

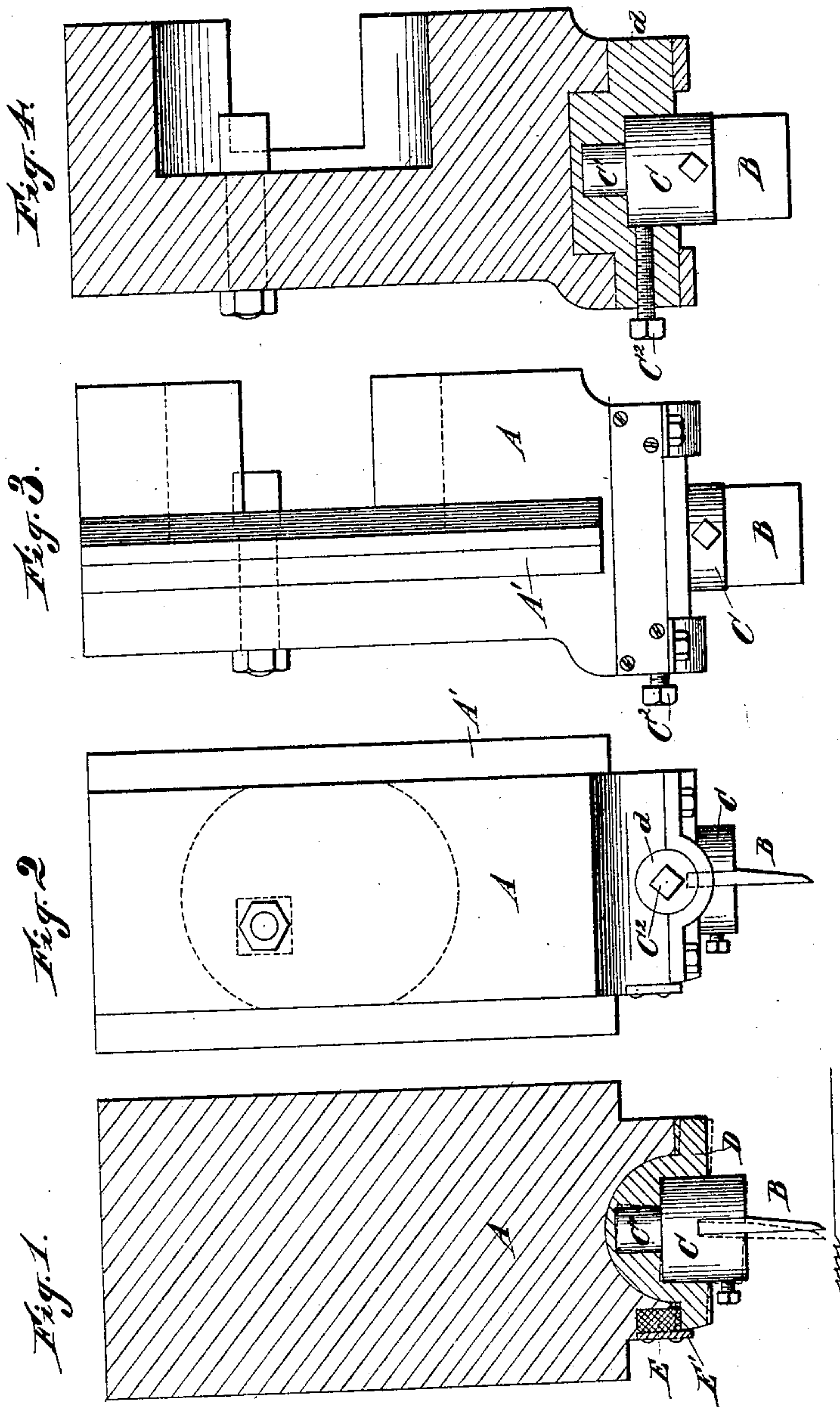
(No Model.)

H. MICHEL.

CHISEL HOLDER FOR FILE CUTTING MACHINES.

No. 390,793.

Patented Oct. 9, 1888.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## CHISEL-HOLDER FOR FILE-CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 390,793, dated October 9, 1888.

