(No Model.)

S. J. SHIMER.

CUTTER HEAD KNIFE.

No. 486,901. Patented Nov. 29, 1892.

Fig. 1.

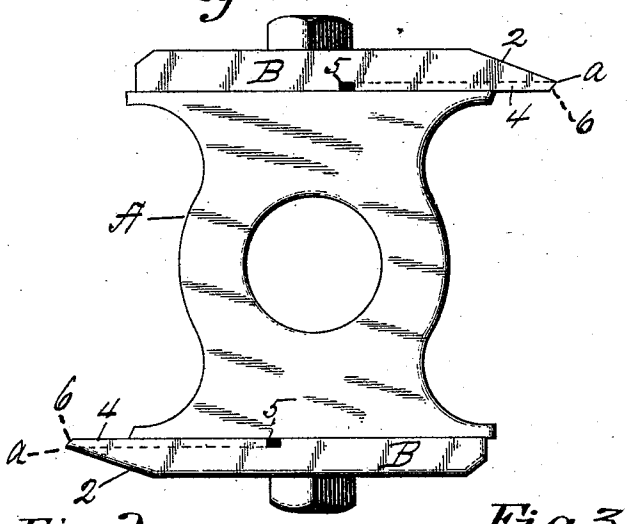


Fig. 2.

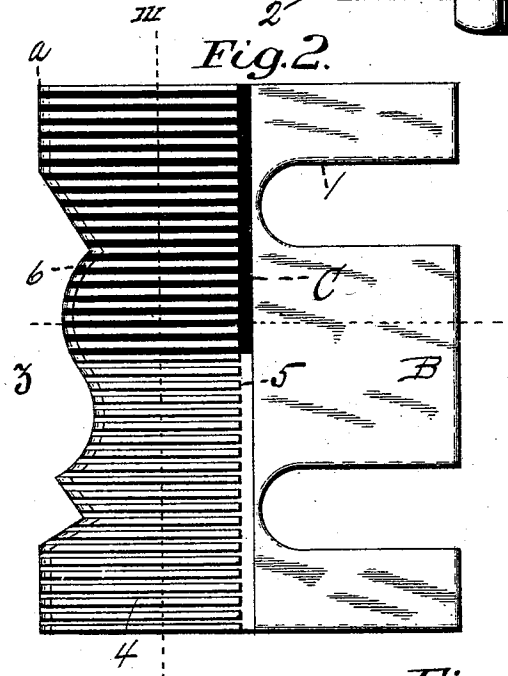


Fig. 3.

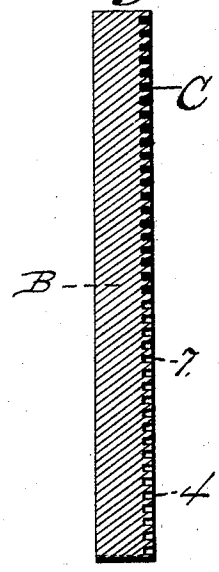
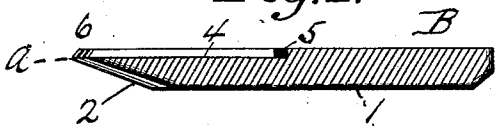


Fig. 4.



Witnesses
Albert B. Blackwood
A. L. Trevitt

Inventor
Samuel J. Shimer
By his Attorney A. G. Heyssner

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL J. SHIMER, OF MILTON, PENNSYLVANIA.

CUTTER-HEAD KNIFE.

SPECIFICATION forming part of Letters Patent No. 486,901, dated November 29, 1892.

Application filed April 5, 1892. Serial No. 427,855. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. SHIMER, a citizen of the United States of America, residing in Milton, in the county of Northumberland, in the State of Pennsylvania, have invented certain new and useful Improvements in Knives for Cutter-Heads, of which the following is a specification.

My invention has relation to improvements in knives for cutter-heads; and the object is to provide a cutter, bit, or knife having a steel cutting-body faced with a soft-metal chip-break or surface.

In my Letters Patent No. 296,077, dated April 1, 1884, is shown and described a knife for woodworking uses applicable to cutter-heads, consisting of a steel body having rigidly secured to one of its faces a coating of soft metal. This knife performs the objects and does the work intended completely when applied to a steel body-piece having a straight edge; but the bits or knives used for cutting irregularly-shaped surfaces, as in moldings and similar productions, wherein the knife must be projected with the cutting-edge farther from the cutter-head, the soft metal constituting the chip-break wears unevenly and the bit becomes worn at certain points more than others. This is occasioned because the varying contour of the molding-edges projects beyond the head to make the different depths of the cut, and the head affords no protection to the soft-metal chip-break, which wears back from the under side of the edge too far to be of any service for breaking the chip, and the points of extension of the soft metal have a tendency to peel off. Hence to remedy the difficulty and preserve the knife and the chip-break I have devised the improved construction hereinafter specified.

In the accompanying drawings, Figure I is an end view of a cutter-head having my improved molding-knives secured thereto. Fig. II is a bottom plan view of the knife having the portion of the grooves filled with the soft metal and a portion shown wherein it is not applied. Fig. III is a transverse section on the line III III of Fig. II. Fig. IV is a longitudinal section of the knife, taken on the line with one of the grooves.

A designates a cutter-head, which may be of any approved shape to take and hold a molding-knife.

B designates my improved knife. This consists of a steel body-piece 1, having a bevel 2, as usual, and any desired molding contour 3. In the under surface of this body-piece 1 are formed longitudinally-arranged grooves or furrows 4, extending as far back on the knife as may be desired and terminating at their rear ends in a transversely-arranged groove 5, substantially as shown. The depth of these grooves 4 determine the edge line *a* of the knife, the short bevel 6 for the chip-break terminating on a line parallel with the bottoms of the grooves, and thus the line of junction between the bevel of the knife and the short bevel opposite thereto presents a clean unbroken cutting-edge for the tool.

In the grooves 4 and covering the surface of the partitions 7 is soldered or otherwise rigidly secured a layer of soft metal C, forming the chip-break. The steel partition-walls of the grooves alternating with the filling of soft metal give the necessary protection to the chip-break, and it is firm and secure to the body of the knife.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A knife for cutter-heads, consisting of a steel body formed with longitudinally-arranged grooves in its face and a filling of soft metal in the grooves, substantially as and for the purpose specified.

2. A knife for cutter-heads, consisting of a steel body-piece having longitudinally-arranged grooves in its face terminating in a transversely-arranged groove at their rear ends and a soft-metal filling in the grooves, substantially as and for the purpose specified.

In witness whereof I have hereto set my hand in the presence of two attesting witnesses.

SAMUEL J. SHIMER.

Attest:
EDWARD P. HILL,
C. A. ROAT.