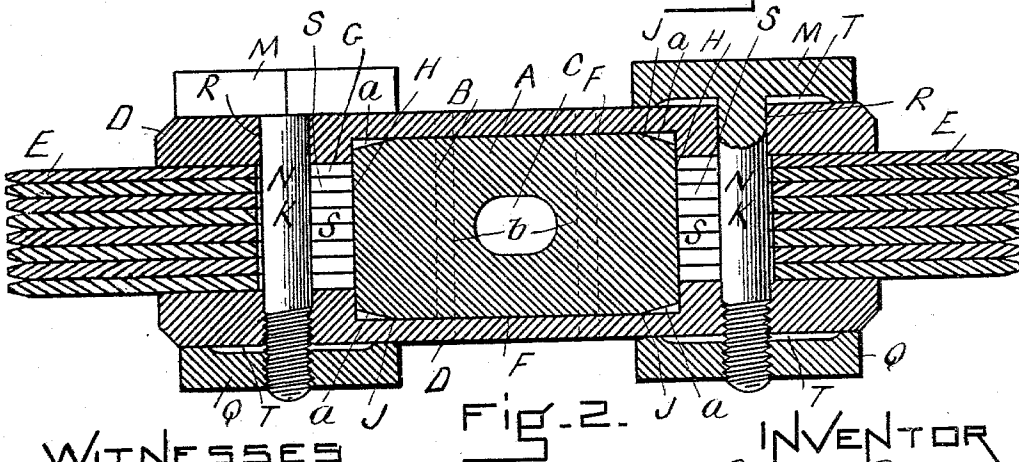
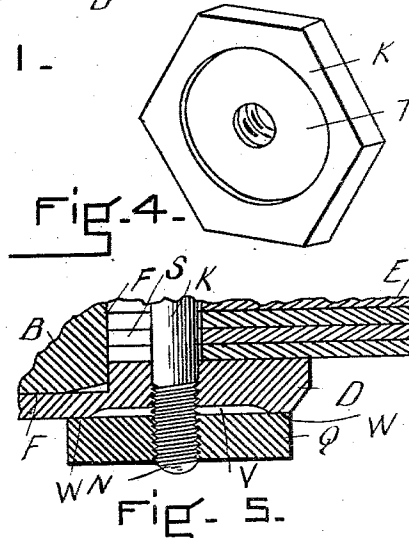
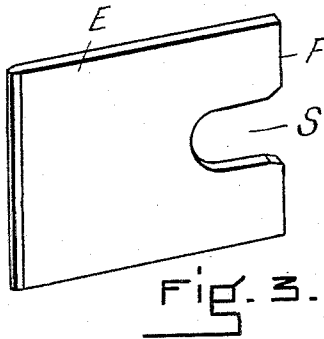
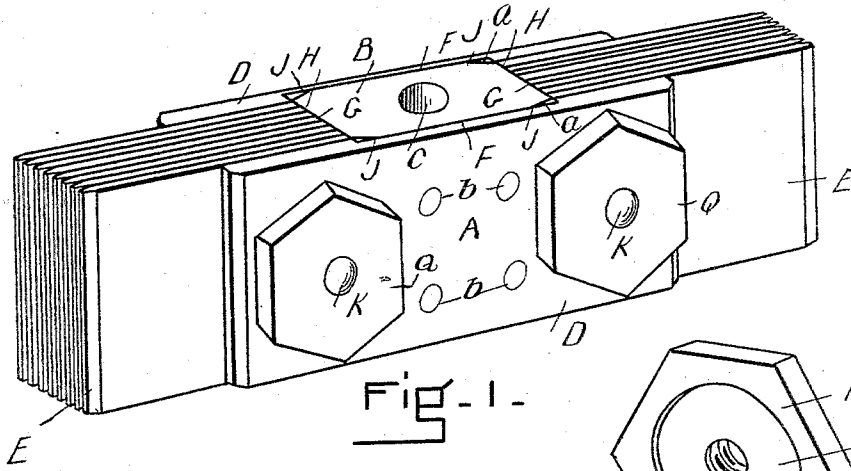


(No Model.)

G. MAIN.
BUSH HAMMER.

No. 552,850.

Patented Jan. 7, 1896.



WITNESSES
Walter B. Huntworth.
Lena B. Huntworth.

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UNITED STATES PATENT OFFICE.

GEORGE MAIN, OF QUINCY, MASSACHUSETTS.

BUSH-HAMMER.

SPECIFICATION forming part of Letters Patent No. 552,850, dated January 7, 1896.

Application filed October 30, 1893. Serial No. 489,555. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MAIN, of Quincy, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Bush-Hammers, of which the following is a full, clear, and exact description.

