J. R. HERSHEY.

METHOD OF FORMING CHARACTERS.

APPLICATION FILED AUG. 15, 1913.

**1,109,332.** Patented Sept. 1, 1914.

*Fig. 1.*

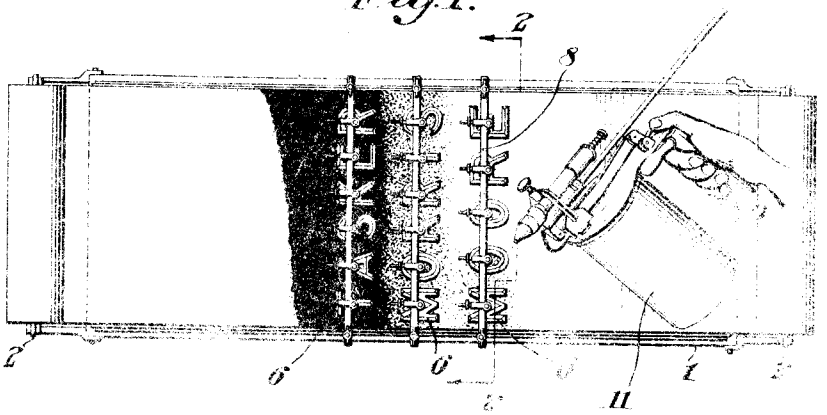



*Fig. 2.*

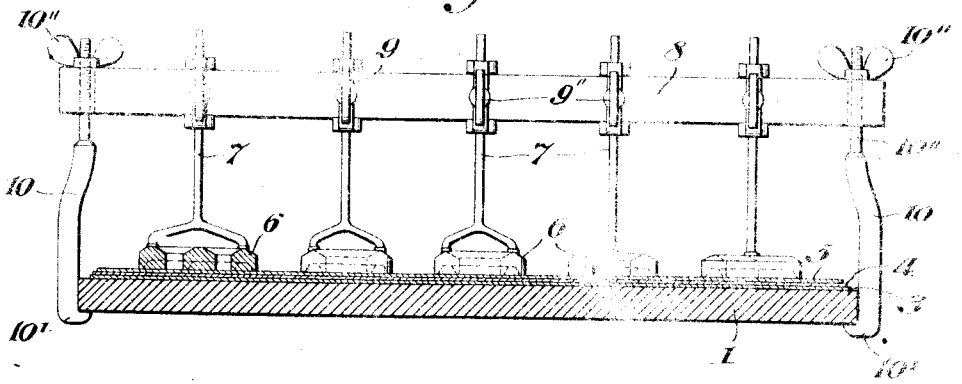
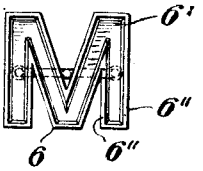



*Fig. 3.*




WITNESSES:

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# UNITED STATES PATENT OFFICE.

JACOB ROBERT HERSHEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ELECTRIC SERVICE SUPPLIES COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## METHOD OF FORMING CHARACTERS.

1,109,332. Specification of Letters Patent. Patented Sept. 1, 1914.

Original application filed July 22, 1912, Serial No. 710,754. Divided and this application filed August 15, 1913. Serial No. 784,867.

*To all whom it may concern:*

Be it known that I, JACOB ROBERT HERSHEY, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a Method of Forming Characters, of which the following is a specification.

My invention which is a division from application No. 710754, filed July 22, 1912, is particularly designed for producing characters by spraying a back-ground around a form or forms adapted for preventing any irregularities in the definition of the characters, and my leading object is to produce signs, particularly for indicating the names of streets, on a suitable woven fabric so that transparent white letters shall appear in a dark ground. Where it is desired to show the names of successive streets in a column from a car, it is important to use letters, through which light will pass, on a ground which is opaque, and it is advantageous to use a strip of muslin or light colored woven fabric through which light will shine to bring out the letters thereon formed by an opaque back-ground outlining such letters and produced by spraying ink with an air brush.

Heretofore a serious defect of signs formed by painting grounds on fabric has resulted because the letters or characters produced were imperfect in outline due to the fact that the forms used for defining them had not made such contact with the fabric as to prevent the ink from flowing under the forms or running through the fabric within the desired outlines. Moreover the formation of the ground by means of the ordinary paint brush fails to produce the desired uniformity of ground and distinctness of outline. These defects resulting from the former operations are overcome by my improvements.

In practising this invention, I prefer to draw a sheet of muslin tightly over a suitable foundation and outline the name or design by separated letters or characters having recessed faces with narrow edges pressed firmly against the fabric so that the ink or coloring matter which is used for making the ground upon the fabric cannot pass by capillary action or otherwise within the outline or outlines of the letters or characters. The ink is then applied by means of an air brush which throws a spray upon the fabric and effects a uniform distribution of the ink with the production of a ground the limits of which are sharply defined by the comparatively sharp edges of the characters.

In the accompanying drawings, Figure 1 is a plan view of means employed in the practice of my improvements; Fig. 2 is a sectional view of the same taken on the line 2—2 of Fig. 1; and Fig. 3 is a bottom plan view of a letter shown in Figs. 1 and 2.

The apparatus illustrated comprises a table or base 1 having rollers 2 journaled at the ends thereof. A sheet of felt or other pliable material 3 is placed on the base, a sheet of paper or other fabric 4 of smooth surface is placed on the first sheet, and a sheet of muslin 5 having its ends wound on the rollers 2 is drawn over the second sheet. Letters 6 are arranged on the muslin, between the rolls, to form the desired names and are provided with the rods or struts 7 by which they are pressed against the muslin, and spaces are provided between them for ink forming the ground, the letters having recessed faces provided by the channels 6′ with narrow edges 6″ forming narrow bearings sharply outlining the letters. The base 1 and struts 7 are connected, to effect the desired pressure of the letters against the muslin on the paper and felt sheets, by bars 8 fixed to the struts by the clamps 9 engaging the struts and the screws 9″ engaging the rods, in combination with the clamps 10 having the hooks 10′ for engaging the base and the wing nuts 10″ for engaging the bars.

The letters being arranged to outline the desired words and pressed against the muslin so that ink cannot flow or feed by capillarity within the desired outline formed by the outer lines of the narrow bearings 6″, ink is applied to the muslin to form an opaque ground around the letters, sharply outlining the parts of the muslin covered by the letters.

Having described my invention, I claim:

1. The method of forming characters upon a base which consists in covering part of a base so as to outline the desired char-

acter or characters and prevent coloring matter sprayed on said base from flowing within the outline of said character or characters and spraying said base with coloring matter so as to outline said character or characters.

2. The method of forming signs which consists in arranging forms in a desired relation upon a base so as to cover and outline the characters to be formed, pressing said forms upon said base so as to prevent the capillary movement of liquid within the desired outline, and spraying coloring matter upon said base around said forms.

3. The method of forming signs which consists in arranging letters upon a base, holding said letters under pressure against said base so as to prevent liquid carried by said base from flowing under said letters, and forming a background by coating said base with coloring matter around said letters.

4. The method of making signs which consists in arranging letters upon a textile fabric, pressing said letters and fabric together so as to prevent the flow of ink under said letters by capillary action and spraying ink upon said fabric by an air brush.

In testimony whereof I have hereunto set my hand this 4th day of August 1913, in the presence of the subscribing witnesses.

JACOB ROBERT HERSHEY.

Witnesses:
L. A. POOLE,
CHAS. G. HARVEY.