

J. G. MOORE.

Machines for Making Excelsior.

No. 158,647

Patented Jan. 12, 1875.

Fig. 1.

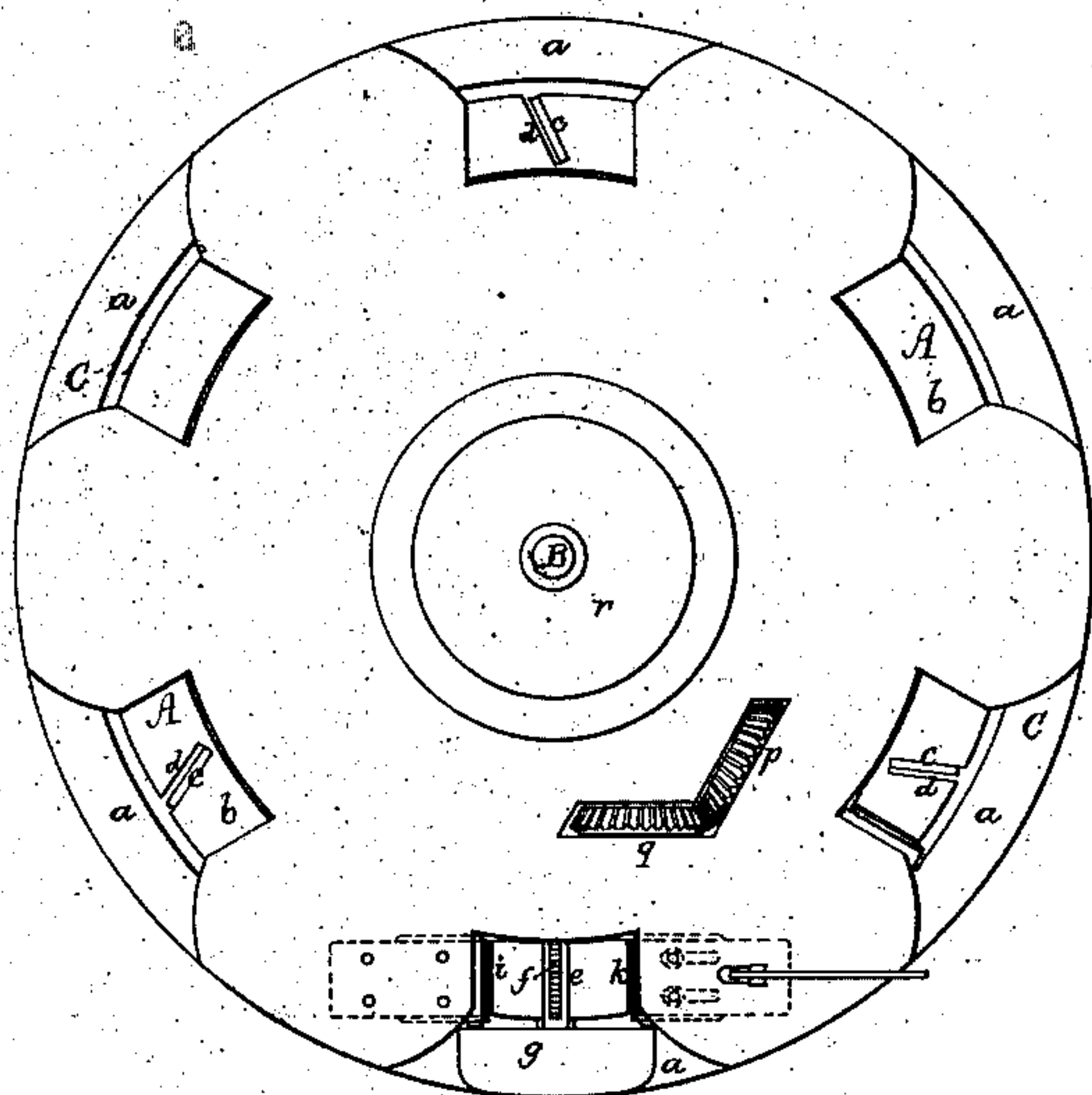


Fig. 3.

