

UNITED STATES PATENT OFFICE.

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ADHESIVE PAPER TO BE USED FOR PERFORATING, &c.

SPECIFICATION forming part of Letters Patent No. 416,721, dated December 10, 1889.

Application filed November 16, 1888. Serial No. 291,042. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE HOWLETT DAVIS, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful improvements in adhesive paper to be used for perforating or rendering porous stencil-sheets, or transmitting printing-sheets, the latter being employed for duplicating ordinary writing, type-writing, &c., the following specification being such a full and comprehensive description of my invention as will enable others skilled in the art to which it appertains to employ and practice the same in its preferred form.

The points of novelty will be designated in the claims concluding this specification.

My invention relates particularly to that class of stencil-sheets which are prepared by coating or saturating porous paper with paraffine, wax, or other gummy material; and my invention consists in the use of a paper which is rendered adhesive by adding a suitable adhesive material to the pulp in manufacturing, or by coating or saturating a suitable paper with pure or diluted varnish, shellac, gum, or other material or compound which remains slightly adhesive after reaching a permanent consistency.

The operation of my invention is as follows: The stencil-sheet is laid upon my adhesive paper and the form pressed, struck, or stamped against the latter by a stylus, type, (as of a writing-machine,) die, or other suitable instrument, and upon separating the two sheets it will be found that the paraffine or other coating of the stencil-sheet adheres to the adhesive paper wherever it has been pressed or stamped, and this removal of the coating from one side of the stencil-sheet, together with the displacement of the coating on the other side, caused by the pressure of the stylus or type, leaves the porous paper exposed, so that when an inked roller is passed over it the ink penetrates the parts of the stencil-sheet from which the coating has been removed or displaced, and upon any material laid underneath it—such as paper—it leaves an exact representation of the writing made with the stylus or type.

In preparing my adhesive sheets I prefer to use a special laid paper, of about twice the thickness of ordinary writing-paper, and the texture of which is made up of minute threads, fibers, or filaments, together with a proportion of pulp. Owing to the mixture of fibers and pulp, the paper presents minute surfaces of unequal hardness, so that when the stencil-sheet is stamped against the adhesive paper with considerable force, as by the type of a writing-machine, the letters or their loops are less apt to cut out than if the stencil-sheet was stamped against an ordinary smooth or glazed surface.

To render the paper adhesive, I coat or saturate it preferably with a compound composed mainly of demar gum. After the paper has been thus prepared and allowed to stand for twenty-four hours or more it is not affected by an ordinary amount of heat, does not peel or crack, the paper remains pliable, and the coating of the stencil-sheet will not adhere to the adhesive paper under ordinary pressure, such as that produced when the two sheets are passed together around the platen of a writing-machine or when laid together in a pile.

The faces of many of the types of a writing-machine do not strike the platen perfectly square or flat, and the bad effect which this generally produces (which is to make one part of a letter more distinct than another) is almost wholly overcome, owing to the thickness and flexibility of the paper described, which allows the type to strike or press the stencil-sheet against the adhesive paper at all points. When the stencil-sheet is struck against sand-paper or silk cloth, (the latter being the material now in use for that purpose,) the stencil-sheet is thereby more or less punctured or abraded, and when the fibers of the stencil-paper have become thus lacerated the letters or their loops frequently drop out, especially if the type be struck with much force, and if the type is struck too light the letters do not print clearly. Thus it requires considerable experience and care in order to strike each type with the proper force.

In using my adhesive paper it is best to

manipulate the keys as in ordinary writing, and should one type be struck slightly harder than another the thickness and flexibility of the paper, together with the peculiarity of its texture, prevents the letter from cutting out and avoids an abrasure of the stencil-sheet.

What I therefore claim as new, and desire to secure by Letters Patent, is—

10 1. The combination of a stencil-sheet with an adhesive sheet, substantially as described, and for the purposes set forth.

2. The combination, with a stencil-sheet, of paper or other suitable material having one side coated with an adhesive substance and adapted to abstract the filling or coating of the said stencil-sheet, substantially as described, and for the purposes set forth. 15

In testimony whereof I have hereunto set my hand this 16th day of November, A. D. 1888. 20
G. HOWLETT DAVIS.

Witnesses:

CHAS. C. ADAMS,
L. S. ANDERSON.