J. A. HARD.

Improvement in Graters.

No. 128 796. Patented July 9, 1872.

Fig. 1.

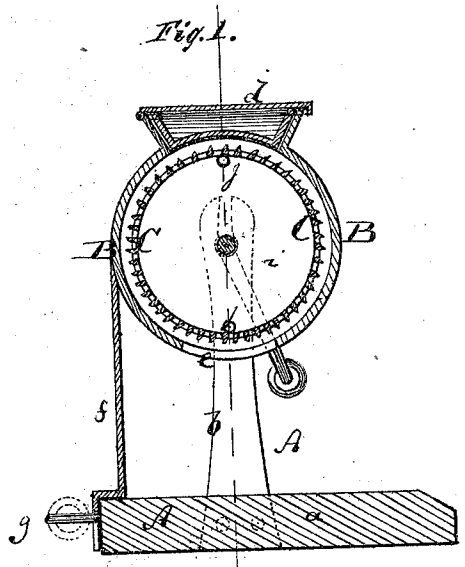
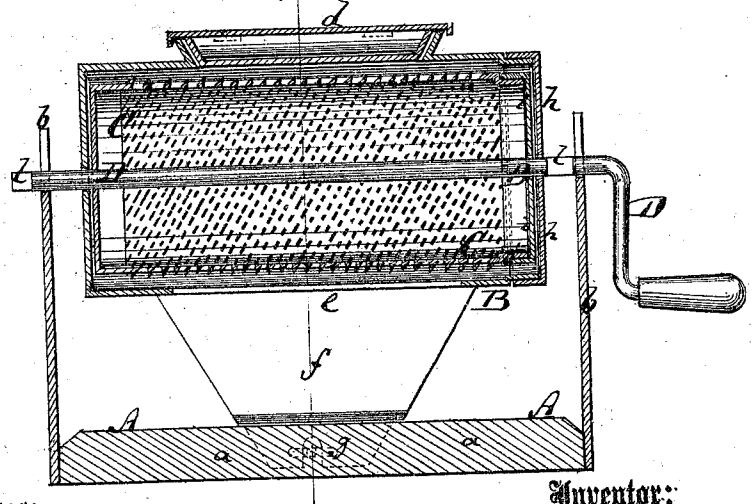


Fig. 2.



Witnesses:

Pl. Dieterich

W. A. Graham

Inventor:

J. A. Hard.

Per

Attorneys.

UNITED STATES PATENT OFFICE.

JOSIAH A. HARD, OF LAWRENCE, KANSAS.

IMPROVEMENT IN GRATERS.

Specification forming part of Letters Patent No. 128,796, dated July 9, 1872.

Specification describing a new and Improved Grater, invented by JOSIAH A. HARD, of Lawrence, in the county of Douglas and State of Kansas.

Figure 1 is a vertical transverse, and Fig. 2 is a vertical longitudinal section of my improved grater.

Similar letters of reference indicate corresponding parts.

This invention relates to a new grater for nutmegs, horse-radish, and other similar purposes; and consists in the use of a rotary grating-cylinder contained within a stationary cylinder, and hung on a frame in such manner that it can be withdrawn from the outer cylinder and detached from the frame whenever desired.

A in the drawing represents the supporting frame of the grater, and consists of a base-plate, *a*, and two projecting posts, *b b*, which are forked at their upper ends, as indicated by dotted lines in Fig. 1. B is the outer case or cylinder of the grater. It is made of the requisite size, of sheet metal, and has a hinged lid, *d*, on top and a discharge-opening, *e*, at the bottom. By means of a plate, *f*, which projects from the cylinder B, and is, by a pin or screw, *g*, fastened to one side of the case *a*, the cylinder is sustained in the requisite horizontal position. At one end the cylinder B has a removable head or end, *h*, to admit the grating-cylinder C, which is of a size to fit B, and turns on a shaft, D, whose bearings are in the forks at the upper ends of the posts *b*. The shaft D carries one head, *i*, of the grater C, which head is firmly fastened to it. The grater proper can be slipped over the shaft, and has two pins, *j j*, which enter sockets or holes in the head *i*, and thereby lock the cylinder C to the shaft D.

When the parts C D are thus connected the cylinder C is introduced through the open end of B and lodged therein, the shaft protruding from both ends of the cylinder B, as shown. Next, the head *h* is slipped onto the cylinder B and the shaft rested on the posts *b*. The slots or notches which are cut in the upper ends of the posts *b* are narrow on top, but enlarged at their lower ends to the diameter of the shaft D. The latter has two flattened portions, *l l*, by the means of which it can be introduced through the narrow forks of *b* into the lower enlargements aforesaid. It is then moved lengthwise to bring the flattened parts out of the posts, and is thereby properly retained in the latter, so that it cannot play upward.

In operation the matter to be reduced is introduced into B from above and held down against the rotary grater by the lid *d*, the pulp or powder being discharged at *e*.

Whenever desired the parts can be taken apart and the cylinders cleaned both on the inner and outer sides.

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

The grater, composed of the cylinders B C, shaft D, posts *b b*, lid *d*, and removable heads *h* and *i*, substantially as herein shown and described.

JOSIAH A. HARD.

Witnesses:
O. D. BOND,
J. L. BRIGGS.