## United States Patent [19]

## **Rhodes**

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[54]	SLOW RELEASE FORMULATION				
[75]	Inventor:	Alan Rhodes, Ely, United Kingdom			
[73]	Assignee:	Ethical Pharmaceuticals Limited, United Kingdom			
[21]	Appl. No.:	12,026			
[22]	Filed:	Feb. 9, 1987			
[30]	30] Foreign Application Priority Data				
Feb. 13, 1986 [GB] United Kingdom 8603523					
[58]	Field of Sea	424/468, 469, 470, 472, 424/473; 514/965			
[56]		References Cited			

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#### [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

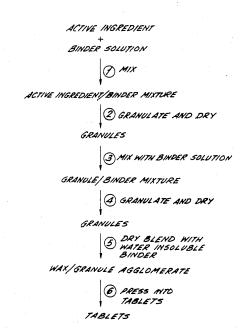




FIG. 1.

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ACTIVE INGREDIENT

BINDER SOLUTION

(7) MIX

ACTIVE INGREDIENT/BINDER MIXTURE

2 GRANULATE AND DRY

GRANULES

3 MIX WITH BINDER SOLUTION

GRANULE/ BINDER MIXTURE

4 GRANULATE AND DRY

GRANULES

5 DRY BLEND WITH WATER INSOLUBLE BINDER

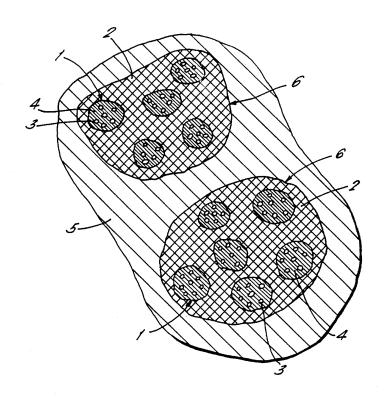
WAX/GRANULE AGGLOMERATE

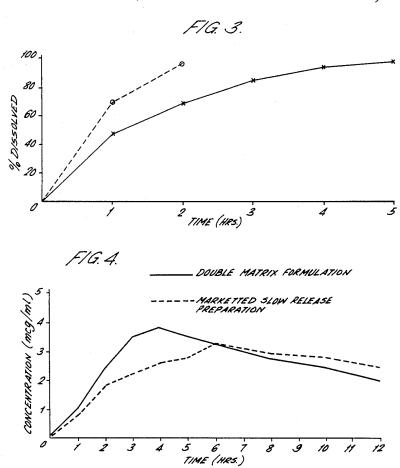
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TABLETS

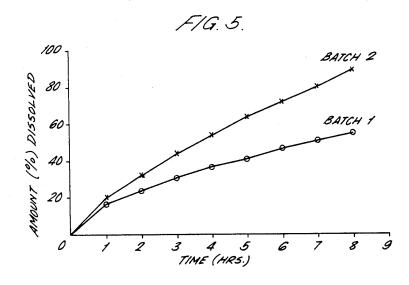


FIG. 2.

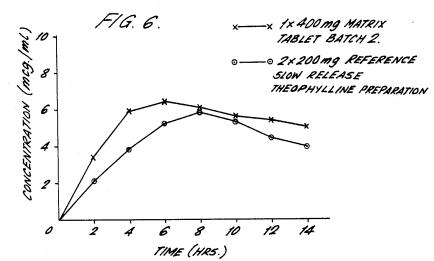




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