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(54) Title: APPARATUS FOR CREATING A PATHWAY IN AN ANIMAL AND METHODS THEREFOR

(57) **Abstract:** A method and apparatus for safer and more effective deep trans-cervical intra-uterine artificial insemination (AI) is provided. Such a deep AI catheter causes minimal discomfort and risk of trauma, and does not require the services of a highly trained AI professional. First, a catheter is inserted into the cervical tract of the animal. A membrane, initially positioned inside a tube section of the catheter, is then extended from an opening in the tube and into the tract under pressure. The membrane extends into the tract without friction thereby reducing the discomfort and the risk of trauma or injury to the animal. When the membrane is fully extended into the tract, pressure causes the tip of the membrane to open thereby releasing the AI fluid and depositing the genetic material suspended in the fluid into the reproductive tract. Deployment of the membrane is facilitated by tapering its wall thickness towards its tip. In addition to AI and embryo transplant, other applications for the pathway include therapeutic, diagnostic, or other procedures such as introducing fluoroscopic cameras, instruments, and drug delivery.



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