THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte DOUGLAS K. STRUCK, RYLAND F. YOUNG and YUNG-FU CHANG

Appeal No. 95-0653
Application 07/429,273[1]

HEARD: MARCH 4, 1996

Before WINTERS, WILLIAM F. SMITH and GRON, Administrative Patent Judges.

WILLIAM F. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 5, 7, 10 through 15, 19 and 20. Claims 2, 3, 5 and 19 were subsequently canceled, leaving claims 1, 4, 7, 10 through 15 and 20 for our consideration.

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[1] Application for patent filed October 31, 1989.

Claim 1 is illustrative of the subject matter on appeal and reads as follows:[2]

1. A purified isolated DNA sequence consisting essentially of a DNA sequence coding for an A. pleuropneumoniae hemolysin shown in FIG. 1 corresponding to nucleotide sequence 1 through 3386.

The references relied upon by the examiner are:

Nicaud, J. M. et al. (Nicaud), "Characterisation of HlyC and mechanism of activation and secretion of haemolysin from E. coli 2001," 187 Federation of European Biochemical Societies, no. 2, 339-344 (Aug. 1985).

Lo, Reggie Y. C. et al. (Lo 1985), "Cloning and Expression of the Leukotoxin Gene of Pasteurella haemolytica A1 in Escherichia coli K-12," 50 Infection and Immunity, no. 3, 667-671 (Dec. 1985).

Koronakis, Vassilis et al. (Koronakis), "The Secreted Hemolysins of Proteus mirabilis, Proteus vulgaris, and Morganella morganii Are Genetically Related to Each Other and to the Alpha-Hemolysin of Escherichia coli," 169 Journal of Bacteriology, no. 4, 1509-1515 (Apr. 1987).

Lo, Reggie Y. C. et al. (Lo 1987), "Nucleotide Sequence of the Leukotoxin Genes of Pasteurella haemolytica A1," 55 Infection and Immunity, no. 9, 1987-1996 (Sept. 1987).

Welch, Rodney A., "Identification of Two Different Hemolysin Determinants in Uropathogenic Proteus Isolates," 55 Infection and Immunity, no. 9, 2183-2190 (Sept. 1987).

Chang, Yung-Fu et al. (Chang), "Identification and Characterization of the Pasteurella haemolytica Leukotoxin," 55 Infection and Immunity, no. 10, 2348-2354 (Oct. 1987).

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[2] For a complete understanding of the subject matter of this claim, a copy of Figure 1 of this application which is referred to in claim 1 is attached as an appendix.

Frey, Joachim et al. (Frey), "Purification and partial characterization of a hemolysin produced by Actinobacillus pleuropneumoniae type strain 4074," FEMS Microbiology Letters 55, 41-46 (1988).

Highlander, Sarah K. et al. (Highlander), "DNA Sequence of the Pasteurella haemolytica Leukotoxin Gene Cluster," 8 DNA, no. 1, 15-28 (1989).

As set forth in the Supplemental Examiner's Answer (Paper No. 24, January 12, 1994), the sole ground of rejection remaining in this appeal is that of claims 1, 4, 7, 10 through 15 and 20 under 35 U.S.C. § 103 as unpatentable over Frey taken with any of Lo (1985), Koronakis, Chang, Welch, Nicaud, Lo (1987) or Highlander.

We reverse.

Viewing these references apart from appellants' disclosure of the present invention, as we must, we agree with appellants that the examiner's conclusion of obviousness can only be based upon impermissible hindsight. Keeping in mind that the rejection is premised upon Frey in view of each of the "secondary" references individually, the examiner has not explained with the requisite specificity how any of the proposed combinations of references teach or suggest the claimed invention. Of particular significance are the statements in Frey that the hemolysins of A. pleuropneumoniae were poorly known and had not yet been purified. The examiner has not established on this record how a

person having ordinary skill in the art would have without undue experimentation successfully identified and isolated a DNA sequence encoding a protein which was "poorly known" and in such an unpurified state. Conclusions of obviousness under 35 U.S.C. § 103 must be based upon facts of record, not unfounded generalities. In re Freed, 425 F.2d 785, 165 USPQ 570 (CCPA 1970), In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967).

