(No Model.)

S. D. HARTOG, Jr.

PROCESS OF MANUFACTURING STENCIL CHARACTER PUNCHES.

No. 561,785. Patented June 9, 1896.

Fig. 1

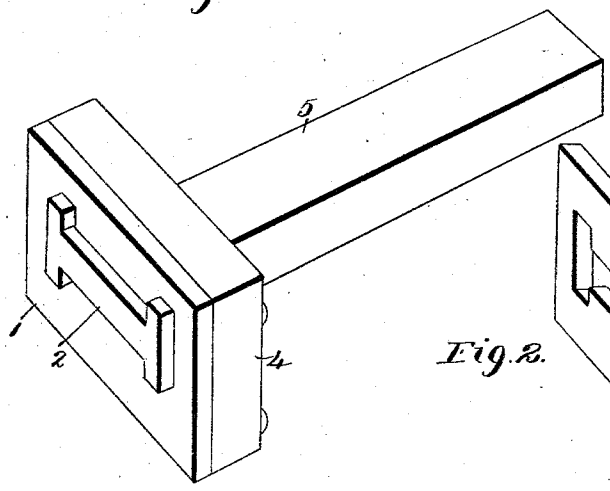


Fig. 2.

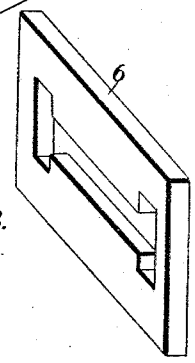


Fig. 3.

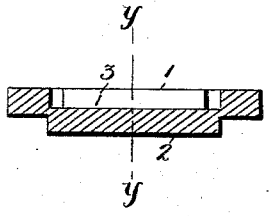
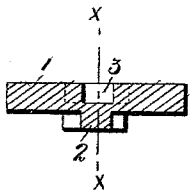


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

STEPHEN D. HARTOG, JR., OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE EUREKA STENCIL MACHINE COMPANY, OF SAME PLACE.

PROCESS OF MANUFACTURING STENCIL-CHARACTER PUNCHES.

SPECIFICATION forming part of Letters Patent No. 561,785, dated June 9, 1896.

Application filed October 1, 1894. Serial No. 524,606. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN D. HARTOG, Jr., of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in the Processes of Manufacturing Stencil-Character Punches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in processes for the manufacture of stencil-character punches; and it consists in the novel steps more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the completed punch for the letter or character "I." Fig. 2 is a perspective view of the die used in connection therewith. Fig. 3 is a longitudinal section of the character of the punch, as shown in Fig. 1, on the line $x\ x$ of Fig. 4; and Fig. 4 is a transverse section on the line $y\ y$ of Fig. 3.

The object of my invention is to construct a stencil-character punch of a single piece of metal by subjecting the blank from which it is made to a process that will make the punch durable and lasting. So far as I am aware the punches now used for stamping or cutting out stencil letters or characters are composed of a base proper, to which the outlined metallic strips constituting or making up the form of the letter are secured by brazing or other similar manner. By my process I stamp the form or outline of the character from a sheet of flat metal or blank, the depth or extent of the punching being limited, however, to express from the body of the metal only so much material that is to constitute the character which is to serve as a punch for the formation of subsequent stencil-letters.

In detail my invention may be described as follows:

Referring to the drawings, 1 represents a sheet or blank of metal, preferably tempered steel, from which the outline of the particular letter or character "2" is expressed by forcing or punching the blank only part way through by a suitable steel punch, (not shown,) the depth or extent to which the outline of the character "2" is expressed being such as not to fully punch out said character from the original plate, but only sufficient to force or form the character, but yet leave the latter adhering to the original plate from which it was formed. The letter "I" is here represented. The result is that a depression 3, representing the distance or depth of the expression, is left in the rear of the character thus formed. When the character is completed, it is mounted in any mechanical manner to the base 4 of a suitable handle 5 and used as a punch for cutting out, with the aid of a suitable die 6, stencil characters or letters from paper or sheet metal or the like. When sheet metal is subjected to the punching or cutting operation, the plate 1, with its character "2," is case-hardened, and then the character is ground down so as to give its outline a cutting edge, thus making the punch hard and durable.

Having described my invention, what I claim is—

1. The process of making punches, which consists in punching a metallic blank only part way through, and mounting said blank on a suitable base, substantially as set forth.

2. The process of making punches, which consists in punching a metallic blank only part way through and forming cutting edges on the projecting punched-out portion, substantially as set forth.

3. The process of forming stencil-character punches, which consists in tempering a suitable steel plate or blank, forcing or punching part way through said plate a suitable letter or character, case-hardening the same, and finally grinding the expressed character and forming cutting edges on the same, substantially as set forth.

4. In the manufacture of stencil-character punches, the process of first tempering a suitable metallic blank, punching the blank only part way through, and finally forming cutting edges on the projecting punched-out portion, substantially as set forth.

5. In the manufacture of stencil-character punches, the process of first tempering a suit-

able steel plate, punching the plate only part way through to form the desired character, and finally forming cutting edges on the projecting punched-out portion, substantially as set forth.

6. In the manufacture of stencil-character punches, the process of first tempering a suitable steel plate, punching said plate only part way through to form the desired character, and finally case-hardening the same, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

STEPHEN D. HARTOG, JR.

Witnesses:
E. STAREK,
H. A. UHL.