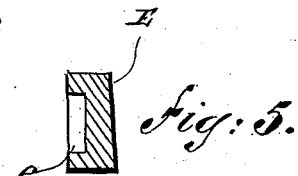
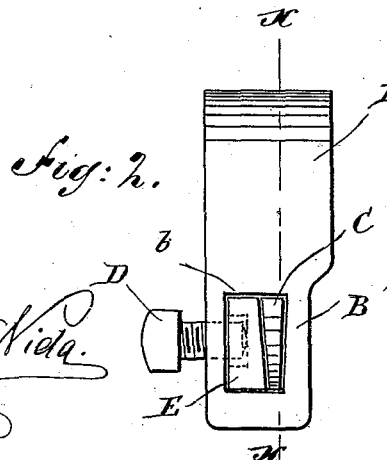
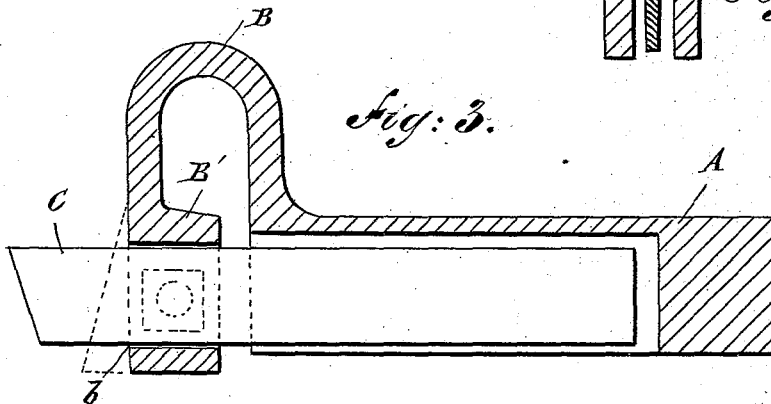
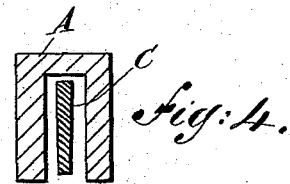
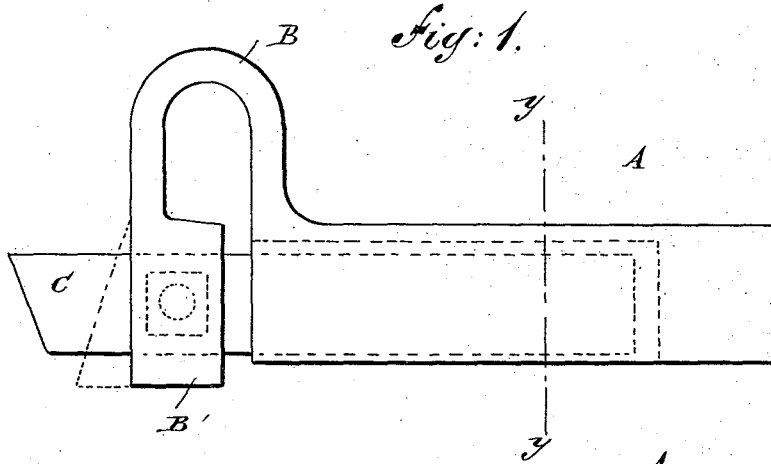


(No Model.)

L. B. NIELSEN.  
TOOL HOLDER.

No. 450,031.

Patented Apr. 7, 1891.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

LAURITZ B. NIELSEN, OF ORANGE, NEW JERSEY.

## TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 450,031, dated April 7, 1891.

Application filed October 10, 1890. Serial No. 367,739. (No model.)

*To all whom it may concern:*

Be it known that I, LAURITZ B. NIELSEN, of Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Tool-Holder, of which the following is a full, clear, and exact description.

My invention relates to improvements in holders for tools such as are used by machinists in planer, lathe, and similar work. The cutting-tools ordinarily used by machinists are usually held in rigid holders, and as a result when the point of the tool meets with an unusual obstruction it is broken off, as the tool cannot yield, and as a result much labor is expended in sharpening the tools.

