

(Specimens.)

T. H. STACKHOUSE.
COMPOUND STENCIL SHEET.

No. 565,043.

Patented Aug. 4, 1896.

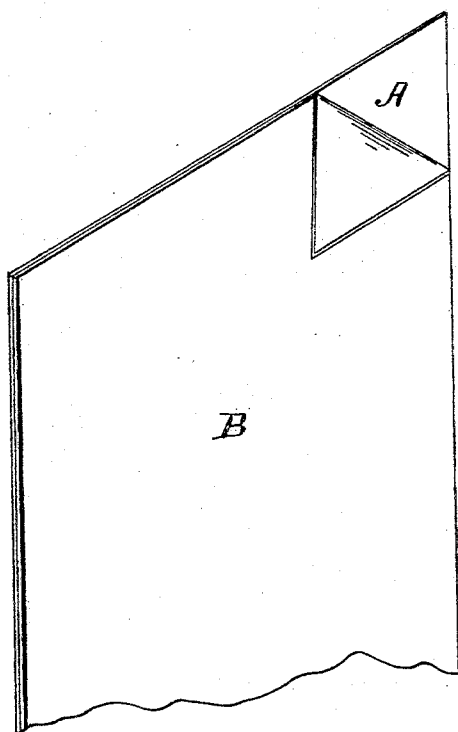


FIG. 1.

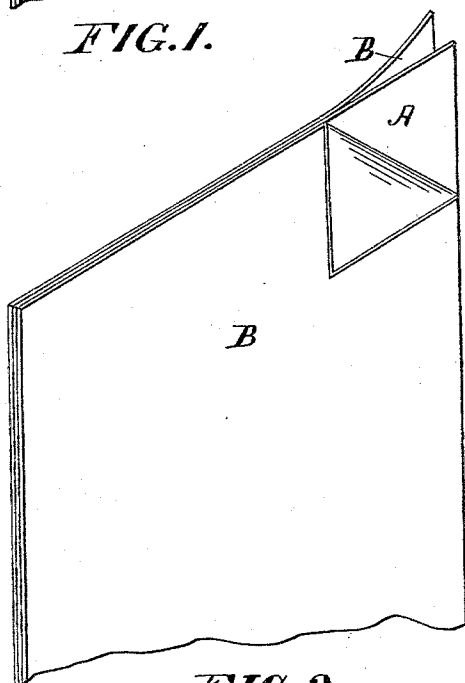


FIG. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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COMPOUND STENCIL-SHEET.

SPECIFICATION forming part of Letters Patent No. 565,043, dated August 4, 1896.

Application filed October 5, 1895. Serial No. 564,710. (Specimens.)

To all whom it may concern:

Be it known that I, THOMAS H. STACKHOUSE, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Stencil-Sheets, of which the following is a specification.

My invention relates to improvements in stencil-sheets, and more particularly to improvements in that class of stencil-sheets which are adapted to be cut upon a type-writing machine; and the object of my invention is to furnish a compound stencil-sheet, the tensile strength of which will be much greater than that of any stencil-sheets heretofore made, and from which a much greater number of impressions or copies can be made than has heretofore been possible.

The base of my stencil-sheet is formed of a sheet of fibrous paper of a thin, open texture, preferably of the paper known as "Japanese dental" or "yoshino" paper, which is treated with wax in the usual and well-known manner for producing stencil-sheets. Upon one or both sides of the base-sheet, I place a sheet of thin, close-grained paper, preferably a highly-calendered tissue-paper containing sizing, which is also preferably waxed or oiled, so as to make it impervious to ink. The latter sheet or sheets of paper may be secured to the base-sheet by pressure between rolls which may be either cold or hot, or by means of a hot iron passed over the sheets after they have been placed on top of one another. If heated rolls or irons be used, the close-grained paper need not be waxed, as these irons or rolls would cause the wax on the base-sheet to melt, which would then be absorbed in sufficient quantity by the unwaxed sheet or sheets to make them impervious to ink or moisture.

The stencil is formed or cut upon the sheet in the usual and well-known manner by a type-writing machine or other instrument. The close-grained paper upon being struck by the type or other instrument is at that point wholly or partially destroyed or cut through, while the fibers of the base-sheet, being exceedingly tough and strong, suffer little or no injury, but the wax which they hold is, where the type strike, shattered and pushed aside or

otherwise removed, permitting the free passage of ink at these points.

The use of the thin, close-grained paper in connection with the base-sheet of open fibrous texture permits the use of a much harder wax, that is, one of a higher melting-point, than is possible where the base-sheet alone is used, the advantages of which in warm weather will be obvious.

In the accompanying drawings, Figure 1 shows my improved stencil-sheet formed of a base-sheet, one side of which carries a sheet of the close-grained calendered paper; and Fig. 2, a stencil-sheet formed of a base-sheet placed between two sheets of close-grained calendered paper, A being the base-sheet and B the covering-sheets.

In cutting the stencil the covering-sheet B preferably receives the blow of the type, if the porous sheet is coated upon but one side with paper.