This invention relates to improvements in bush-hammers, and more particularly to the securing of the cutter or cutters to the holding-plates, so they can be conveniently and quickly attached to and detached from the securing-plates; and the invention consists of a bush-hammer constructed and arranged for the cutter or cutters to be easily attached to and detached from the holding-plates, all substantially as hereinafter fully described; and the invention also consists of other improvements in the construction of the bush-hammer, all substantially as hereinafter fully described, reference being had to the accompanying sheet of drawings, in which is illustrated a bush-hammer constructed in accordance with this invention.

Figure 1 is a perspective view of the bush-hammer. Fig. 2 is a longitudinal central horizontal section. Fig. 3 is a perspective view of one of the cutters detached. Fig. 4 is a perspective view of one of the screw-nuts, and Fig. 5 is a detail longitudinal section to be hereinafter referred to.

In the drawings, A represents a bush-hammer composed of a head B having a central hole C for the handle, D the securing or holding plates, and E the cutters.

The head B consists of an oblong block of suitable metal of the width desired for the cutters, and of a thickness a little more than the aggregate thickness of the several cutters when secured in place.

Each plate D has a transverse recess or groove F on one side, in which recesses the head is placed, the free ends of the plates extending beyond the head, in between which is placed the cutters E of the number desired, their inner ends G resting and bearing against the ends H of the heads.

The head on each side at *a* at each end is cut away back from the end, preferably in an inclined direction, as shown, leaving the edge or bearing places J for the plates, back from the ends.

The above is a brief description of the bush-hammer, and which is the subject-matter of another application of mine, Serial No. 473,258, and constitutes no part of the present invention, which is not only applicable to the above-described bush-hammer, but to all bush-hammers having a head, cutters, and removable plates securing the cutters in place.

K K are two bolts having heads M, spindles N, and a screw-thread on the outer end of the spindle adapted to receive a screw-nut Q. These bolts are passed through holes R in the free portions of the plates D, and then through open slots S in the inner ends of the cutters E when the cutters are in place in between the free ends of the plates, and the screw-nuts Q screwed upon the projecting ends of the bolts down upon the plate next thereto, which holds the cutters firmly in position.

To release the cutters, unscrew the screw-nut Q a little to relieve the pressure upon the cutters, which then can easily be pulled out endwise from between the plates D without removing the screw-nut from the bolt, or the bolt from the plates, the open slots allowing of such detachment. The cutters can be put in place between the plates in the reverse movement, the open slots sliding over the bolts, when the screw-nuts can be tightened, which secure all again in place as before. Thus the cutters can be easily attached to and detached from the plates, which as is obvious is a great convenience, saving time as well as having other advantages.

In order to have the screw-bolts hold firmly in place by securing a good bearing upon the plates, the inner side of the bolt-head M and screw-nut Q is cut away, forming a recess T on its inner side, which leaves a bearing U on the plates only at or near the outer edge, as shown in the drawings. This construction of the inner face of the bolt-head or screw-nut insures such a close bearing of the same on the plates that the liability of the bolt or screw-nut to slip or loosen is substantially prevented.

The open slot being centrally located outside of and beyond the head retains the full bearing-surface of the end of the head, and its full strength and solidity, and the head and screw-nut of the bolt can be large and

cover a good portion of the surface of the plate for the better hold of the cutters between the plates, and in the unscrewing of the bolt to remove the cutters it will require 5 but a slight turn to leave the cutters free to be removed.

In lieu of making a depression or recess in the bolt-head and screw-nut, it can be made in the plates D around and about the hole R 10 through which the bolts pass, as shown in section in Fig. 5, in which V is the recess or depression in the plate, the bolt head and screw-nut being flat on their inner or bearing sides, and bearing at or near their edges upon the 15 plate at W outside of its recess V.

Obviously any number of cutters can be used, if more than one, each having the open slot S in its inner end.

Having thus described my invention, what 20 I claim is—

The herein described bush hammer consisting of a head having means for receiving a handle, and cut away at its four corners to

provide side bearings adjacent to the ends of the head, of securing plates provided with 25 transverse recesses in which the head is located, the ends of said securing plates extending beyond the ends of the head, means for securing said head between said plates, a series of cutters provided with open slots at 30 their rear ends arranged between the projecting ends of said securing plates, the rear ends of said cutters abutting against the ends of the head, a screw bolt passing through the projecting ends of said securing plates and 35 through the open slots of the cutters and a nut on the end of said screw bolt, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 40 witnesses.

GEORGE MAIN.

Witnesses:

EDWIN W. BROWN,

LEONA CERITA ARNO.