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# United States Patent [19]

[11] Patent Number: **5,981,607**

Ding et al.

[45] Date of Patent: **Nov. 9, 1999**

[54] **EMULSION EYE DROP FOR ALLEVIATION OF DRY EYE RELATED SYMPTOMS IN DRY EYE PATIENTS AND/OR CONTACT LENS WEARERS**

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5,474,979 12/1995 Ding et al. .... 514/11

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Diagnosis and Management of Dry Eye and Ucular Surface Disorders; OPH Clinic of N.A. vol. 3, No. 4, pp. 575-594, Dec. 1990.

*Primary Examiner*—Jeffrey E. Russel  
*Attorney, Agent, or Firm*—Walter A. Hackler

### [57] ABSTRACT

An eye drop composition for alleviation of dry eye related symptoms in dry eye patients and contact lens wearers includes an emulsion of a higher fatty acid glyceride, polysorbate 80 and an emulsion stabilizing amount of Pemulen® in water suitable for topical application to ocular tissue.

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[73] Assignee: **Allergan**, Irvine, Calif.

[21] Appl. No.: **09/008,924**

[22] Filed: **Jan. 20, 1998**

[51] **Int. Cl.**<sup>6</sup> ..... **A61K 47/12**; A61K 47/14; A61K 47/34

[52] **U.S. Cl.** ..... **514/785**; 514/786; 514/912; 514/915; 514/941; 514/943; 514/975

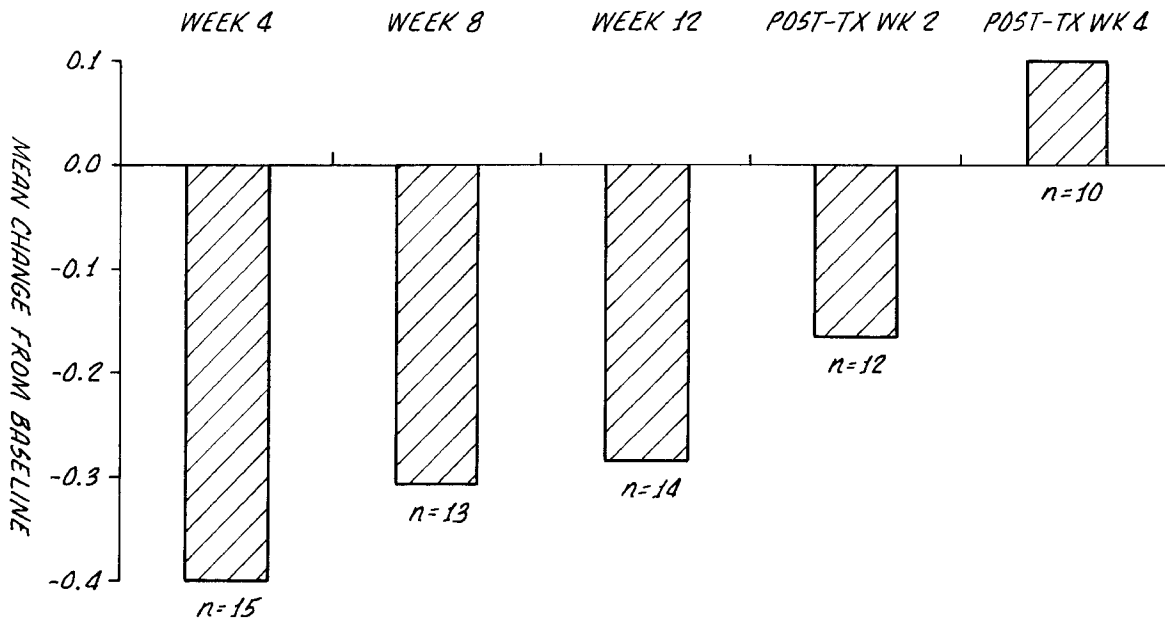
[58] **Field of Search** ..... 514/9, 11, 178, 514/179, 180, 181, 420, 625, 627, 784, 785, 786, 912, 913, 914, 915, 941, 943, 975

