(No Model.)

J. GREEN.

CUTTER HEAD.

No. 421,832. Patented Feb. 18, 1890.

Fig. I.

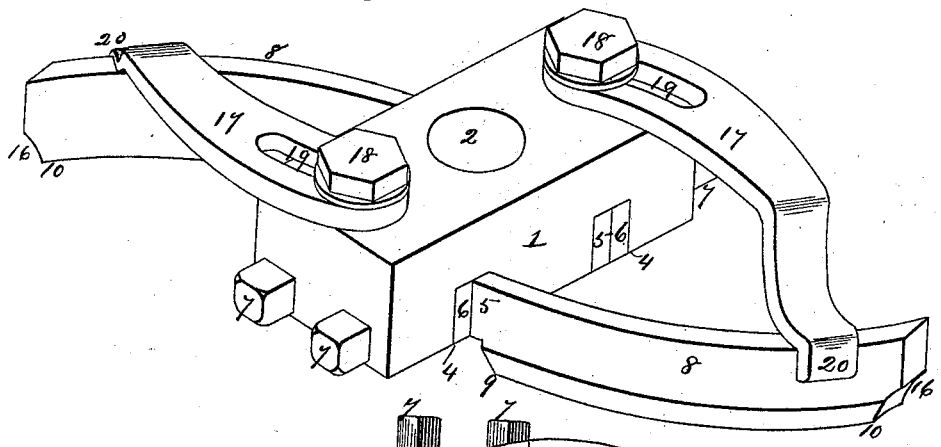


Fig. II.

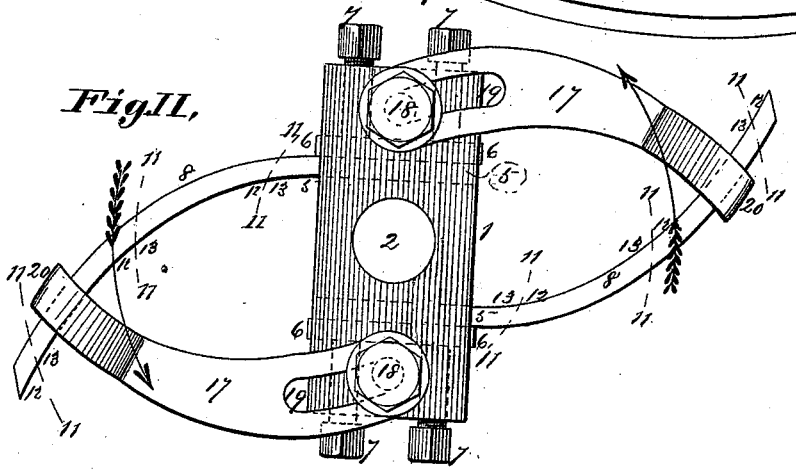
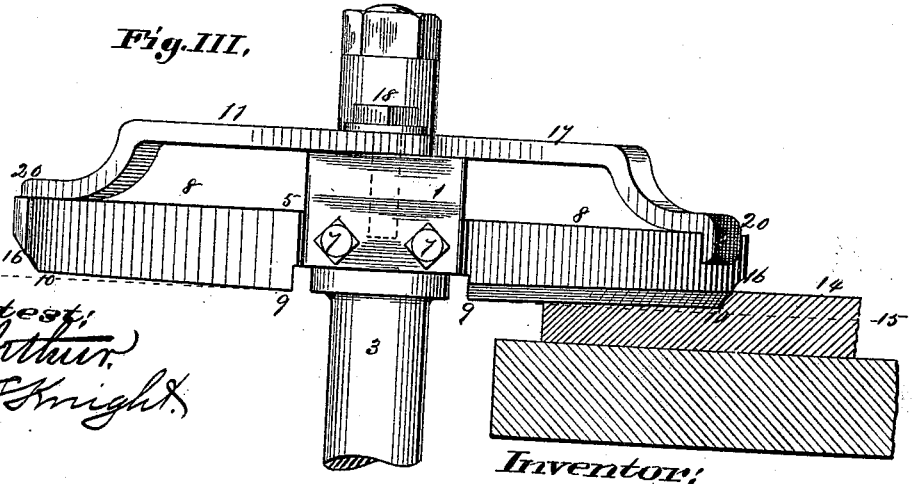


Fig. III.