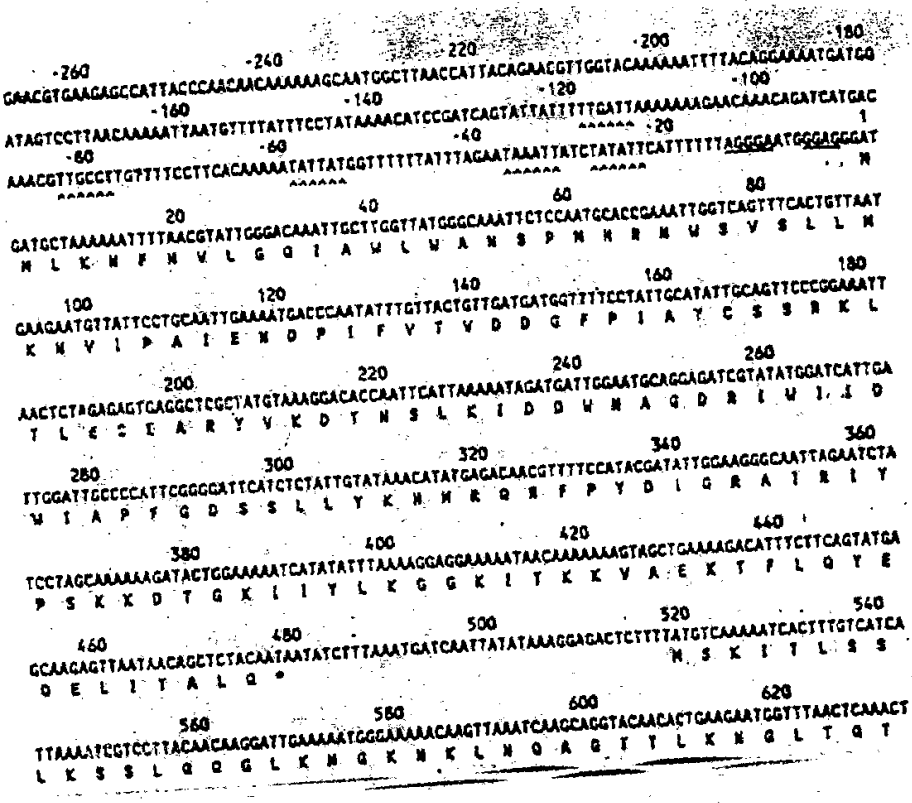
The decision of the examiner is reversed.

REVERSED

SHERMAN D. WINTERS)
Administrative Patent Judge)
)
)
WILLIAM F. SMITH) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
) INTERFERENCES
)
TEDDY S. GRON)
Administrative Patent Judge)