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**4 Claims, 7 Drawing Sheets**



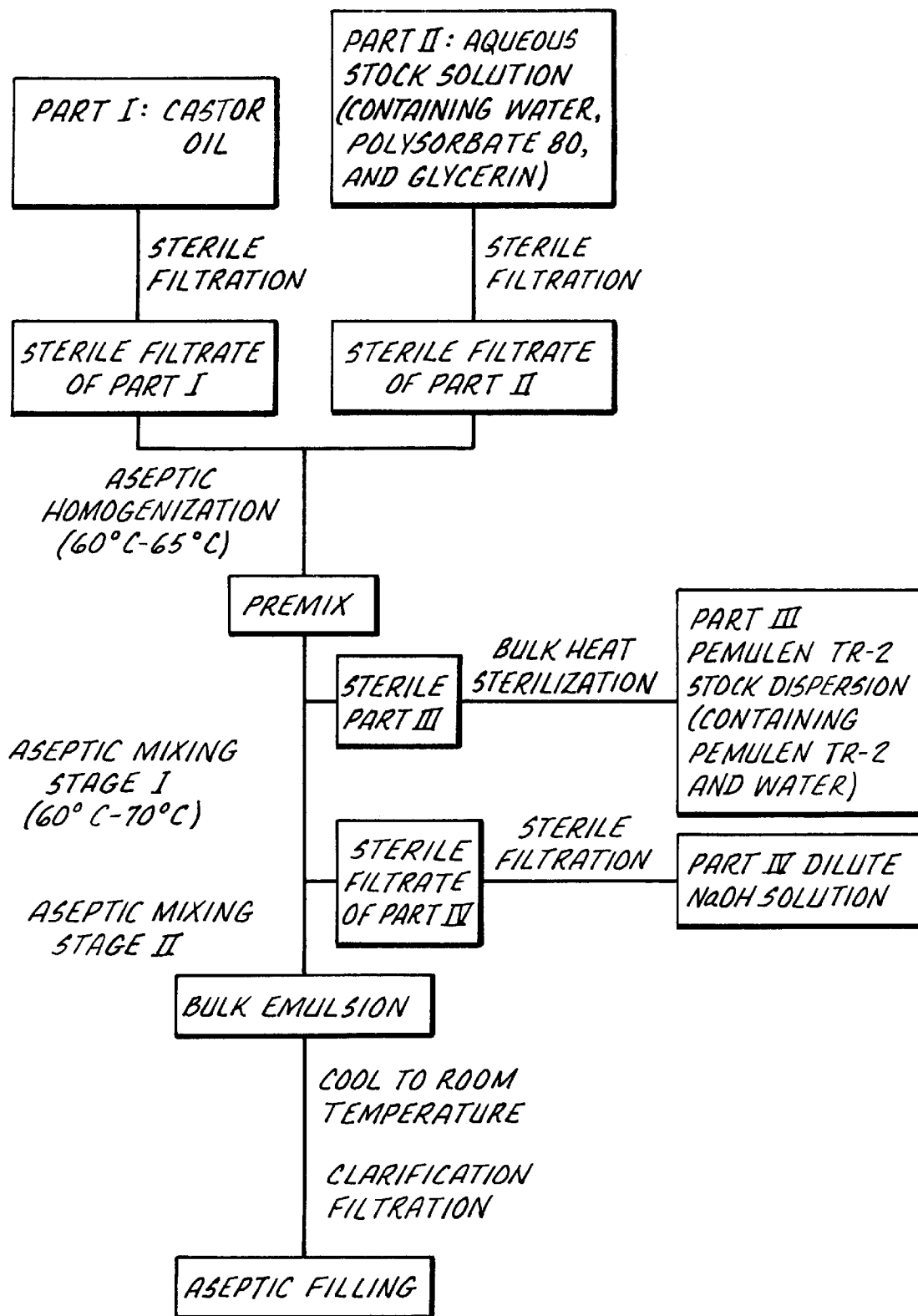


FIG. 1.

