June 23, 1964 H. E. JOHNSON 3,138,094

INK PAD AND COVER

Filed Aug. 20, 1962

Fig. 1

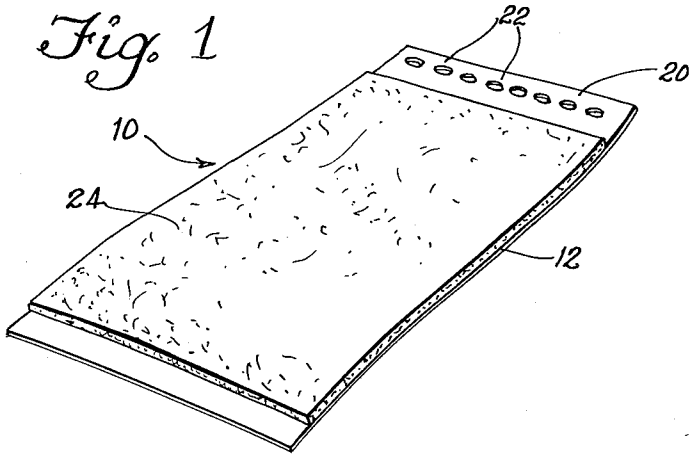
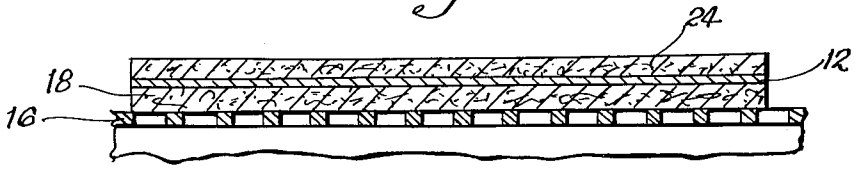


Fig. 2

Fig. 3



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INK PAD AND COVER

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This invention relates to the art of stencil duplication and more particularly to an element for use in a stencil duplicating machine when it is desired, temporarily or otherwise, to make a color change in the copy reproduced by the machine.

In a stencil duplicating machine used to produce copy from a stencil, use is made of an ink cylinder which is perforated for passage of stencil ink from within the perforated cylinder to an ink pad stretched over the top of the perforated cylinder. The imaged stencil is positioned over the ink pad with the leading edge of the stencil being provided with openings to hook onto pins or the like attaching means in advance of the ink pad, and with the trailing edge portion of the stencil being adapted to be clamped by clamping means on the cylinder beyond the ink pad. In normal operation, ink feeds through the perforations of the cylinder to wet the pad on the top side thereof and from which ink is forced through the stencil openings on to copy paper sequentially brought into contacting relationship with the stencil during rotation of the cylinder.

When it is desired to make a temporary change in the color of the ink pad through the stencil openings for a color change in the copy produced, it is undesirable to take the machine out of operation while the ink feed, the ink cylinder and pad are cleaned from the black or other ink initially or ordinarily used in the machine. Such operations require considerable time, care and effort, and would thus reduce the utility of the stencil duplicating techniques for the production of copy.

Instead, it has been the practice to block out the ink pad originally mounted on the perforated ink cylinder by the use of a blocking sheet having a leading edge perforated with means to be secured by the attaching means in advance of the ink pad and which is then stretched to overlie the ink pad with its trailing edge in operative connection with clamping means on the cylinder to maintain the blocking sheet taut until a new ink pad is mounted on the cylinder to overlie the blocking sheet. The ink pad is provided with means at its leading edge for attachment to the cylinder and a metallic section extending from the trailing edge for attachment to the stencil clamping means. However, before the means on the trailing edge of the pad can be clamped to locate the pad in proper position of use, it is necessary to split the blocking sheet crosswise adjacent the clamped trailing edge portion to permit the trailing end of the pad to have access to the clamping means of the cylinder. After the blocking sheet has been positioned and after the new ink pad has been clamped into position, the new ink pad is wet with an ink of a different color and then the stencil is clamped into position of use in the normal manner.

It will be apparent that this technique which has heretofore been employed to effect a temporary color change is quite complicated in that it requires the superposing of a blocking sheet and an ink pad over and above the ink pad originally on the ink cylinder, and it will be apparent also that the blocking sheet and the new ink pad must be constructed with special means and extensions to effect the desired mounted relation. In addition to the build-up of layers and the special construction of both the blocking sheet and pad, a considerable amount of skill is required for separately mounting the blocking sheet, and splitting the blocking sheet at the right time for

clamping the newly mounted ink pad on to the machine.

It is an object of this invention to provide a method and means for effecting a color change in stencil duplicating machines without the procedures and problems characteristic of the method and means heretofore employed, and it is a related object to produce a new and improved stencil pad essentially which can be used to effect a temporary color change without the necessity for removal of the ink, ink pad or cleaning the machine.

These and other objects and advantages of this invention will hereinafter appear, and for purposes of illustration, but not of limitation, an embodiment of the invention is shown in the accompanying drawing, in which,

FIGURE 1 is a perspective front elevational view of a stencil ink pad assembly embodying the features of this invention;

FIGURE 2 is a sectional view taken along the line 2—2 of FIG. 1, and

FIGURE 3 is a sectional view toward the ink cylinder and assembly having the pad of FIG. 1 mounted thereon in position of use.

