

[54] **LIQUID APPLYING MEMBER**

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[56]

References Cited

UNITED STATES PATENTS

2,190,894	2/1940	Thompson	15/209 R
3,337,895	8/1967	Clements.....	15/209 R X
2,962,746	12/1960	Heroy et al.....	15/244 R
3,406,420	10/1968	Siemund.....	15/121

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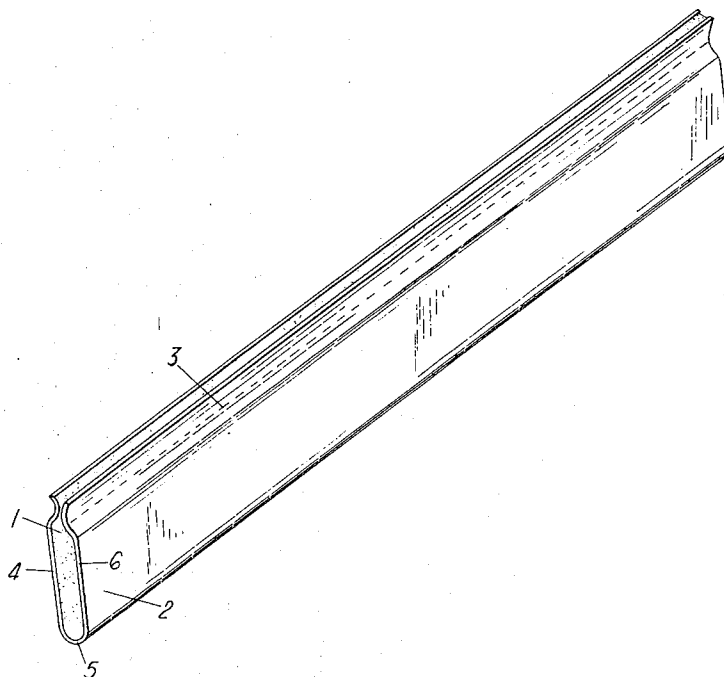
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[57]

ABSTRACT

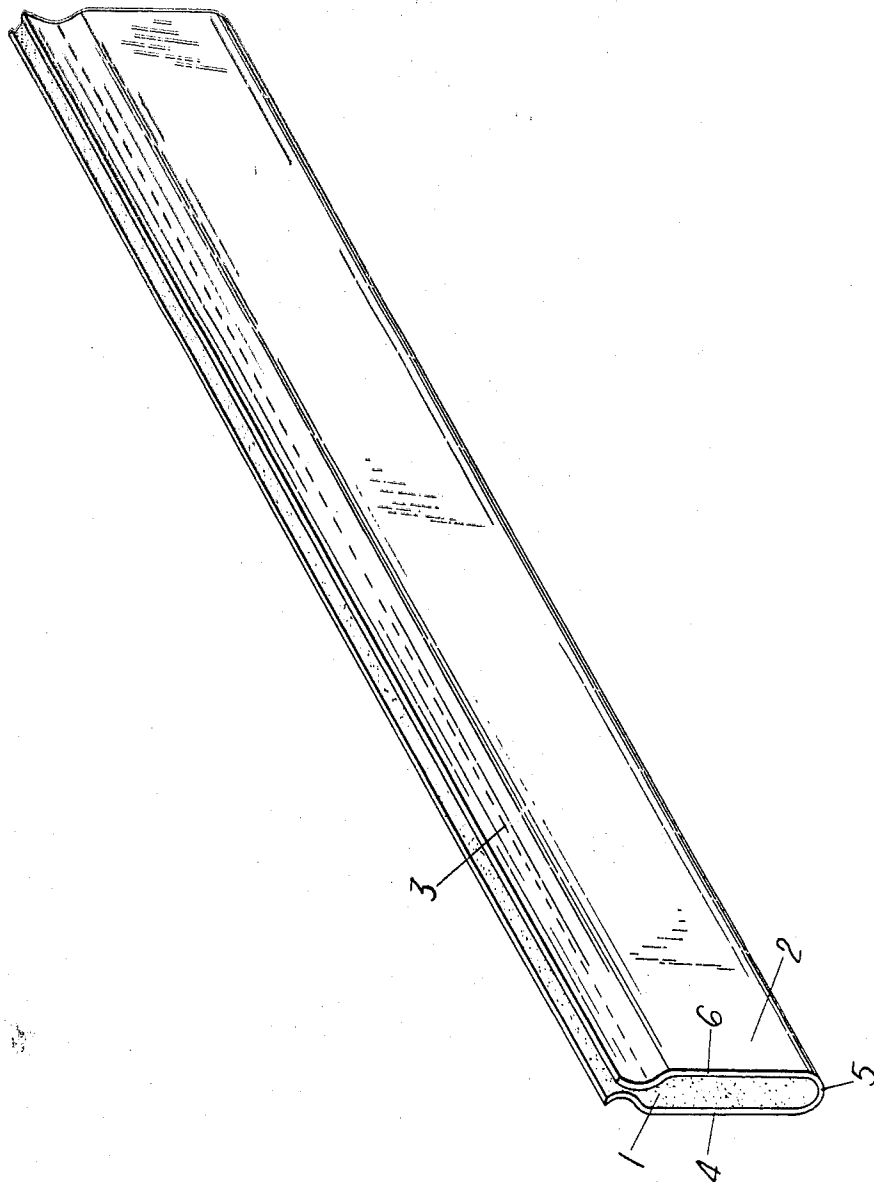
The specification discloses a priming wick for use in printing apparatus and comprising an outer fine short pile material, preferably velvet, surrounding an inner absorbent reservoir structure, preferably synthetic sponge material. Such a priming wick may conveniently be used for applying priming solution to the blanket of an offset lithographic machine.

