



US005603947A

# United States Patent [19]

[11] Patent Number: **5,603,947**

**Wong et al.**

[45] Date of Patent: **Feb. 18, 1997**

[54] **METHOD AND DEVICE FOR PROVIDING NICOTINE REPLACEMENT THERAPY TRANSDERMALLY/TRANSBUCCALLY**

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[73] Assignee: **Cygnus Therapeutic Systems**, Redwood City, Calif.

[21] Appl. No.: **278,277**

[22] Filed: **Jul. 21, 1994**

### Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 247,520, May 23, 1994, abandoned, which is a continuation of Ser. No. 89,971, Jul. 9, 1993, abandoned.

[51] Int. Cl.<sup>6</sup> ..... **A61F 13/00**

[52] U.S. Cl. .... **424/448; 424/447; 424/449**

[58] Field of Search ..... **424/448, 449, 424/447**

*Primary Examiner*—D. Gabrielle Phelan

*Attorney, Agent, or Firm*—Morrison & Foerster LLP

### [57] ABSTRACT

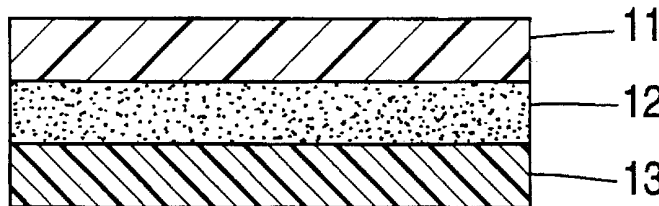
A skin or buccal patch for providing nicotine replacement therapy which comprises a matrix type laminated composite in which the matrix is composed of a mixture of nicotine in a polymer wherein the amount of nicotine in the matrix, diffusion coefficient of nicotine in the matrix and the thickness of matrix are such that the release of nicotine is: (1) controlled by the patch; (2) rapid and at a relatively high flux over the prescribed wearing time of patch; and (3) such that a substantial proportion of the nicotine initially in the patch has been released at the end of the prescribed wearing time.

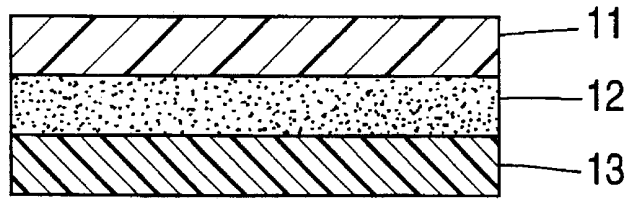
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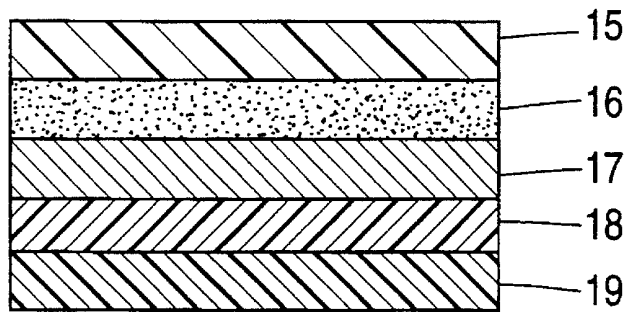
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**9 Claims, 13 Drawing Sheets**

