L. R. WASHBURN & W. H. WALKER.

CUTTER-HEAD.

No. 188,221. Patented March 6, 1877.

Fig. 1.

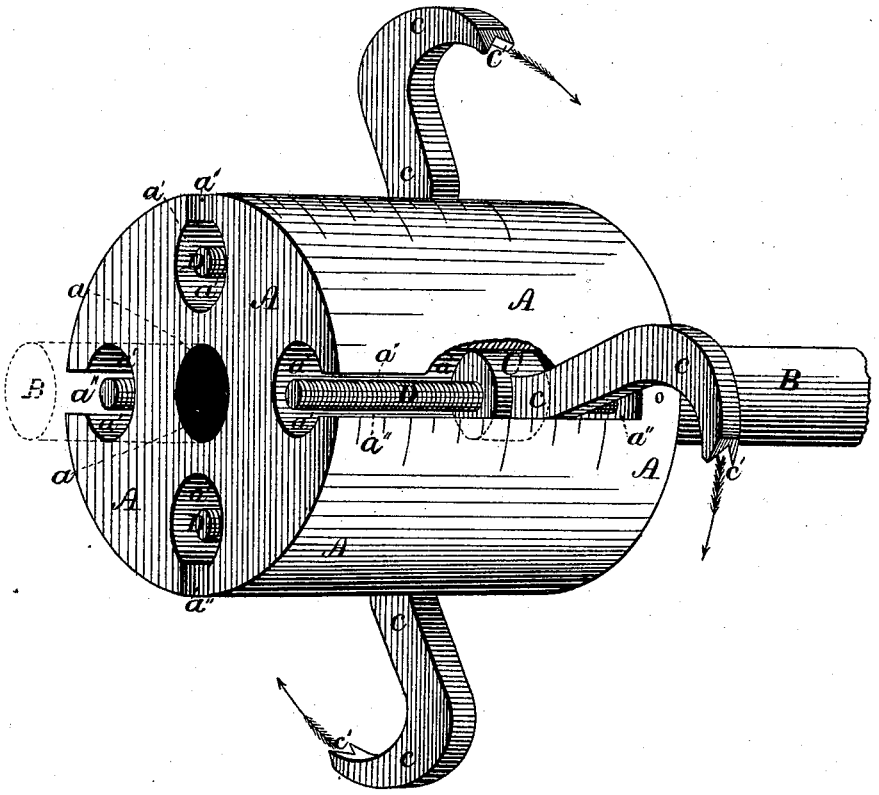
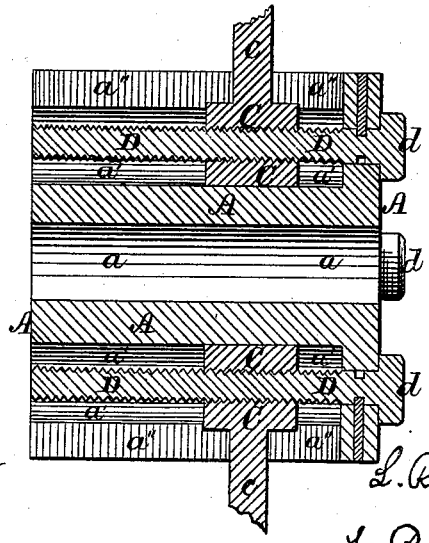


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LETTICE R. WASHBURN AND WILLIAM H. WALKER, OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN CUTTER-HEADS.

Specification forming part of Letters Patent No. 185,221, dated March 6, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that we, LETTICE R. WASHBURN and WM. H. WALKER, of New Bedford, in the county of Bristol, and in the State of Massachusetts, have invented an Improvement in Cutter-Heads; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of our device arranged for cutting one groove, and Fig. 2 is a central longitudinal section of the same upon a line passing through two adjusting-screws.

Letters of like name and kind refer to like parts in each of the figures.

The design of our invention is to enable wood to be grooved with ease and neatness; to which end it consists, principally, in the peculiar form of the cutters and cutter-head, and their combination with each other, substantially as and for the purpose hereinafter specified.

It consists, further, in the means employed for adjusting to, and securing in, position the cutters, substantially as and for the purpose hereinafter shown.

In the annexed drawing, A represents a cylindrical head, which is provided with a central opening, *a*, for the reception of an operating-shaft, B. Extending longitudinally from one end of the head A nearly to the opposite end of the same are a number of round recesses, *a'*, from each of which extends radially outward a slot, *a''*, that has parallel sides, and has a width equal to about one-half the diameter of its recess. Within each recess *a'* is fitted a correspondingly-shaped block, C, from which extends radially outward an arm, *c*, that fills the slot *a''*, and from the exterior of the head A extends in a curve rearward, outward, and then forward, as shown in Fig. 1, and at its outer end is provided with a cutting-point, *c'*, said arm and hub thus constructed forming a cutter.

In consequence of the peculiar form of the inner end of the cutter, it is enabled to maintain its radial position within the recess and groove, and to resist any degree of centrifugal force, while at the same time free to move lengthwise of the head.

In order that the cutters may be adjusted to, and secured in, position within the head, a screw, D, provided at one end with a head, *d*, is swiveled within the solid end of said head A, and extends through the axial center of each recess *a'*, said bolt-head *d* being outside of the end of said cutter-head, as shown in Fig. 2.

The cylindrical portion C of the cutter being provided with an axial threaded opening, which corresponds to, and receives, the screw D, said cutter may be adjusted in either direction by turning said screw, and, when thus adjusted, is firmly held in place.

The cutting end of each cutter is formed upon a straight line, which nearly coincides with the circle described by said end when in motion, while its edge *c'* has transversely a V shape, and radially has nearly a right angle to said end.

In consequence of the peculiar form of the cutting-edge described, all tendency to draw into or split the wood being operated upon is avoided, and the cutter works equally as well in knotty or cross-grained wood as in wood which is free from such defects.

In use the cutters are made of such width as to enable them to cut the narrowest grooves, while for wider grooves they are arranged so that one or more cutters form and finish one side of the groove, and the remaining cutters complete the opposite side of the same.

Where several parallel grooves are to be cut, the cutters are adjusted so that each forms a different groove.

Having thus fully set forth the nature and merits of our invention, what we claim as new is—

1. In combination with the cutter-head A, provided with the longitudinal recesses *a'* and radial longitudinal slots *a''*, the cutters composed, each, of a head, C, and radial arm

c, and fitted within one of said recesses *a'* and slots *a''*, substantially as and for the purpose specified.

2. In combination with the cutter-head A, *a'*, and *a''*, and cutters C *c*, constructed as described, the screws D, swiveled within said cutter-head, and passing through the heads of said cutters, substantially as and for the purpose shown.

In testimony that we claim the foregoing we have hereunto set our hands this 23d day of February, 1877.

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WILLIAM H. WALKER.

Witnesses:
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