2 Sheets—Sheet 1.

L. H. WHITNEY.

MACHINES FOR MAKING EXCELSIOR.

No. 169,607. Patented Nov. 2, 1875.

Fig. 1.

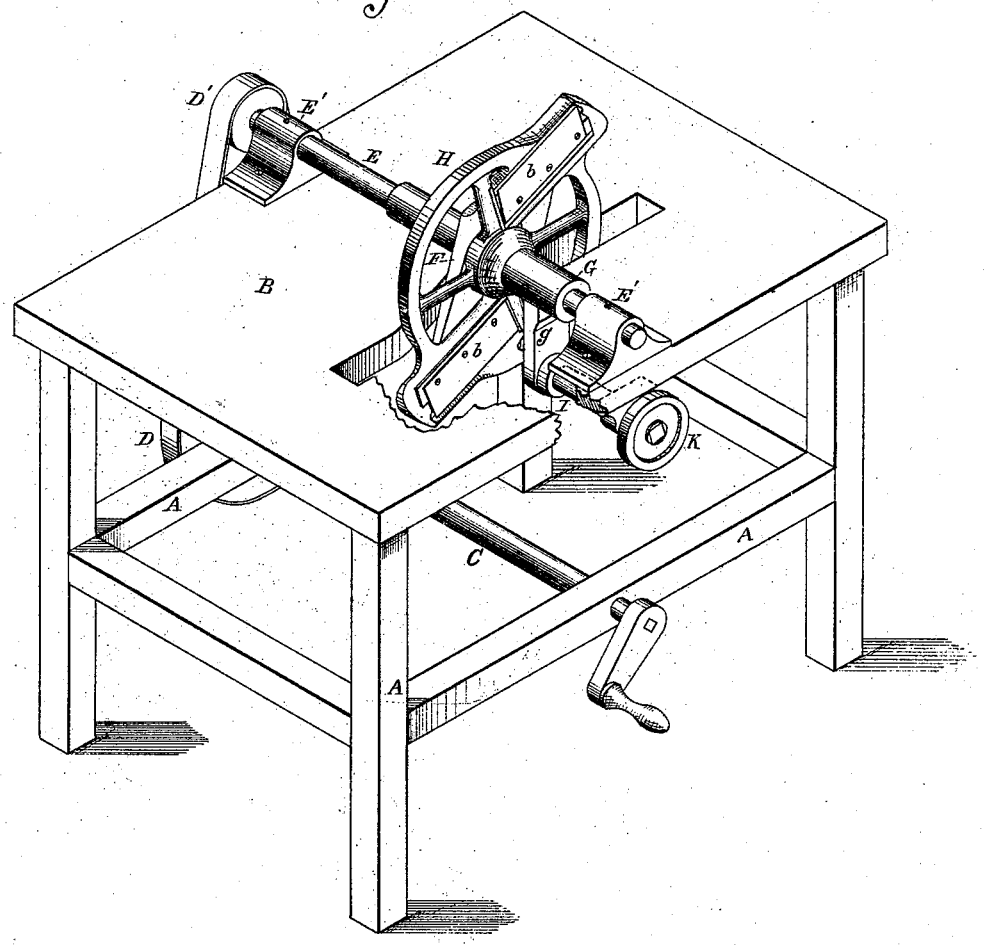
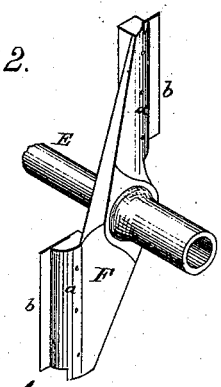


Fig. 2.



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Geo. A. Coffutt

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Inventor:

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2 Sheets—Sheet 2.

L. H. WHITNEY.

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Fig. 3.

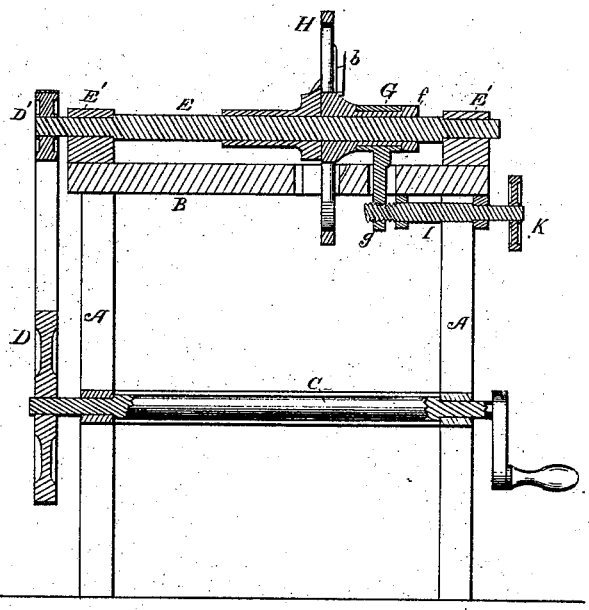


Fig. 4.

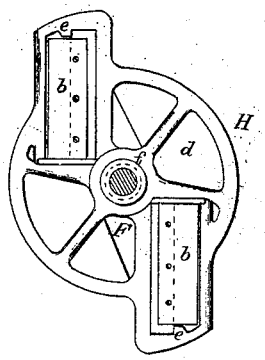


Fig. 5.