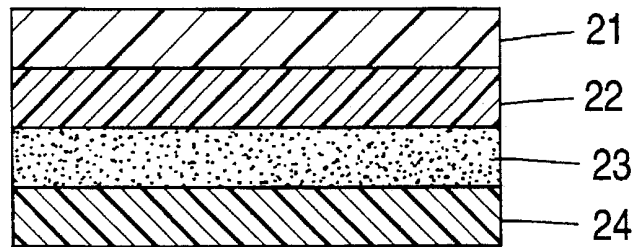




**FIG. 1**



**FIG. 2**



**FIG. 3**

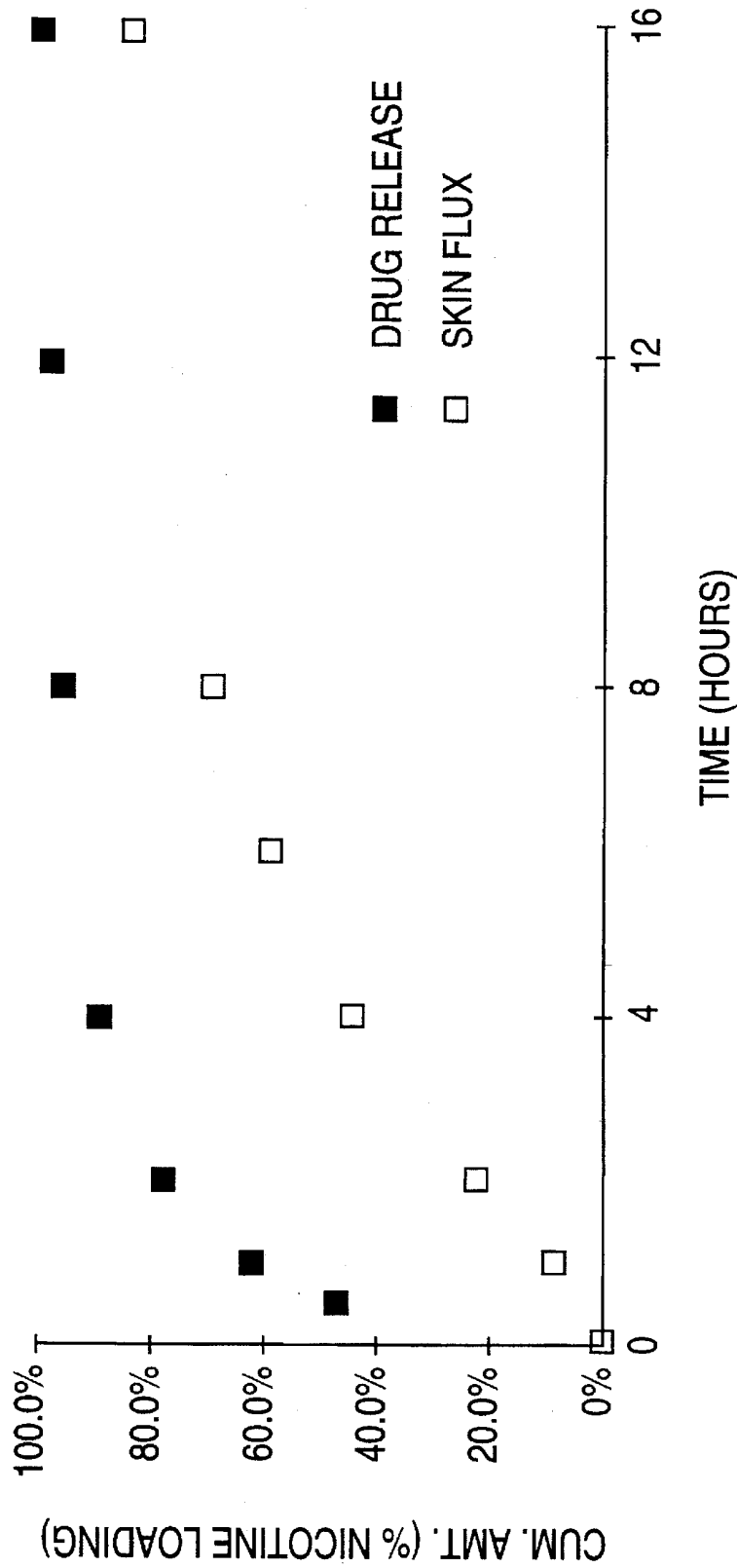


FIG. 4

