

[54] **ULTRASONIC TESTING OF SHEET AND PLATE STOCK**

[75] Inventors: **Hans-Jürgen Bäthmann, Moers; Gert Fischer, Mülheim; Heinz Schneider, Düsseldorf**, all of Fed. Rep. of Germany

[73] Assignee: **Mannesmann Aktiengesellschaft, Düsseldorf**, Fed. Rep. of Germany

[21] Appl. No.: **185,565**

[22] Filed: **Sep. 9, 1980**

[30] **Foreign Application Priority Data**

Sep. 7, 1979 [DE] Fed. Rep. of Germany 2936737

[51] Int. Cl.³ **G01N 29/00; G01N 29/04**

[52] U.S. Cl. **73/600; 73/599; 73/613**

[58] Field of Search **73/602, 600, 609, 610, 73/613, 618, 599**

[56] **References Cited****U.S. PATENT DOCUMENTS**

3,572,099 3/1971 Wieczorek 73/602
 3,780,570 12/1973 Collins 73/600
 3,918,295 11/1975 Herbertz 73/613
 3,952,578 4/1976 Jacobs 73/618 X
 4,041,774 7/1977 Morris et al. 73/610

4,173,897 11/1979 Forsterman et al. 73/609
 4,173,898 11/1979 Forsterman et al. 73/612
 4,201,093 5/1980 Logon 73/609
 4,226,121 10/1980 Knospler 73/602
 4,240,281 12/1980 Lather et al. 73/1 DV
 4,271,389 6/1981 Jacobi et al. 73/602

FOREIGN PATENT DOCUMENTS

2058350 4/1981 United Kingdom 73/600

Primary Examiner—Edward R. Kazenske

Assistant Examiner—David V. Carlson

Attorney, Agent, or Firm—Ralf H. Siegemund

[57] **ABSTRACT**

Sheet or plate stock is used as to defects by a row of ultrasonic transmitting transducers on one side and receiving transducers on the other. The transmitting transducers receive frequency-modulated signals via individual buffers, and the receiving transducers feed individual, digital amplitude envelope minima to detection circuits whose outputs are fed to a computer which also feeds operating parameters to the source for the modulated signals. Different types (autonomy) of the receiver channels are described as well as diagnostic and setup procedures.

10 Claims, 2 Drawing Figures

