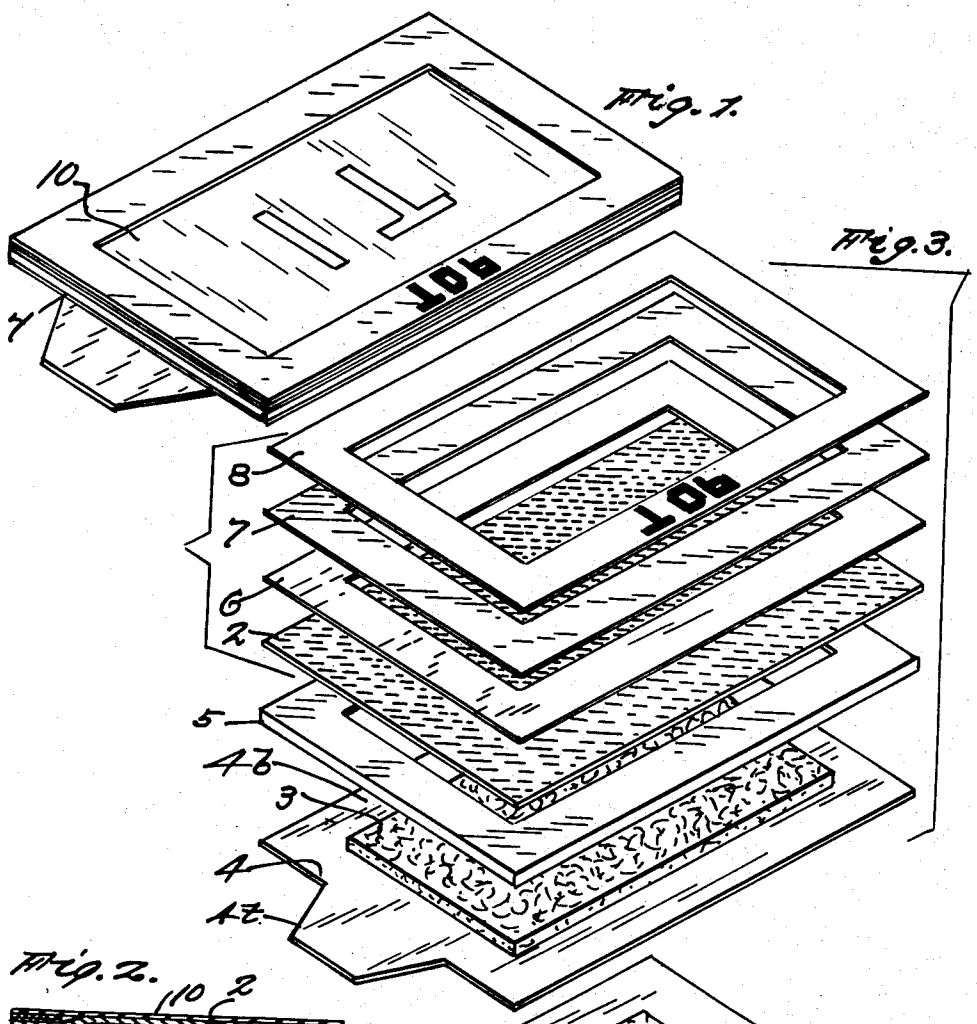
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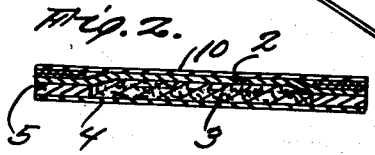
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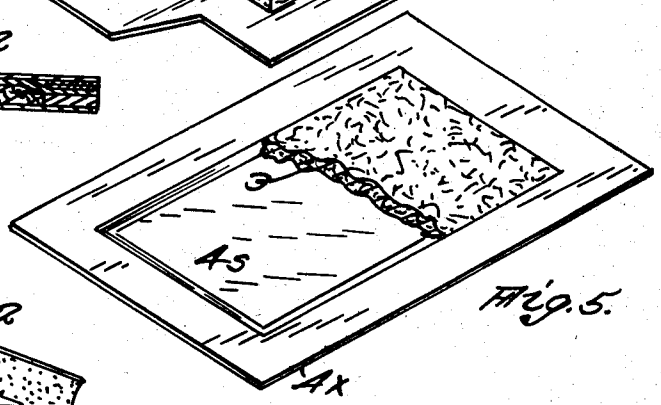
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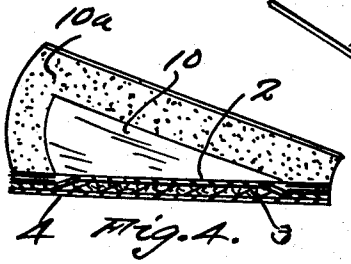
HAND USE, STENCIL PAD UNIT