6 Claims, 1 Drawing Figure



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LIQUID APPLYING MEMBER

The present invention relates to a liquid applying member and, in one preferred form, the invention provides a priming wick for use with a drip-feed plate priming attachment for use with printing apparatus, especially offset printing apparatus.

There are several applications in which it is desired to apply liquid to a surface so as to spread a thin uniform film across the surface. In particular, in offset printing apparatus it is necessary to apply a thin film of priming solution to a presensitized offset master prior to applying ink to the master, and the application of liquid priming solution to the master is particularly critical in that an excessively thick film of solution will result in emulsification problems and weak copies, whereas an excessively thin or unevenly distributed film of priming solution will result in dirty copies, in which ink may adhere to non-image areas of the plate and thus cause marking of the non-image areas on the copy.

British Pat. No. 983,476 (Gestetner Limited) relates to a drip-feed plate priming attachment for use with offset printing apparatus, and that specification discloses the use of a multi-layer type of wick made from a cotton material and clamped adjacent to a priming solution applying bar. With this conventional wick it is necessary to carry out a plate priming cycle consisting of approximately 4 revolutions of the printing machine in order to apply the thin even film required. When too few priming revolutions are carried out the film becomes streaky since the weave of the material does not allow intimate contact across the plate. In order to combat such streaking, the dampness of the wick could be increased but then the film of fluid, although uniform, will be too thick.

Moreover, on repetitive working of the offset printing device, i.e., when frequent plate changes are required, carrying out four priming revolutions after each plate change will considerably increase the downtime of the machine.

It is an object of the present invention to provide an improved liquid applying member which can be used as a priming wick for such a drip-feed plate priming attachment, thereby overcoming the disadvantages of the known plate priming wicks.

According to the present invention we provide a liquid applying member for use in printing apparatus and comprising an absorbent inner reservoir structure surrounded by an outer cover of a fine short pile material. Preferably the pile length of the outer cover may be no greater than 2 mm. and more preferably is approximately 1 mm. Advantageously the outer cover is formed from a substantially non-oleophilic material, conveniently velvet, velveteen or velour.

The absorbent reservoir structure is preferably cellular, and a particularly desirable cellular material is a synthetic sponge material, e.g. foamed polyisocyanate.