APPENDIX

FIG. 1A



APPENDIX

FIG. 1A

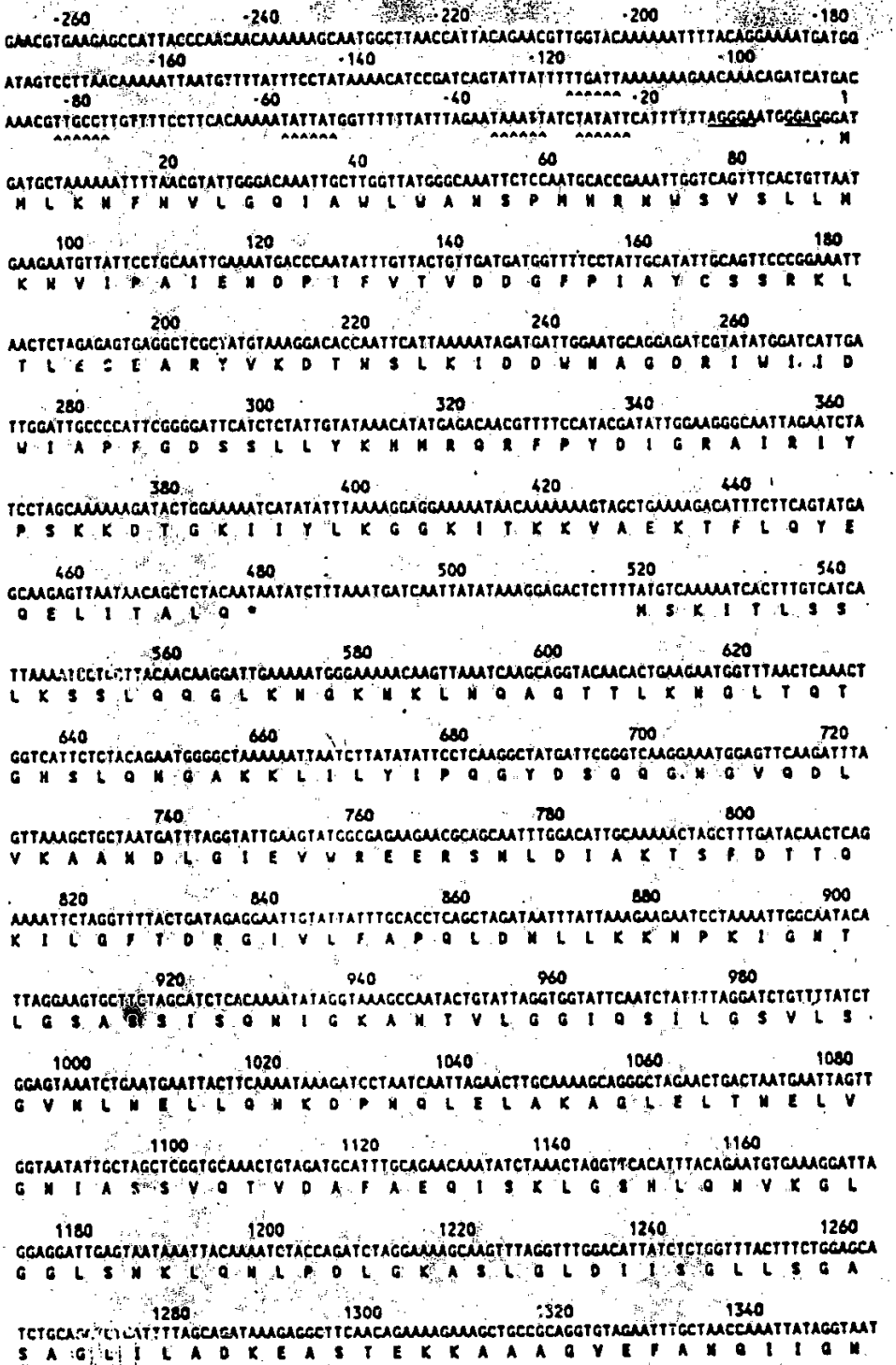


FIG. 1B

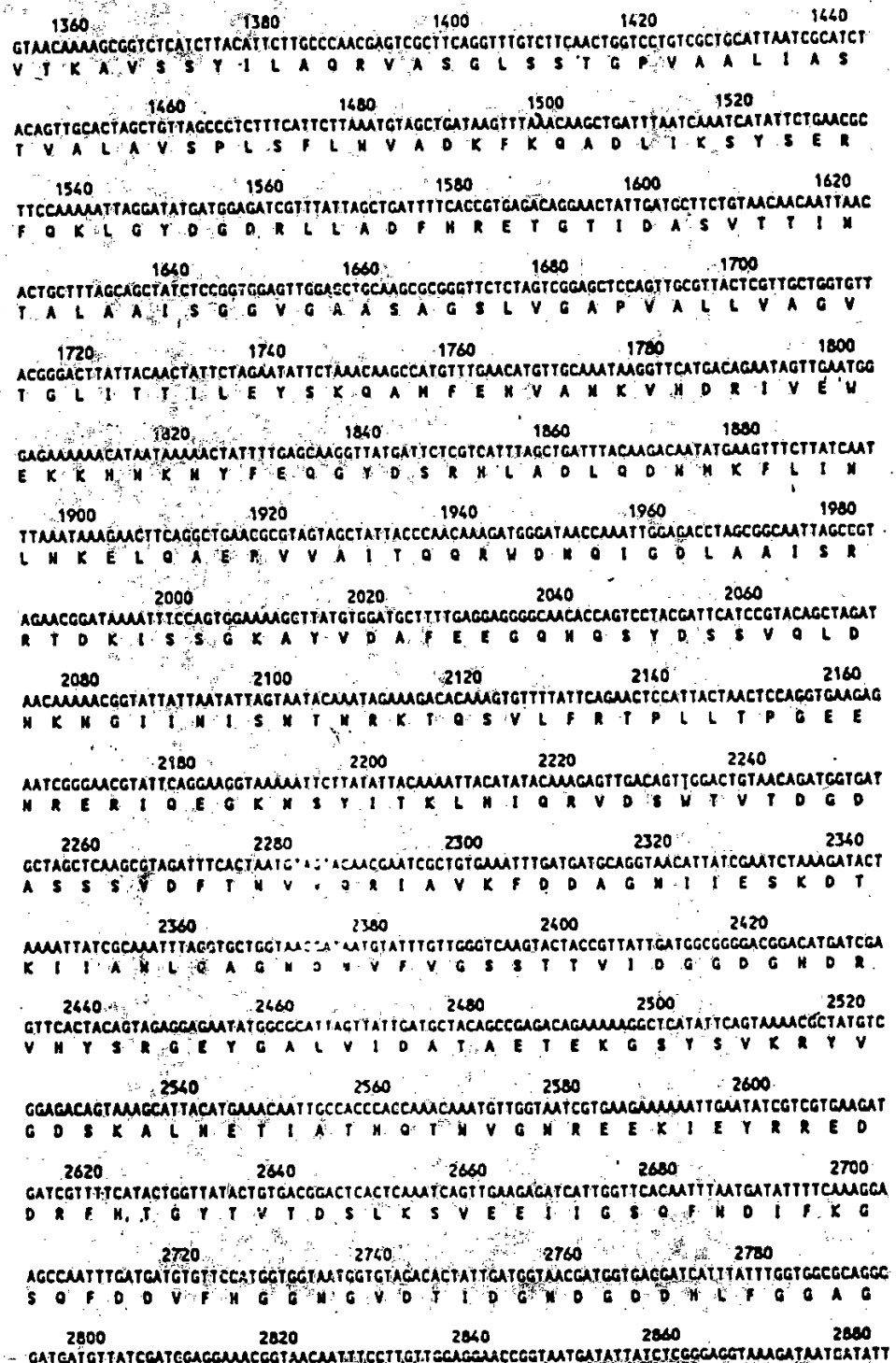


FIG. 1C