P. Chase,

Cutting Barrel-Heads,

No. 98,666. Patented Jan. 11, 1870.

Fig: 1

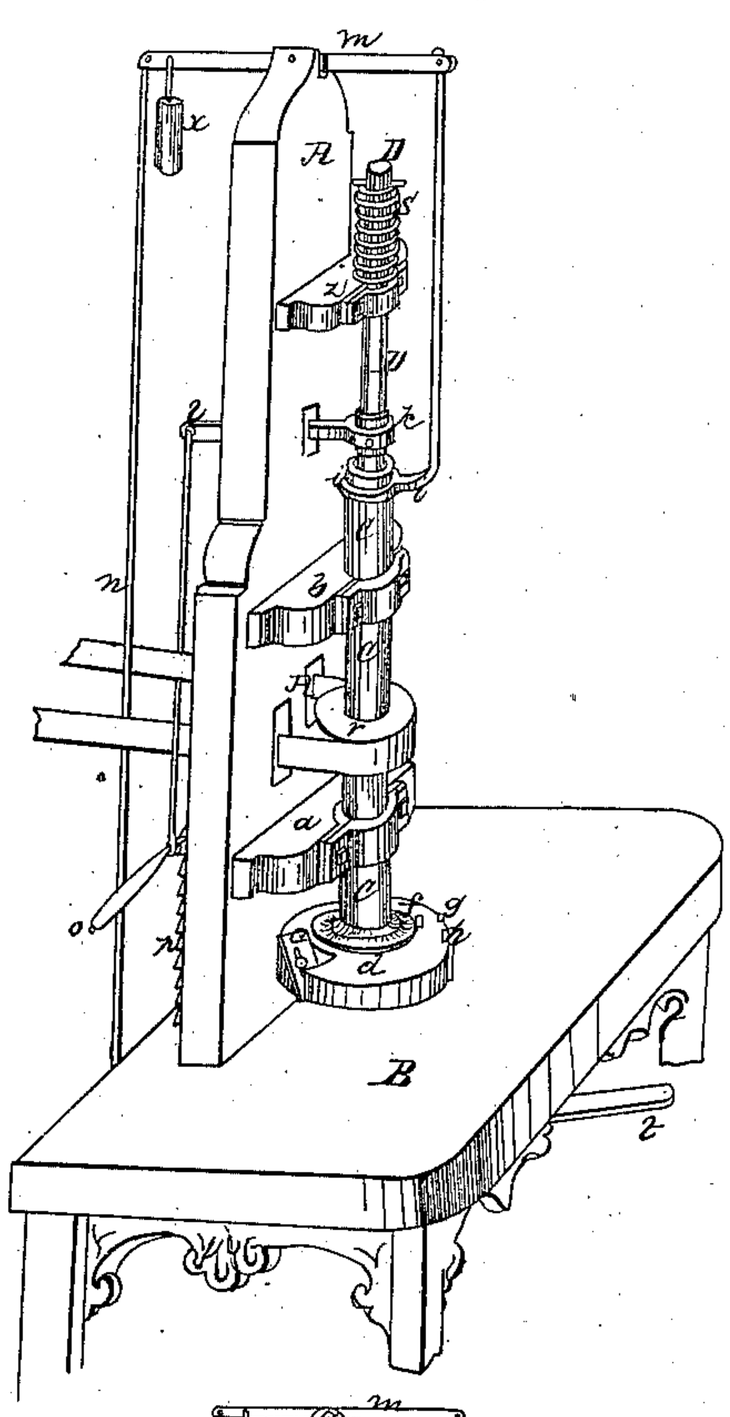


Fig: 2.

