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(54)  Title: MULTI-LAYER MEDICAL PATCH WITH IMPERMEABLE CENTER

(57)  Abstract: A muco-adhesive patch for delivery of drugs into mucous membranes. On the muco-contact side, a water impermeable layer covers the center of the patch and less than half of the muco-contact side of the patch. Drugs may be added by mixing the drug with an adhesive material and placing a spot of the drug plus adhesive onto the exposed side of the water impermeable layer. A lenticular medical patch with a thin, tapered edge can be made with multiple layers by passing a single sheet such as a sheet of plastic through a production line in which each layer is applied in turn maintaining registration by reference to edges of the sheet or to marks on the sheet.
b. then placing molecules of a substantially water impermeable layer on top of each drug spot and entirely covering each drug spot.

15. The method of claim 14 wherein the substantially water impermeable layer is sprayed onto the sheet.

16. The method of claim 14 wherein the substantially water impermeable layer is printed onto the sheet.

17. A method of making a medical patch comprising a plurality of layers, the method comprising:
   a. having a machine with a group of material placement heads configured to place a group of spots of patch material onto a sheet of registration material, one spot for each head in the group of heads;
   b. as a sheet of registration material moves past the heads, using the heads to place a first group of spots of patch material onto the sheet; and
   c. as the sheet of registration material moves past placement heads a second time, placing a second group of spots of patch material onto the sheet, each spot in the second group of spots being placed on top of a spot in the first group of spots.

18. The method of claim 17 where the heads that place the first group of spots also place the second group of spots.

19. The method of claims 17 where the heads that place the second group of spots are different from the heads that place the first group of spots.

20. The method of claim 19 where the spots in the first group are placed by printing and the spots in the second group are placed by depositing.

21. The method of claim 19 where the spots in the first group are placed by depositing and the spots in the second group are placed by spraying.

22. The method of claim 17 where each spot in the second group of spots entirely covers a spot in the first group of spots.

23. The method of claim 17 where each spot in the second group of spots leaves uncovered a perimeter of a spot in the first group of spots.