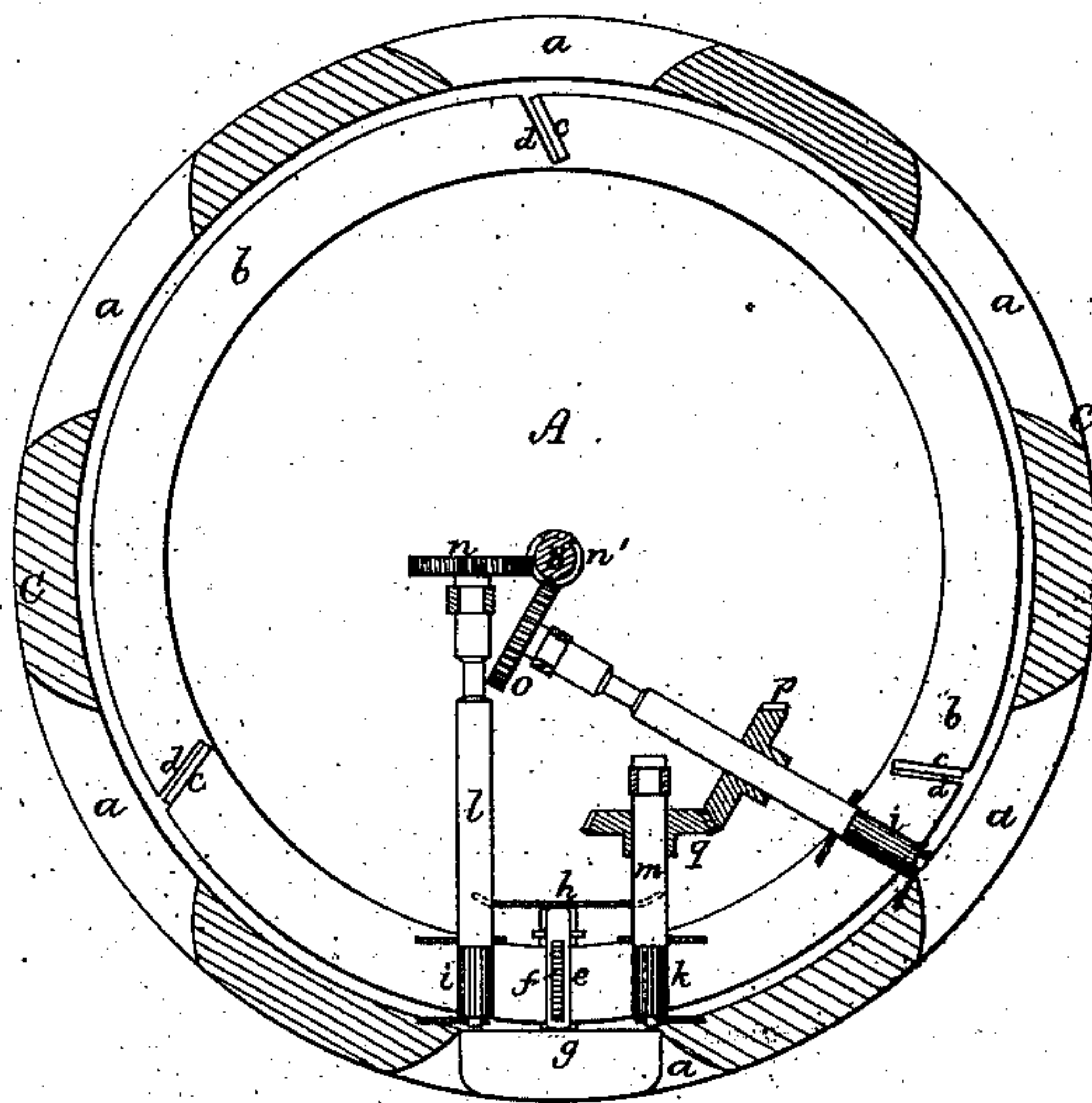


Fig. 2.

