

[54] **SLOW RELEASE FORMULATION**

[75] **Inventor:** Alan Rhodes, Ely, United Kingdom

[73] **Assignee:** Ethical Pharmaceuticals Limited,
United Kingdom

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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** 424/470; 514/965;
424/468; 424/469; 424/472; 424/473

[58] **Field of Search** 424/468, 469, 470, 472,
424/473; 514/965

[56] **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|-----------|---------|-----------------------|---------|
| 2,809,916 | 10/1957 | Hermelin | 424/500 |
| 2,809,917 | 10/1957 | Hermelin | 424/472 |
| 3,148,124 | 9/1964 | Gaunt | 424/468 |
| 3,279,998 | 10/1966 | Raff et al. | 424/469 |
| 3,400,197 | 9/1968 | Lippmann | 424/469 |
| 3,402,240 | 9/1968 | Cain et al. | 424/468 |
| 3,870,790 | 3/1975 | Lowey et al. | 424/469 |
| 3,946,110 | 3/1976 | Hill | 514/161 |
| 3,962,414 | 6/1976 | Michaels | 424/473 |
| 4,369,172 | 1/1983 | Schor et al. | 424/468 |
| 4,540,566 | 9/1985 | Davis et al. | 514/964 |
| 4,590,062 | 5/1986 | Jang | 424/469 |
| 4,695,467 | 9/1987 | Uemura et al. | 424/468 |
| 4,780,318 | 10/1988 | Appelgren et al. | 514/965 |

FOREIGN PATENT DOCUMENTS

| | | |
|---------|---------|----------------------|
| 0013131 | 9/1980 | European Pat. Off. . |
| 0094513 | 11/1983 | European Pat. Off. . |
| 1021924 | 3/1966 | United Kingdom . |
| 1033484 | 6/1966 | United Kingdom . |
| 1137379 | 12/1968 | United Kingdom . |
| 1333576 | 10/1973 | United Kingdom . |
| 1405088 | 9/1975 | United Kingdom . |
| 1486288 | 9/1977 | United Kingdom . |

Primary Examiner—Ronald W. Griffin

Attorney, Agent, or Firm—Saidman, Sterne, Kessler & Goldstein

[57] **ABSTRACT**

A slow release formulation to be administered to humans or animals, comprising primary granules which contain an active ingredient and are in a secondary matrix of a water soluble/dispersible slow release material, the granules themselves comprising particles containing the active ingredients and in a primary matrix of a water soluble/dispersible slow release material.

Optionally the formulation comprises a binder phase of a water insoluble slow release material having embedded therein secondary granules comprising the secondary matrix containing the primary matrix granules.

The water soluble/dispersible material may be a polysaccharide and acacia and low viscosity methylcellulose are exemplified, as well as alginate and gelatine.

20 Claims, 4 Drawing Sheets

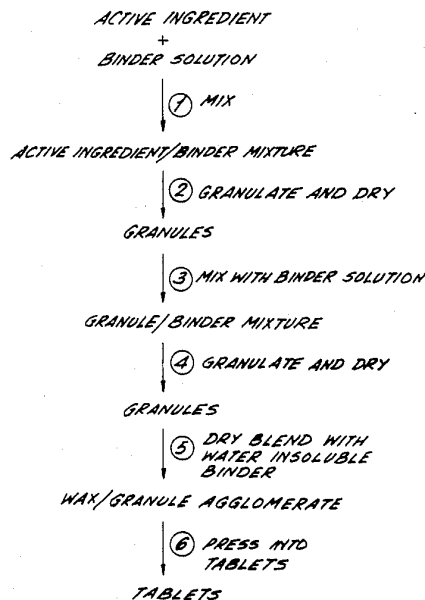


FIG. 1.