Application filed November 10, 1887. Renewed September 11, 1888. Serial No. 285,164. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY MICHEL, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in File-Cutting Machines; and I do 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a sectional view at right angles to the axis of the tool-chuck of file cutting mechanism embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation of the same, and Fig. 4 a sectional view by a vertical plane parallel with the axis of the tool-chuck.

Heretofore in file-cutting machines the hammer-head has been provided at its end with means for direct connection thereto of the tool or tool-holder. Means have also been provided for permitting the tool itself or tool-holder to yield slightly as the tool enters the steel or file metal, and a spring or spring-cushion has been employed for returning the tool to its normal position as the hammer-head is again raised. Where means have been thus provided, however, the tool-holder itself has usually been of expensive construction, necessitating, in case of injury to the said holder, a considerable outlay for renewal and repairs.

It is the purpose of my invention to produce an improved construction in which there is provided a tool-chuck, which chuck is adapted to yield as the tool enters the steel or file metal, and with a cushion or spring adapted to throw the said tool-chuck back into its normal position as the hammer-head rises. This chuck is adapted to recede and engage the tool-holder, so that if in the operation of the machine the tool-holder becomes broken or damaged this tool-holder may be taken out or renewed without the expense of repairing or renewing the yielding chuck.

In carrying out my invention, A represents the hammer-head of any file-cutting machine.

A' are guides adapted to engage the framework in which the hammer-head reciprocates.

B is the cutting tool.

C is the tool-holder.

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Now, instead of making the tool-holder itself to yield in relation to the hammer-head, and instead of providing a spring or cushion which shall act directly upon the tool-holder, I provide a tool chuck, D, into which the tool-holder is engaged in any suitable manner—as, for instance, by a cylindrical stem or shank, C', whereby the tool-holder may be rotated, and a set-screw, C<sup>2</sup>, may hold it in any fixed position. The tool-chuck D is made cylindrical upon its upper surface and at its end is journaled to the hammer-head, as shown at d.

E is a cushion interposed between the hammer-head and the tool-chuck D. A plate, E', serves to hold the cushion in place.

The operation of the device is as follows: The tool as it strikes the steel or file-metal will yield, as shown by the dotted lines in Fig. 1, by the chuck D compressing the cushion E, as shown by dotted lines in Fig. 1. Then as the hammer-head rises the cushion will return the chuck and tool to their normal position.

The cushion E is in the drawings represented as a piece or block of rubber; but this may be varied to any extent. Thus, for instance, instead of a block of rubber and the plate E' for holding it in place, this portion of the hammer-head might be drilled and a spiral spring be introduced into the orifice and serve precisely the same purpose and act in the same way as the rubber block; or a spring might be located in any other convenient way, so as to react and force the tool-chuck back to its normal position. This construction enables the use of a much shorter tool-holder and tool, and brings the tool-holder close to the work.

What I claim is—

1. The combination, with the hammer-head of a file-cutting machine, of a tool-holder, said holder engaged with a yielding tool-chuck, and a spring or cushion adapted to return said chuck to its normal position as the hammer-head is raised, substantially as described.

2. The combination, with a hammer-head 100

having a cylindrical seat, of a yielding tool-chuck provided with a cylindrical bearing adapted to said seat, a tool-holder engaging the chuck, and a cushion or spring adapted to  
5 return the chuck to its normal position as the hammer-head is raised, substantially as described.

3. The combination, with a hammer-head having a seat, of a yielding chuck adapted to  
10 the said seat, a tool-holder adjustably engaging the chuck, and a spring or cushion interposed between the chuck and the seat of the hammer-head to return the chuck to its nor-

mal position as the hammer-head is raised, substantially as described. 15

4. In a file-cutting machine, the combination, with a hammer-head, A, of a tool-holder, C, yielding chuck D, and cushion or spring E, substantially as described.

In testimony whereof I sign this specification 20  
in the presence of two witnesses.

HARRY MICHEL.

Witnesses:

SAMUEL E. THOMAS,  
M. B. O'DOHERTY.