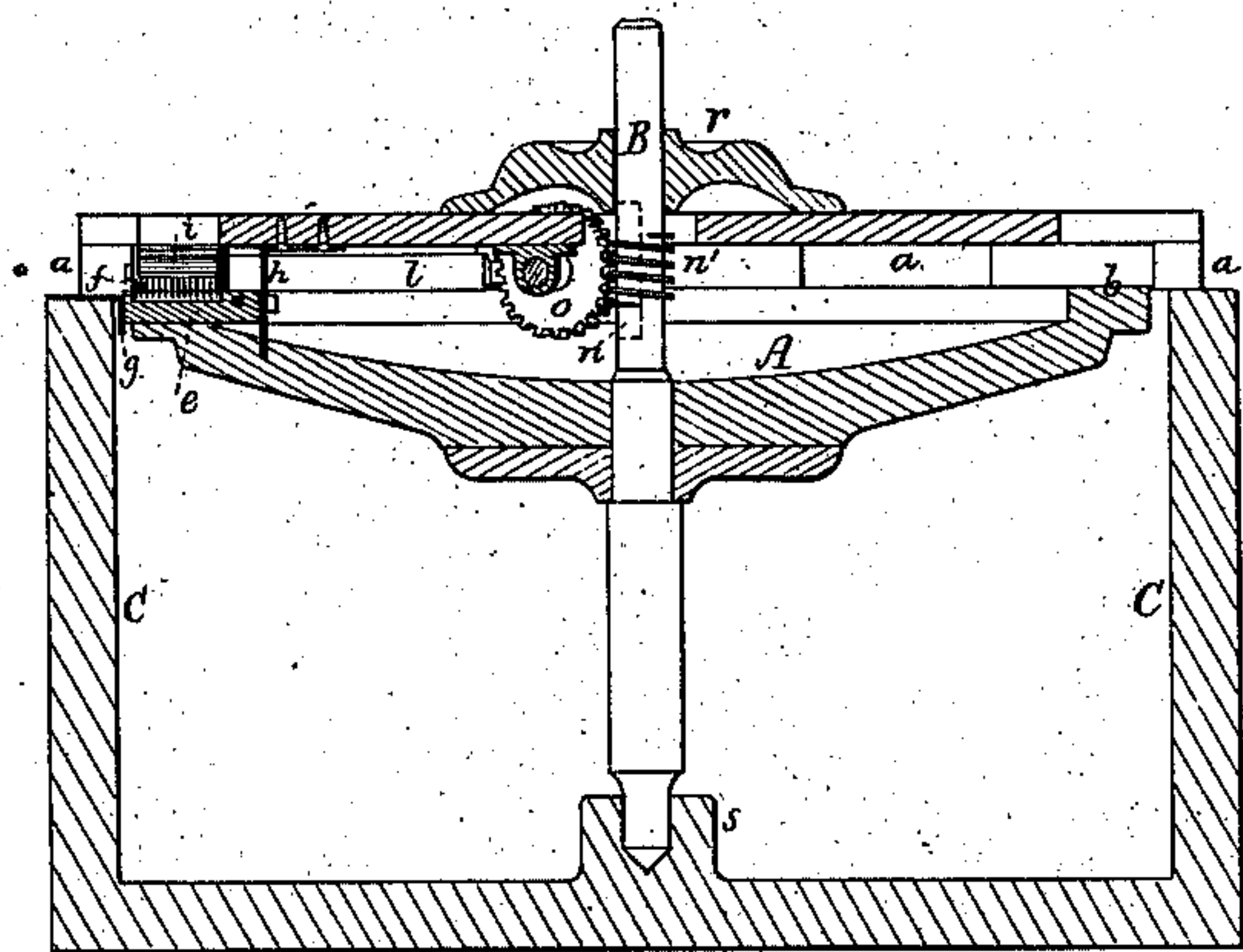
