United States Patent [19]

Grable

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[54] METHOD FOR FABRICATING A RECIPROCATING PISTON PUMP

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Related U.S. Application Data

[62] Division of Ser. No. 376,698, May 10, 1982, Pat. No. 4,477,237.

29/281.5; 29/464; 29/559; 29/DIG. 48; 227/152

[56] References Cited

U.S. PATENT DOCUMENTS

1,111,943	9/1914	Bennett	269/43
1,604,483	10/1926	Roberts	269/43 X
1,673,943	6/1928	Herr	29/156.4 R
2,331,513	10/1943	Stahl	417/539 X
2,444,963	7/1948	Taylor	417/539
3,935,633	2/1976	Bunker	29/559

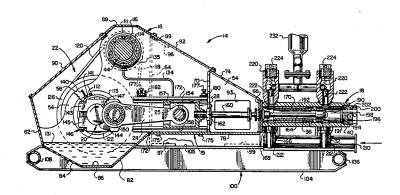
Primary Examiner—Howard N. Goldberg Assistant Examiner—Ronald S. Wallace

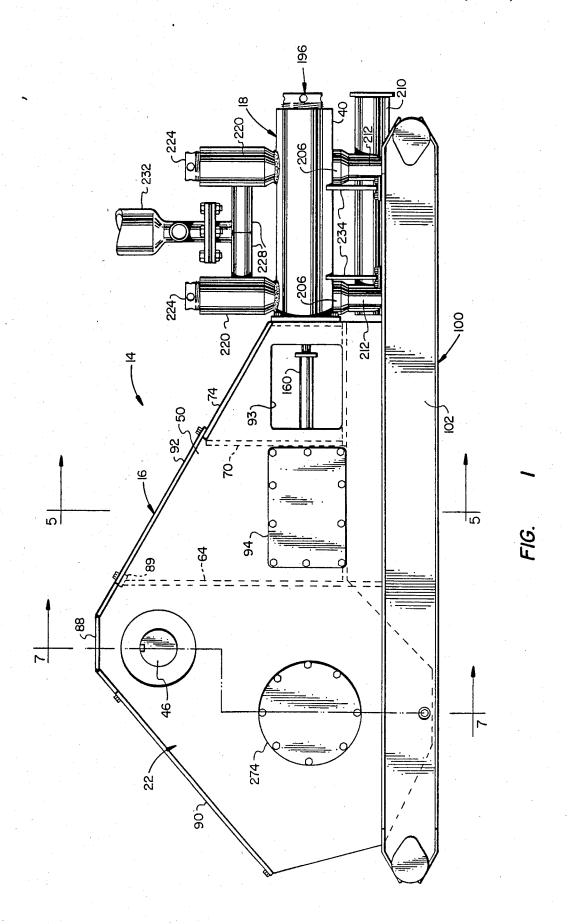
Attorney, Agent, or Firm—Hubbard, Thurman, Turner & Tucker

[57] ABSTRACT

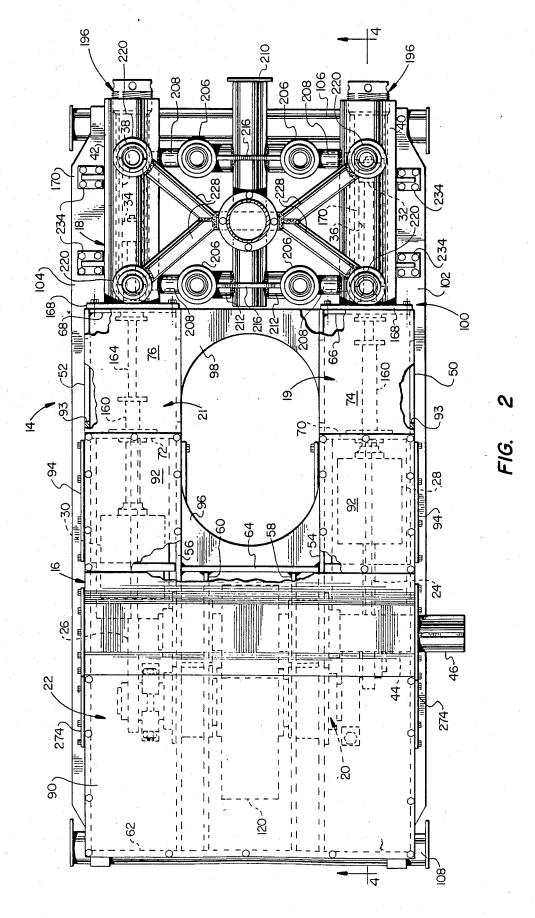
A fabricated reciprocating piston pump having a power end frame characterized by spaced apart elongated precut steel plate members forming the frame sidewalls and forming bearing support members for supporting the jackshaft and eccentric shaft bearings. The shaft bearings are mounted in cylindrical sleeves which are supported by respective pairs of the frame plate members. The pump includes crossheads which are of rectangular cross-sectional shape having flat parallel bearing surfaces and which are supported in the frame by elongated crosshead slide plates which may be adjusted laterally and vertically to align the crossheads with the axis of reciprocation of the pump piston rods. The pump fluid end is made up of premachined cylindrical tube and bar stock sections which are welded together into a unitary assembly including the pump cylinders, the suction and discharge valve housings, and the suction and discharge fluid manifolds. The power end frame is fabricated using a fixture for supporting precut steel plate members and premachined bearing support sleeve members whereby the power end frame may be fabricated by welding the frame members together in a fixture so that upon removal of the frame from the fixture, no further machining of the shaft bearing bores or the crosshead bearing surfaces is required.