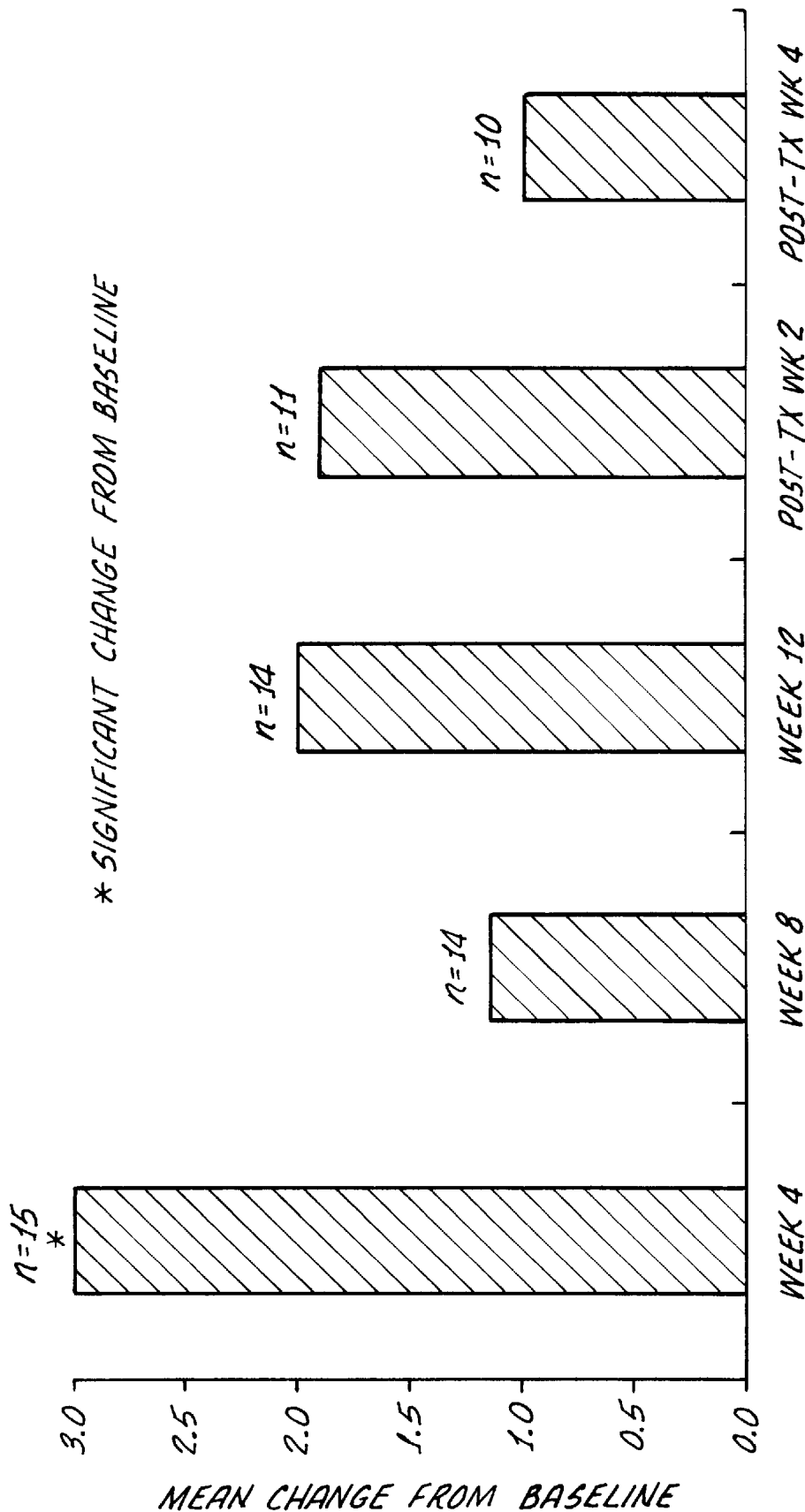


FIG. 2.