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UNITED STATES PATENT OFFICE.

JOHN GREEN, OF ST. LOUIS, MISSOURI.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 421,832, dated February 18, 1890.

Application filed March 14, 1889. Serial No. 303,284. (No model.)

To all whom it may concern:

Be it known that I, JOHN GREEN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Cutter-Heads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This improvement relates, primarily, to cutter-heads for panel-raising machines; but I do not confine myself to this or any particular application of the cutter-head.

Figure I is a perspective view of the cutter-head. Fig. II is a top view. Fig. III is a side elevation showing the cutter-head upon a vertical shaft.

1 is the head-block, having a central hole 2 for the passage of the shaft 3.

4 are seats made in the bottom of the block to receive the shanks 5 of the cutters, and also wedges 6, by which they are firmly held in place.

7 are set-screws, whose ends bear against the wedges 6 to prevent their movement.

The blades 8 of the cutters are so curved as to cut toward the cutter-shaft, being curved in such a manner that in all points of the curved edges 9 10 the inclination of the edge to the line of movement of the cutter at that point always forms an acute angle 12 upon the outside, and of course an obtuse angle 13 upon the inside, the lines of movement of the different points of the cutter being represented by broken circles 11. Preferably the angles 12 at all points of the blade are equal, so that the angle of cut being correct for best work at one point is the same all the length of the blade 9 10.

The grain of the stuff 14 is horizontal, and in order to leave a smooth surface after the cutter-blade the edge of the blade is preferably set at a slight angle with the horizontal, as seen in Fig. III, where the broken lines 15 15 represent a horizontal plane. It will be understood that as the blade cuts toward the shaft and the lower part of the dressed face of the stuff is upon that side there will be no tendency of the blade to roughen the face by following the line of the grain. This will be very apparent to any one having any knowledge of wood-working.

At 16 is shown a part of the blade, which is shaped to cut a bevel, bead, ogee, or other form at the edge of the plane face left by the part 9 10 of the blade. The edge 9 10 may be so formed as to leave a surface somewhat concave or convex, no part of the surface in any case being cut lower than a part nearer to the shaft 3, although it may be cut as low, the portion of the edge 9 10 of the blade in the latter case being horizontal between such parts.

In order to brace the blades, and yet allow of their grinding without removal from the head-block 1, I provide removable and adjustable braces 17, connected to the head by bolts 18, which pass through slots 19 in the braces. The braces have at the end a hook 20, which engages over the top of the cutter-blade and prevents it from springing outward. Thus the blade is preserved from destructive strain and from vibration, and a comparatively light blade may be used for heavy work. The braces may be used for blades of different lengths, as the slots 19 allow their endwise adjustment on the bolts 18.

I claim as my invention—

1. A rotary cutter-head having a curved blade formed with a cutting-edge extending in a curve outwardly from the head, the outer end of the curve being in advance of a radial line extending from the center of the cutter-head through the inner end of the curve, substantially as and for the purpose set forth.

2. A rotary cutter-head having a curved blade with a curved cutting-edge on its inner lower side cutting toward the shaft of the cutter-head, substantially as set forth.

3. A rotary cutter-head having a curved blade with a cutting-edge on its inner lower side cutting toward the shaft of the cutter-head, and having its edge inclined upward outwardly from the shaft, substantially as set forth.

4. A rotary cutter-head with a cutter-blade curved from heel to point forwardly from a line radial to the cutter-head and passing through the heel of the cutter-blade, and the

edge of the cutter-blade having equal obliquity at all points with circles concentric with the axis of the cutter-head, substantially as set forth.

5. A rotary cutter-head having a movable brace 17 extending from the head-block 1 to the cutter-blade, substantially as set forth.

6. A rotary cutter-head having removable and adjustable brace 17 extending from the head-block 1 to the cutter-blade, substantially as set forth.

JOHN GREEN.

In presence of—
SAML. KNIGHT,
EDW. S. KNIGHT.