I. W. McGaffey,

Wood Chisel.

No. 10,421. Patented Jan. 10, 1854.

Fig. 1

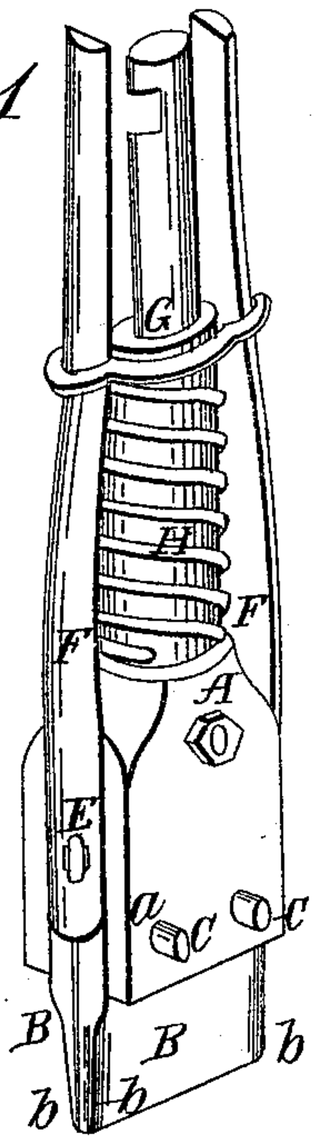


Fig. 2

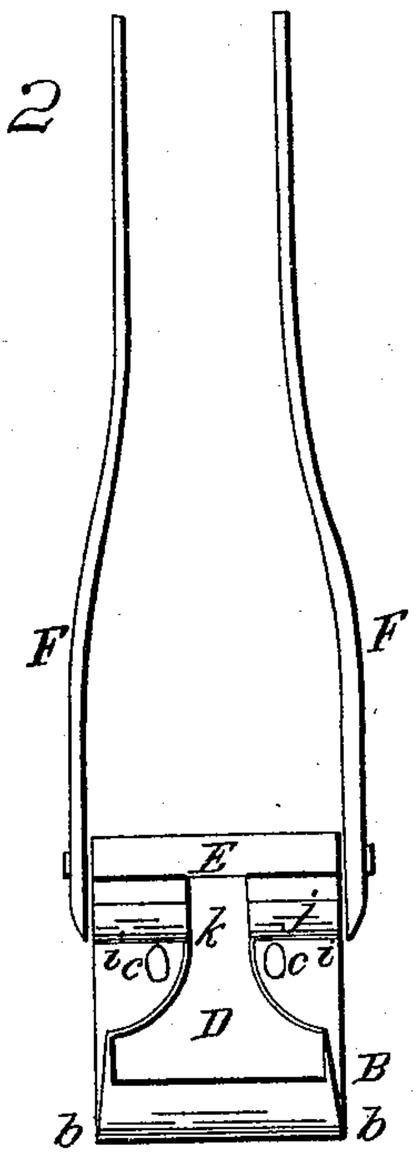


Fig. 3

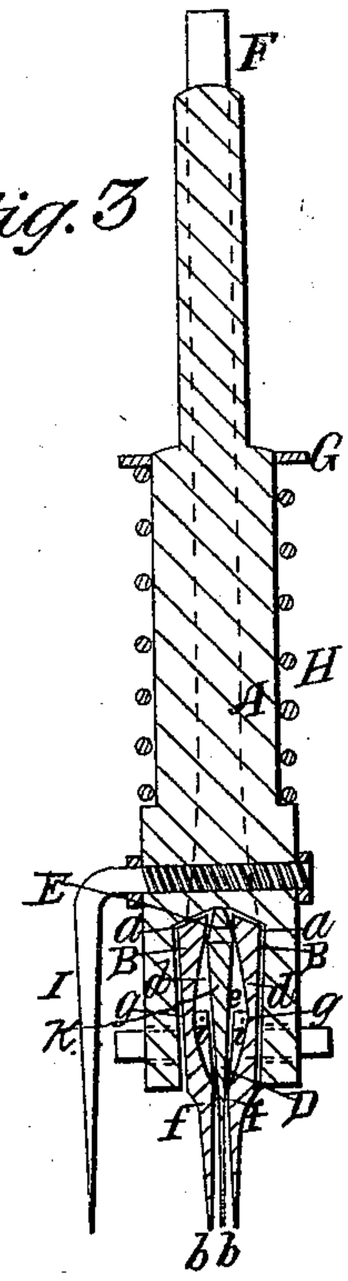


Fig. 4

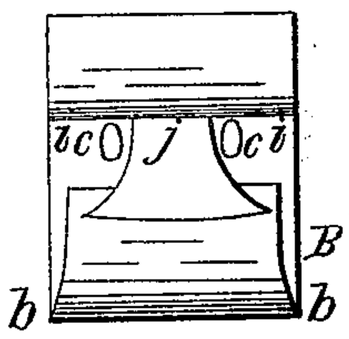
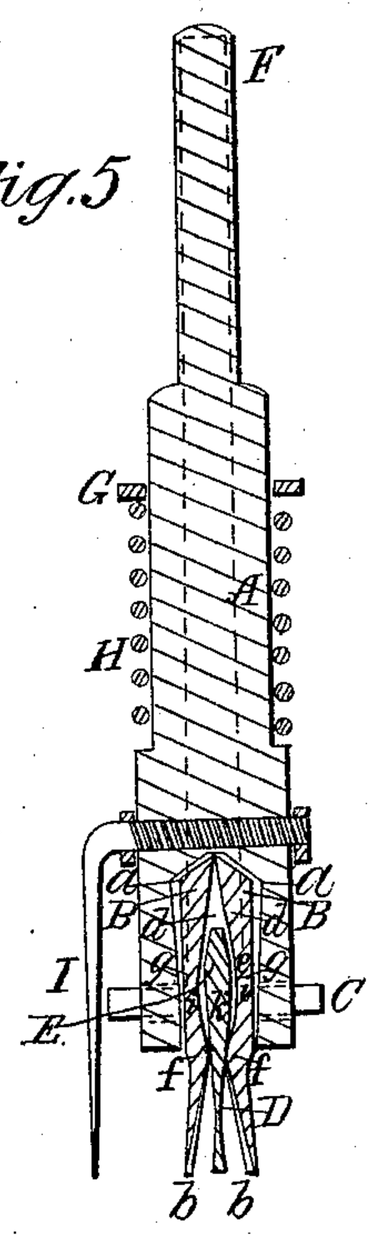


Fig. 5



UNITED STATES PATENT OFFICE.

I. W. McGAFFEY, OF PHILADELPHIA, PENNSYLVANIA.

MORTISING-CHISEL.

Specification of Letters Patent No. 10,421, dated January 10, 1854.

To all whom it may concern:

Be it known that I, I. W. McGaffey, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Mortising-Chisel; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a perspective view of the chisel. Fig. 2, is a view showing the tongue of the chisel placed in the groove or recess of one of the lips. Fig. 3, is a transverse vertical section of the chisel, showing the lips closed. Fig. 4, is a view of the inner surface of one of the lips. Fig. 5, is a transverse vertical section of the chisel, showing the lips open and the tongue depressed.

Similar letters of reference indicate corresponding parts in each of the several figures.

The mortising chisel to which this invention relates is designed to be used chiefly for mortising blind slats, and work of a like nature. It is to be applied to the mandrel or arbor of a mortising machine, and consists of a stock, having at its lower end a recess, in which are placed two cutting lips, having between them a tongue, which is depressed when the chisel is raised from the work. The cutting lips are so formed, as will be hereinafter shown, as to cut an aperture or mortise the required size at one operation and hold the chip or withdraw it from the mortise when the chisel is raised, the chip being forced from between the lips by the tongue, which, when it is depressed, forces apart the cutting edges of the lips, and drives out the chip, as will be hereinafter fully shown.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents the stock, the upper portion of which is cylindrical, and the lower portion rectangular, as shown in Fig. 1. In the lower and rectangular portion of the stock is cut a vertical slot or recess, (*a*), in which are placed two cutting lips, B, B. The slot, (*a*), extends across the whole breadth of the stock, and the width of the cutting lips corresponds to the width of the lower portion of the stock. The lower parts of the lips have curved ends, (*b*), (*b*), so that when the two lips are together or the curved ends of the two lips are in contact the cutting edges inclose a space corresponding to the size of the required mortise. This will be understood by reference to Fig. 1.

