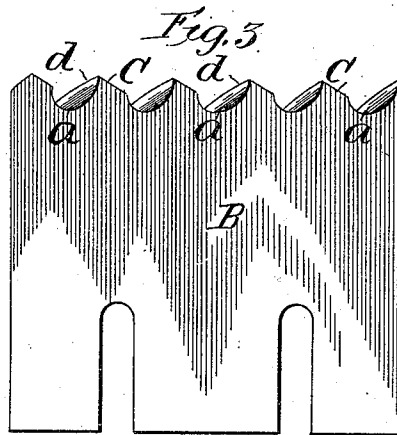
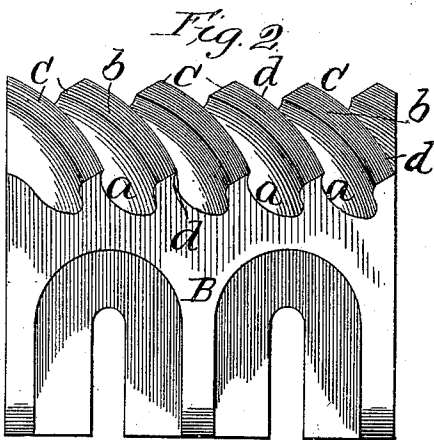
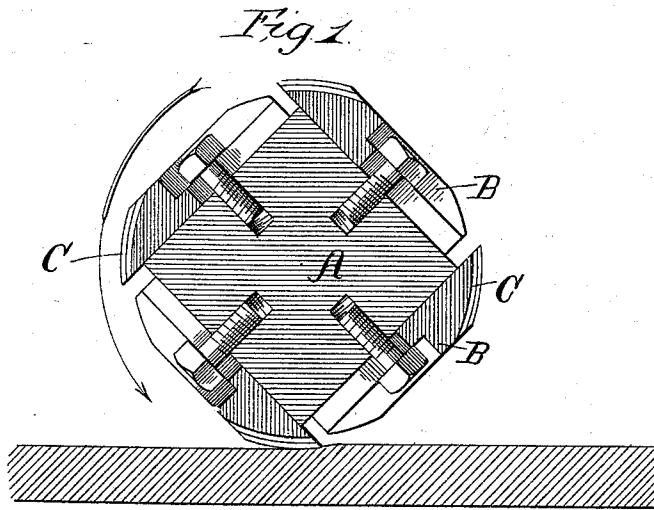


(No Model.)

A. W. NELSON.
CUTTER HEAD KNIFE.

No. 550,838.

Patented Dec. 3, 1895.



Witnesses:
E. E. Gaylord,
L. F. Allen

Inventor:
A. W. Nelson.
By L. B. Coupland & Co.
Attys

UNITED STATES PATENT OFFICE.

ARTHUR W. NELSON, OF CHICAGO, ILLINOIS.

CUTTER-HEAD KNIFE.

SPECIFICATION forming part of Letters Patent No. 550,838, dated December 3, 1895.

Application filed March 29, 1895. Serial No. 543,648. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. NELSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cutter-Head Knives; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in that class of knives used on planers and similar woodworking-machines, and has for its object to provide a knife of this character that will have less friction and therefore run with less power than that of the ordinary knife and at the same time have an exceedingly smooth and finished cut.

In the drawings, Figure 1 is a transverse section of a cutter-head, showing a set of the knives in a working position; Fig. 2, an elevation of a knife embodying my improved features, and Fig. 3 an elevation of the opposite side.

A may represent a cutter-head, to which a number of the improved knives or bits B are secured in the usual manner.

The cutting-edge of the knife is divided into a series of short blades C by grooves or channels *a* extending between the same in a direction oblique to the face of the knife and to the axis of the cutter-head when the knife is in place on the latter, so that the teeth overlap each other, each succeeding blade standing partly behind that next in front and partly in front of that next behind. The blades so formed are beveled off, as at *b*, to form sharp cutting-edges *d*, which edges are preferably concentric throughout their length with the axis of the cutter-head to which the knife is adapted. The results of this construction are that the oblique blade acts with a shear cut, producing a much smoother finish; there is less liability to gouge or tear out the material operated upon than with the or-

dinary knives having a straight cut; there is only a small segment of any blade in action at any time, each blade doing its work progressively, and that the blade being oblique or inclined to the plane of rotation the chips or shavings are thrown off laterally out of the way.

The grooves or channels between the cutters afford sufficient clearance for the free escape of the shavings, thus avoiding the possibility of clogging.

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

1. A detachable cutter head knife having a series of integral cutters or blades substantially parallel to each other and oblique or inclined to the plane of rotation, adjacent blades of the series overlapping each other.

2. A cutter head knife adapted to be mounted on an ordinary cutter head and having its cutting edge divided into a series of short integral blades parallel to each other and diagonal to the face of the knife, with diagonal grooves or channels between said blades.

3. The combination of a rotary cutter head and a detachable and adjustable knife having its cutting edge divided into a series of short integral blades substantially parallel to each other and diagonal to the plane of rotation, adjacent blades of the series overlapping each other.

4. The combination of a cutter head and a separate knife having its cutting edge divided into a series of independent integral blades parallel to each other and diagonal to the plane of rotation, the edges of said blades being concentric throughout their length, to the axis of rotation.

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

ARTHUR W. NELSON.

Witnesses:

L. M. FREEMAN,
L. B. COUPLAND.