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[54] POLYVINYL ALCOHOL OPHTHALMIC GEL

[75] Inventors: **Sukhbir S. Chrai**, Belleville; **Santosh Gupta**, Bloomfield; **Michael J. Hensley**, Dover, all of N.J.

[73] Assignee: **Schering Corporation**, Kenilworth, N.J.

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Related U.S. Application Data

[63] Continuation of Ser. No. 816,783, Jul. 18, 1977, abandoned.

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[52] **U.S. Cl.** ..... **424/78**; 424/148; 424/236; 424/283; 424/273 R; 424/325

[58] **Field of Search** 424/273, 148, 78, 236, 424/283, 325

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,703,777	3/1955	Feinstein et al.	424/148
2,861,920	11/1958	Dale et al.	424/78
3,214,338	10/1965	Ehrlich	424/78
3,608,073	9/1971	Phares et al.	424/273
3,767,788	10/1973	Rankin	424/78
4,003,991	1/1977	Krohn et al.	424/78

FOREIGN PATENT DOCUMENTS

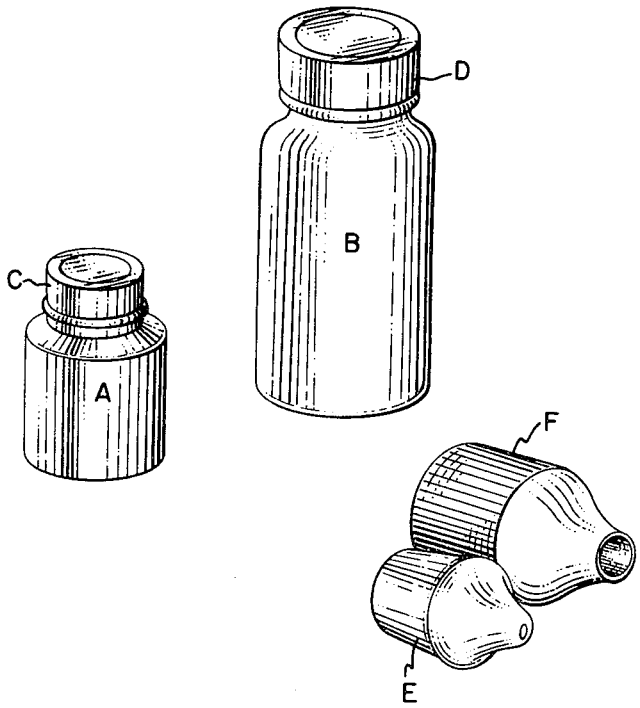
2459391	6/1975	Fed. Rep. of Germany	424/273

OTHER PUBLICATIONS

Invest. Ophthal. Feb. (1975) 14 (2) pp. 87–89, "Ophthalmic Drug Inserts".
Am. J. Ophthalmol. 57 (1) pp. 99–106 (1964)–Krishna et al., PVA as an Ophthalmic Vehicle.
Symposium on Ocular Therapy, 9 pp. 1–16 (1977), Maichuk–"Polymeric Drug Delivery Systems".
Japanese Published Appli. 7,131,456–Modified PVA Hydrogel Compositions–(1967).

Primary Examiner—Douglas W. Robinson
Attorney, Agent, or Firm—Barbara L. Renda

[57] **ABSTRACT**

An ophthalmic gel having an improved intensity and duration of the biological response is provided by utilizing a polyvinyl alcohol-sodium borate gel buffered to a pH of 6.5–8.5.

19 Claims, 1 Drawing Figure