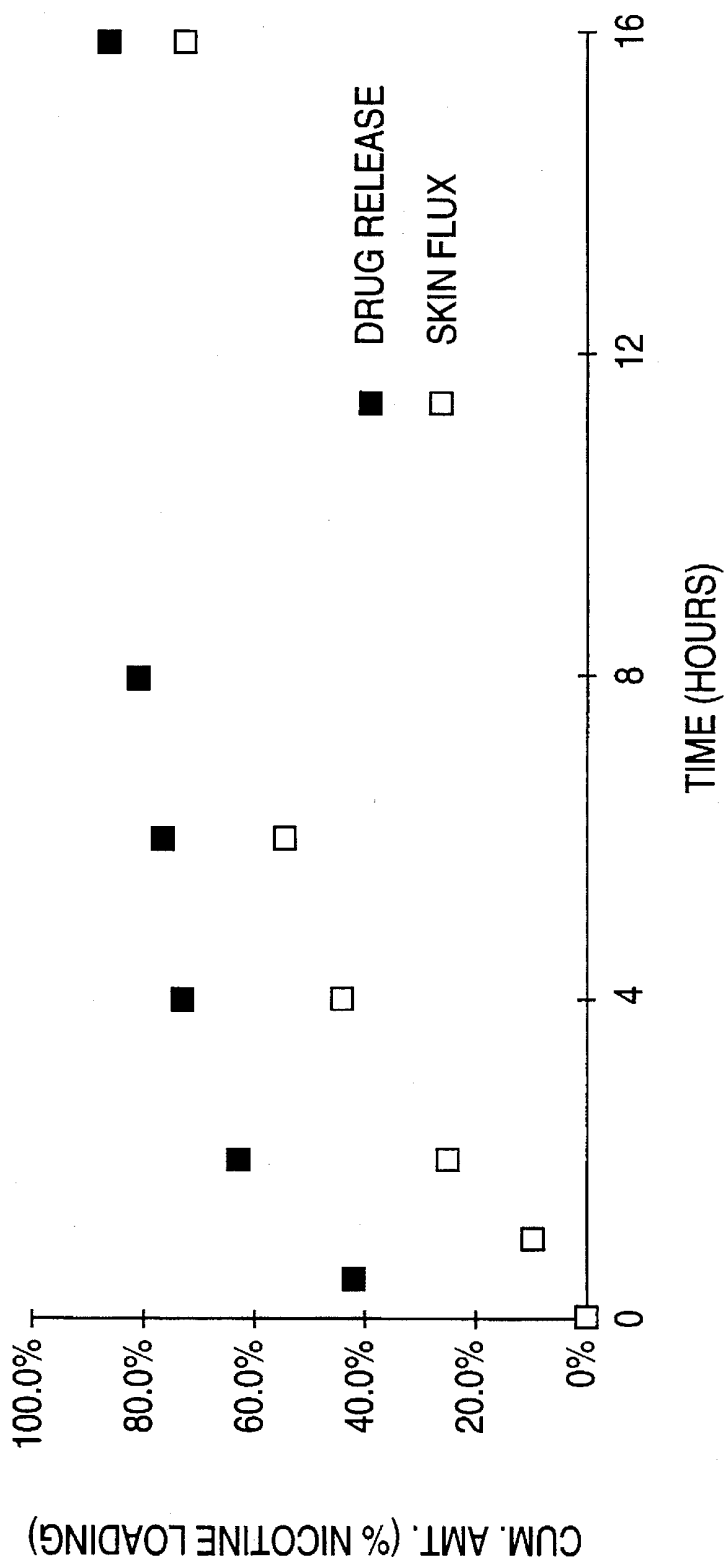


FIG. 5

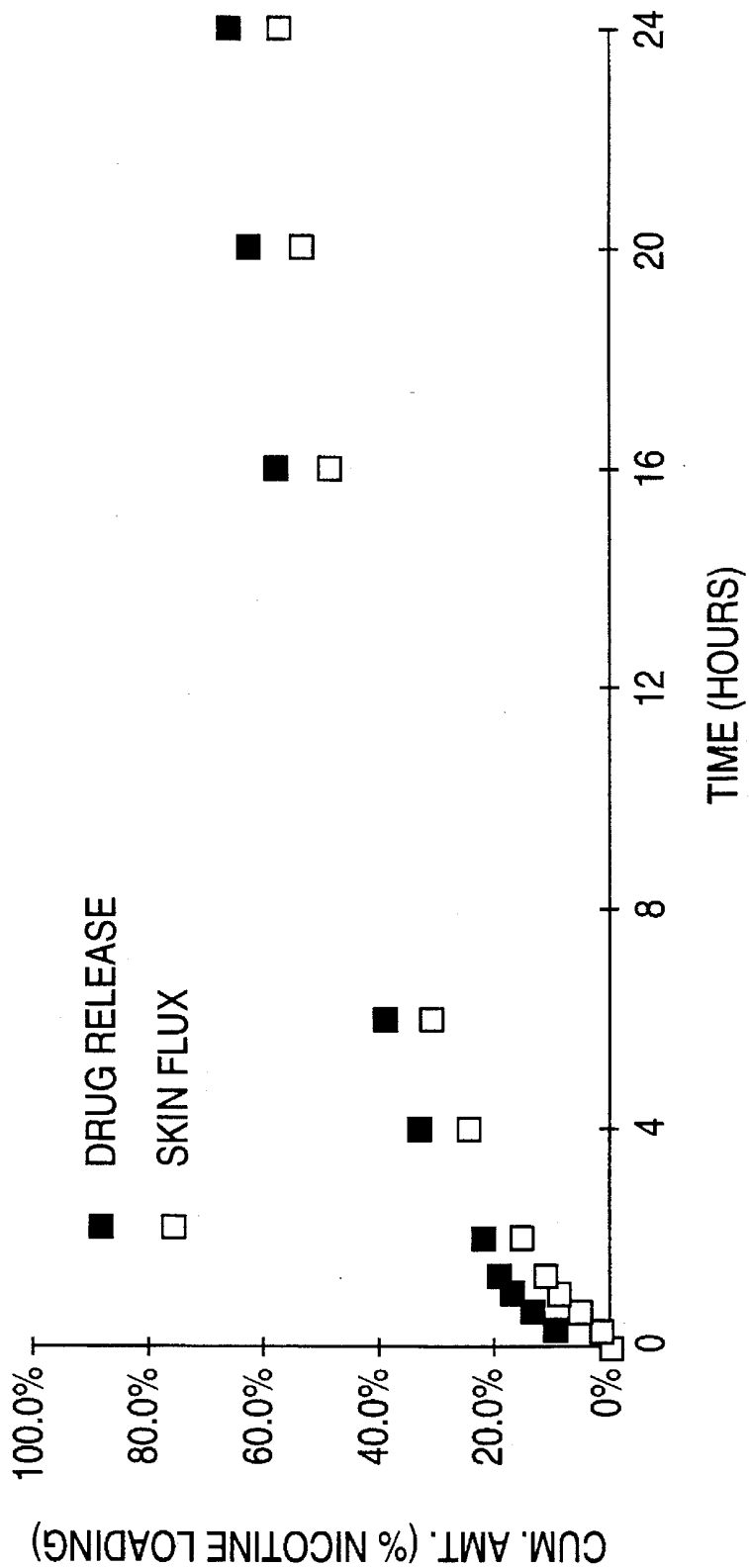


FIG. 6

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