

No. 625,914.

Patented May 30, 1899.

E. DE ZUCCATO.  
PERFORATOR FOR PRODUCING STENCILS.

(Application filed Feb. 20, 1899.)

(No Model.)

Fig. 1.

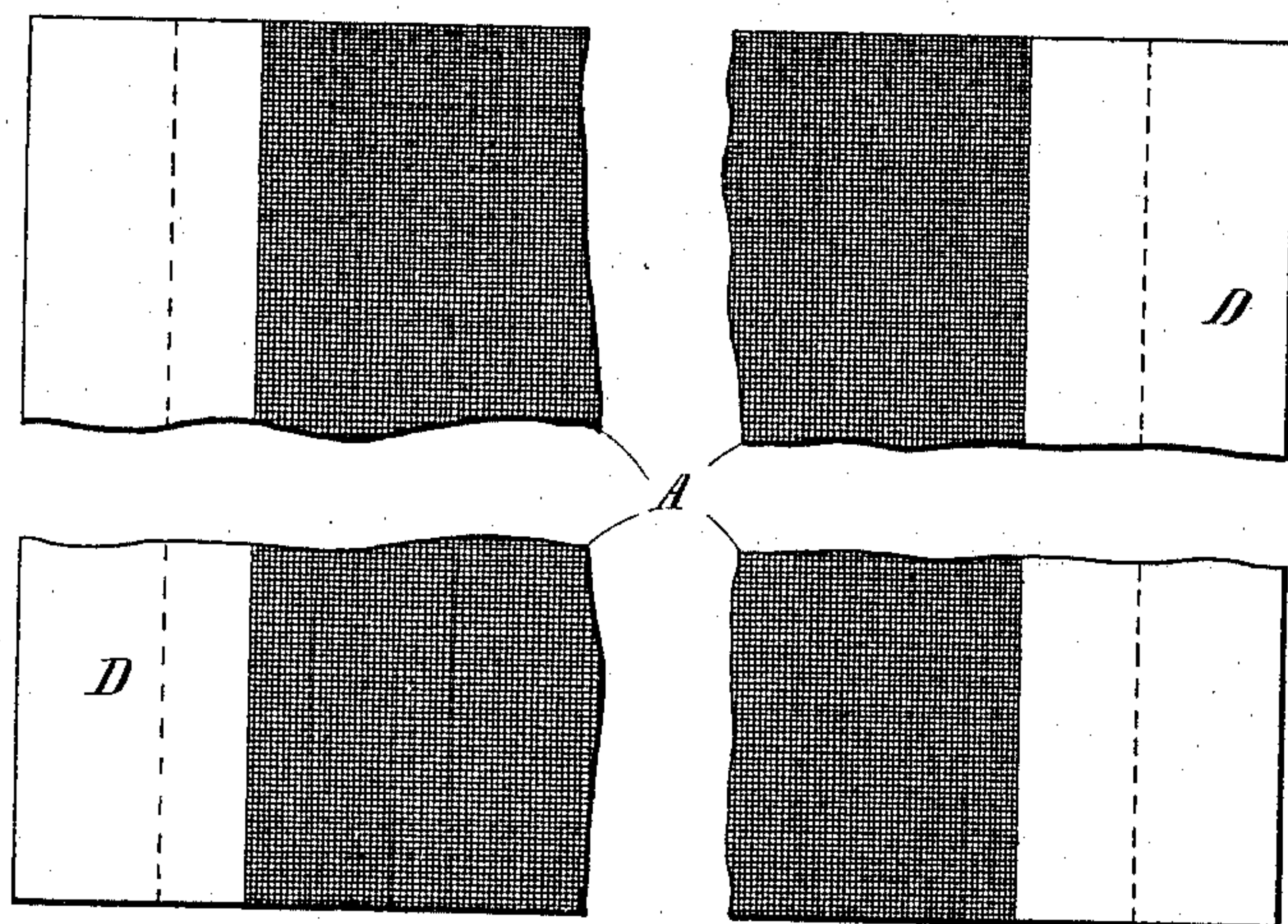
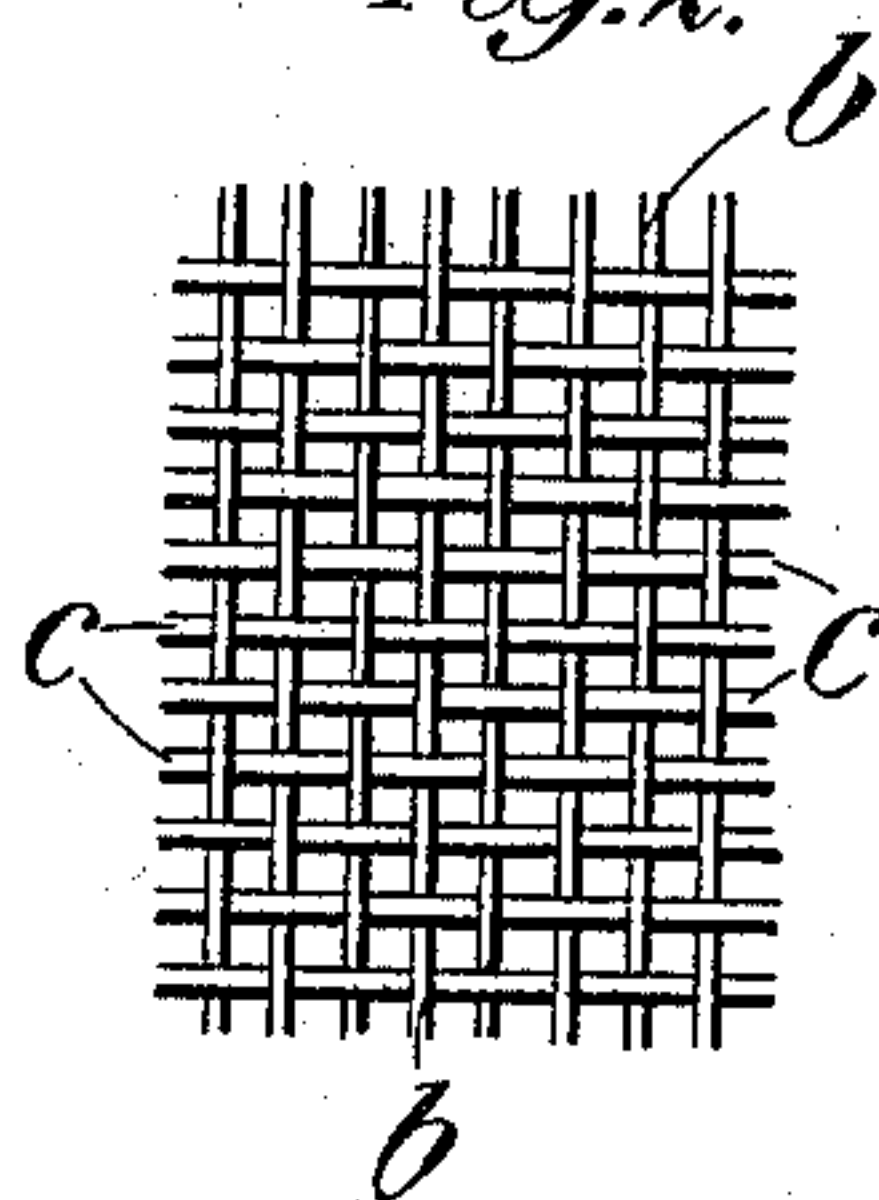


