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2,016,599

MASTER SHEET

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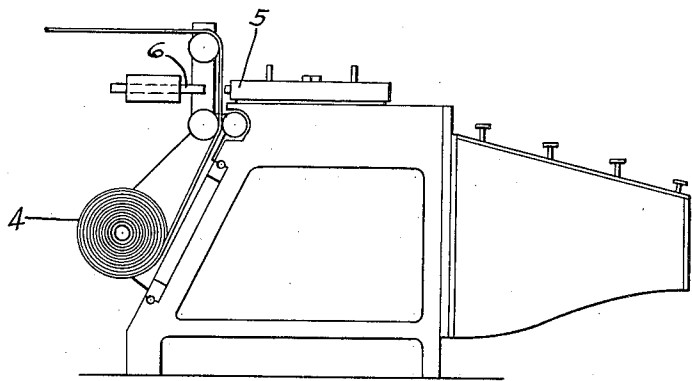


Fig. 3

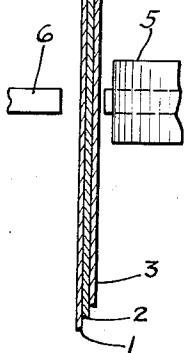


FIG. 4

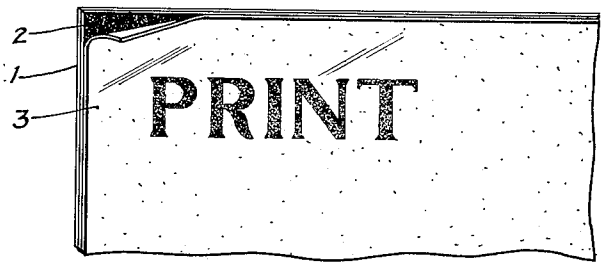


Fig. 1

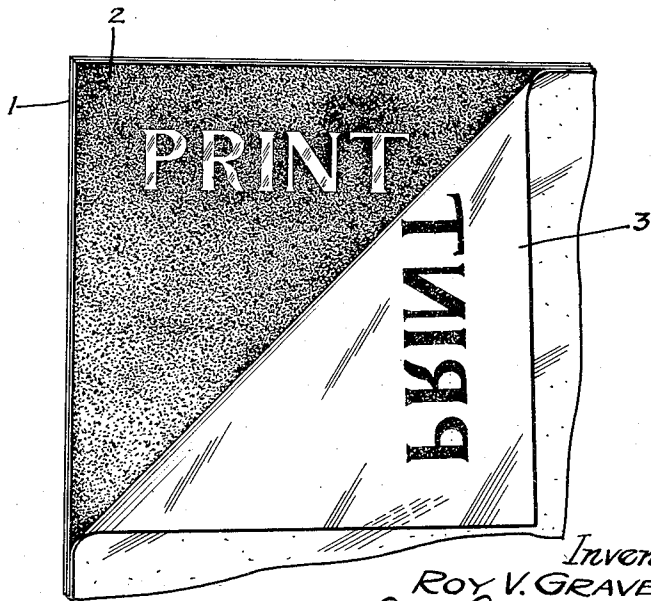


FIG. 2

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2,016,599

MASTER SHEET

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Application January 22, 1932, Serial No. 588,143

2 Claims. (Cl. 41—46)

This invention relates to a mechanical negative, or a so called "Master sheet", and contemplates improvements upon the mechanical negative disclosed in the patent to Roy V. Graves, No. 1,733,343, dated October 29, 1929.

It is an object of the present invention to provide a master sheet or negative material comprising a sheet of transparent or translucent impervious material provided with a readily removable actinically opaque coating, which, when removed, will expose desired portions of the said transparent or translucent sheet, thus producing a negative which may be used in the production of printing plates.

A further object of the invention is to provide a master sheet or negative material comprising a sheet of transparent or translucent impervious material having an actinically opaque coating on one face thereof, and provided with a covering or guard sheet superposed on the coated face, which said covering or guard sheet has a greater affinity for the coating than the transparent or translucent sheet so that the coating may be removed from the transparent sheet and penetrate the covering or guard sheet.

The accompanying drawing is intended to illustrate a practical embodiment of the invention but, considering the limitations of patent drawings, it will be understood that this drawing is illustrative merely. However, the drawing will serve to acquaint those skilled in the art with the nature and practice of my invention but they are not to be construed as limiting the invention, except as set forth in the following description and in the appended claims.

In the drawing,

Fig. 1 is a front view of a master sheet constructed in accordance with my invention showing that the coating has penetrated the covering or guard sheet after an impression has been made;

Fig. 2 is a front view similar to Fig. 1 showing the covering sheet removed and illustrating the master sheet or mechanical negative which has been produced;

Fig. 3 is a diagrammatic view, in side elevation, of a machine which may be used for making character impressions upon the master sheet; and

Fig. 4 is a view in cross section, greatly enlarged, showing the position of the master sheet, the type wheel and hammer which cooperate to make impressions on the sheet.