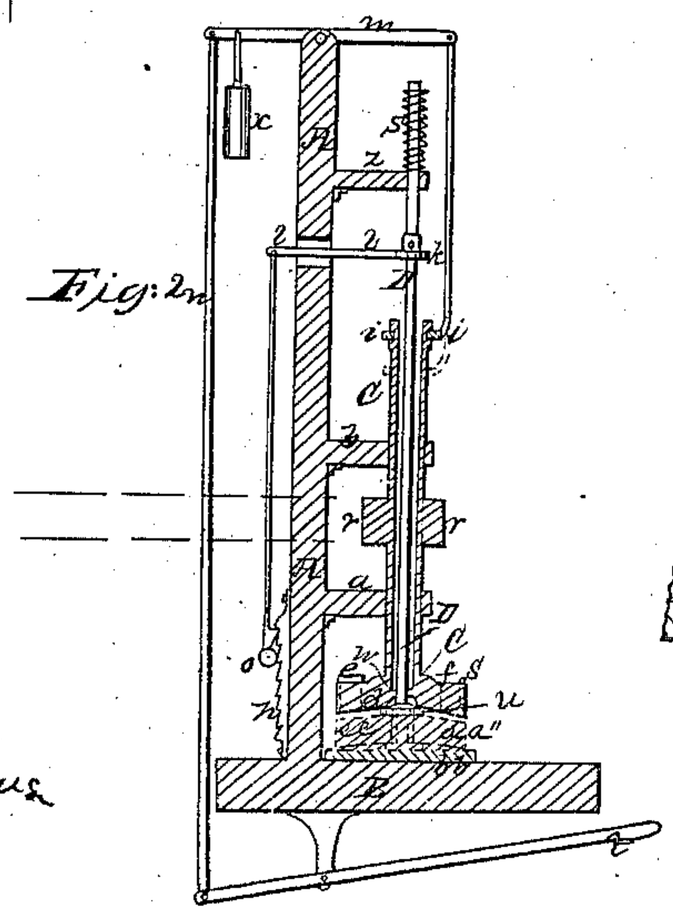
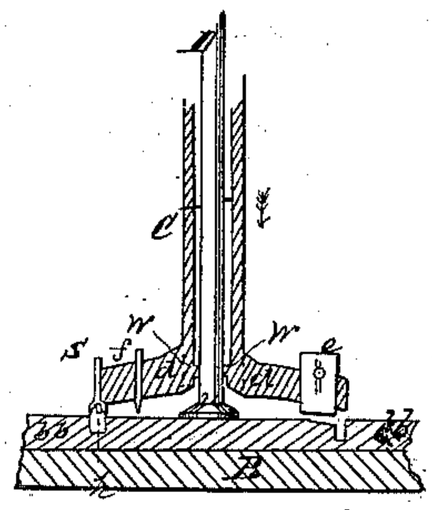


Fig: 3.



Witnesses:

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PHILANDER CHASE, OF PEORIA, ILLINOIS.

Letters Patent No. 98,666, *dated January* 11, 1870.

IMPROVEMENT IN MACHINERY FOR CUTTING BARREL-HEADS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, PHILANDER CHASE, of the city and county of Peoria, and State of Illinois, have invented a new and improved Machine for Cutting Disks, Barrel-Heads, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a perspective view.

Figures 2 and 3 are vertical sections.

This machine is for turning small wooden disks for spring-bed bottoms, pail and tub-bottoms, heads for barrels and kegs of all sizes, bungs, and circular picture-frames, and all other similar work requiring the aid of the stationary mandrel to secure the board while it is being cut.

It consists of a revolving mandrel, C, with a hollow shank rotating round a stationary mandrel, D, which steadies and holds the disk or other article to be turned, in such a manner, while it is being severed from the board, as to prevent it from being moved or shifted, the rotating mandrel being driven by a belt, and having a circular head, *d*, on the end thereof, provided with suitable knives and chisels, so arranged as to divide the disk or head from the board in a proper manner.

The frame or upright standard A rests upon, and is bedded in the plate B. If preferable, it may be cast with the same.

Three brackets or journal-boxes, *a b z*, project, one above the other, from this standard, the two lower ones, *a* and *b*, supporting the rotating mandrel C, and the upper one, *z*, the stationary mandrel D.