6 Claims, 11 Drawing Figures









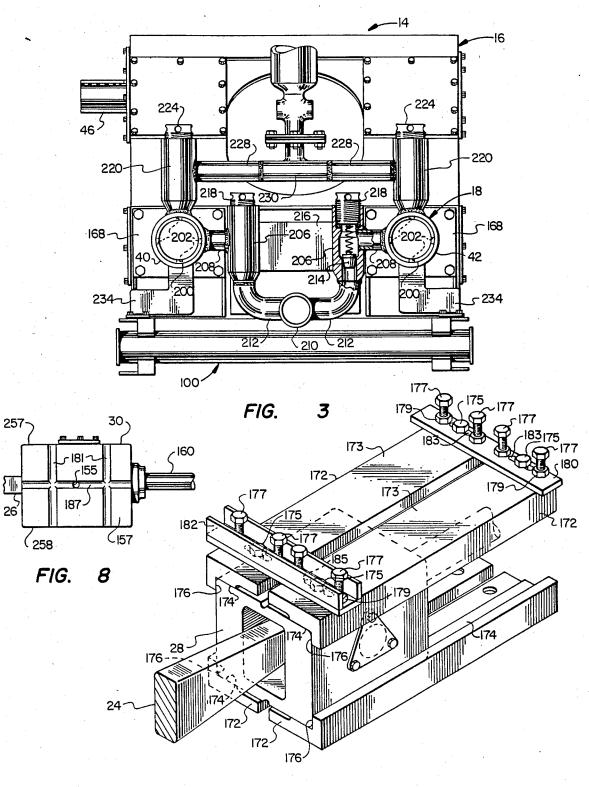
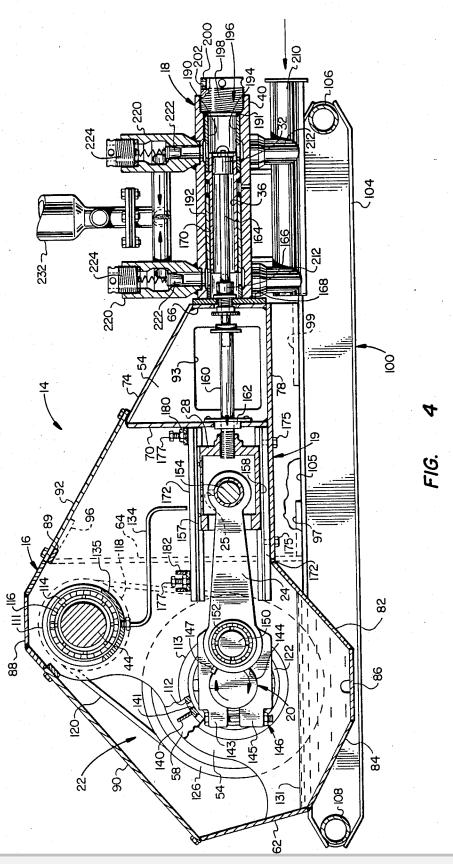


FIG.



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