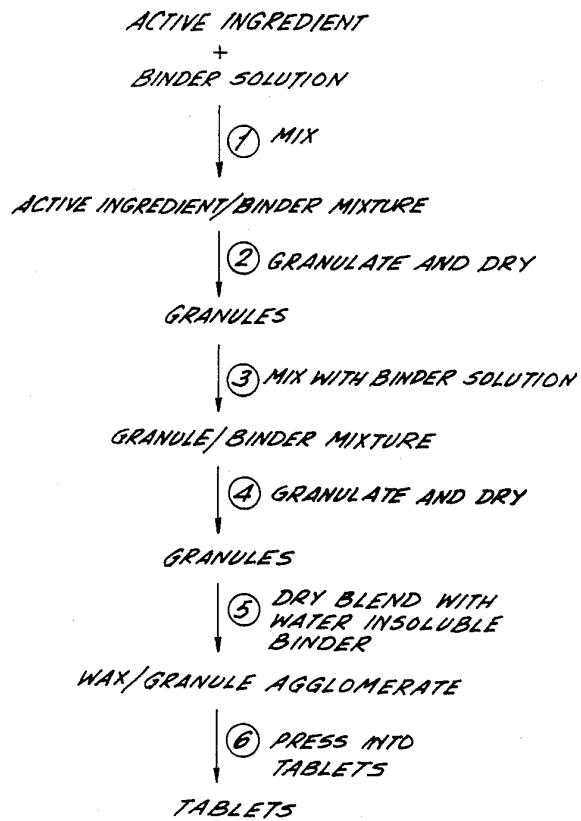


FIG. 2.

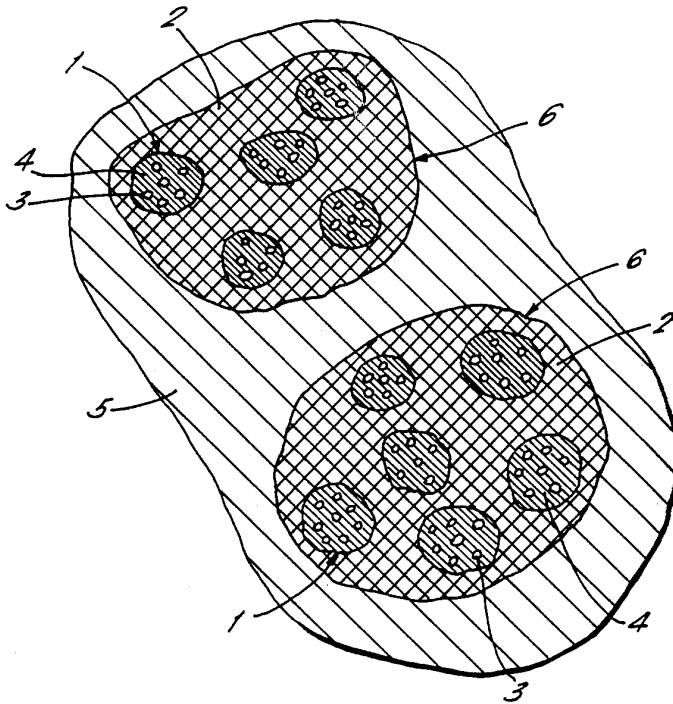


FIG. 3.

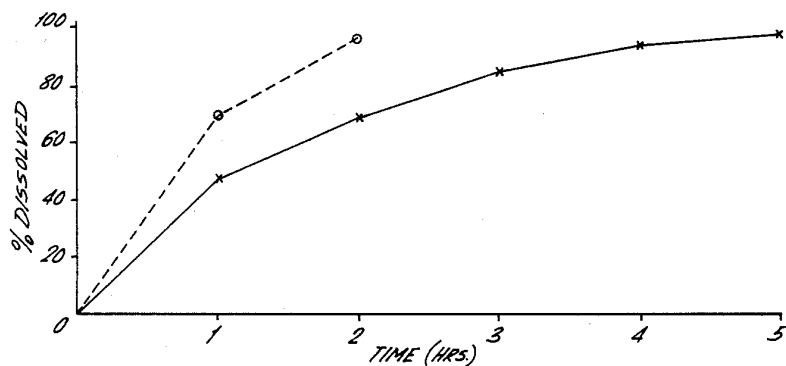


FIG. 4.

