bottom surfaces **38** extend between channel sidewalls **40**, whereas in the **FIG. 2***a* embodiment, sidewalls **34** connect together along lines **41**.

[**0079**] **FIG. 2***c* illustrates an alternate fluid control film **20**" where wide channels **42** are defined between peaks **36**", but instead of providing a flat surface between channel sidewalls **40**, a plurality of smaller peaks **44** are located between the sidewalls **40**' of the peaks **36**". These smaller peaks **44** thus define secondary channels **46** therebetween. Peaks **44** may or may not rise to the same level as peaks **36**", and as illustrated create a first wide channel **42** including smaller channels **46** distributed therein. The peaks **36**" and **44** need not be evenly distributed with respect to themselves or each other.

[**0080**] **FIGS. 2***d*-**2***k* illustrate various alternative embodiments of the fluid control film of the present invention. Although **FIGS. 2***a*-**2***k* illustrate elongated, linearly-configured channels, the channels may be provided in other configurations. For example, the channels could have varying cross-sectional widths along the channel length—that is, the channels could diverge and/or converge along the length of the channel. The channel sidewalls could also be contoured rather than being straight in the direction of extension of the channel, or in the channel height. Generally, any channel configuration that can provide at least multiple discrete channel portions that extend from a first point to a second point within the fluid transport device are contemplated. The channels may be configured to remain discrete along their whole length if desired.

[**0081**] With reference to **FIG. 2***g*, one preferred geometry is a rectilinear primary channel **48** in a flat film **50**. The primary channel **48** has included secondary channels **52** which forms a multitude of notches **54**. The notches **54** (or secondary channels **52**, where the secondary channels **52** are V-shaped and have substantially straight sidewalls) have a notch included angle of (i.e., angle Alpha) from about 10° to about 120°, preferably from about 10° to about 100°, and most preferably from about 20° to about 95°. The notch included angle is generally the secant angle taken from the notch to a point 2 to 1000 microns from the notch on the sidewalls forming the notch, preferably the notch included angle is the secant angle taken at a point halfway up the secondary channel sidewalls. It has been observed that notches with narrower included angular widths generally provide greater vertical wicking distance. However, if Alpha is too narrow, the flow rate will become significantly lower. If Alpha is too wide, the notch or secondary channel may fail to provide desired wicking action. As Alpha gets narrower, the contact angle of the liquid need not be as low, to get similar liquid transport, as the contact angle must be for notches or channels with higher angular widths.

[**0082**] The primary channel included angle is not critical except in that it should not be so wide that the primary channel is ineffective in channeling liquid. Generally, the primary channel maximum width is less than 3000 microns and preferably less than 1500 microns. The included angle of a V-channel shaped primary channel will generally be from about 10 degrees to 120 degrees, preferably 30 to 110 degrees. If the included angle of the primary V-channel is too narrow, the primary channel may not have sufficient width at its base so that it is capable of accommodating an adequate number of secondary channels. Generally, it is preferred that the included angle of the primary channel be greater than the included angle of the secondary channels so as to accommodate the two or more secondary channels at the base of the primary channel. Generally, the secondary channels have an included angle at least 20 percent smaller than the included angle of the primary channel (for V-shaped primary channels).

[**0083**] With reference to **FIGS. 2***g* and **2***j*, the depth of the primary channels (**48**, **56**) (the height of the peaks or tops above the lowermost channel notch), "d", is substantially uniform. Preferably, the height "d" ranges from about 5 to about 3000 microns, more preferably from about 25 to about 1500 microns, even more preferably from about 50 to about 1000 microns, and most preferably from about 50 to about 350 microns. It will be understood that in some embodiments films with channels (**48**, **56**) having depths larger than the indicated ranges may be used. If the channels are unduly deep, the overall thickness of the fluid control film will be unnecessarily high and the film may tend to be stiffer than is desired. The width of the primary channel at its base may be sufficient to accommodate two or more secondary channels.

[**0084**] **FIGS. 2***j* and **2***k* illustrate fluid control films having primary channels on both major surfaces. As shown in **FIG. 2***j*, the primary channels **56** may be laterally offset from one surface to the other surface or may be aligned directly opposite each other as shown in **FIG. 2***k*. A fluid control film with offset channels as shown in **FIG. 2***j* provides a maximum amount of surface area for wicking while at the same time using a minimum amount of material. In addition, a fluid control film with offset channels can be made so as to feel softer, due to the reduced thickness and boardiness of the sheet, than a fluid control film with aligned channels as shown in **FIG. 2***k*. As shown in **FIG. 2***k*, fluid control film of the invention may have one or more holes or apertures **58** therein, which enable a portion of the liquid in contact with the front surface of the fluid control film to be transported to the back surface of the film, to improve liquid control. The apertures need not be aligned with the notch of a channel and do not need to be of about equal width as the channels. The surfaces of the fluid control film within the apertures is preferably hydrophilic.

[**0085**] As illustrated in **FIGS. 2***g* and **2***j*, in each primary channel (**48**, **56**) are at least two secondary channels (**52**, **60**) and at least two notches (**54**, **62**), the notch or notches of each secondary channel (**52**, **60**) is separated by a secondary peak (**64**, **66**). Generally, each secondary channel will generally have only one notch, but a secondary channel will have two notches if the secondary channel is rectangular. The secondary peak (**64**, **66**) for V-channel shaped secondary channels is generally characterized by an included angle β which is generally equal to $(\alpha^1+\alpha^2)/2$ where α^1 and α^2 are the included angles of the two adjacent V-channel shaped secondary channels (**52**, **60**), assuming that the two sidewalls forming each secondary channel are symmetrical and not curved. Generally, the angle β would be from about 10° to about 120°, preferably from about 10° to about 110°, and most preferably from about 20° to about 100°. The secondary peak could also be flat (in which case the included angle would theoretically be 0°) or even curved, e.g., convex or concave, with no distinct top or included angle. Preferably, there are at least three secondary channels (**52**, **60**) and/or at least three notches for each primary channel (**48**, **56**),