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(71) Applicant: ALARIS MEDICAL SYSTEMS, INC. [US/US]; 10221 Wateridge Circle, Building A, San Diego, CA 92121 (US).

(72) Inventor: BOYNE-AITKEN, David, E.; Treetops, Southampton Road, Cadnam, Southampton S040 2NG (GB).

(74) Agents: RUNK, Thomas, A. et al.; Fulwider Patton Lee & Utecht, LLP, Howard Hughes Center, 6060 Center Drive, 10th Floor, Los Angeles, CA 90045 (US).

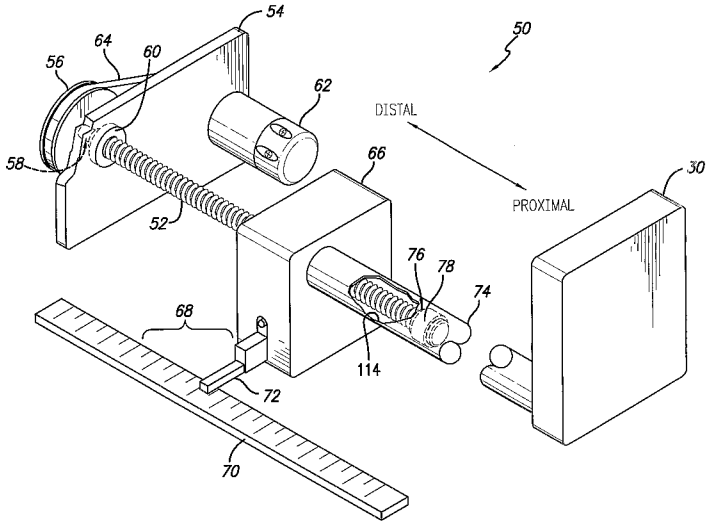
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(54) Title: SUPPORT DEVICE IN A SYRINGE PUMP FOR SLIDABLY BEARING THE FREE END OF THE LEAD SCREW IN A TUBE



(57) Abstract: A lead screw mounting system for a syringe pump in which a second end of a lead screw is located within a hollow connection tube that connects a drive device engaged with the lead screw to a plunger drive head. A bearing mount is formed at the second end of the lead screw and a split bearing mounted to the bearing mount. The bearing mount has diverging bearing surfaces in an hour glass shape and the bearing has a complementary inner shape. The bearing is larger than the inner diameter of the connection tube and is in constant contact with the tube. During operation, the bearing tends to move up one or the other of the diverging bearing surfaces of the bearing mount depending on which direction the hollow connection tube is moving over the bearing creating a wedge action. The split bearing functions to keep the lead screw concentrically located within the hollow connection tube thereby increasing flow uniformity of the syringe pump.

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