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STENCIL SHEET.

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The object of this invention is to produce a stencil sheet suitable for use on duplicating machines commonly in use, such as the "mimeograph", and which shall improve upon sheets heretofore developed, particularly such as have become known as "indestructible" stencil sheets, which require moistening as a preliminary to the stencilizing operation. In this connection, my object is to produce a stencil sheet not requiring such preliminary moistening, but capable at all times of being stencilized in its normal condition. A further object is to produce a stencil sheet which may be readily and simply produced, which shall be capable of the use indicated throughout an extended period of time, which shall have great durability and so be capable of producing a large number of copies and which shall yield copies of a high degree of excellence.

In carrying out the invention, I employ a base of open, porous material, such as the bibulous Japanese paper commonly known as "yoshino." This I provide with a coating consisting in the main of a cellulose ester, such as nitro cellulose, in a suitable solvent, such as a mixture of alcohol and ether, combining therewith a substantial content of a fatty acid, such, for example, as oleic acid. I have found it desirable to use a four or five per cent solution of nitrocellulose in substantially equal parts of alcohol and ether, adding to this (preferably) commercially pure oleic acid to the extent of one-fifth to one-third the combined cellulose and solvent above specified. As a preferred formula, I use such oleic acid to the extent of approximately twenty per cent of the whole solution.

In combining the materials above specified, I first proceed to produce the cellulose-alcohol-ether solution and then add the oleic acid while suitably stirring or agitating the mixture, such acid being added in small quantities as the stirrings or agitation proceeds. This operation being completed, the compound may be applied to the yoshino sheet in any well known manner, as, for instance, that commonly employed in the production of the socalled "indestructible" stencil sheets, i. e., the compound is placed in a suitable tank or pan and the yoshino drawn over its surface, excess solution being removed by withdrawing the yoshino from the tank or pan in contact with a straight edge, wire or similar device.

While I have herein expressed a preference for the particular fatty substance known as oleic acid, it may be noted that I may, if desired, use, in place thereof, stearin or stearic acid, which, however, requires modification, since normally it is relatively hard and requires, to bring it to the requisite softness, the admixture of other ingredients, among them being oleic acid, castor oil and the like. I may also use hydrogenated fatty acids or combinations thereof with oleic acid.

I have sometimes found it desirable, for the purpose of increasing the strength of the coated sheet, to add to the solution above described a small portion of a suitable gum, such, for example, as latex rubber, dissolved in a suitable solvent, such as tetralin. A one to three per cent solution of latex rubber in tetralin has been found to answer the purpose, but other gums may be used to accomplish the same result. It will also be understood that if desirable for any purpose, as for cheapening the compound or to attain the right consistency for "drawing" the paper, I may add any suitable diluents such as oils, alcohol, toluol and the like.

Having now described my invention, what I claim is:—

1. A stencil sheet adapted to be stencilized by pressure, comprising an open, porous base having a coating including a cellulose compound and oleic acid.

2. A stencil sheet adapted to be stencilized by pressure, comprising an open, porous base having a coating including a cellulose compound and a gum, such as latex rubber.

3. A stencil sheet adapted to be stencilized by pressure, comprising an open, porous base having a coating including a cellulose compound, oleic acid and a gum, such as latex rubber.

This specification signed this 27th day of June, 1923.

JACOB BILSKY.