No. 729,045. PATENTED MAY 26, 1903.

A. B. DICK.

STENCIL PRINTING MACHINE.

APPLICATION FILED JAN. 6, 1903.

NO MODEL.

Fig. 1

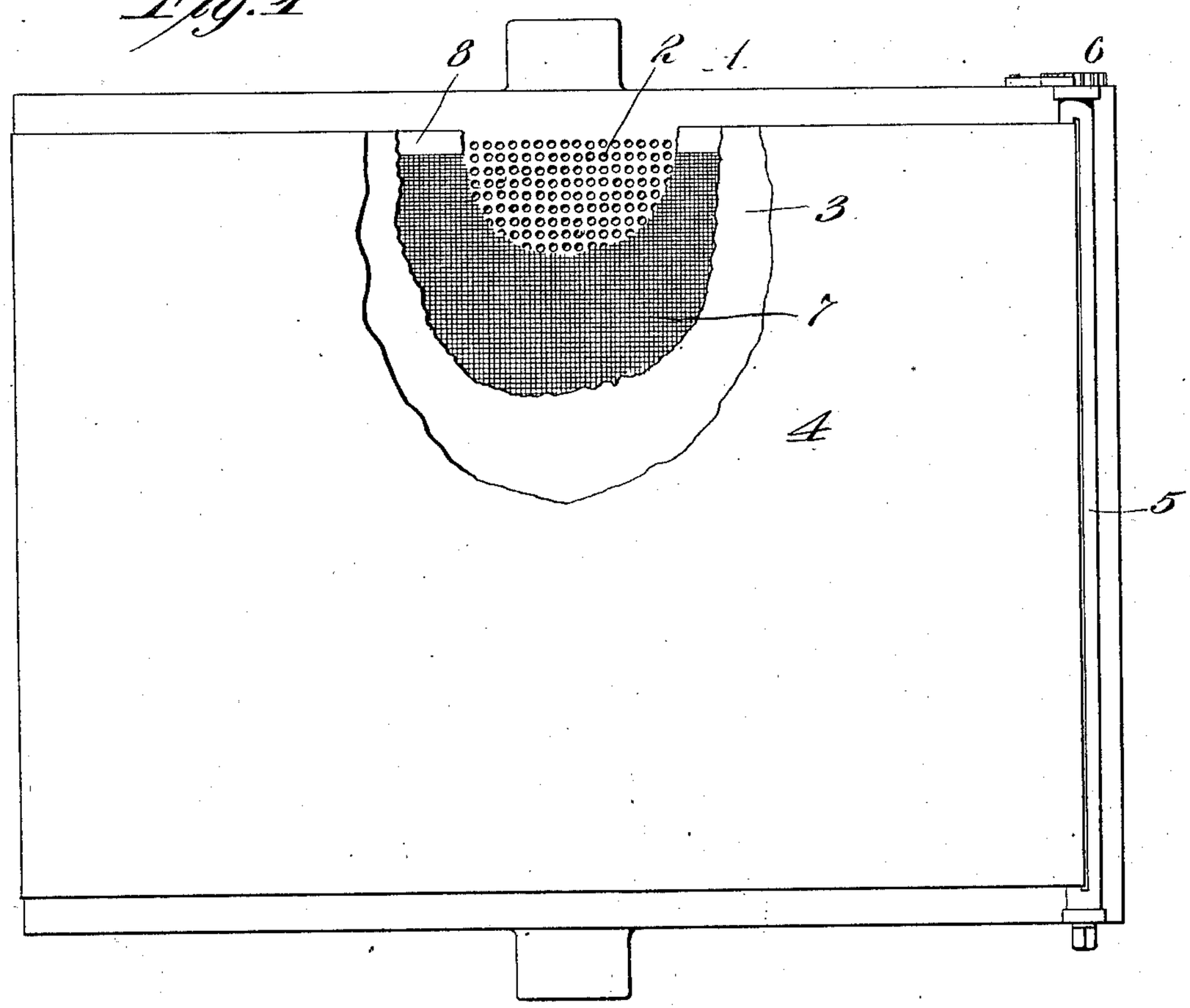
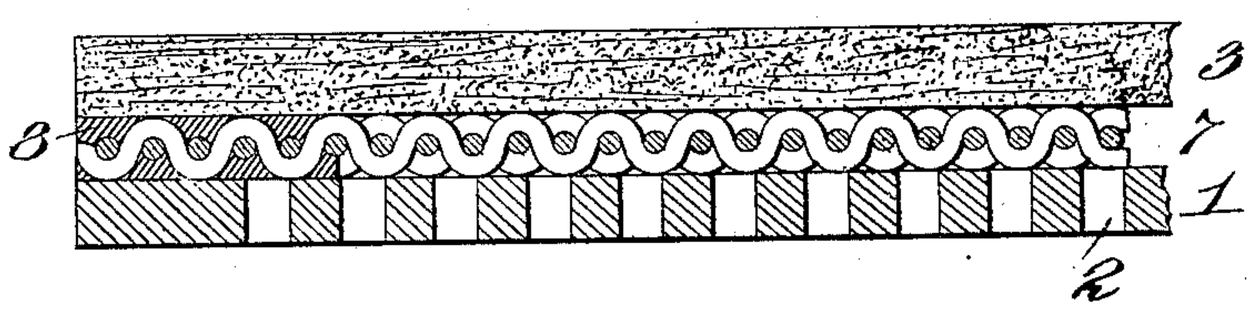


