and screws *c' c'*, so that the unmilled surfaces *f f* may be brought into contact, and any wear may be taken up from time to time. The shaft *b'* of one of the rolls terminates in the ordinary square or polygonal head, for the attachment of a crank, E.

It will be observed that the upper edges of the castings A A', which are immediately beneath the hopper C, are extended into the interior of the box a distance equal to the width of the unmilled edges of the rolls, the parts *a a* thus formed being beveled, as shown, in order to deliver the grain freely to the rolls; the object of the described construction being to prevent any grains from falling between the unmilled edges of the rolls.

The casting A is secured to a suitable support by means of screws *e e e*, to insert which it is, of course, necessary to take the box apart and remove the rolls.

Within the casting A' are secured a pair of scrapers, D D, attached by means of screws *g g*. The scrapers are arranged so as to press slightly upon the milled portions of the rolls, and remove any particles of grain which may adhere thereto.

The operation of the device is evident from the foregoing description of its construction. The hopper C being fed with grain, and the rolls being pressed together by means of the screws *c' c'*, and caused to revolve by the crank E, the grain passes uniformly between the rolls and out at the bottom of the machine.

It is obvious that, instead of driving the roll B by frictional contact with the other roll, the two may be geared together by ordinary pinions.

While in the drawings we have illustrated but one roll as being recessed upon the milled surface, both may be so constructed.

The object in milling the rolls is simply to give them a hold upon the grain, and as it is

desirable that the surface of the grain should not be scratched to any great extent, the milling should be quite fine.

While we have illustrated the milling as consisting of fine lines crossing at right angles, other forms of roughening, such as stippling, will answer, the object being, as stated, to cause the rolls to seize and draw the grains between them.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a machine for cracking wheat, a pair of rolls the cylindrical surfaces of which are

recessed and milled upon one or both of the rolls, substantially as described.

2. In a machine for cracking wheat, a pair of rolls having a part of their cylindrical surface milled, in combination with a chute extended inwardly, in order to cover only the unmilled portion of the rolls, as and for the purpose described.

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