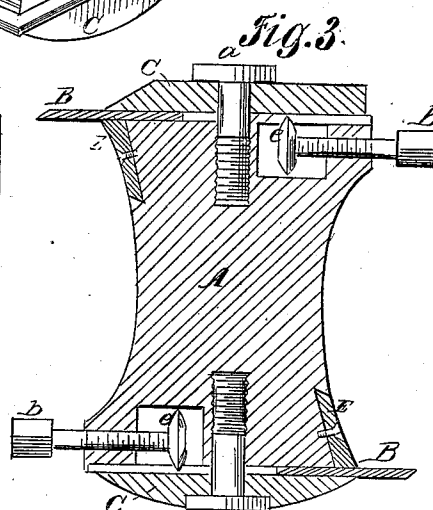
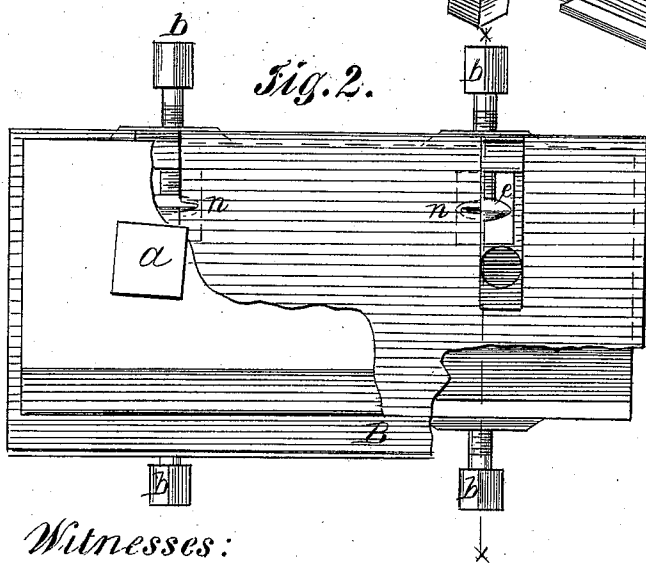
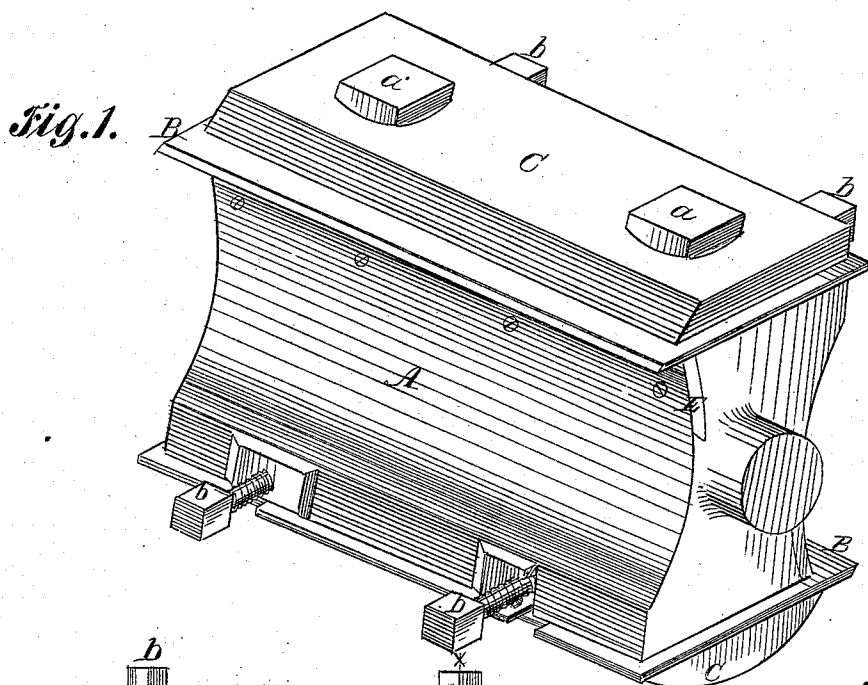


M. Lehman,

Cutter Head.

No. 93628.

Patented Aug. 10. 1869.



Witnesses:
Frederick Astor
W. Zimmerman

Inventor:
Michael Lehman
By his Attorneys A.H. & R. K. Evans

United States Patent Office.

MICHAEL LEHMAN, OF CINCINNATI, OHIO.

Letters Patent No. 93,628, dated August 10, 1869.

IMPROVEMENT IN CUTTER-HEAD.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, MICHAEL LEHMAN, of Cincinnati, Ohio, have invented an Improvement in Planing-Machines; and I hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a cutter-head with my improvement attached thereto;

Figure 2 is a top view of the same with the cap removed; and

Figure 3 is a vertical sectional view through the line *x-x*.

The objects of my invention, are: to reduce the labor necessary in grinding and sharpening the bits or knives, as at present constructed; to avoid the great loss of time involved in the process of sharpening; and to effect a saving in the costly material used in the construction of the bits.

These bits require a great deal of grinding, which involves a loss of time and the expenditure of much hard labor; and while the process of grinding the bits is going on, the machine itself is necessarily idle.

To enable others skilled in the art to make and use my invention, I will proceed to describe the manner in which I have carried it out.

The bits or knives *B B* are made from thin steel plates, and are secured between the block *A* and the caps *C C*, by means of the bolts *a a*. These bits are of fine steel, while the caps *C C* may be manufactured of ordinary iron, thus effecting a great saving in the cost of material. The bits thus made can be readily

and quickly sharpened, and be kept in working-order simply by the aid of filing.

The set-screws *b b*, (see fig. 2,) are constructed with a circular plate, *e e*, working in the notches *n n* formed in the bits, and by which the said bits are easily and readily adjusted for planing-purposes.

E E are plates of steel, dovetailed into and riveted upon the cutter-head, inside of the edges of the bits, to prevent the bits from breaking, and to render the cutter-head more durable.

It is evident that the principle of my invention is applicable to ordinary planing-bits, as well as to chisels for working in wood or stone.

Claims.

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

The cutter-head *A*, in combination with the bits *B B*, and caps *C C*; and steel plates *E E*, constructed and arranged with reference to each other, and for the purpose substantially as set forth.

Also, the bits *B B*, in combination with the adjusting-screws *b b* and caps *C C*, when the same are constructed substantially as and for the purpose described.

Also, the adjusting-screws *b b* and their plates *e e*, in combination with the notches *n n*, when all the parts are constructed substantially as described.

MICHAEL LEHMAN.

Witnesses:

N. MARCHANT,
JOHN T. SCENCE.