Fig. 2



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No. 729,045. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

ALBERT B. DICK, OF CHICAGO, ILLINOIS, ASSIGNOR TO A. B. DICK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STENCIL-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 729,045, dated May 26, 1903.

Application filed January 6, 1903. Serial No. 138,018. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. DICK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Stencil-Printing Machines, of which the following is a description.

My invention relates to improvements in stencil-printing machines wherein the stencil-sheets are composed of paper having long fibers and impregnated with a wax-like composition, such machines being particularly used for securing copies in imitation of typewriting. Preferably the improvements relate to machines of this type in which the stencil-carrier is cylindrical or semicylindrical, although the invention may be utilized in connection with stencil-machines employing flat stencil-carriers.

While the invention has been particularly designed for use with perforated stencil-carriers, it may be employed in connection with imperforate stencil-carriers.

In the operation of stencil-printing machines with perforated stencil-carriers a suitable felt-like inking-pad is applied to the outer face of the stencil-carrier and the stencil-sheet is secured in place over the inking-pad. Ink is applied to the stencil-carrier on its inner surface and passes through the perforations, so as to be absorbed by the pad. It has been found in practice that with such an arrangement the ink becomes objectionably localized within the pad immediately around the perforations in the carrier and is not evenly distributed throughout the pad, as is desirable in practice.

The present invention consists in placing between the stencil-carrier and the inking-pad a sheet of woven material, preferably wire-gauze, which presents longitudinal and cross channels throughout its entire surface. By employing such a screen I have found that when the ink passes through the perforations in the stencil-carrier it is evenly distributed in all directions, and consequently saturates the pad uniformly without any objectionable localization. The presence of such a screen, furthermore, offers a space between the stencil-carrier and the pad in which a supply of ink may be contained, so that a considerably larger number of copies can be obtained without reinking than if the pad is not used. With stencil-carriers which are not perforated the pad is somewhat thicker and requires to be inked from the outside, after which the stencil-sheet is applied in position. This arrangement is not so satisfactory as when a perforated stencil-carrier is employed, since it becomes necessary to remove the stencil-sheet in order to reink the pad, and in any event the number of copies that can be secured is often undesirably low. By employing a screen, as described, between an imperforate stencil-carrier and the pad a space is provided in which ink may accumulate to constitute a surplus supply thereof, so that a considerably larger number of copies can be obtained than if the screen were not used.

