

G. J. SHIMER.

Cutter-Heads for Planing and Molding-Machines.

No. 166,035.

Patented July 27, 1875.

FIG. I.

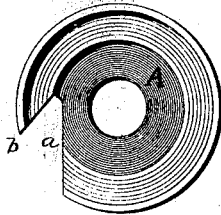


FIG. II.

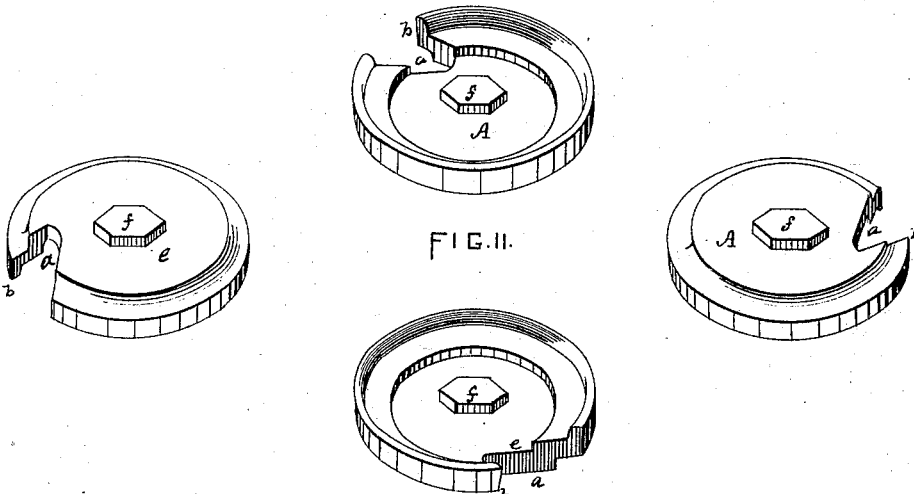


FIG. III.

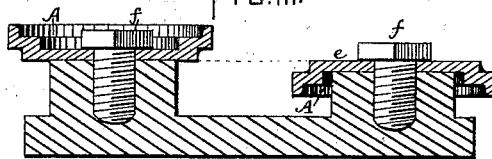
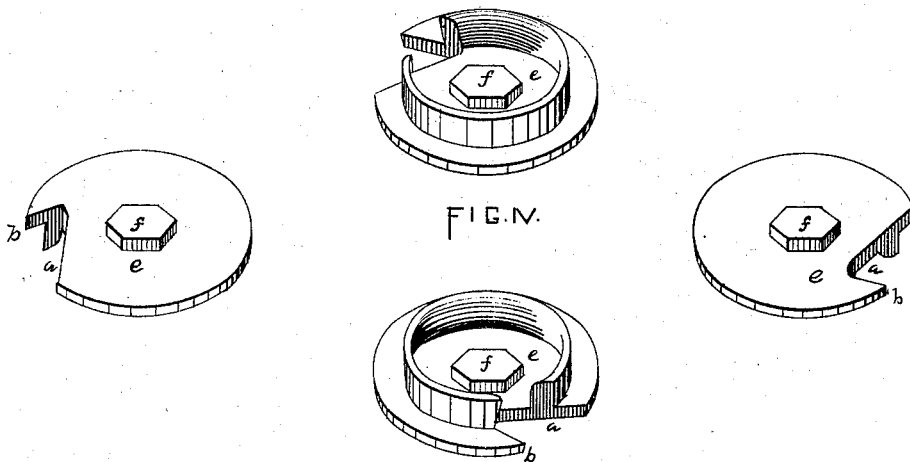


FIG. IV.



WITNESSES

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GEORGE J. SHIMER, OF MILTON, PENNSYLVANIA.

## IMPROVEMENT IN CUTTER-HEADS FOR PLANING AND MOLDING MACHINES.

Specification forming part of Letters Patent No. **166,035**, dated July 27, 1875; application filed December 30, 1874.

*To all whom it may concern:*

Be it known that I, GEO. J. SHIMER, of Milton, in the county of Northumberland and State of Pennsylvania, have invented certain Improvements in Cutter-Heads for Planing and Molding Machines, of which the following is a specification:

My invention relates to that class of cutter-head bits which are circular in outline, with a cutting-lip formed by notching the edge of the bit, and with a central orifice for a stud or bolt whereby the bit is attached to the cutter-head; and it consists, first, in a bit formed of a circular plate or disk, which may be struck up in properly-formed dies sufficiently thick to form the required cutting-edge, and thin in the central part or web, as will be hereinafter described.

Figure 1 is a plan of one of my bits. Fig. 2 represents four of said cutters in proper relative position for operation. Fig. 3 is a transverse section showing the same. Fig. 4 is a perspective showing the complementary or grooving cutters.

A is the bit with its face turned up to the required shape, and with the cross-notch *a* to form the cutting-lip *b*.

It is desirable to make the cutting-edge a little oblique to the line of advance, so as to produce a draw-cut; but with bits of this kind as hitherto made, if the cutting-edge has been made oblique, it would produce an inequality of cut as respects the two sides of a grooving-bit. My bits are placed alternately face and back outward, as shown in Figs. 2 and 3, so that the sides of the tongue are alternately cut.

Heretofore bits of like description have been constructed with the central portion not less

in thickness than the cutting-edge; hence the cutting portion is entirely outside of its solid support. I propose to improve the bit by reducing the thickness of its central part as much as is consistent with strength, so as to make the said central part a web only, as at *e*, and thereby the solid portion of the cutter-head to which said bit is secured may be advanced within the outer line of cut, and the bit will receive a correspondingly firmer support. On the opposite side, likewise, the head of the holding-bolt *f* is brought within the inner line of cut, and the length of bolt subjected to the strain of the bit in operation is correspondingly reduced, and its effective strength increased.

In addition to the advantages above named there are further material advantages incident to the structure described, viz., less metal is required to form the bits with a thin web; less labor will be required, because they can be forged up with the drop-hammer, and only require face-finishing upon the lathe; a better temper can be secured, because of the less mass of metal; and, finally, less metal will require removal in sharpening, and there will be a consequent and proportionate saving in labor and files.

Having described my invention, what I claim as new is—

A bit formed of a circular plate or disk sufficiently thick to form the required cutting-edge, and thin in the central part or web, and transversely notched, all as herein shown and described.

GEO. J. SHIMER.

Witnesses:

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