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HAND USE STENCIL PAD UNIT

Fred R. Wallich, Los Angeles, Calif.

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9 Claims. (Cl. 101—125)

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This stencil assembly is an inventional improvement over the stencil and pad disclosed in my application Ser. No. 22,200, filed April 20, 1948 and its resultant Patent No. 2,581,153.

This new assembly is especially intended for hand use in securing the desired print or impression in contrast to stencils for use in machines where the degree of printing pressure on the inking pad can be nicely mechanically set, and I here aim from years of expensive experimentation to provide a hand stencil printer or unit which provides a safe, clean, reliable, compact, simple and practical device or means for effectively regulating the transfer of filtered ink from an associated pad (forming a part of the printer) to the applied, cut stencil member.

The present invention accomplishes that objective by providing a device having the multiple functions of filtering and regulating ink flow from pad to stencil; of forming an inner sealing feature for the pad and also forming a substantial bed or foundation for the applied, delicate and film-like stencil member; it being a purpose of the invention to so support and reinforce the necessary stencil that this member could be made of tissue-thin sheet stock. In this connection an intent and accomplishment of the invention is to provide a protected stencil inking pad whose transfer face is shielded by a tensioned, drumhead like filtering and regulating sheet of material porous enough to pass the desired flow of ink from the pad and whose fibers are non-absorbent and, especially, are non-woven.

The regulating sheet is of suitably compacted character so that, being non-woven, its faces are desirably smooth, that is free from pockets and humps which are inherently incident to woven material.

The invention provides a regulator sheet mounting in which the said sheet forms a part of a laminated sub-assembly incorporating an effective metallic barrier foil having affixed on its opposite faces layers of suitable, thin paper or its equivalent; all cooperating to produce a clean, safely handled and stored ink-pad, unitary assembly ready for instant use with an applied or presented stencil member having therein the cut legend.

The unitary assembly provides, moreover, a non-absorbent fluid resistive external backing having affixed to one face a stiff, fluid resistive, oil repelling, complementary-size frame for direct application, adhesively, of the mentioned regulating sheet, sub-assembly. Such an assembly constitutes a complete inking unit capable of

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being handled without fear of smudging the user's hand or a respective container or any such support as may be used for deposit or holding the assembly when not in functional use. Further, as soon as a desired cut stencil is adhesively affixed in proper facial position over the face of the ink feeding sheet the combination at once becomes a completed stencil printer from which a large number of successive ink impressions can be made, each being clean, sharp and of uniform ink thickness secured by gently pressing the user's finger either to the said backing of the printer or to the record material, on which the impression is desired, while the said material is in contact with the affixed stencil member of the printer.

The invention resides in certain advancements in this art as set forth in the ensuing disclosure and has, with the above, additional objects and advantages, and whose constructions, combinations and sub-combinations and details, and method of manufacture will be made manifest in the following description of the herewith illustrative means; it being understood that modifications, variations, adaptations and equivalents may be resorted to within the scope, spirit and principles of the invention as it is claimed in conclusion hereof.

