S. O. EDMONDS.

STENCILING MATERIAL.

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1,101,262. **Patented June 23, 1914.**

Fig. 1

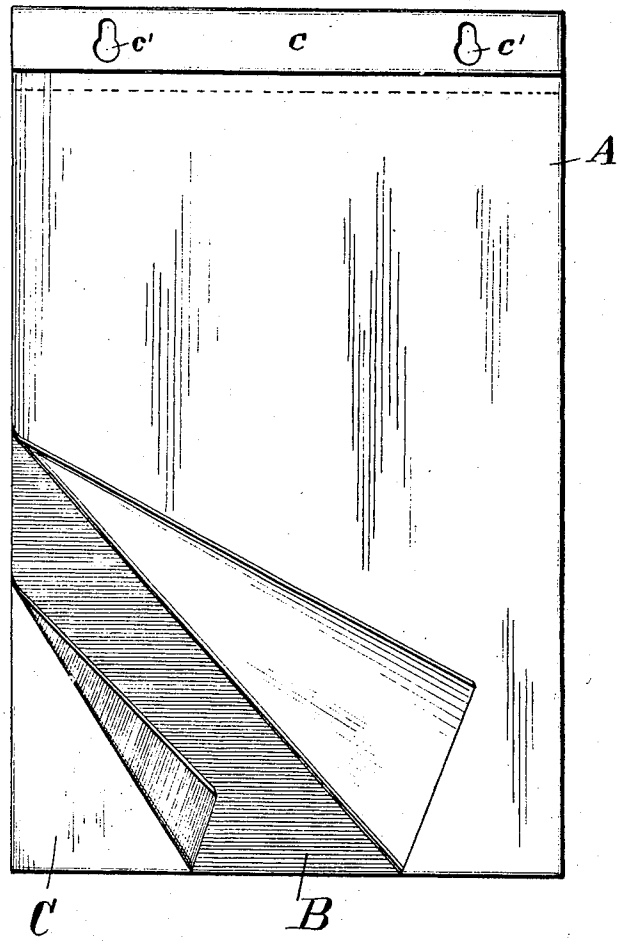
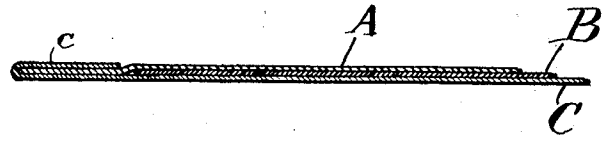


Fig. 2,



WITNESSES

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STENCILING MATERIAL.

1,101,262. Specification of Letters Patent. Patented June 23, 1914.

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To all whom it may concern:

Be it known that I, SAMUEL O. EDMONDS, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Stenciling Materials, of which the following is a specification.

The object of the present invention is to simplify and otherwise improve upon the operation of producing multiple copies by means of flexible stencil-sheets, as well as upon the results heretofore obtained by such operation.

The invention is designed particularly, although not exclusively, for use in connection with stencil-sheets which are commonly dampened as an incident of the stencil-cutting operation thereon. Stencil-sheets of this character (and which form no part of the present invention) are commonly made by saturating a base of porous fiber such as Japanese Yoshino paper, with a suitable protein, employing, preferably, a tempering agent and a coagulant, such, for example, as potassium dichromate. A stencil-sheet so formed is dry but hygroscopic, and while a legible print may be made by operating upon the same with the type of a writing-machine without previous moistening or dampening of the sheet, it has been found that better results are obtained by preliminary moistening, whereby the coating is temporarily softened, the drying of the sheet and the consequent shrinkage of the same about the type characters aiding in the formation of the openings, through which ink may subsequently be passed for the production of multiple copies.

The invention is directed chiefly to two important ends, one being a simple and efficient means for moistening the stencil-sheet, whereby not only may the type characters be more perfectly formed therein but excessive rupture of the delicate fibers of the Yoshino fabric is avoided, and the other being an effective means for defining type characters cut in the stencil-sheet and facilitating the ease with which such characters may be read.

