

Technology Offer

Novel Stapler for cutting and clamping solid organs

Ref. No.: CH722/2014

Background

For cutting organ parts, linear stapler are used so far in surgery. Two metal plates compress the tissue, the tissue borders are tangentially clamped, and tissue gets cut by the blade. Linear stapler are also used for minimal invasive surgery. However they are only applicable for flat organs, such as intestine. Cutting solid / voluminous organs by a linear stapler leads to not acceptable risks: The crushing of the organ leads to fissures which range far over the resection border. As a result, intra- and postoperative bleeding can occur and also fistula generation. At present, solid organs are therefore resected manually with the so-called fish mouth technique. With this technique the resection is not linear but wedge-shaped. The adaption of the wedge-shaped resection borders allows an inwards covering of the resection area. Due to the complexity, this technique is only applicable in the open surgery at present.

Technology

A new non-linear stapler device has been constructed which is able to resect solid organs with the fish mouth technique which results in overlapping wedge-shaped tissue resection borders and a good border sealing. This stapler is applicable in open as well as in minimal invasive surgery. With the new stapler cutting of solid organs will be possible without crushing of the resection border and without the risks followed by a crush. The specific arrangement of the clamping plates and the specific angle arrangement of the blades lead to the beneficial v-shaped tissue resection borders.

Benefits

- ✓ No crush of the resection border
- ✓ Secure closure of the resection borders of cut solid organ
- ✓ Simplifying surgery process
- ✓ Diminish complications risks in solid / voluminous organ surgery
- ✓ Applicable in minimal invasive surgery

Application

Surgical applications: Cutting solid organs without crush

Commercial Opportunity

Searching for a licensing or developing partner

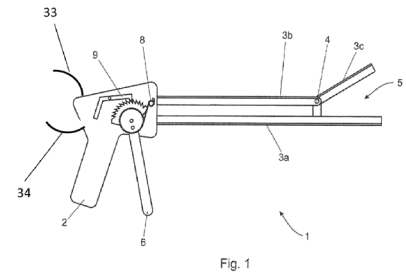


Fig. 1: Novel Stapler

Key words

Stapler, surgery, solid organs, resection border, minimal invasive surgery, device, fish mouth technique

Developmental Status

Construction

IP Status

EP and JP patent application pending (08/2016)
US patent granted 05/2021:
US 11,013,512

Patent Owner

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