The wax used for coating the porous paper may be that generally employed for this purpose, which is composed largely of paraffin, although any suitable material impervious to ink may be used.

The commercial type-writer stencil-paper now in general use is made by coating Japanese dental or yoshino paper with a soft wax, largely paraffin. Such stencil-paper is very frail and delicate, and is so much influenced by heat as to be of little value in warm or even in temperate climates, where the temperature ranges beyond 90° Fahrenheit. In fact, to such an extent is such stencil-paper influenced by heat that in many cases only a few good copies can be obtained from a stencil in warm weather.

In my stencil-sheet not only can less wax be used, but the melting-point of the wax may be much higher than is possible with the stencil-sheets now in use.

I do not confine myself to the use of Japanese dental or yoshino paper, as any porous paper may be used as a base for my compound stencil-sheet.

I have found in practice that for a stencil-sheet for use in the ordinary commercial type-writer better results are obtained by coating the base-sheet on but one side with paper, although, if a very large number of

copies are required, the base-sheet should have both sides coated with paper. In the latter case it generally requires somewhat more pressure to perforate the stencil-sheet.

5 I have also found in practice that better results are obtained by coating the porous sheet with wax in a similar manner to that used in making the ordinary commercial stencil-sheets, and then affixing the paper coating to
10 the said porous sheet with roll-pressure with just sufficient heat to cause the tissue-paper coating to adhere firmly to the said porous waxed sheet.

As a paper coating for the waxed porous
15 sheet I prefer to use a thin, close-texture, well-calendered tissue-paper, containing considerable sizing. I do not confine myself to a highly-calendered tissue-paper, for a paper of slightly-open texture may be used to good
20 advantage, although I much prefer an exceedingly close-texture highly-calendered tissue. I have used very thin Japanese tissue, giving good results, but there are several grades of tissue-papers which can be had in
25 the market which give satisfactory results. I prefer to use an oiled tissue-paper, or a paper saturated with oil or coated lightly with wax, unless sufficient heat is used when forcing the sheets together to cause the wax coating of
30 the porous sheet to impregnate the tissue-sheet.

The paper coating of the porous waxed sheet should be sufficiently delicate or brittle to be readily broken or destroyed by the
35 blow of the types. Of course, in some cases the tissue would not be wholly destroyed, although sufficiently so to show an almost completely-broken line.

While I prefer to make my compound stencil-sheet in the manner above described, if
40 desired both the porous-sheet and the tissue-sheet could be waxed or coated with a material impervious to ink at the same operation. The art of waxing paper is well known and
45 need not be described.

The art of producing stencils is also well known, and does not need description.

A stencil-sheet prepared in the manner indicated may be used for the so-called auto-
50 graphic process, and the same can be perforated not only with the wheel-pen, but also with a stylus upon a roughened plate.

A stencil-sheet prepared by my process possesses great tensile strength, is very durable,
55 and will reproduce the maximum number of copies from one stencil.

I claim—

1. A compound stencil-sheet, consisting of a sheet of thin, open, fibrous paper, and a

sheet or sheets of a close-grained, thin paper, 60 said sheets being coated with a substance or substances impervious to ink, and being secured together, substantially as set forth.

2. A compound stencil-sheet, consisting of a sheet of thin, open, fibrous paper, and a 65 sheet or sheets of a close-grained, thin paper applied to one or both sides of said first sheet, the whole coated with a substance impervious to ink, and being secured together, substantially as set forth. 70

3. A compound stencil-sheet, consisting of a sheet of thin, open, fibrous paper, such as Japanese yoshino paper, filled or coated with a substance impervious to ink, as paraffin, and a sheet or sheets of close-grained, thin 75 paper placed upon one or both sides of said first sheet, and secured thereto by heat and pressure.

4. A compound stencil-sheet, consisting of a sheet of thin, open fibrous paper, as Japanese yoshino paper, filled or coated with a substance impervious to ink, as paraffin, and a sheet or sheets of a close-grained, thin paper coated or filled with a substance impervious to ink, as paraffin or oil, placed upon 85 one or both sides of said first sheet, and secured thereto by pressure.

5. A prepared compound sheet for use as a stencil-sheet, consisting of two or more sheets, one of which is of an open, porous material, 90 the other of close texture, one or more of said sheets being coated with a material impervious to ink.

6. A prepared compound stencil-sheet consisting of two or more sheets of paper at least one of which is of an open porous nature, and one or more of said sheets being coated or impregnated with a material impervious to ink. 95

7. As a new article of manufacture, a prepared compound sheet for use as a stencil-sheet, consisting of two or more sheets, one of which is of an open porous material, the other of a thin, close texture, one or more of said sheets being coated or impregnated with 105 a material impervious to ink, substantially as set forth.

8. As a new article of manufacture, a sheet for use as a stencil-sheet, formed of two or more sheets, one or more of said sheets being 110 of an open porous nature and one or more of said sheets being coated or impregnated with a substance impervious to ink.

THOMAS H. STACKHOUSE.

Witnesses:

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