(No Model.)

C. L. WALL.

MORTISING CHISEL.

No. 482,704. Patented Sept. 13, 1892.

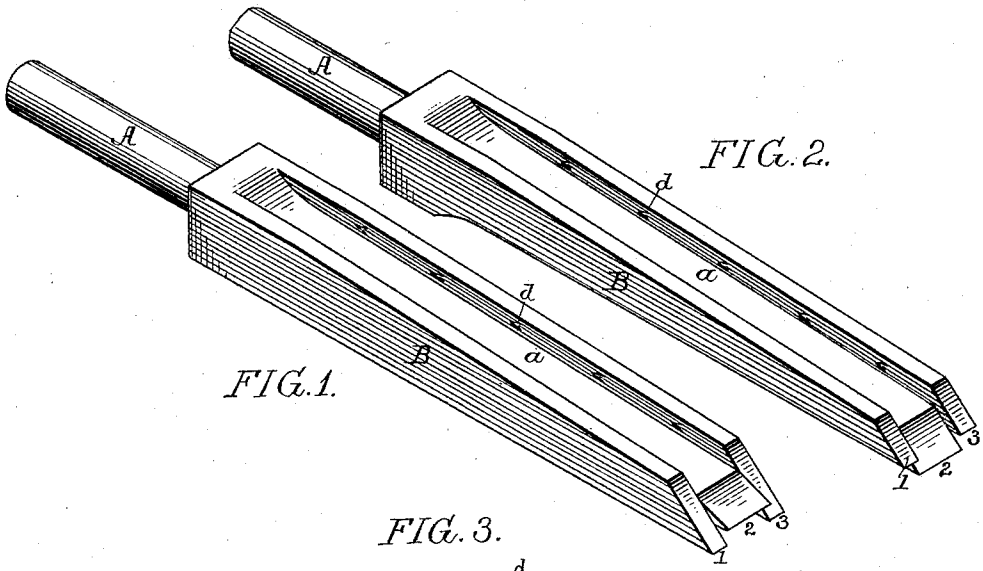


FIG. 1.

FIG. 2.

FIG. 3.

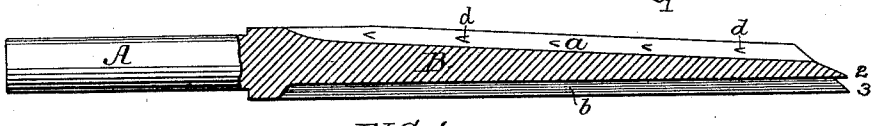


FIG. 4.

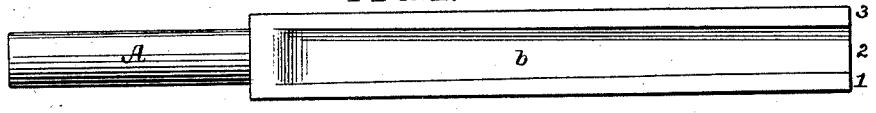


FIG. 5.

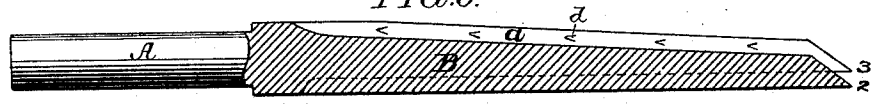


FIG. 6.

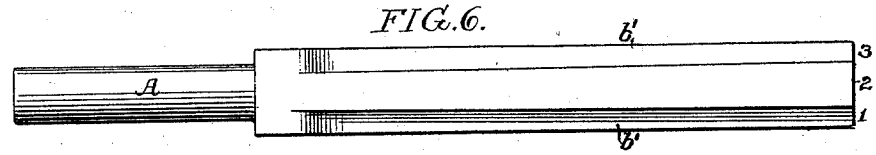


FIG. 7.

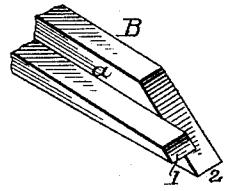


FIG. 8.

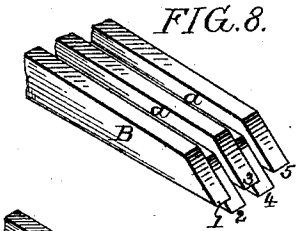


FIG. 9.

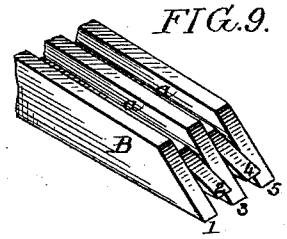


FIG. 10.

