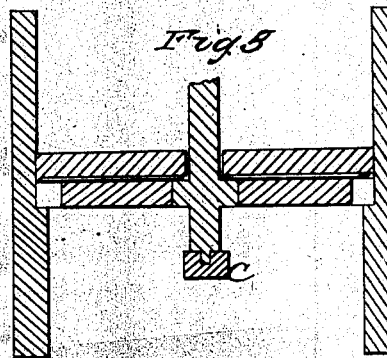
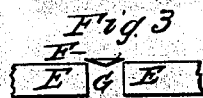
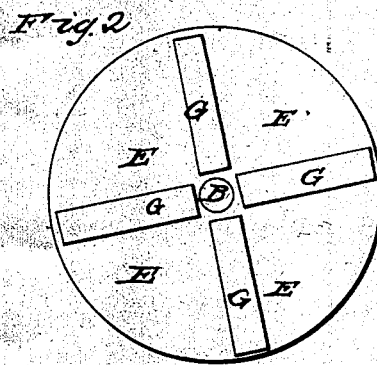
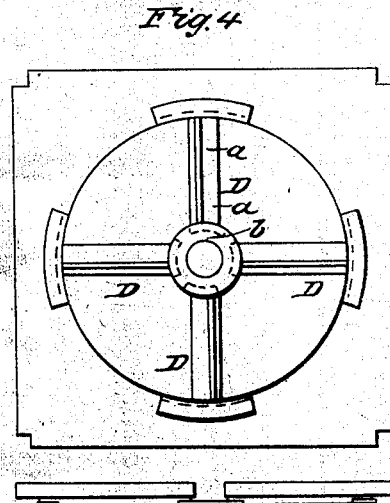
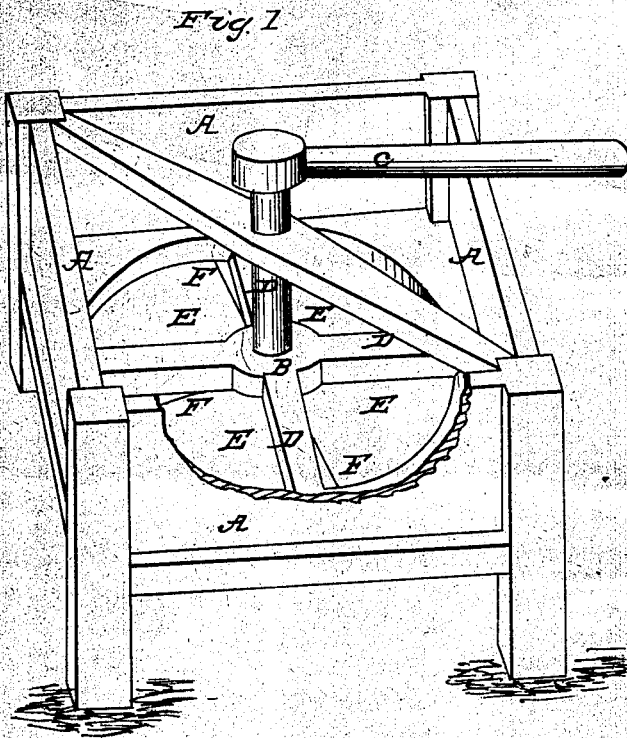


J. HURD, Jr.  
Vegetable Cutter.

No. 856.

Patented July 26, 1838.



8,565

# UNITED STATES PATENT OFFICE.

JOSEPH HURD, JR., OF BOSTON, MASSACHUSETTS.

## MACHINE FOR CUTTING BEET-ROOTS FOR THE MANUFACTURE OF SUGAR.

Specification of Letters Patent No. 856, dated July 26, 1838.

*To all whom it may concern:*

Be it known that I, JOSEPH HURD, Jr., of Boston, in the State of Massachusetts, have invented a new and useful machine for the purpose of cutting beet-roots into thin slices preparatory to the manufacturing of sugar therefrom, and which machine is also applicable to the cutting of many vegetable substances into thin slices; and I do hereby declare that the following is a full and exact description thereof.

Figure 1, in the accompanying drawing is a perspective view of the machine.

A, A, A, A, are the sides of a square box, or hopper, into which the beets to be sliced are to be put; the form of the box however, not being of any importance. A part of one side of this box is shown as if broken off, for the purpose of exhibiting the interior the more distinctly.

B, is a vertical shaft which is to receive a vibratory motion by means of the handle c, or in any other convenient way. The bottom of this box is perforated, leaving a center for the shaft B, to pass through, and having four or any preferred number of radial bars D, D, which serve for the beets to bear against while being cut; the opening allowing them to rest upon the vibratory bottom E, E. Through this bottom there are openings, or slots which are covered by the knives or cutters F, F. This bottom is shown in Fig. 2, G, G, being the slots, or openings, which the knives cover, and which allow the sliced beets to pass through.

The knives or cutters, are as wide as the openings G, G. They are attached by screws, or otherwise, to the upper side of the bottom E, E, their edges standing about an eighth of an inch above it, but being adjustable, this height determining the thickness of the slice, which is not much to exceed that above designated. The upper sides of the knives are flat, the lower side of each, being double beveled, or otherwise so formed as to thicken it along the line of its center, as shown at Fig. 3.

Upon the under side of each of the bars D, D, Fig. 4, which is a view of the under side of the box, or hopper, there is a rod of iron *a, a*, which lies loosely upon the bar, and is capable of lateral motion, its ends being halved, or reduced so as to pass under plates of iron *b, b*, which form a groove to receive said ends, the depth of the groove being represented by the dotted lines. The rod is capable of sliding about the distance of its width beyond each edge of the radial bar D; and its thickness is such as to cause its lower side to come into contact with the vibrating bottom E, E. These rods have the effect of cleaning the machine, as the cutting goes on, as in each vibration they are carried close up to the edge of one of the knives, thus forcing every vestige of the beet under it, which would otherwise clog the machine. There are pins, or stops, upon the vibrating bottom, and upon the hopper frame, to check the vibration, so that when the clearing rod is brought nearly into contact with the edge of the knife, it is arrested, and cannot be forced against it, so as to injure its cutting edge.

Fig. 5, is a vertical section through the center of the machine, C, being the step of the center shaft; the other parts are designated by the appropriate letters.

Having thus fully described my machine for slicing beets, and other vegetables, and the manner in which it operates, I claim as my invention, and wish to secure by Letters Patent—

The manner in which I have constructed and combined together the open bottom of the hopper, with the vibrating bottom, the clearing rods, and the knives, as set forth, so as to adapt them to the purpose intended, and to constitute a machine substantially the same with the foregoing.

JOSEPH HURD, JR.

Witnesses:

C. H. WILTBERGER,  
LINTON THORN.