Surgical devices

An endoscopic surgical instrument for removing tissue or bone, the instrument comprising (1) a generally tubular component (2) a cutting device which is housed in the distal end member and part of which protrudes beyond the window in the distal member, and (3) a means for operating the cutting device. The tubular component comprises a distal end member containing a cutting device, a proximal member, and between the distal member and the proximal member an hollow, generally tubular intermediate member which deforms elastically when the angle between the distal member family proximal member is changed. The intermediate member can for example be composed of a nickel titanium alloy, and/or can be slotted, and/or can be in the form of an accordion, and/or be in the form of a coil.

Priority Filed Granted Est. Exp.
2013-03-13 2013-03-13 2016-10-25 2033-11-12

Inventor(s) Zider, John R; Zider, Robert B.

An endoscopic surgical instrument for removing tissue or bone, the instrument comprising (1) a generally tubular component which comprises (a) a hollow, generally tubular distal end member which (a) has a first distal axis, (b) is rigid, and (c) comprises a window which exposes a substantial part of the interior of the distal end member, (2) a hollow, generally tubular proximal member which (a) is rigid, and (b) comprises a first proximal section which is adjacent to the distal end member and which has a first proximal axis, and (3) between the distal end member and the proximal member, a hollow, generally tubular intermediate member which (i) connects the distal end member and the proximal member, (ii) has a first configuration having an axis (ii) deforms elastically from the first configuration to a second configuration when the distal end member is pressed against a surface, thus changing the angle between the first distal axis and the first proximal axis, and (iii) returns to the first configuration when the distal end member is no longer pressed against a surface; (B) a cutting device which is housed in the distal end member and part of which protrudes beyond the window in the distal member, and (C) a shaft which is attached to the cutting device and which extends through the intermediate member and the proximal member.
Score Details

- Patent Score: 11
- Citation Score: 25
- Legal Score: 0
- Tech Score: 94
- Remaining Life: 14.48 yrs.
- Number Claims: 18
- Forward Citations: 1
- Family Size: 1
- Remaining Maint: US $12600

Citation Analysis

- Citation Impact Score: 25
- Forward Citations: 1
- Patent Citations: 1

Top Citing Companies

- MEDTRONIC XOMED INC: 1
Patent Owners With Similar Patents

Active Companies with Global Patent Families Classified Similar to US9474541 B2
With priority date in last 20 years listed in CPC class A61B17/32002 (and children classes)

Age in Class

Relative Age of US9474541 B2 Compared to Patents in Same CPC Class
Chart presents number of global patent families in CPC class A61B17/32002+