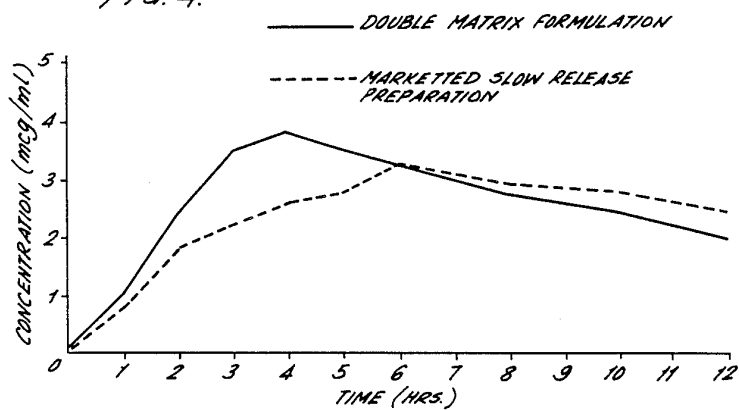


FIG. 5.

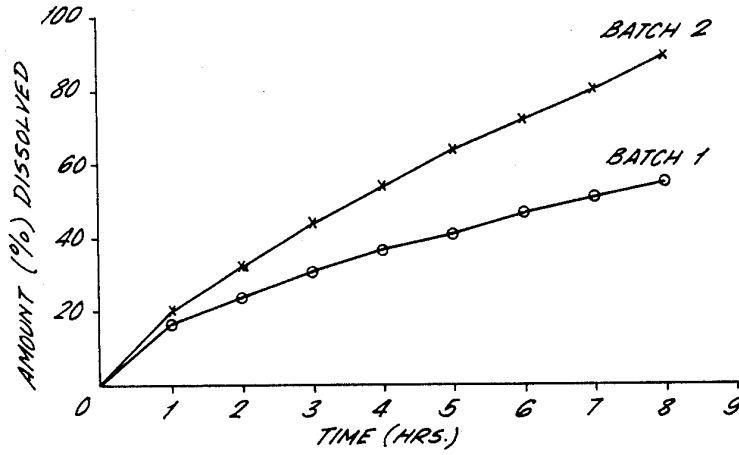
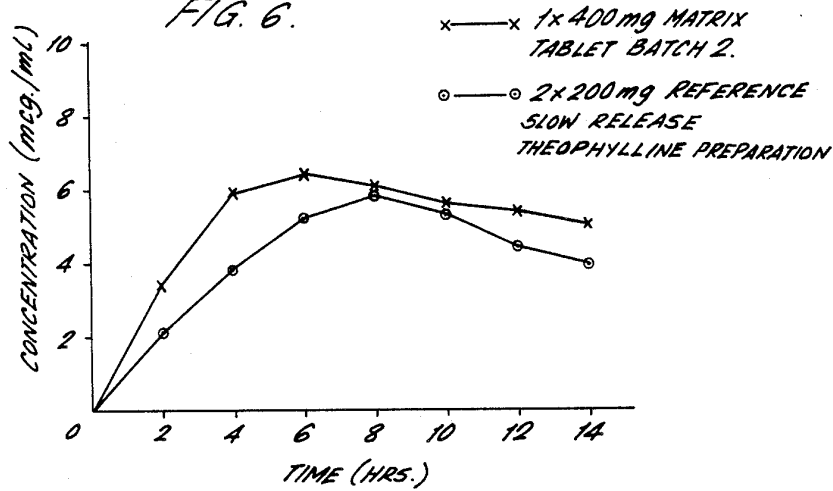


FIG. 6.



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