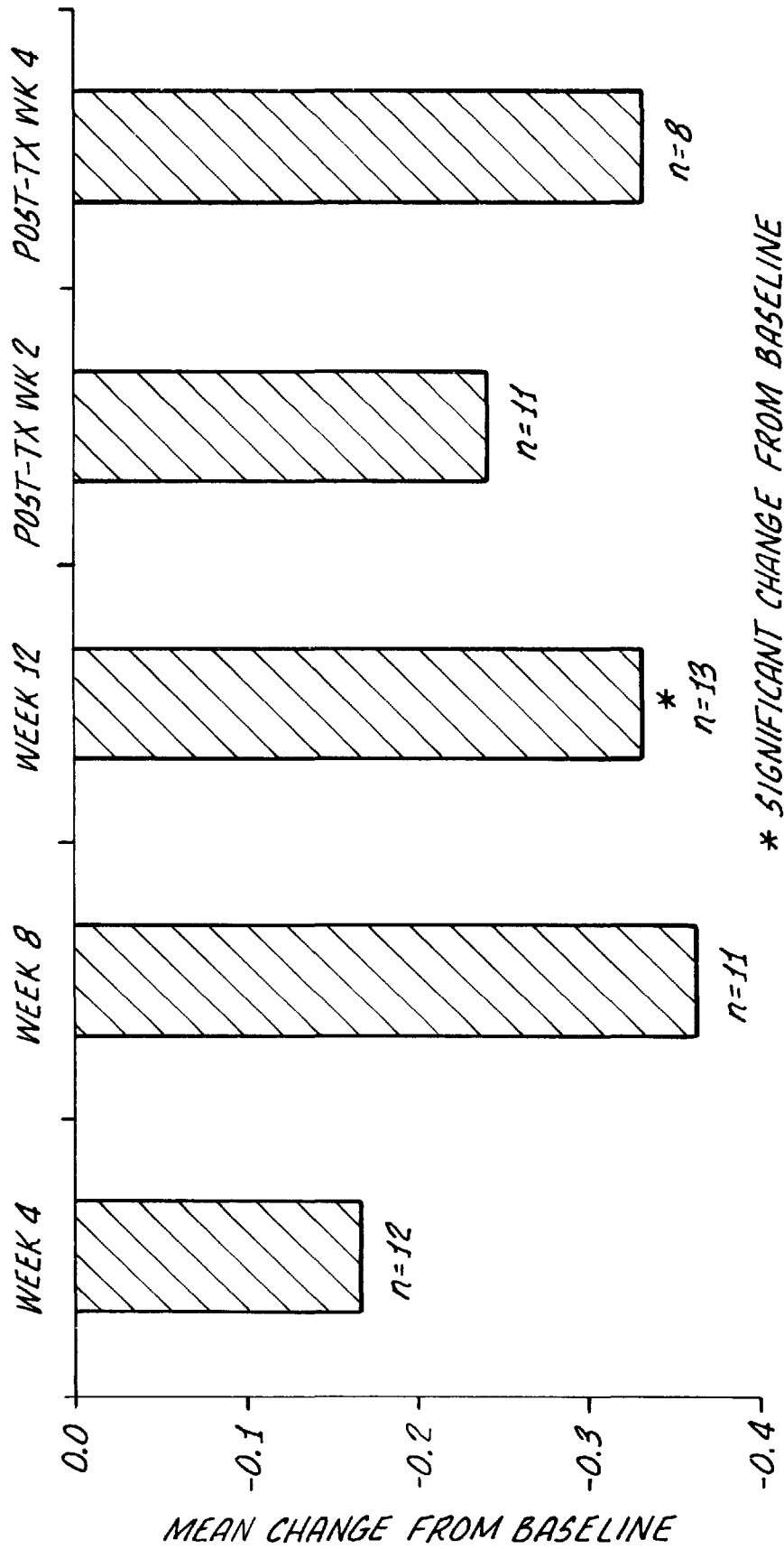
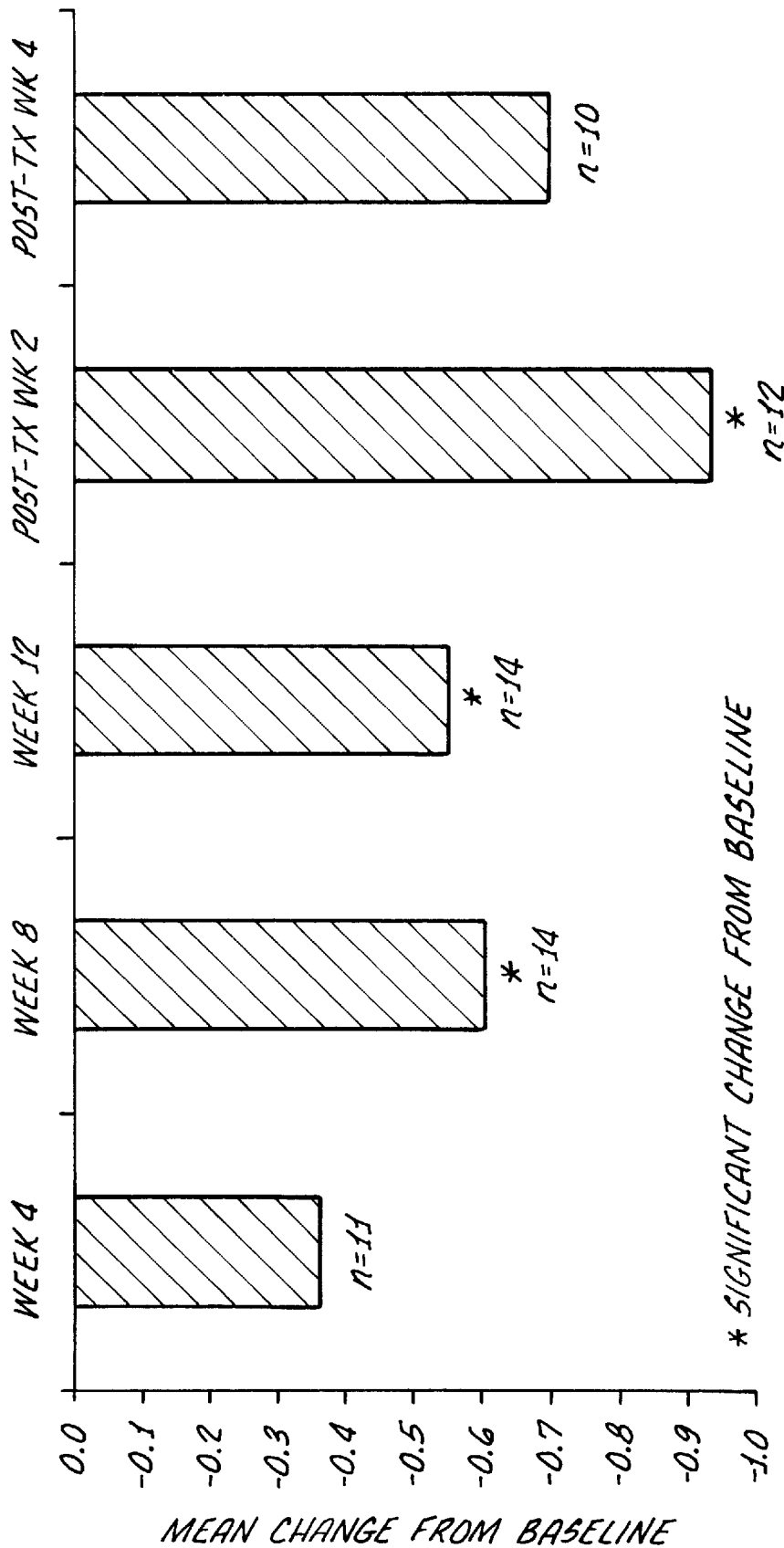


FIG. 3.



\* SIGNIFICANT CHANGE FROM BASELINE

FIG. 4.

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