The master sheet of my present invention comprises a main or backing sheet 1 which may be perfectly transparent or translucent. If a perfectly transparent sheet is desired, it may be

made of "Celluloid" or so called "Cellophane" while for a translucent sheet, any glassy finished paper may be employed, such as "Transcello" or glassine, or any light onion skin bond paper. Whichever material may be used for the backing or main sheet, it should be impervious, by which I mean it will not permit the passage, as of a fluid, through its substance. The reason for this is that the coating, presently to be described must not penetrate the backing sheet but must merely be deposited on one face thereof so that it can be readily removed completely from the backing sheet.

Moreover, it is desirable that the material used for the main or backing sheet shall be thin and flexible so that it may be rolled up into supply rolls to be used on any of the machines presently to be described.

One face of the sheet 1 is provided with an actinically opaque coating 2. This coating may desirably consist of certain waxes, oils, and/or pigments in conjunction with which may be used a filler, preferably of flocculent material, such as magnesium oxide, carbon black, and the like. A good example of a coating composition is bees wax and "Lanum", generally known as lanolin, a fatty substance extracted from wool. The coating may be applied to the sheet 1 in any convenient, desirable manner, as for example, by brushing or by spraying, or it may be applied in the well-known manner of applying carbon to so called carbon papers. It will be understood, of course, that the coating should be so applied as to form a perfectly smooth surface uniformly coating the sheet 1 and rendering the said sheet perfectly opaque.

Upon the coated face of the sheet, there is superposed a covering or guard sheet 3 which, preferably, consists of rice or crepe paper, very thin and porous. In lieu of the papers mentioned, the covering sheet may be made of rayon, silk or other smooth fabric. Because of the porous nature of the covering sheet, the coating composition will penetrate the said covering sheet and show through it when an impression is made thereon, as indicated in Fig. 1 of the drawing.

The sheet thus described, may be made up as individual sheets conforming to certain specified dimensions depending upon the nature of the work to be done or it may be made as a long continuous sheet which is adapted to be rolled up and fed intermittently to the machine or to the device employed for making character impressions thereon.

In Fig. 3, I have shown diagrammatically a ma-

chine of the same general character as that disclosed in the co-pending application of myself and Axel J. Bohman, Serial No. 510,644, filed January 23, 1931. It is not necessary for the purposes of the present application to describe in detail the construction and operation of said machine. The master sheet or negative material, forming the subject of the present application, is shown in the said Fig. 3 in the form of a roll 4 from which the sheet is drawn between the type wheel 5 and hammer 6 of the machine, with the covering or guard sheet facing the type wheel. Upon actuation of a selected character key on the keyboard of the machine, the type wheel 5 is rotated to present a type character corresponding to said key in printing position. At the same time the hammer is actuated to strike the back of the master sheet, thus causing impact of the type face on the wheel 5 against the covering sheet 3. This action results in the removal of a portion of the coating composition outlined by the type character and the transferring of the said removed portion of the coating composition to the covering or guard sheet 3. This last mentioned sheet being of somewhat porous nature, the coating composition penetrates the same and shows through on its outer surface as indicated in Fig. 1.

Thus, by employing the master sheet of the present invention in connection with the machine disclosed in the said co-pending application, Serial No. 510,644, the operator produces, simultaneously, a positive proof on the covering sheet and a positive print in the form of a negative on the backing sheet. By this arrangement, therefore, the operator is enabled to observe at all times the progress of the composition he is printing and to detect any errors as soon as they are made. In the event that errors are made which require correction, the backing sheet may be coated over and second and corrected impres-

sion made thereon. For this purpose it may be desirable to have a supply of coating composition available to the operator of the machine.

The master sheet of the present invention may also be used in connection with the composing machine described in the co-pending application of myself and Axel J. Bohman, Serial No. 521,239, filed March 9, 1931.

It will be understood that the master sheet, when employed, as herein described, is adapted to receive printed matter in the form of lines, paragraphs, columns or pages depending upon the size of the sheet and the size of the printing plate to be produced. After the mechanical negative has been finished, it is utilized to produce a printing plate in accordance with the process described in my co-pending application Serial No. 588,142, filed January 22, 1932.

I claim as my invention:

1. A negative material to be used in the production of printing plates comprising a main sheet of transparent impervious material having a readily removable actinically opaque coating on one face thereof, and a translucent covering sheet on the coated face of said master sheet, said covering sheet being adapted to receive impressions of a type face or the like whereby a portion of the coating is removed from said main sheet and transferred to said covering sheet to provide a readily visible proof.

2. The method of producing a master sheet to be used in the production of printing plates which consists in depositing an actinically opaque coating on one face of a transparent sheet, superimposing a translucent covering sheet of porous material on said coating, and making character impressions on said covering sheet, whereby a portion of said coating is removed from said transparent sheet and transferred to said covering sheet for operative proof reading purposes.

ROY V. GRAVES.