The object of my invention is to obviate this difficulty by providing a tool-holder which will hold the tool in such a manner that it will work efficiently, but which will yield when the tool meets an unusual obstruction, thus saving the point of the tool.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the tool-holder embodying my invention with a tool in position therein. Fig. 2 is a front end view of the same. Fig. 3 is a longitudinal section on the line  $xx$  of Fig. 2. Fig. 4 is a transverse section on the line  $yy$  of Fig. 1, and Fig. 5 is a detail sectional view of the clamp which is inserted between the tool and the binding-screw.

The tool-holder has a hollow rectangular shank A, which is closed at one end and is open at the other, the main portion of the shank being also open on the under side, and on the open end of the shank is formed an inverted-U-shaped bow B, the free end of which extends slightly below the body of the shank, and which is thickened, as shown at B'. The shape of the bow B is such that the free end B' is held slightly away from the end of the shank A, thus allowing the necessary spring.

The thickened end B' of the holder has an

opening  $b$  therein, which aligns with the opening in the shank A, and which is adapted to receive and hold a cutting-tool C. The tool will thus rest upon the lower portion of the thickened end B' of the tool-holder, and it is held in place by means of a binding-screw D, which extends through one side of the thickened end B', and in order that the screw shall not impinge upon or injure the tool C a clamping-piece E is interposed between the end of the screw D and the tool, the clamping-piece E being made of a size to fit nicely in the opening  $b$  of the tool-holder, and having on one side a recess  $e$  to receive the end of the screw D.

The shank A is held in any of the ordinary devices for holding a tool, and the tool C is placed through the opening  $b$  in the thickened end B', so as to enter the hollow portion of the shank, the screw D being then tightened to hold the tool in place; but when the tool meets with a serious obstruction the bow B of the tool-holder will spring sufficiently to allow the point of the tool to pass the obstruction, and it will then resume the cutting. The tool-holder should be made of spring metal to allow of this movement.

As shown in the drawings, the tool-holder is adapted for planer work, and when it is used for lathe work it is desirable that the lower end of the thickened portion B' be widened, as indicated in dotted lines in Figs. 1 and 3, thus giving greater bearing-surface for the lower portion of the tool C.

It is obvious that the shape of the tool-holder may be changed and that the opening in the shank A and the opening through the thickened end D' may be shaped to correspond with the tool to be held. I have shown the shank A having an opening only through a part of its length, but it is obvious that the opening may, if necessary, extend entirely through it.

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

1. A tool-holder comprising a hollow shank and a bent-spring end having an opening therein to receive a tool, said opening aligning with the hollow portion of the shank, substantially as shown and described.

2. A tool-holder comprising a hollow shank closed at one end and open at the opposite end and on the under side, a bent-spring portion at the open end of the shank, the free end of the spring portion aligning with the shank and having an opening therein aligning with the shank-opening, substantially as described.

3. A tool-holder comprising a hollow shank closed at one end and open at the other end and on the under side, said shank having its open end formed into a bent-spring portion, the free end of the spring portion aligning with the body of the shank and having an opening therein, as shown, and a set-screw extending through one side of the bent-spring portion so as to enter the opening therein, substantially as described.

4. A tool-holder comprising a hollow shank closed at one end and open at the opposite end and on the under side, said shank being formed at its open end into a bent spring, the free end of which is thickened and provided

with an opening aligning with the opening in the shank, a set-screw extending through the thickened end of the spring portion of the holder, and a clamping-piece adapted to enter the opening in the spring portion, substantially as described.

5. A tool-holder comprising a hollow shank closed at one end and open on the opposite end and on the under side, said shank having its open end formed into an inverted-U-shaped spring, which is thickened at its free end and provided with an opening aligning with the opening in the shank, a clamping-piece adapted to fit the opening in the thickened end, and a set-screw extending through the thickened end of the spring portion so as to impinge upon the clamping-piece, substantially as described.

LAURITZ B. NIELSEN.

Witnesses:

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C. SEDGWICK.