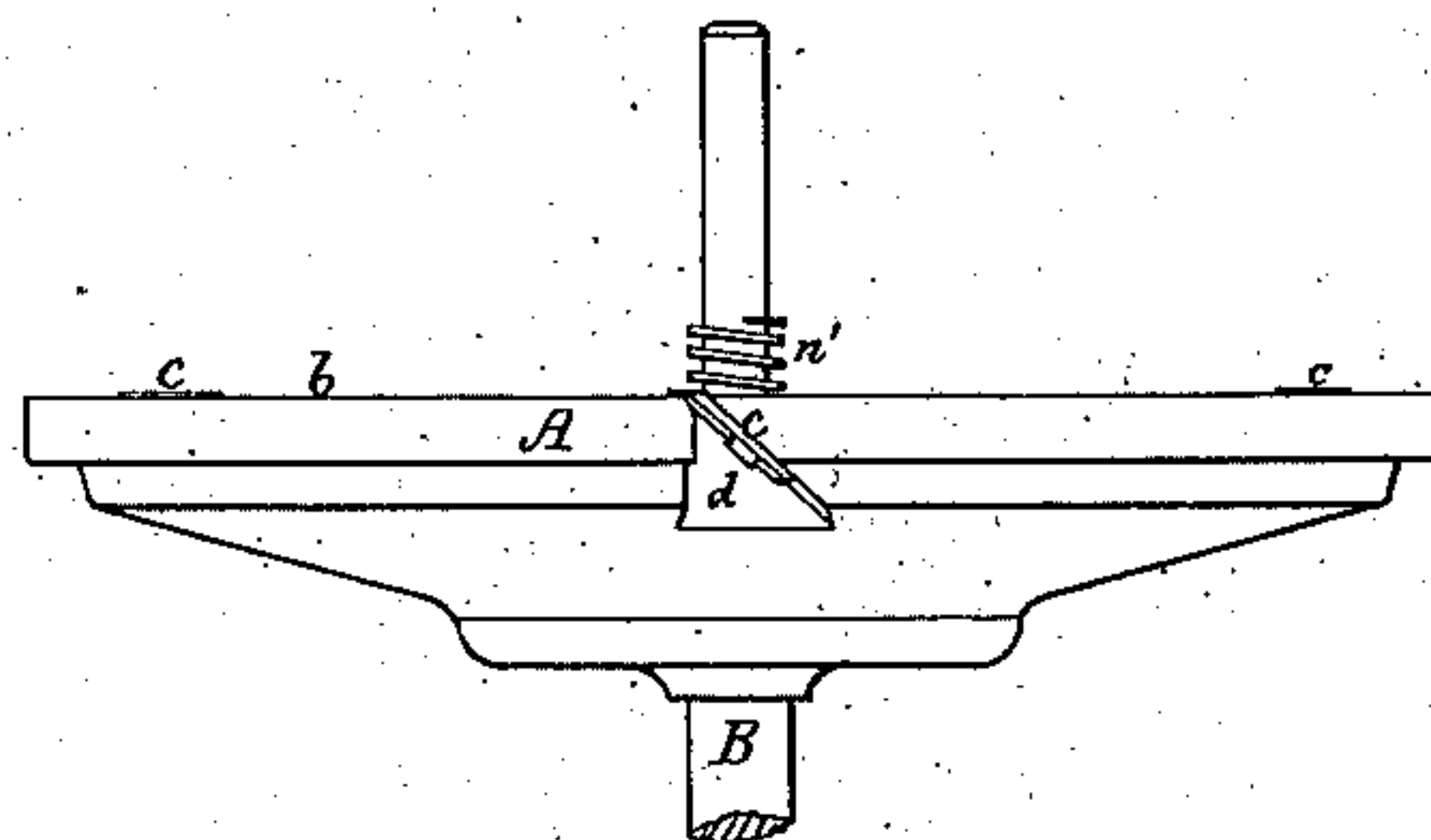


