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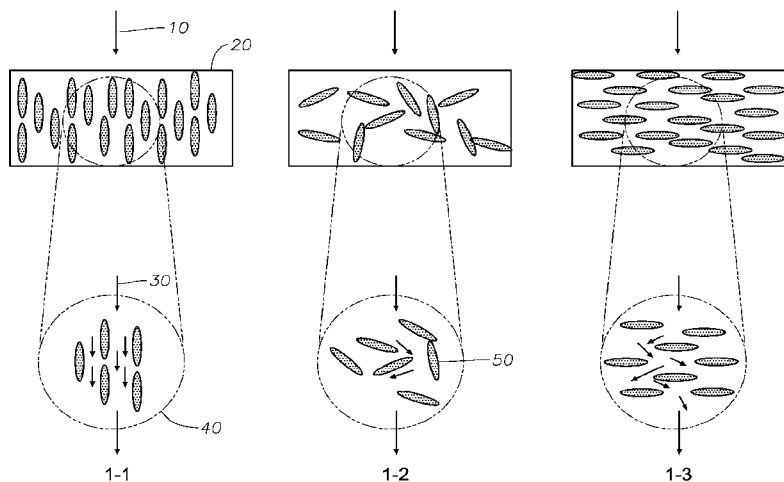
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(54) Title: ELASTOMERIC NANOCOMPOSITES, NANOCOMPOSITE COMPOSITIONS, AND METHODS OF MANUFACTURE

Fig. 1 Orientation Patterns Of Nanoclay Platelets



(57) Abstract: An elastomeric nanocomposite contains: (a) at least one elastomer comprising units derived from isoolefins having from 4 to 7 carbon atoms; (b) at least 10 phr of a carbon black; and (c) at least 1 phr of a nanoclay; wherein when the nanocomposite is used in an article, the article has a gas permeation coefficient of 80.0 cc*mm/[m2-day] at 40°C. The carbon black may be graphitized to reduce interactions between the carbon black and the nanoclays. The elastomeric nanocomposite may, with or without the use of the graphitized carbon black, be calendared or extruded in such a manner as to orient the nanoclay platelets within the composition such that the oriented nanoclay elastomer nanocomposite has an orientation parameter of greater than 0.15.

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