Figure 1 is a perspective of the fully completed stencil printer. Figure 2 is a schematic (magnified parts), cross-section of the printer. Figure 3 is a perspective view of the inking assembly parts in separated disclosure and in the order of the built-up inker. Figure 4 is a perspective view of a modified form of a face depressed backing of tray form for the ink pad. Figure 5 is a cross-section of a unit whose regulating sheet is affixed directly to a flat backing without an interposed attaching frame.

To meet the rigid requirements of a stencil printer that are imposed by hospitals, as one example of user, the present invention is distinguished in certain important features herein disclosed and developed by trial, and experiment and hospital test and successful use.

A particular feature here incorporated in the stencil pad assembly consists of an inner ink regulator and filter sheet 2 which preferably is a piece of compacted material whose fibers or mass particles are non-absorbent and are distinctly not woven to form the sheet. This type of regulating sheet is preferred because it has flat facial surfaces as distinguished from the objectionable knobby and pocket surface incident to any woven fabric. Such a smooth face regulating sheet is

conducive of a clear, sharp, uniform-depth stencil impression, since the ink filtering through the pad covering sheet 2 is taken from the smooth surface of the sheet in contrast to ink from a woven sheet face. It will be seen that the stated non-woven sheet 2 permits the issue of clean, restricted volume ink and holds back in the pad any particles which if passed to the stencil member would result in an uneven and smudgy legend impression, since filtered ink is highly desirable in this art.

The device of this invention involves a series of assemblies. First, there is made up a basal backing 4 of impervious, non-absorbent, tough material, as of a cellulose or vinyl substance. This backing is of suitable size and plan form and here has an end tongue 4*t* to facilitate pulling the completed printer from a suitable pocket case (not shown). Onto one face of the firm backing 4 there is lodged a porous-mass, ink-charged pad 3 which is of such plan shape and size as to leave a clear border zone of the backing all around the pad. Onto the said border 4*b* there is adhesively fixed a non-absorbent or fluid and oil repelling, stiff frame 5. This group of parts 3, 4 and 5 constitutes the backing assembly—it is ready for make-up with a sub-assembly.

This latter consists of a laminated regulator device and includes the stated sheet 2, that is the regulator or filter sheet, which is adhesively affixed to one face of the frame 5, preferably by a plastic solution. The affixed sheet completely covers the adjacent face of the ink pad as well as the contiguous face of the stiff frame 5. The sub-assembly further includes a thin, suitable adhesive receiving frame 6 preferably of paper to which is adhesively attached the surrounding border of the sheet 2, and to the opposite face of the thin frame 6 there is adhered a thin frame-like spacer 7 preferably of metal foil forming a safety barrier against oil seep in this assembly. On the opposite face of the foil frame-like spacer 7 there is adhered a thin frame 8 preferably of paper. Therefore, the made-up parts 2, 6, 7 and 8 constitute a rigid fabrication to be bodily, readily and rapidly affixed to the basal, backing assembly by adhesively binding the regulating sheet 2 onto the presented face of the stiff or backbone frame 5.

The sub-assembly and its attached backing assembly are permitted to stand at room temperature long enough for the adhesives (too thin to show in the drawing) to dry; that makes the inking pad leak-proof and rigid and ready for application, at any later time that may be desired of a given complementary size, precut stencil member 10, Figs. 1 and 4.

The stencil 10 consists of a thin, tissue like element complementary in plan and size to the sub-assembly and has on one face a full-frame, thin, double face adhesive rim 10*a* for attaching to the paper frame 8 of the sub-assembly. The frame 8 is preferably marked at one side with an instruction legend "Top" as a guide for the correct application of the desired cut stencil which, itself, is also marked "Top" and this side margin of the stencil is superimposed over the like mark of the paper frame 8, and firmly pressed so that the full border of its stencil is affixed to the frame, which adheres to the foil frame. It will be seen that when the stencil has been thus ultimately applied to the frame 8 the whole organized combination of parts is rigidly united to form a complete, compact, ready-to-use, leak-proof, finger-pressure stencil pad unit.

