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Wijay

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[54] FLEXIBLE STENT

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[58] Field of Search 623/1, 11, 12;
606/194, 195

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[57] ABSTRACT

A flexible stent is disclosed that can be constructed in a variety of ways. It can be made from a continuous wire formed into discrete rings of undulating bends where the end rings are closed up on themselves, and the continuous wire which forms the rings between the end rings defines longitudinal gaps in each of the internal rings, which gaps are in turn straddled by crossties which, in the preferred embodiment, extend in a perpendicular plane to the longitudinal axis of the stent, while being disposed in alignment with the cylindrical surface defined by the stent. The crossties act to keep the opening in the inner rings constrained during expansion of the stent. The presence of the longitudinal openings in the internal rings adds to the flexibility of the stent to ease delivery to the desired location. Alternatively, the flexible stent can be etched from a tube. In this preferred embodiment, alternating rings of an undulating wire-type element, etched from a tube, are presented. The rings alternate between those that are fully closed upon themselves, interspersed adjacent those that have a longitudinal opening, coupled by crossties which extend symmetrically from opposite sides and opposite ends of the longitudinal opening in the open rings to attach to the ring above and ring below. The disposition of the crossties helps the stent expand by providing resistance to opening of the longitudinal gap during expansion. The presence of the longitudinal gap adds to the flexibility of the stent for proper delivery to the desired location.

20 Claims, 2 Drawing Sheets