The circular cutter-head may be cast separately from the rotating mandrel, for the purpose of allowing any number of heads of different sizes and shapes to be attached and driven by the same mandrel, the head being fastened by a screw and key, or the mandrel and head may be cast solid for one kind of work.

The lower part of the mandrel is provided with a collar, W, in the bore, which collar is to steady the stationary mandrel.

A pulley, *r*, is cast with the mandrel, to receive a band for running the machine.

The mandrel D is supported, when not at work, by a spiral spring, S, surrounding it between the upper journal-box *z* and a pin passed through next to the end of the mandrel.

In a working machine, the rotating mandrel will be raised by a weight, *x*, seen in fig. 1 of the drawings, which will be made to balance and raise it to a nicety.

An arm, *l*, passes through and works in a slot in the standard A, which arm embraces the stationary mandrel D, and is connected by a rod with the lever O, which is held by the upright rack *p*, behind the standard. Thus the lever can be made to hold the mandrel-head and teeth *u* tight down on the wood to be cut.

The lever *m*, on the top of the standard, has an arm descending in front of the machine, to the top of the rotating mandrel, where it embraces it with a collar, *i*, the lever having a rod, *n*, in the rear of the standard, attached to the end of it, and connecting with a treadle, *t*, below the machine.

This treadle is the controlling power of the machine, by means of which the operation of the spurs, chisels, &c., *e f g h*, on the disk, can be regulated as occasion may require.

The lower face of the stationary mandrel-head *u* may be of any size that will rest inside of the diameter occupied by the chisels and plane-bit. If to hold a single piece, it need not be large, but if designed to hold a tub-bottom or barrel-head to be cut out of several pieces, it must be large enough to hold them to their places, and have a row of small teeth near the rim.

The chisels or cutters used in this mandrel-head *d*, are shown in fig. 3.

The chisel *g*, for dividing the disk or head from the board *b b*, consists of two separate parallel knives projecting vertically downward from the lower end of chisel, one cutting-edge being placed in the rear of the other, and making together a cut of about one-eighth to one-fourth of an inch apart. This makes the first cut, and is immediately followed by the plow-chisel *h*, seen behind the former chisel at *h*, fig. 3, but is broader in a larger machine, which chisel, *h*, cleans out the groove cut by the chisel just described.

The chisel *g* is also represented as having a wider spread between its two cutters than in a large machine.

The chisel *f* makes the circular cut for the edge of the chisel *e* or "plane-bit," to work up to and prevent a ragged edge being made on the disk.

These chisels may be set in the head in the ordinary manner.

The cutting-edges of the chisel *g* must not be placed side by side, but one in the rear, or in advance of the other, as otherwise they will get clogged with chips.

The operation of this machine is as follows:

The wood or board from which the disk or pail-head is to be cut, is laid on the bed B, beneath the mandrels. The lever O is then forced down until the stationary mandrel D holds the board rigidly on the bed, when the lever is then caught in the teeth of the rack *p*. The rotating mandrel, being put in motion, is held up by the weight at *x* until it is ready for use, when the foot is placed on the treadle *t*, and by depressing it, the cutter *d* is brought to the surface of the wood, and the pressure continued until the turn-

ing is completed and the disk severed from the board, when the foot is removed and the cutter-head becomes elevated again, and by releasing the lever O, the stationary mandrel is thrown up by the spring S, and the disk removed to give room for a similar operation.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the plane-bit *e*, cutters *f* and *g*, and plow-bit, with the rotating cutter-head *d*, constructed substantially in the manner and for the pruposes as herein set forth.

2. The arrangement of the cutter-head *d*, constructed as described, with the arm *i*, lever *m*, weight *x*, rod *n*, treadle-arm *k*, connecting-rod, lever *o*, and rack *p*, all constructed and operating substantially in the manner and for the purposes as herein set forth.

In testimony that I claim the foregoing as my invention, I have hereunto set my hand, this 23d day of March, 1869.

PHILANDER CHASE.

Witnesses:

P. C. CHAMBERLAIN,
W. I. CHASE.