(No Model.)

H. S. BOYNTON.

CUTTER HEAD.

No. 344,810. Patented July 6, 1886.

Fig. 1

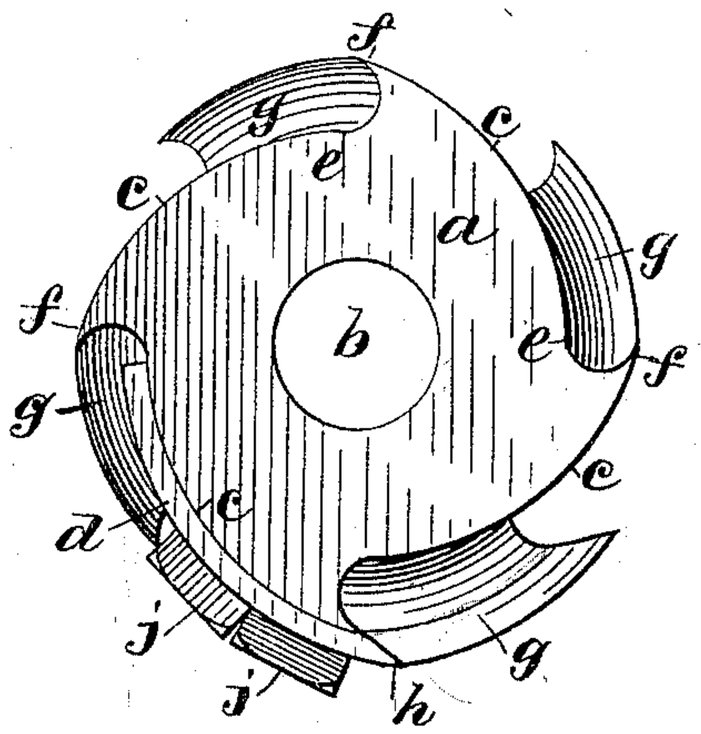
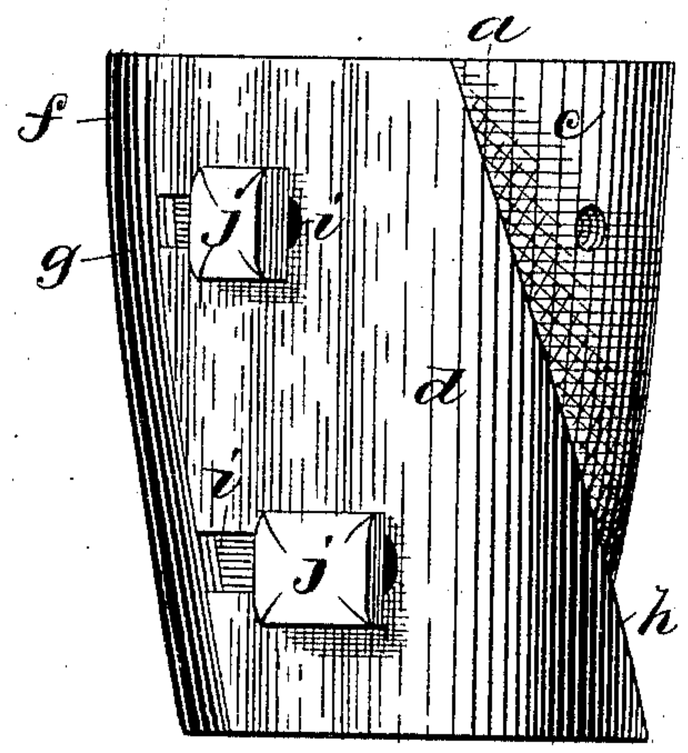


Fig. 2.



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UNITED STATES PATENT OFFICE.

HORACE S. BOYNTON, OF OSHKOSH, WISCONSIN.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 344,810, dated July 6, 1886.

Application filed October 8, 1885. Serial No. 179,317. (No model.)

To all whom it may concern:

Be it known that I, HORACE S. BOYNTON, of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Cutter-Heads; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention, to be hereinafter distinctly claimed, relates to improvements in surfacing cutter-heads, and particularly to the form and construction of the knives and their seats on the block.

The object of the invention is to provide a knife of such form that it may be firmly but adjustably secured to the block, that will perform satisfactory work on any kind of lumber, both in respect of ease in cutting the material and of finish of the work, as well as that it will most successfully clear itself of all shavings and chips, and may be sharpened conveniently and quickly.

In the accompanying drawings, Figure 1 is an end view of the cutter-block with a shingle-knife attached. Fig. 2 is an elevation of the cutter-head longitudinally upright, showing a knife attached to the block on one of the seats.

The same letters refer to like parts in both views.

The cutter-head block *a* is in its general contour cylindrical in form, having a longitudinal axial aperture, *b*, for receiving the spindle on which the cutter-head is fixed for work.

On the periphery of the block *a* are several faces, *c c*, forming seats for the knives *d*. These faces *c c*, in the direction of the circumference of the block, are a segment of a circle, the radii of the circles of which several faces are longer than the radius of the circumference of the cutter-head, and are so formed in the block that the inner edge of the face, at *e*, is nearer the axis of the cutter-head than the outer edge, *f*, is—that is, so that face *c* is eccentric to the axis of the cutter-head. These faces are also formed spirally longitudinally of the cutter-head, and are each sufficiently wide to furnish a bearing-surface or seat for the full inner surface of the knife, except only its beveled edge. The construction of these several faces *c c* eccentrically on the periphery of the block *a* provides recesses *g* in the surface of the block, out over the edge of which the knives project, and which form receptacles into which chips and shavings may fly and be thrown off. The knives are each formed of sheet-steel of rhomboidal form, curved to fit the faces *c*, with their front or cutting edge, *h*, beveled off rearwardly inwardly. These knives, one of which should be affixed to each of the faces *c c*, are each provided with slots *i i*, extending inwardly from their rear edges, which slots are adapted to receive therethrough the bolts or screws *j j*, which screws turn into the block *a*. By means of these slots *i i* and screws *j j* the knives *d* may be adjusted farther to front or rear on the faces *c c*, and held in position on the cutter-block when so adjusted. The spiral form of the edge of the knife provides for a drawing or shearing cut, which is accomplished with less resistance and secures a smoother and more satisfactory surface on the material than can be attained with straight-edged knives, while the inwardly-beveled edge carries the chips and shavings inwardly at such an angle that they do not get in between the knife and block, as frequently occurs with knives without such inwardly beveled and curved edge.

The knives, when ground off, may be adjusted farther to the front, and their entire inner plain surface being adapted to fit on the faces *c*, they may be held rigid on the cutter-block, and their edges will be thereby held steadily and truly to their work.

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

1. The combination of a cylindrical cutter-head block, *a*, adapted to be centrally affixed to a rotating shaft, and having rigid faces *c*, transversely eccentric to the axis of the cutter-head, and formed upon and being a part of the perimeter of the cylinder, and extending the entire length thereof, with the curved adjustable knives *d*, fitted upon the faces *c*, and provided with inwardly-beveled cutting-edges, substantially as described.

2. The combination of a cylindrical cutter-head block, *a*, formed to be centrally affixed

to a rotating shaft, and provided with rigid faces *c*, eccentric transversely and spiral longitudinally, with the knives *d*, curved transversely and spirally-edged longitudinally fitted upon and affixed to the faces *c*, substantially as described.

3. In a surfacing cutter-head, the eccentrically and spirally formed faces *c*, in combination with the curved rhomboidal-shaped knives *d*, provided with slots *i*, and the screws *j*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HORACE S. BOYNTON.

Witnesses:
J. W. LADD,
A. H. READ.