This Sheet Has Been Replaced





(14)

# A CATHETER HAVING A GEAR-SHAPED LUMEN TO AVERT THE ELIMINATION OF FLUID FLOW THEREIN

## Abstract

A catheter designed for improved patency characteristics under forces normally exerted upon the catheter during use. The catheter features an inner wall having one or more protuberances running lengthwise in a manner parallel with the central axis of the catheter. The protuberances include a tip, a root defined along the inner wall, and a pair of sidewalls extending between the tip and the root. The roots of adjacent protuberances are spaced from one another. A fluid path is established between the inner wall and the opposed sidewalls of adjacent protuberances. The opposed sidewalls can be straight. Alternately, at least one of the opposed sidewalls includes a non-linear portion along its length. In response to a force normally exerted upon the catheter during use, the spacing between adjacent roots and, if so provided, the non-linear portion of an opposed sidewall prevents the opposed sidewalls from entering into total contact with one another, thereby preventing occlusion of the fluid path. If desired, to strengthen the catheter against occlusion by a medical adapter attached to the proximal end, one or more support elements may be incorporated at the proximal end of the inner wall.