C, C, are pins, which pass through the lower part of the stock, and through holes, (*c*), (*c*), in the cutting lips. The said holes, (*c*), (*c*), in he cutting lips, through which the pins pass, are somewhat elliptical, as shown in Figs. 2 and 4, in order to allow the lips to vibrate or play upon the pins.

The inner surfaces or sides of the cutting lips have their upper parts,—from points, (*g*), (*g*), just above the holes, (*c*), (*c*), to the top,—beveled or inclined gradually inward, as shown at (*d*), (*d*), in Figs. 3 and 5, a space being at the point (*e*), betwen the lips. The lower portions of the surfaces or sides of the lips are inclined or beveled in a reverse direction from the points, (*f*), (*f*), to the lower ends or cutting edges. Between the points, (*g*), (*g*), and (*f*), (*f*), projections, (*i*), are formed, and a vertical groove or recess, (*j*), is made through each projection, as seen in Figs. 2 and 4.

D, is a tongue, the lower part of which extends the width of the space inclosed by the two lips, B, B; see Figs. 1, and 2. The upper part of the tongue is curved gradually inward, forming a shank, (*k*), which fits in the groove or recess, (*j*), more particularly shown in Fig. 2. The shank, (*k*), transversely, is of taper form, as seen in Figs. 3 and 5. At the upper part of the shank, (*k*), of the tongue, there is a crossbar E, of beveled form, as will be seen by the cross sections in Figs. 3 and 5. To the outer ends of the crossbar are attached arms, F, F, which extend upward by the side of the stock, A, as clearly shown in Fig. 1. The upper ends of the arms have a link, G, around them. Underneath the link, G, and around the stock, A, there is a spiral spring, H, seen in Figs. 1, 3, and 5, the upper end of the spring bearing against the under surface of the link, and the lower end against a shoulder, (*l*), at the upper part of the lower or rectangular portion of the stock.

I, is a gage point, attached to the stock, as shown in Figs. 3 and 5, the use of which gage point will be presently shown.

Operation:—The stock, A, is secured to the arbor or mandrel of a mortising machine; and when the chisel descends upon the work, the cutting edges of the lips pene-

trate the wood, and cut a chip the desired size of the mortise. When the chisel is withdrawn, the chip is retained within the lips and the mortise is formed. When the chisel has reached a certain height, the upper ends of the arms, F, F, strike against a projection or stop, attached to the mortising machine, and the arms F, F, with the tongue, D, consequently will be stopped, and as the stock, A, rises, the taper shank, (*k*), of the tongue bears against the points, (*f*), (*f*), on the inner surfaces of the cutting lips, and forces the lower portions of the lips apart, and the chip is thus forced out from between the lips, as seen in Fig. 5, which represents the tongue as being depressed and the lower portions of the lips spread apart. When the chisel descends, the spiral spring, H, forces the tongue upward between the lips, B, B, and the crossbar, E, throws apart the upper portions of the lips, and the lower portions are consequently closed, and are ready to form another mortise, as seen in Fig. 3. The lips, B, B, it will be understood work upon the pins, C, C, as on fulcrums. The gage, I, each time the chisel descends, marks the spot on the work for the following mortise.

The inner surfaces of the lips, just above the cutting edges, may be serrated or creased, similar to a file, if necessary, in order to insure the withdrawal of the chip from the mortise.

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

The construction of the chisel substantially in the manner herein shown and described; viz., having two cutting lips, B, B, inserted in a slot or recess, (*a*), in the lower end of a stock, A; said lips working upon pins, C, C, which pass through the stock, the inner surfaces of the lips being constructed as shown, and having a tongue, D, working between them, which tongue, when the chisel is raised, forces apart the cutting edges of the lips, and throws out the chip from between the said lips; the crossbar, E, of the tongue, when the chisel descends, throwing apart the upper portions of the lips, and closing the lower and cutting ends; the tongue being raised between the lips by means of the spring, H, or its equivalent.

I. W. McGAFFEY.

Witnesses:

C. Brazer,

George D. Freas.