In accordance with the practice of this invention, use is made of a combination sheet **10** which includes a base sheet **12** formed of a soft, flexible material fabricated to be impervious to the passage of duplicating ink, and which is dimensioned to have a width corresponding to the width of the ink cylinder **16** or ink pad **18** secured over the peripheral surface thereof, and a length which corresponds to the distance from the means for clamping the stencil sheet on to the ink cylinder to beyond the trailing edge of the stencil supporting surface. The leading edge **20** of the base sheet **12** is formed with perforations **22** for attachment on to the hook members onto which the stencil sheet is secured for mounting the stencil on the ink cylinder. The ink impervious base sheet **12** is preferably formed of paper or other cellulosic material treated with resinous material or the like to render the sheet relatively non-absorbent and impervious to the passage of ink, or it can be formed of metal foil, plastic film and the like flexible and ink impervious sheet material capable of blocking the passage of ink.

Bonded or otherwise secured on to the top side of the base sheet **12** to form a composite or part thereof is a length of woven or non-woven fabric, preferably in the form of a cotton pad **24** of relatively small thickness and dimensioned to have a width corresponding to the width of the base sheet and a length less than the length of the base sheet to leave the leading end portion **20** of the base sheet containing the openings **22** free for attachment to the sheet mounting means forming a part of the ink cylinder. The pad **24** may extend to the trailing edge of the base sheet, but it is preferred to terminate the pad a short distance from the trailing edge. The pad is dimensioned to conform to the dimensions of the printing area of the stencil and, more specifically, to conform to the portion of the underlying ink pad resting on the periphery of the ink cylinder.

In practice, the pad **24** can be fabricated separate and apart from the base sheet **12** and secured to the base sheet to form a part thereof by the use of an adhesive applied either to the top side of the base sheet or the bottom side of the pad, or both. The applied adhesive can also serve as the barrier to block the passage of ink through the base sheet to prevent ink from the ink cylinder reaching the ink pad **24**, or vice versa, to prevent colored ink from the ink pad **24** from reaching through to the ink pad **18** on the ink cylinder.

When, in the practice of this invention, it is desirable to make a color change, it becomes unnecessary to remove the ink pad **18** on the ink cylinder **16** and to clean the ink cylinder for the removal of ink which has previously

been used. Nor is it necessary to cover the ink pad with a blocking sheet, lock the blocking sheet into place until another ink pad has been secured in position to overlie the blocking sheet for locating the new ink pad on the ink cylinder in a position to overlie the blocking sheet, sever the trailing edge of the blocking sheet to free the area for access of the new ink pad to the recessed portion in the ink cylinder trailing the ink pad.

Instead, color change can be effected in a simple and efficient manner, in accordance with the practice of this invention, merely by hooking the leading edge **20** of the base sheet on to the attaching hooks of the plate cylinder in position to locate the base sheet over the old ink pad thereby to expose the new ink pad forming a part of the base sheet and located on the top side thereof. Thereafter it is only necessary to apply the differently colored ink on to the ink pad **24** and mount the stencil in the normal manner to operate the machine for the production of copy in which only the fresh colored ink finds its way through the stencil openings to the copy sheets to produce copy.

When the duplication with the differently colored ink has been completed, it becomes only necessary to remove the stencil and disengage the base sheet with the attached ink pad, and then mount the same or another stencil for continued copy production with the ink originally in the copy machine.

The ink impervious base sheet operates to block passage of the ink originally in the machine whereby the ink in the ink cylinder is caused to remain in the cylinder and will be prevented by the overlying pad and blocking sheet from passage from the ink cylinder to the copy sheets or to leak from the ink pad **18**.

It will be apparent that I have provided a means for quick and easy change-over of ink from which copy is produced without the many complex problems that have heretofore so complicated the technique of color change as to handicap the commercial and wide acceptability of stencil duplicating copy processes.

It will be understood that changes may be made in the details of construction, assembly and operation, without departing from the spirit of the invention, especially as defined in the following claims.

I claim:

1. In a stencil duplicating machine wherein an ink pad is secured over a perforated ink cylinder whereby ink can be passed through the perforations in the cylinder to saturate said ink pad and to thereby provide for passage of ink through openings defined in a stencil sheet, the improvement comprising an assembly attached to said machine for use in changing the color of the ink transmitted through the stencil openings, said assembly comprising a base sheet which is impervious to the passage of ink and which is dimensioned to have a width corresponding to the width of said ink pad and a length at least as great as the length of said ink pad, an additional leading edge portion on the base sheet attached to the ink cylinder, the trailing edge portion of said base sheet also being attached to the ink cylinder to thereby position the base sheet on the cylinder in a manner to overlie said ink pad, and a layer of soft, absorbent pad material secured to form a part of the top surface of the base sheet and spaced rearwardly from said leading edge portion, said pad material extending crosswise of the base sheet to approximately correspond to the width of the base sheet, and a stencil sheet overlying said pad material whereby ink of a different color can be included in said pad material for passage out through the stencil openings.

2. A stencil duplicating machine as claimed in claim 1 in which the layer of soft, absorbent pad material extends rearwardly for a distance short of the trailing edge of the base sheet to facilitate attachment to said trailing edge to said ink cylinder.

3. A stencil duplicating machine as claimed in claim 1 in which the layer of soft, absorbent pad material comprises a cotton felt bonded to the top side of the base sheet.

4. A stencil duplicating machine as claimed in claim 1 in which the layer of soft, absorbent pad material comprises a cotton felt bonded to the top side of the base sheet and in which the base sheet comprises cellulosic material treated with a resin to impart ink resiliency and non-absorbency.

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