

US010357640B2

(12) United States Patent Abbate

(54) EXPANDABLE DEVICES AND METHODS FOR TREATING A NASAL OR SINUS CONDITION

(75) Inventor: **Anthony J. Abbate**, Santa Clara, CA (US)

(73) Assignee: **Intersect ENT, Inc.**, Menlo Park, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 508 days.

(21) Appl. No.: 12/779,240

(22) Filed: May 13, 2010

(65) **Prior Publication Data**

US 2011/0125091 A1 May 26, 2011

Related U.S. Application Data

- (60) Provisional application No. 61/178,896, filed on May 15, 2009.
- (51) Int. Cl.

 A61F 2/18 (2006.01)

 A61M 29/00 (2006.01)

 A61M 31/00 (2006.01)

 A61F 5/08 (2006.01)

 A61K 9/00 (2006.01)

 (Continued)

(52) U.S. Cl.

(58) Field of Classification Search

CPC .. A61F 5/08; A61F 2/186; A61F 2/01; A61M 31/002; A61B 6/481

(10) Patent No.: US 10,357,640 B2

(45) **Date of Patent:** Jul. 23, 2019

USPC 606/199, 191, 198, 200; 604/104, 514, 604/164.1 See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

374,026 A 11/1887 Williams 2,009,393 A 7/1935 Failla (Continued)

FOREIGN PATENT DOCUMENTS

AU 2008/201495 A1 10/2008 CN 101189016 A 5/2008 (Continued)

OTHER PUBLICATIONS

Final Office Action dated May 5, 2014 for U.S. Appl. No. 12/883,087, filed Sep. 15, 2010, 10 pages.

(Continued)

Primary Examiner — Katherine M Rodjom (74) Attorney, Agent, or Firm — Cooley LLP

(57) ABSTRACT

Described here are expandable devices and methods for using them. The devices generally comprise a hub and a plurality of legs extending therefrom. In some variations, the hub may comprise one or more domed portions, tapered portions, or the like. The legs may comprise one or more straight segments, one or more curved segments, or a combination thereof. The devices may comprise one or more polymers, and/or one or more portions of the device may be configured to biodegrade. In other variations, the device may be configured to release one or more drugs therefrom. Additionally, in some variations the devices may be configured to be self-expandable from a low-profile configuration to an expanded configuration.

16 Claims, 20 Drawing Sheets

