

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

ETHICON LLC, CILAG GMBH INTERNATIONAL
Appellants

v.

INTUITIVE SURGICAL, INC.,
Cross-Appellant

2020-1528, 2020-1546

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2018-01703.

Decided: August 23, 2021

BRIAN E. FERGUSON, Weil, Gotshal & Manges LLP, Washington, DC, argued for appellant Ethicon LLC. Appellants Ethicon LLC and Cilag GmbH International also represented by CHRISTOPHER MARANDO, PRIYATA PATEL, CHRISTOPHER PEPE, AUDRA SAWYER; ANISH R. DESAI, ELIZABETH WEISWASSER, New York, NY.

STEVEN KATZ, Fish & Richardson, P.C., Boston, MA, argued for cross-appellant. Also represented by RYAN PATRICK O'CONNOR, JOHN C. PHILLIPS, San Diego, CA.

Before O'MALLEY, CLEVINGER, and STOLL, *Circuit Judges*.
STOLL, *Circuit Judge*.

This is an appeal and cross-appeal from the final written decision of the Patent Trial and Appeal Board in an *inter partes* review of U.S. Patent No. 8,616,431, where the Board held certain claims anticipated, and other claims obvious. Ethicon LLC, the patent owner, asks this court to consider two claim construction disputes. Petitioner Intuitive Surgical, Inc. cross-appeals, seeking review of a factual issue regarding motivation to combine. We adopt the Board's construction of the disputed terms "robotic system" and "tool mounting portion" and thus affirm the Board's anticipation findings. We also determine that the Board's finding of no motivation to combine is not supported by substantial evidence, and reverse the Board's decision as to obviousness.

BACKGROUND

I

The '431 patent relates to a tool mounting device for coupling a surgical tool to a robotic system. One disclosed tool is a surgical stapler, such as an endocutter, which includes two jaw members to deploy staples into soft tissue and a cutting member to cut the tissue as it is stapled. The specification discloses that the robotic system may include a controller and a robotic arm (also referred to as a "manipulator"). The robotic system controls the surgical tool by operably coupling the surgical tool to the robotic arm. Specifically, the "surgical tool 1200 is operably coupled to the manipulator by a tool mounting portion [1300]." '431 patent col. 28 ll. 11–13. Figure 38 illustrates tool mounting portion 1300:

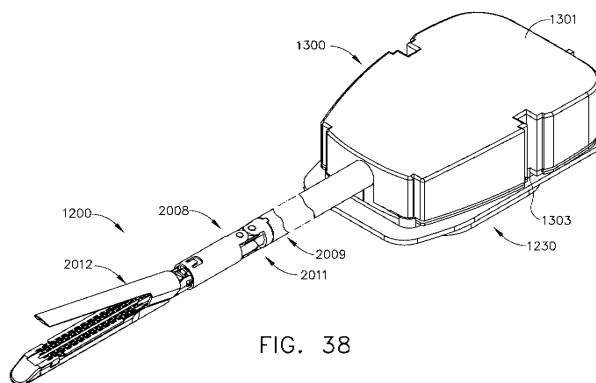


FIG. 38

Id. Fig. 38. Figure 38 also shows “interface 1230[,]” which “mechanically and electrically couples the tool mounting portion 1300 to the manipulator.” *Id.* at col. 28 ll. 13–16.

The '431 patent specification also discloses a “unique and novel transmission arrangement” that enables the surgical tool “to be operably coupled to a . . . robotic system that only has four rotary output bodies, yet obtain[s] the rotary output motions” to control five motions. *Id.* at col. 88 ll. 22–35. The five control motions contemplated include: (1) articulating the end effector about a first articulation axis; (2) articulating the end effector about a second articulation axis; (3) rotating the end effector; (4) closing the anvil; and (5) firing the cutting instrument. In this embodiment, a single rotary output body drives the two different articulation movements (1) and (2).

Independent claim 1 is illustrative and includes the two disputed claim terms at issue in this appeal:

1. A tool mounting device for coupling a surgical end effector configured to selectively perform at least two actions in response to control motions applied thereto to a tool drive assembly of a *robotic system* that is operatively coupled to a control unit

of the *robotic system*, said tool mounting device comprising:

a *tool mounting portion* configured for operable attachment to the tool drive assembly of the robotic system;

an elongated shaft assembly having a proximal end portion operably supported on said *tool mounting portion* and a distal end portion operably interfacing with said surgical end effector to apply said control motions thereto; and

a transmission arrangement operably supported on said *tool mounting portion* such that when said *tool mounting portion* is attached to the tool drive assembly, said transmission arrangement is configured to operably interface with a rotatable driven element of the tool drive assembly to receive a rotary output motion therefrom, said transmission arrangement communicating with the control unit of the robotic system and being responsive to actuation motions therefrom to move between first and second positions such that when said transmission arrangement is in said first position, an application of said rotary output motion thereto by said rotatable driven element of the tool drive assembly causes a first one of said control motions to be applied to a portion of said surgical end effector through said elongated shaft assembly and when said transmission arrangement is in said second position, said application of said rotary output motion thereto by said rotatable driven element of the tool drive assembly causes a second one of said control motions to be applied to another portion of said surgical end effector through said elongated shaft assembly.

Id. at col. 91 ll. 2–35 (emphases added to disputed limitations).

II

Tierney¹ is the primary prior art reference in the IPR. Like the challenged patent, Tierney is directed to a robotic surgical system where a number of different tool types can be coupled to a robotic manipulator. As illustrated by Figure 6 below, however, Tierney comprises four rotary drive elements 118 that control only four motions of an end effector:

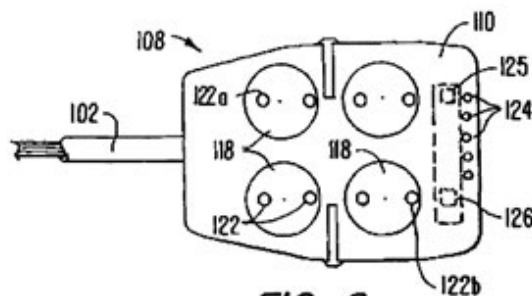


FIG. 6.

Tierney Fig. 6. Particularly, Tierney discloses control of the following movements: (1) articulation about a first axis; (2) articulation about a second axis; (3) actuation of the two-element end effector; and (4) rotation about an axis. *Id.* at col. 9 ll. 24–32.

Whitman² and Timm³ are secondary prior art references asserted in the IPR. Whitman discloses a powered surgical stapler with drivers to drive the movement of the surgical device, but adds a “function selector module,” or a shifter, that is actuatable “between four different

¹ U.S. Patent No. 7,542,320.

² U.S. Pat. App. Pub. No. 2009/0101692.

³ U.S. Pat. App. Pub. No. 2008/0308601.

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