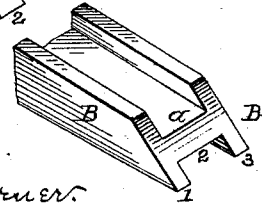
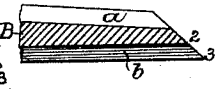


FIG. 11.



Witnesses:
Fred D. Goodwin.
Hamilton D. Turner.

Inventor:
Charles L. Wall
by his Attorneys
Howson & Howson

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

UNITED STATES PATENT OFFICE.

CHARLES L. WALL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JACOB G. WALL, OF CAMDEN, NEW JERSEY.

MORTISING-CHISEL.

SPECIFICATION forming part of Letters Patent No. 482,704, dated September 13, 1892.

Application filed July 6, 1891. Serial No. 398,523. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. WALL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Mortising-Chisels, of which the following is a specification.

One object of my invention is to so construct a mortising-chisel as to cut up in pieces the chips formed by the action of the chisel in cutting the mortise, so that they can be more readily withdrawn, a further object being to effect this result without altering the plane of the bottom of the mortise.

These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are perspective views of two different forms of mortising-chisel embodying my invention. Fig. 3 is a longitudinal sectional view of the chisel shown in Fig. 1. Fig. 4 is a face or front view of the same. Fig. 5 is a longitudinal section of the chisel shown in Fig. 2. Fig. 6 is a face or front view of the same; and Figs. 7 to 11, inclusive, are views illustrating various modifications of the invention.

The main feature of my invention consists in providing the chisel with a series of cutting-edges in different longitudinal planes, or planes parallel with the movement of the chisel, so that in the action of the chisel as many different cuts will be made as there are cutting-edges, and the chips produced will thereby be divided into small pieces, so that they can be readily withdrawn from the mortise.

In Figs. 1 to 6, A represents the stem or shank of the chisel, and B the head of the same, having the usual groove *a* in the back. Each of these chisels has, however, three cutting-edges 1, 2, and 3, which are in different longitudinal planes. Thus in the chisel shown in Fig. 1 the cutting-edges 1 and 3, which flank the cutting-edge 2 are in advance of the latter, while in the chisel shown in Fig. 2 a reverse construction is adopted, the central cutting-edge 2 being in advance of the flanking cutters 1 and 3. This arrangement of the different cutting-edges in different longitudinal planes necessitates the formation of a groove or grooves in the front face of the chisel, as well as a groove in the rear, the chisel shown in Figs. 1, 3, and 4 having a central groove *b* in its front face, while the chisel shown in Figs. 2, 5, and 6 has opposite side grooves *b'* in said front face, and it is preferable that these grooves shall be narrower at the cutting end of the chisel than at the other end, so that the wood which enters the groove will not be jammed therein, and the chip-groove *a* is also preferably wider at the rear end than at the cutting end, so that the chips will pass freely through the same, and in order to facilitate the removal of the chips the walls of the chisel adjacent to the groove *a* may have burrs or fins projecting into said groove, as shown, for instance, at *d*.

In carrying out my invention the chisel may have more or less than three cutting-edges. For instance, the chisel shown in Fig. 7 has but two cutting-edges 1 and 2, while the chisels shown in Figs. 8 and 9 each have five cutting-edges. In all of the chisels thus far described the series of cutting-edges, while occupying different longitudinal planes, are in the same transverse plane—that is to say, they are in line with each other in a direction at right angles to the longitudinal line or cutting movement of the tool, so that they all enter the wood to the same depth, and consequently produce a mortise having a bottom in the same plane throughout; but my invention may also be embodied in a chisel in which the cutting-edges are in different planes, both longitudinally and transversely, as shown, for instance, in Figs. 10 and 11, the chisel made in accordance with this plan being easier to grind than the chisel shown in Figs. 1 to 9, as the various cutting-edges are produced by simply grinding to a bevel the front end of a bar of proper cross-section.

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

1. A mortising-chisel having a series of cutting-edges side by side, but in different longitudinal planes, and grooved longitudinally in its front face, substantially as specified.

2. A mortising-chisel having a series of cutting-edges side by side, but in different longitudinal planes, and grooved both as to its front and rear faces, substantially as specified.

3. A mortising-chisel grooved longitudinally and having cutting-edges side by side, but in different longitudinal planes, one or more of the grooves of the chisel being contracted in width toward the cutting end of the chisel, substantially as specified.

4. A mortising-chisel having cutting-edges side by side, but in different longitudinal planes, and having grooves in its front and rear faces, both of said grooves being contracted in width toward the front or cutting end of the chisel, substantially as specified.

5. A mortising-chisel having a series of cutting-edges side by side and in different longitudinal planes, but in the same transverse plane, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES L. WALL.

Witnesses:
H. F. REARDON,
HENRY HOWSON.