In carrying out the invention in connection with a stencil-sheet, such, for example, as that above particularly referred to, I employ, next adjacent to the sheet and on the side thereof opposite the writing side, a backing of a suitable fabric, such, for example, as soft paper, muslin, etc., and this I impregnate with a compound having essentially two characteristics, first, that of remaining moist for a substantial length of time, and second, that of capacity for transmitting color to the stencil-sheet during the cutting operation thereon. The ingredients and proportions of such a compound may be varied within wide limits. As an example of a practicable compound for use in the connection stated, glycerin sixty-five per cent., water thirty-five per cent. and Turkey-red oil ten per cent. may be employed, a coloring matter, such, for example, as a soluble pigment or an anilin dye, being added to such compound in such proportion as to give the desired strength to the color of the compound as a whole.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view, illustrating a three-part combination of stencil material employing this invention, while Fig. 2 is a partial longitudinal section.

In these drawings, A designates the stencil-sheet, which may be of the character hereinabove referred to, the writing side of such sheet being outermost in said views. Directly underlying the stencil-sheet and on the side opposite the writing side thereof, is a backing-sheet B, and next below such backing-sheet is a carrier-sheet C, preferably of stiff paper and having, if desired, a glazed surface to prevent the dissipation of moisture carried by the backing-sheet B. If desired, the stencil-sheet A and carrier-sheet C may be combined and made into a unitary whole by folding one end *c* of the carrier-sheet C upon the end of the stencil-sheet A and securing all three thicknesses in this position by means of a suitable adhesive. This has the advantage of strengthening the forward (or attachment) end of the combination. through which, if desired, perforations *c' c'* may be formed for coaction with the button-bar of a duplicator. The backing-sheet B is preferably not secured in position, but is interleaved between the stencil-sheet A and carrier-sheet C just prior to the stencil-cutting operation, for it is only then that moistening of the stencil-sheet is required.

As above stated, the stencil-sheet A is dry but hygroscopic. Commonly, also, it

is light in color, it being, therefore, difficult for the operator of the writing-machine to readily read type characters which have been impressed thereon. The backing-sheet B furnishes both the moisture necessary for the proper cutting of a stencil on such stencil-sheet and the color, which, as a result of the impact of the type, is transferred to the stencil-sheet along the lines of type impact, this addition of color along such lines being discernible from the writing side of the stencil and having the effect of clearly defining the type characters.

It has been heretofore suggested to incorporate a coloring matter in the waxy coating of a stencil-sheet where the characters are designed to be formed by the expression of the waxy substance along the lines of type impact. The addition of such coloring matter, however, makes the stencil-sheet opaque, rendering it difficult, if not impossible, to decipher, through such stencil-sheet, the usual line marks and other indicating media on the carrier-sheet C. It has also been suggested that the stencil-sheet after being formed be provided with a removable coating, so that the removal of the same along the lines of type impact will render the type characters more easily discernible. This, however, involves an additional operation in the production of the stencil-sheets. It has also been suggested that a backing-sheet be employed in conjunction with a stencil-sheet of the character above referred to, this being impregnated with glycerin and water. Here, however, no provision is made for increasing the legibility of the type characters. Under my invention, the moistened backing-sheet, carrying a suitable coloring material, by itself answers both requirements, *i. e.*, that of moistening the stencil-sheet and avoiding unnecessary fracture of the fibers thereof and at the same time transferring color to the stencil-sheet along the lines of type impact. Importance is also attached to the use of Turkey-red oil or its equivalent in the compound for saturating the backing-sheet, as this retards the dissipation of the moistening material, keeping the backing-sheet for a long period of time in usable condition.

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

1. In stenciling material, a backing-sheet impregnated with a compound containing glycerin, Turkey-red oil and a coloring material, substantially as set forth.

2. In stenciling material, a backing-sheet impregnated with a compound containing glycerin, Turkey-red oil, water and a coloring material, substantially as set forth.

This specification signed and witnessed this 26th day of November, 1912.

SAMUEL OWEN EDMONDS.

Witnesses:
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J. F. Collin.