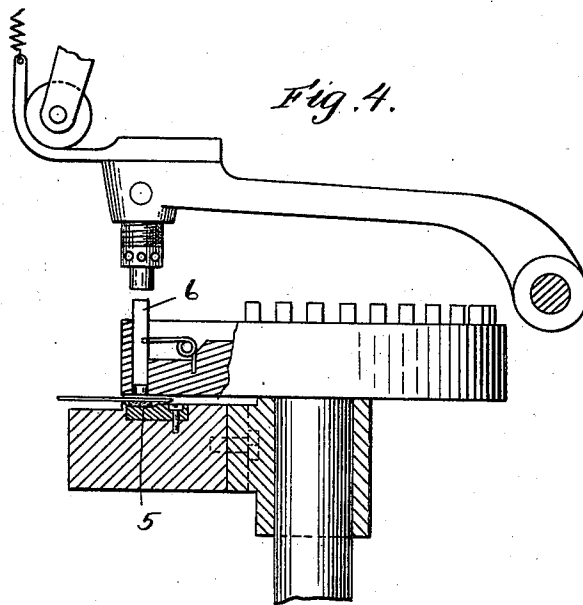
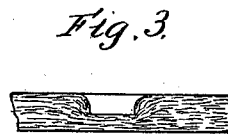
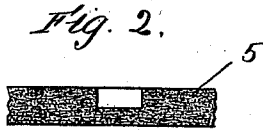
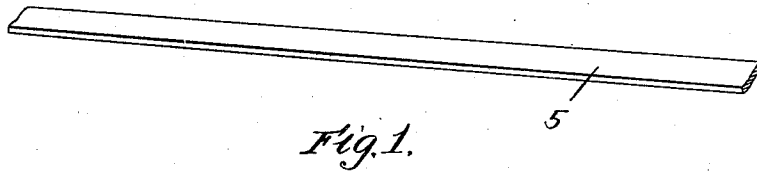


S. ELLIOTT.  
FLEXIBLE BED STRIP FOR STENCIL CUTTING MACHINES.  
APPLICATION FILED JAN. 25, 1909.

996,228.

Patented June 27, 1911.



Witnesses:  
H. B. Davis,  
Cynthia Doyle.

Inventor:  
Sterling Elliott.  
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Attys.

# UNITED STATES PATENT OFFICE.

STERLING ELLIOTT, OF NEWTON, MASSACHUSETTS.

FLEXIBLE BED-STRIP FOR STENCIL-CUTTING MACHINES.

996,228.

Specification of Letters Patent. Patented June 27, 1911.

Application filed January 25, 1909. Serial No. 474,007.

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Flexible Bed-Strips for Stencil-Cutting Machines, of which the following is a specification.

In the stencil cutting machine of Letters Patent No. 712,124, dated October 28, 1902, a flexible bed-strip is employed, which is moved intermittingly by means provided for the purpose, with which the punch cooperates when cutting the stencil. The flexible bed-strip therein shown consists of a strip of paper, of substantial thickness, and the end of the punch sinks into said strip more or less at each operation, driving into said strip the small pieces punched from the stencil. Although the fibers composing the strip are bound together as usual in the manufacture of paper, yet minute spaces exist between them, and as a consequence they are more or less yielding with respect to each other, and when the punch engages the strip the fibers are crushed by the end of the punch and a ragged cut produced.

The apertures formed in a stencil must have sharp and well defined edges at both sides of the stencil, to produce the best results; and to produce such apertures the cut in the stencil must be clean from top to bottom. An aperture formed by a cut which is clean at the top and ragged at the bottom is imperfect. To form an aperture in the stencil having sharp and well defined edges at both sides, or, in other words, to make the cut clean from top to bottom, it is necessary that the bed-strip shall be sufficiently hard to enable the punch to sink into it without crushing the fibers at the side of the punch.

The object of this invention is the production of a bed-strip fulfilling the requirements above noted.

My improved bed-strip is composed of fibrous material such as paper coated on both sides, and also filled with minute hard particles which fill the interstices and unyieldingly support the fibers, so that as the punch sinks into it the fibers will not yield with respect to each other at the side of the punch, and hence will not be crushed at such point, and a clean cut will be made. Ordinary clay fillers used in the manufacture of paper cannot be employed for this purpose, for the reason that the particles have an abra-

sive action and wear away the end of the punch; hence the filler which I employ in addition to being hard, so as to unyieldingly support the fibers, must also be non-abrasive. 60

Figure 1 is a view of a portion of a flexible bed-strip for stencil cutting machines embodying this invention. Fig. 2 is an enlarged sectional detail of a portion of the bed-strip illustrating the strip as having been filled and coated with minute, hard, non-abrasive particles. Fig. 3 is a similar enlarged sectional detail of a bed-strip composed of paper which has been coated and filled with hard non-abrasive particles. Fig. 4 is a detail showing a punch in its relation to the bed-strip. 65 70

5 represents the strip of fibrous material. It is preferably paper, manufactured especially for the purpose, being devoid of clay, as the abrasive action of clay dulls the punch. It is made quite thick and may be composed of several piles attached together in the usual manner in the manufacture of the paper. The strip is submerged in a liquid solution of shellac and the solvent for the shellac is thereafter eliminated by evaporation, leaving the minute hard particles of shellac both in and upon the strip, as represented in Fig. 2. They fill the interstices of the strip and form an unyielding support for the fibers of the strip. They are cohesively joined together. They are non-abrasive. The strip thus constructed forms a very efficient bed-strip for a stencil cutting machine, as the punch, when sinking into it, makes a clean cut, see Fig. 2, as contrasted with a ragged cut, see Fig. 3, which is produced by crushing the fibers at the side of the punch, and consequently the apertures formed in the stencil have sharp and well defined edges at both sides of the stencil. The bed-strip thus constructed is also flexible, and can be wound on a reel and subsequently fed intermittingly beneath a punch, represented at 6, during the operation of cutting the stencil. It may be used either side uppermost or may be used twice, first one side uppermost and then the other. 75 80 85 90 95 100

In lieu of shellac I may employ any other substance composed of minute hard, non-abrasive particles, which may be drawn into the strip to fill the interstices thereof by a suitable conveying medium, which latter is subsequently eliminated by evaporation or otherwise. 105 110

It is sometimes desirable to color the bed-

strip, and in such case any well known coloring pigment may be added to the shellac or other filler which is employed, which is soluble in the solvent of said filler, so that  
5 when the solvent is eliminated by evaporation or otherwise the coloring matter will be deposited upon the strip.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—  
10

As a new article of manufacture, the herein described flexible bed-strip for stencil punching machines, consisting of a strip of fibrous material, coated upon both sides and

filled with minute, hard, non-abrasive particles, thereby providing hardened faces which cause the ends of the punches, which project through a stencil placed on the bed-strip, to sink into said bed-strip by cutting and not by crushing the fibers at the sides  
15 of the punches, substantially as described. 20

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

STERLING ELLIOTT.

Witnesses:

CYNTHIA DOYLE,  
H. B. DAVIS.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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