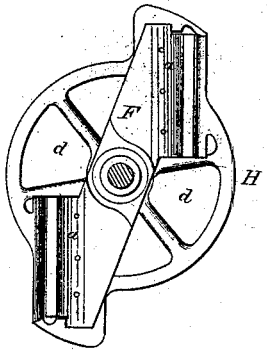
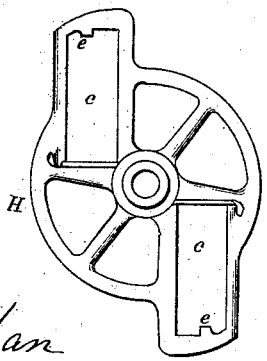


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEVI H. WHITNEY, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MAKING EXCELSIOR.

Specification forming part of Letters Patent No. **169,607**, dated November 2, 1875; application filed October 15, 1875.

To all whom it may concern:

Be it known that I, LEVI H. WHITNEY, of the city of Lowell, county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Making Excelsior; and I do hereby declare the following to be such a full, clear, and exact description thereof as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to construct a machine which may be used for dividing fibrous matter, such as dye-woods, or wood for manufacture of paper-pulp, or stuffing mattresses, and other similar purposes, into thin layers or chips. The machine will also be found useful for cutting vegetables into slices or chipping meat, its peculiar construction rendering it especially valuable for the latter purpose; and the invention consists in an adjustable revolving disk, having recesses or openings therein for the passage of air, and for the reception of the cutting-blades, which are secured to the revolving shaft upon which the disk is carried, and to the means employed for adjusting the disk, as will be hereinafter set forth.

In the annexed drawings, Figure 1 is a perspective view of the machine, a part of the table being broken away in order to show the method of adjusting the movable disk. Fig. 2 is a detail view, and shows the cutting-blades attached to the shaft by which they are revolved. Fig. 3 is a transverse vertical section through the machine, following the axial line of the shaft carrying the disk and cutting-blades; also showing the means of adjusting the disk. Fig. 4 represents a front view of the disk and cutting-blades, giving their relative positions. Fig. 5 is a rear view of the same. Fig. 6 shows the disk alone.

A represents the frame-work of the machine, and B the bed or table. Crossing the frame, and revolving in journals thereon, beneath the bed, is a shaft, C, upon one end of which is secured a driving-pulley, D, a belt from which passes upward and over the pulley D′ upon the cutter-carrying shaft E. This shaft revolves in journal-boxes E′, secured to the top of the table B, and has securely keyed or otherwise fastened thereto the cutter-bar F. This bar is cut away upon one side, at *a*, so as to form a continuation of the angle to which the cutting-blades *b* are ground, thus forming no obstruction to the passage of the material as it is cut. Loosely placed upon the shaft E, and controlled in its longitudinal movements thereon by the sleeve G, is the disk H. This disk is provided with two rectangular openings, *c*, through which pass the cutting-blades F, the disk being retained in its proper relative position to the blades by means of two tongues, *e e*, which enter corresponding recesses in the ends of the blade-carrying bar F. Other openings, *d*, are formed in the disk when the machine is to be used as a meat-cutter, which will reduce the frictional surface, and thus prevent the heating, and consequent softening, of the material, which would cause an irregular thickness in the cut, as the tougher parts would be forced downward by the action of the knives, thus producing a clogging action upon the machine, as well as to greatly deteriorate the product. From the disk H projects the hub *f*, which is provided with a concentric groove for the reception of the sleeve G. From this sleeve extends downwardly the arm *g*, a screw-thread being formed in its lower end for the reception of a corresponding screw on one end of the shaft I. This shaft turns in journal-boxes secured to the under side of the table B, and is provided at its outer end with a hand-wheel, K, by turning which it is evident the disk H will be moved upon the shaft E, thus causing the cutting-blades to project a greater or less distance from its face, and consequently cutting a thicker or thinner chip, as may be desired.

This adjustment will be found very serviceable, as it enables the operator to change the relative position of the disk and cutter without stopping the machine, when made necessary by the differing density of the material operated upon.

The operation of the machine is as follows: The shaft E being rotated by any suitable power, the material to be cut is held against the face of the revolving disk, when it is evi-

dent that the knives will cut it into chips or slices, varying in thickness according to their relative positions, the chips passing through the disk, and being delivered upon the opposite side. When required any suitable clamping device may be secured to the top of the table, for the purpose of holding the material and presenting it properly to the cutting apparatus.

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

1. The disk H, having one or more narrow bearing-surfaces, and made relatively adjustable to the cutter-carrying bar F, substantially as and for the purpose specified.

2. The open adjustable disk, provided with rectangular openings *c*, which inclose the cutting-bars, having guiding-faces, as shown.

3. The combination of the disk H, cutter-bar F, knives *b*, sleeve G, hand-wheel K, and adjusting-screw I, substantially as and for the purpose set forth.

4. The guiding-tongues *e* upon the disk H, in combination with the cutter-bar F, provided with a recess for their reception, as and for the purpose specified.

In testimony that I claim the foregoing I hereunto affix my signature in presence of two witnesses.

LEVI H. WHITNEY.

Witnesses:

GEO. A. CROFUTT,

JAMES CONNAGHAN.