In use of the unit its stencil face is placed in direct contact with the medium onto which the stencil legend or data is to be transferred and then finger pressure is applied to either the said medium engaging the stencil, or to the backing 4 for pressure through the structure of the unit, while it is resting in either mode of operation on a table, desk or other convenient support. Under the applied pressure the pad will exude a controlled, small volume of filtered ink through the regulating sheet 2 and thence onto the record medium covering the outer face of the stencil 10.

The stencil tissue and the regulating sheet 2 combine to function as a double seal-in means. Fig. 4 shows a form with the sheet 2 directly on the backing 4; omitting frame 5.

Figure 5 illustrates a form in which the backing 4*x* is centrally countersunk at 4*s* for reception of the pad 3 so that the frame 5 may be omitted, and the regulating sheet can be attached to the marginal border of the backing and which is flush with the inlaid pad.

To review: the sheet 2 forms an inner seal-in on the pad; it filters and controls the ink issuing from the pad, and it forms a stabilizing and reinforcing and firm foundation for the ultimately affixed stencil, and this, in turn, becomes an exterior and second seal-in layer.

My experience has proved that a hand-use stencil pad assembly is impractical unless it is provided with an inner, pad-covering, non-woven sheet whose mass particles are non-absorbent. A glass-fiber, woven sheet was not fully satisfactory because of the roughness of the surface due to the woven texture, and to the soft give of the fabric; it does not provide a firm foundation.

What is claimed is:

1. A stencil pad unit for hand soil-proof, leak-proof use, having a member which is of a non-woven, smooth-faced, thin porous sheet of non-absorbent material, an impervious frame forming an aperture, a thin impervious backing to one face of which said frame is adherent, an ink pad in said aperture and lodged on said backing, said member covering said pad and being affixed to the surrounding frame, an impervious frame-like spacer fixed on the margin of said member, and a stencil element affixed to the said spacer.

2. A stencil pad unit for hand soil-proof, leak-proof use, having a member which is of a non-woven, smooth-faced, thin porous sheet of non-absorbent material, a thin impervious backing and an ink pad lodged on said backing and within a surrounding border zone of the backing, said member covering said pad and being affixed to the border portion of the backing, and a thin frame-like spacer of leak-stopping medium affixed to the border of said member and having affixed thereon a stencil tissue; said medium forming a liquid barrier around the margin of the stencil.

3. A non-smudging, leak-proof stencil pad unit for portable, hand use and consisting of an impervious backing device, an ink pad on one face of said device, a non-woven, porous sheet of non-absorbent material affixed to a surrounding border zone of said device and covering the pad, and a cut printing stencil member; said sheet being provided with an impervious, leak-stopping layer affixed to a surrounding border of said sheet and to which the surrounding marginal area of the stencil is affixed.

4. The unit of claim 3; the said stencil member having a border of adhesive conforming to said leak-stopping layer in area.

5. A stencil pad unit for portable, hand use and consisting of an impervious backing device, an ink pad on one face of said device, a non-woven, porous sheet of non-absorbent material affixed to a surrounding border zone of said device and covering the pad, and a cut stencil member affixed to said unit and covering that area of said sheet which is within said bordering zone; said sheet being provided with a protective, laminated border frame assembly including a metal foil having attaching frames of thin paper on its opposite faces.

6. A stencil pad unit comprising a basal backing element, an ink pad on said element; a subassembly consisting of an ink regulator sheet fixed on said element and a laminated frame-like device having a surrounding border which is affixed to said sheet and including a leak-stopping layer, and a cut stencil member affixed to said laminated frame-like device and covering said sheet.

7. The unit of claim 6; said member having a border of adhesive for attaching to the laminated device.

8. A stencil unit having in fixed combination, a thin, stabilizing, impervious backer, an ink pad on said backer, a porous, non-woven filter sheet of impervious material fixed to the boundary of said backer and covering the pad, an impervious bleed-stopping spacer fixed to the border of said sheet, and a stencil covering the sheet and marginally fixed to said spacer.

9. The unit of claim 8; all of the said several features having like dimensional edges, excepting the pad.

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