In one particularly desirable form of the invention the liquid applying member is a priming wick for a drip-feed plate priming attachment and the configuration is such that the reservoir structure is contained within a sleeve or liquid permeable smooth-faced material, and suitably the reservoir structure may be in the form of an elongate strip of absorbent material having a strip of liquid-permeable outer material folded therearound and stitched down one edge of the reservoir strip to form the sleeve. The sleeve may either be open-ended or may have stitched ends.

In order that the present invention may more readily be understood, there now follows a description of one embodiment of liquid applying member in the form of a priming pad or wick for a drip-feed plate priming attachment similar to that described and claimed in British Pat. No. 983,476. Such a priming wick is illustrated in the accompanying drawing in which the sole FIGURE shows an elongate strip 1 of synthetic sponge material (i.e. foamed synthetic plastics material) around which an open-ended velvet envelope 2 is formed by folding a strip of velvet material about the strip 1 and stitching along a seam 3 parallel to and adjacent to an upper edge of the strip 1.

In use of such a priming wick the composite member is clamped in position just below a liquid applying bar and is arranged so that a part of one face 4 of the wick adjacent the folded edge 5 is able to contact a printing plate to be primed.

The opposite face 6 of the pad is thus disposed adjacent the liquid applying bar of the priming attachment and thus liquid priming solution is able to enter the pad through the permeable velvet wall 6 and to become distributed along the length of the sponge reservoir strip 1. Thus, when it is desired to prime a sensitized printing plate the priming pad is brought into contact with the plate so that priming solution from within the reservoir strip 1 passes outwardly through the face and contacts the plate to be primed. The priming pad illustrated is particularly advantageous in that the cellular structure of the reservoir provides considerable storage capacity for liquid priming solution, and the velvet outer layer 2, by virtue of its fine pile short fiber structure, provides an extremely smooth liquid applying surface and a particularly permeable envelope through which the priming solution may pass readily without clogging and may be deposited on the plate surface without streaking.

A further advantage of the illustrated structure is that the pad is reversible in that the surface 4 may be disposed adjacent the liquid applying bar while part of the surface 6 of the velvet envelope can then be used for introducing priming solution to the sensitized plate.

It is not essential to the present invention that the particular materials (i.e. sponge and velvet) should be employed in every instance. For example, it is conceivable that the liquid applying member of this invention might be used for applying liquids which, by virtue of their physical properties, are incompatible with one or both of the materials used in the specific example. For example, any other absorbent reservoir material may be employed, for example natural sponge, crimped synthetic fibers or the like, and equally it might be desired to use other envelopes of other suitable fine short pile material.

Other suitable short pile materials for use in the priming wick include velveteen and velour, which have been found to exhibit pile lengths of approximately 1 mm. and approximately 1.5 mm. respectively. Velveteen is believed to be formed wholly of cotton.

The velvet employed in the above specific example had a pile length of approximately 1 mm. and was found to give particularly uniform distribution of priming solution. Velvet may be composed wholly or partly of silk.

It has been found that the material from which a priming wick covering is formed should be a pile type of material which is only oleophilic to a negligible or slight degree if the priming solution is not to be absorbed by the covering. Thus natural fibers are preferred as against synthetic fibers. The preferred pile length is no greater than 2 mm. Close pile materials such as the above mentioned velvet, velveteen and velour are most advantageous.

I claim:

1. In or for printing apparatus, a priming pad comprising an absorbent inner reservoir structure in the form of a strip of synthetic sponge material; and an outer cover in the form of a strip of pile fabric folded about said strip of synthetic sponge material to have registering juxtaposed portions, said portions being stitched to form an open ended envelope.

2. A priming pad as set forth in claim 1, wherein the said pile fabric have a pile length of no greater than 2 mms.

3. A priming pad as set forth in claim 2, and wherein said pile length is 1 mm.

4. A priming pad as set forth in claim 1, wherein said fabric is formed from a substantially non-oleophilic material.

5. A priming pad as set forth in claim 1, wherein the outer cover is formed from a material in the group consisting of velvet, velveteen and velour.

6. A priming pad as set forth in claim 1, wherein the sponge material is a foamed polyisocyanate.

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