Fig. 3.



Fig. 2.



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# UNITED STATES PATENT OFFICE.

EUGENIO DE ZUCCATO, OF LONDON, ENGLAND.

## PERFORATOR FOR PRODUCING STENCILS.

SPECIFICATION forming part of Letters Patent No. 625,914, dated May 30, 1899.

Application filed February 20, 1899. Serial No. 706,254. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENIO DE ZUCCATO, manufacturer, a subject of the King of Italy, residing at 15 Charterhouse street, London, England, have invented certain new and useful Improvements in Perforators for Producing Stencils, of which the following is a specification.

This invention relates to improvements in perforators for producing stencils, and is applicable to perforators designed for producing stencils by means of a type-writing machine or of a stylus.

Perforators for producing stencils have before been constructed with a perforating-surface of fine silk gauze glued or cemented to a sheet of suitable paper, and prior to this it had been proposed to construct an apparatus for producing stencils comprising a gauze of woven wire. It has been found, however, that neither of these perforators is capable of being used with advantage in a type-writing machine. The wire-gauze is not sufficiently pliable. Moreover, it soon becomes beaten and flattened down by the type of the machine. The silk gauze is inefficient by reason of its not being hard enough to resist the blow of the type-letter, and thereby properly pierce the paper.

The object of my present invention is to produce a perforator that will be free from these defects and will also be more durable than the silk gauze perforators above mentioned.

According to my invention instead of using a perforating-surface formed entirely of wire or of silk I employ a surface consisting of a mixture of metallic threads and of textile threads. The textile and metallic threads may be combined together in the form of a woven material or gauze having a very fine mesh, a sheet of this special gauze being mounted upon a suitable base, such as a sheet of strong paper. I varnish or otherwise treat the perforator thus formed.

In the accompanying drawings I have illustrated one method of carrying my invention into effect.

Figure 1 is a fragmentary plan view, on a slightly-enlarged scale, of my improved per-

forator. Figs. 2 and 3 are respectively a plan and transverse section of a portion of the perforating-surface, drawn to a still more enlarged scale.

I weave or otherwise form a gauze A of very fine mesh from textile threads *b*, such as fine silk threads or strands, and metallic threads *c*, such as fine brass wire. In the construction which I have illustrated in the drawings and which I find the most convenient for manufacture and use the silk is arranged in one direction and the wire in the other direction, crossing the silk—that is to say, the wire may form the warp and the silk the weft threads, or vice versa. A gauze composed of silk threads and fine wire may, however, be formed with both threads and wire arranged in one or in each direction. For example, the warp might consist of alternate silk threads and fine wire, while the weft might also consist of alternate silk threads and fine wire or entirely of silk threads. I consider such constructions to be within the scope of my invention as set forth in the claims hereunto annexed.

I take a piece of my improved gauze of any desired size and degree of fineness, according to the use for which it is designed, and mount it upon a base D, of strong paper or like fabric, by glueing or cementing the same thereon. When the perforator thus formed is dry, I apply a suitable varnish to the same to render it less liable to absorb moisture. I may add to the glue or cement employed for mounting the gauze a small quantity of potassium bichromate or sodium bichromate or of a solution of alum.

My improved perforator will perforate any suitably-prepared paper, but preferably that prepared according to my prior United States patent, No. 548,116, to produce stencils by means of type-writing machines, and it is much more efficient in its action and is also more durable than perforators as heretofore constructed.

My improved perforator can also be used to produce stencils by means of a stylus, the specially-prepared paper which is to form the stencil being laid upon the said perforator and the characters or designs to be reproduced

being then traced upon the paper with the stylus in the same manner as with my well-known apparatus called the "trypograph."

What I claim is—

- 5 1. For producing stencils, a perforator having a perforating-surface composed partly of fine metallic threads and partly of textile threads, substantially as specified.
2. For producing stencils, a perforator hav-  
10 ing a perforating-surface composed of interwoven wire and silk threads, substantially as specified.
3. For producing stencils, a perforator con-

sisting of a flexible base, a woven perforating-surface consisting of silk threads arranged 15 in one direction and fine wire arranged in a direction crossing the silk threads, and a film of varnish over said surface, substantially as and for the purposes specified.

In testimony whereof I have hereunto set 20 my hand, in presence of two subscribing witnesses, this 2d day of February, 1899.

EUG. DE ZUCCATO.

Witnesses:

H. ASHBY-NORRIS,  
J. COLLINS.