In order that the invention may be better understood, attention is directed to the accompanying drawings, in which—

Figure 1 is a plan view of an ordinary semicylindrical stencil-carrier as used in a well-known type of oscillating stencil-printing machine with my present improvement applied thereto, and Fig. 2 an enlarged sectional view.

In both of the views corresponding parts are represented by the same numerals of reference.

1 represents the stencil-carrier, formed, preferably, with perforations 2, through which ink may be passed in any suitable way, either by an inking-roller or by infrequent applications with an inking-brush.

3 represents the ordinary pad, made of a suitable felt-like material, which has heretofore been applied directly to the face of the stencil-carrier.

4 represents the stencil-sheet, which is secured to the stencil-carrier in any suitable way. In the drawings I illustrate one end of the stencil-sheet as passing through a slotted shaft 5, adapted to be rotated by a suitable key, and reverse rotation being prevented by a ratchet and pawl 6. With such an arrangement the stencil-sheet holds the pad in place upon the stencil-carrier.

7 represents the screen, the use of which constitutes the present invention. This screen may be composed of bolting-cloth or other

fabric of a like nature; but it is preferably a closely-woven wire screen or gauze, since the latter material is practically permanent in use, owing to the fact that it is subjected to little or no wear. The screen may be secured in place to the stencil-carrier; but it is preferably held in position by the pad alone, since in this way it can be more readily removed to permit the cylinder to be cleaned or to replace the screen when necessary if corroded or otherwise deteriorated. In order to prevent the ink from oozing beyond the side edges of the screen, I preferably provide the same with a solid margin 8, formed in any suitable way. When a wire screen is used, as is preferable, this margin may be produced by dipping the screen to a slight extent at its sides in a bath of molten metal, such as lead or a mixture of lead and zinc, as is common in ordinary galvanizing processes.

By employing a screen, as explained, it will be observed that a space is provided between the pad and the stencil-carrier in which a supply of ink may accumulate, whereby a larger number of copies can be secured from a pad of given thickness whether the stencil-carrier is perforated or imperforate. Such a screen if of woven material also presents a series of longitudinal and cross passage-ways or channels, as will be obvious, so that when a perforated stencil-carrier is employed the ink has an opportunity of evenly distributing itself beneath the pad, whereby the pad will be very uniformly supplied with ink without the possibility of any objectionable localization taking place, as would be the case if the screen were not used.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a screen arranged between the pad and stencil-carrier, substantially as set forth.

2. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a wire screen arranged between the pad and stencil-carrier, substantially as set forth.

3. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a screen having solid side margins arranged between the pad and stencil-carrier, substantially as set forth.

4. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a wire screen having solid side margins arranged between the pad and stencil-carrier, substantially as set forth.

5. In apparatus of the character described, the combination with a perforated stencil-carrier, a pad, and a stencil-sheet, of a screen arranged between the pad and stencil-carrier, substantially as set forth.

6. In apparatus of the character described, the combination with a perforated stencil-carrier, a pad, and a stencil-sheet, of a wire screen arranged between the pad and stencil-carrier, substantially as set forth.

7. In apparatus of the character described, the combination with a perforated stencil-carrier, a pad, and a stencil-sheet, of a screen having solid side margins arranged between the pad and stencil-carrier, substantially as set forth.

8. In apparatus of the character described, the combination with a perforated stencil-carrier, a pad, and a stencil-sheet, of a wire screen having solid side margins arranged between the pad and stencil-carrier, substantially as set forth.

9. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a screen arranged between the stencil-carrier and pad and held in place by the pressure of the latter, substantially as set forth.

10. In apparatus of the character described, the combination with a stencil-carrier, a pad, and a stencil-sheet, of a wire screen arranged between the stencil-carrier and pad and held in place by the pressure of the latter, substantially as set forth.

This specification signed and witnessed this 22d day of December, 1902.

ALBERT B. DICK.

Witnesses:
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