H. J. DAVIES.

Improvement in Elastic Types.

No. 114,773. Patented May 16, 1871.

Fig. 1.

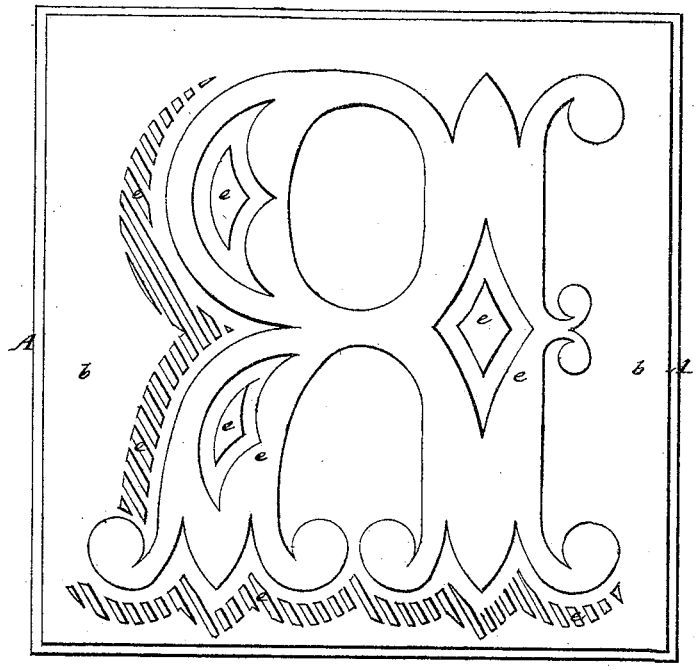
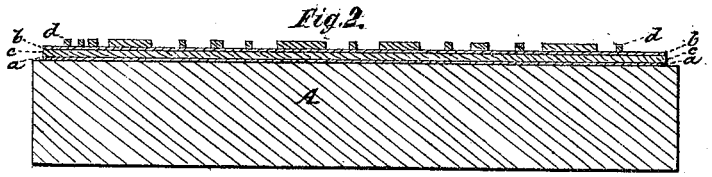


Fig. 2.



Witnesses.
J. Haynes
R. E. Rabeau

Henry J. Davies

United States Patent Office.

HENRY J. DAVIES, OF NEW YORK, N. Y.

Letters Patent No. 114,773, dated May 16, 1871; antedated May 1, 1871.

IMPROVEMENT IN ELASTIC TYPE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY J. DAVIES, of the city, county, and State of New York, have invented a new and useful Improvement in Types and Blocks for Printing Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to printing-types or blocks with elastic faces. Such types have heretofore been made of a slab of wood, faced with sheet vulcanized India rubber, of greater or lesser thickness, which is cemented to the wood, and the depth or height of the projection of the letter, figure, or other device or design represented by the face of the type has been equal to the whole thickness of the India rubber, so that the adherent cemented surfaces or bases of the several portions of the India rubber constituting the several lines or portions of the letter or other device or design have been little or no greater than their respective printing surfaces, and the consequence has been that, more especially in those portions representing thin lines, there has not been sufficient adhesion between the India rubber and the wooden back, and the types or forms have been liable to rapid destruction.

The object of this invention has been to obtain a perfect adhesion between the India rubber and the wooden back; and to this end,

It consists in making the elastic face of the type or printing-block of a fabric composed of one or more layers of India rubber, or other elastic material of similar character, and one or more layers of woven fabric, with which the elastic material is united by its own adhesive property, and in making the raised portions which form the letter or other device of a single layer of such elastic material, or less than the whole number of layers, so that a portion of the thickness of the fabric is cemented to the whole or nearly the whole surface of the back, or at least to that portion or those portions included within the outline of the letter, device, or design, and there is an adhesion to the back not only of the portions of the elastic face behind the projecting printing surfaces, but of portions occupying the interstices between said surfaces, and perfect security is obtained.

Figure 1 in the drawing is a face view of an elastic-faced printing-type constructed according to my invention.

Figure 2 is a section of the same perpendicular to its face.

Similar letters of reference indicate corresponding parts in both figures.

The fabric represented in the accompanying drawing as composing the elastic face of the type, and that which I find most convenient to employ, is what is known as vulcanized India-rubber packing, which is composed of one or more thicknesses, *a b*, of woven fabric, and one or more layers, *c d*, of India rubber, a tolerably thick layer of India rubber, *d*, forming one of the faces.

This fabric I cement with the aforesaid layer *a* of India rubber outward by means of a mixture of white lead and glue, or other known and suitable adhesive material, over the whole face of the wooden slab A, which forms the back of the type or printing-block, or over as much of the said face as is included within the outline of the letter, device, or design to be printed. I then draw upon the face of the India rubber the letter, device, or design to be printed, and next, with a sharp knife or other cutting instrument, cut all the outlines of such letter, device, or design through the upper layer of India rubber, *d*, and I afterward peel off all those portions of the said layer *d* outside of and within the interstices between the said cut outlines, leaving the said layer *d* only where the projecting printing surfaces *e e* are required.

The elastic face has hereby provided for it a large and firm base of adhesion to the back A.

Printing-blocks made in this way are especially suitable for printing on uneven surfaces. One of the purposes for which I have successfully used them is the printing of designs upon wire-cloth for window-blinds.

The invention is applicable to rollers or other cylindrical printing surfaces as well as to flat surfaces.

I do not claim, broadly, the facing of types or printing-blocks with India rubber or elastic material; but

What I claim as my invention, and desire to secure by Letters Patent, is—

An elastic-faced type or printing-block having its elastic face composed of two or more layers, one or more of which is attached to the back not only behind the projecting printing surfaces, but to the surrounding portions and to the interstices between said surfaces, substantially as herein described.

HENRY J. DAVIES.

Witnesses:

FRED. HAYNES,

R. E. RUBEAU.