

No. 676,782.

Patented June 18, 1901.

E. B. STIMPSON.
MECHANISM FOR OBLIQUE PUNCHING.

(Application filed Mar. 21, 1901.)

(No Model.)

Fig-1.

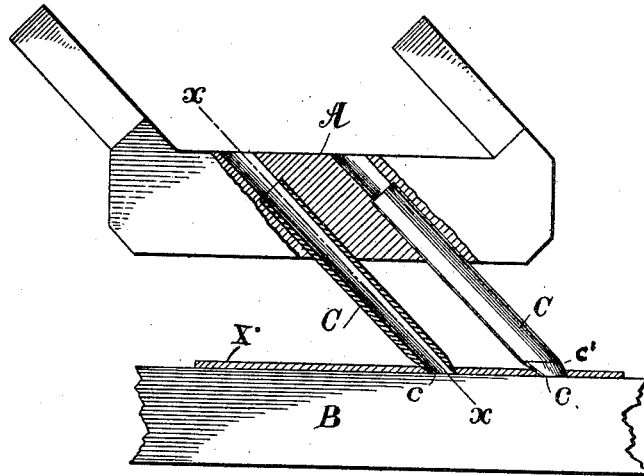


Fig-2.

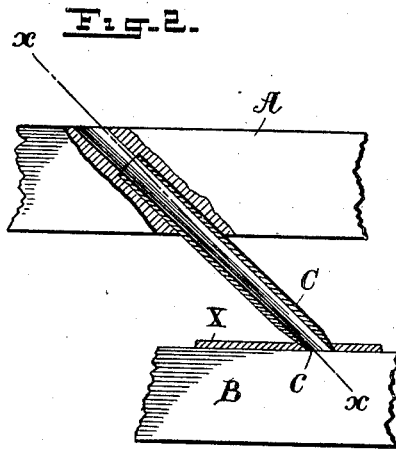


Fig-3.

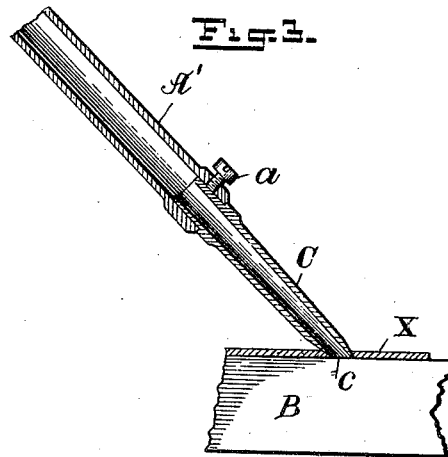
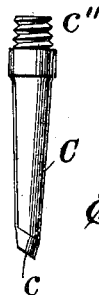


Fig-4.



WITNESSES:

Geo. W. Naylor.
Peter D. Ross

INVENTOR

Edwin B. Stimpson

BY

Henry Combs
ATTORNEY

UNITED STATES PATENT OFFICE.

EDWIN B. STIMPSON, OF BROOKLYN, NEW YORK.

MECHANISM FOR OBLIQUE PUNCHING.

SPECIFICATION forming part of Letters Patent No. 676,782, dated June 18, 1901.

Application filed March 21, 1901. Serial No. 52,162. (No model.)

To all whom it may concern:

Be it known that I, EDWIN B. STIMPSON, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings and city and State of New York, have invented certain new and useful Improvements in Means for Oblique Punching, of which the following is a specification.

This invention relates to punching or forming apertures in material mainly for ornamental purposes; and it relates more particularly, although not necessarily, to punching leather for forming parts of the uppers of boots or shoes.

The object of the invention, broadly expressed, is to provide a tubular punch adapted for passing through the material to be punched in a direction obliquely to the general surface of the material punched.

In the accompanying drawings, Figure 1 is a sectional elevation of a carrier or holder for the punches having set therein a series of tubular or hollow punches constructed according to this invention, and Fig. 2 is a similar view illustrating a slightly-different setting of the punch. Fig. 3 is a view showing a single punch and its holder for operation like the needle-bar of a sewing-machine; and Fig. 4 shows a punch similar to that in Fig. 3, detached.

Referring to Fig. 1, A designates the holder of the punches, B the bed which supports the material to be punched, and X the said material, which may be leather. The holder A is supposed to move in punching in an oblique path toward the bed B, said path or direction being indicated in Fig. 1 by the dotted line xx .

The punches C are set in the holder A obliquely and have their axes parallel in Fig. 1 with the line or direction of movement indicated by the line xx . These punches when in groups may be made from steel tubing and each being of uniform diameter throughout its length and set in a counterbored socket in the holder, as clearly shown in Fig. 1. At its cutting end the punch will be brought to a cutting edge by grinding or whetting, and its cutting-face c will be parallel at all times with the surface of the supporting-bed B, although its axis will be oblique to said surface and to its face c . Thus when the punches pass ob-

liquely through the material X the faces c thereof will be brought to bear at all points on the surface upon which the material rests. Ordinarily the material punched will be of uniform thickness and substantially smooth, and therefore the cutting-face c of the punch will also be brought to a uniform bearing thereon at the beginning of the punching operation, although the movement is oblique to the said face.

The punches may of course vary in diameter, number, and arrangement at will. The arrangement shown in Fig. 1 is simply illustrative. The carrier or holder A may be mounted in any manner desired and be operated by any of the known means, such as levers, toggles, screws, cams, &c. These devices are fully within the skill and knowledge of any machinist and need not be illustrated herein.

It may be desirable in oblique punching, especially in view of the bevel formed in sharpening the punch, to set the punch at a slightly-different angle to that of the path of the punch in its movement through the material. This is illustrated in Fig. 2, wherein it will be noted that the direction of movement xx is slightly less oblique to the perpendicular than the axis of the punch. Indeed, the line xx is in this view very nearly or quite parallel with the bevel c' at the front of the punch. This construction prevents the face or bevel c' from displacing or prying up the material in front of the punch as the latter passes through the material.

Fig. 3 illustrates a single punch set in the end of a holder A', which latter can be operated in the manner of the needle-bar of a sewing-machine, but of course in a path oblique to the surface of the material to be punched. In this figure the punch is held in place by a set-screw a ; but it may be of the form seen in Fig. 4, which shows a threaded nipple c'' to screw into the holder.

The punches herein shown are all supposed to produce round holes; but obviously their cutting-faces may have any desired contour, the latter being made to produce an aperture or hole of the shape preferred.

By "hollow" or "tubular" punch is herein meant a punch with a sharp cutting edge adapted for use without a die as distinguished

from a non-tubular punch used with a die into which the punch enters in punching.

Having thus described my invention, I claim—

- 5 1. A hollow or tubular punch for oblique punching having its sharp cutting edge lying wholly in a plane which is oblique to the axis of the punch, substantially as set forth.
- 10 2. Means for oblique punching comprising a holder and tubular punches set obliquely therein, all of the punches having the same obliquity, substantially as set forth.
- 15 3. Means for oblique punching comprising a holder and tubular punches set obliquely therein and having the same obliquity, said

punches having cutting-faces *c* oblique to their axes, substantially as set forth.

4. A hollow punch formed of a tube of uniform diameter throughout its length, and having its sharp cutting edge lying wholly in 20 a plane which is oblique to the axis of the punch, substantially as set forth.

In witness whereof I have hereunto signed my name, this 13th day of March, 1901, in the presence of two subscribing witnesses.

EDWIN B. STIMPSON.

Witnesses:

HENRY CONNETT,
PETER A. ROSS.