Fig. 4.



Witnesses

S. W. Piper
L. N. Hölter

James G. Moore,

by his attorney.

R. H. Eddy

UNITED STATES PATENT OFFICE.

JAMES G. MOORE, OF LISBON, NEW HAMPSHIRE.

IMPROVEMENT IN MACHINES FOR MAKING EXCELSIOR.

Specification forming part of Letters Patent No. 158,647, dated January 12, 1875; application filed October 14, 1874.

To all whom it may concern:

Be it known that I, JAMES G. MOORE, of Lisbon, of the county of Grafton, of the State of New Hampshire, have invented an Improvement in Machines for Making Excelsior; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a vertical and transverse section, and Fig. 3 a horizontal section, of it, this latter being taken through the axis of the feed-rollers. Fig. 4 is an edge view of the wheel, showing some of the plane-irons and their mouths.

My invention consists in guide-cams, arranged and combined, as hereinafter described, with a stationary frame, having feed-rollers, such guide-cams being to operate with one or more slides, provided with scoring cutters and applied to a rotary wheel carrying a set of plane-irons; also, in a combination of shafts and gears and three feed-rollers of two pairs of such rollers, all being as hereinafter set forth.

In the said drawings, A denotes a dished wheel, arranged horizontally and fixed concentrically to a vertical shaft, B. The said shaft is supported in bearings *r s*, and a circular box or frame, C, which, at its upper part, is provided with a series of mouths or recesses, *a a a*, arranged with the wheel in manner as shown. The upper edge of the wheel, near its circumference, is flat, as represented at *b*, and has extended down from it through the wheel a series of plane-irons, *c*, each being set obliquely in one of a series of mouths, *d*. Furthermore, there is arranged midway between two of the plane-irons, and radially in the wheel, a slide, *e*, provided with a series, *f*, of vertical cutters or knives, arranged at short distances asunder. To each mouth *a* there are two guide-cams, *g h*, arranged as shown, their distance apart being equal to the length of the slide *e*. Their purpose is to so move the slide lengthwise, while it may be passing along between them, as to cause each of its cutters of the series *f* to move in a straight line through a block of wood when it is in the mouth *a*, and held therein by two feed-rollers, *i k*, arranged in or

with respect to said mouth, in manner as shown.

Were the series *f* of knives stationary in the wheel, each knife would cut in a curved path through the block of wood, and so across its grain as to render the strip subsequently removed capable of being easily broken in pieces; but by moving the knives radially, while they may be revolving with the wheel and cutting through the block, they may be caused to cut with the grain, or in lines parallel with the sides of the block.

One of the feed-rollers or its shaft I usually support in a movable frame capable of being pressed forward or toward the other feed-roller by a lever, in order to confine the block between and to the two rollers. These feed-rollers are fixed on parallel shafts *l m*. The longer, *l*, of the said shafts has a worm-gear, *n*, fixed on it to engage with a screw, *n'*, fixed on the shaft B. This screw also engages with another worm-gear, *o*, fixed on the longer shaft of the next adjacent set of feed-rollers, on which shaft is a bevel-gear, *P*, which engages with another bevel-gear, *q*, fixed on the shorter shaft, *m*, of the feed-rollers, all being as shown.

By such means each pair of feed-rollers, while the wheel A is being rotated, will be revolved so as to cause the block to be fed downward. Immediately after the series *f* of scoring-cutters may have passed through a block, each of the plane-irons will cut in succession through such block and remove from it a shaving, which, in passing down through the mouth of the plane-iron, will be separated into strips, the cutters being long enough to penetrate the wood the requisite distance.

I do not claim a rotary cutter-wheel provided with plane-irons and with several series of rotary disks, each carrying a set of scoring-cutters, and having mechanism for rotating such disks, so as to cause the said scoring-cutters to cut in straight lines through a block of wood, all being as shown in the United States Patent No. 120,866.

I claim—

1. In the excelsior-machine, the guide-cams *g h*, applied to the stationary frame C, as described, and to operate, as set forth, with one or more slides, *e*, provided with scoring-cut-

ters, and applied to a rotary wheel, A, carrying a set of plane-irons, the frame C having feed-rollers, and all being to operate as explained.

2. In the excelsior-machine, the combination of the shafts *l m*, bevel-gears *p q*, spur-gears *n o*, and screw *n'* with shaft B and feed-

rollers *i k i*, all being arranged as shown and described.

JAMES G. MOORE.

Witnesses:

A. A. WOOLSON,

A. C. WELLS.