



## Standard Terminology Relating to Hemostatic Forceps<sup>1</sup>

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### 1. Scope

1.1 This terminology covers basic terms and considerations for the components of hemostatic forceps. Instruments in this terminology are limited to those fabricated from stainless steel and for general surgical procedures. See Fig. 1 and Fig. 2.

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

F899 Specification for Wrought Stainless Steels for Surgical Instruments

#### 2.2 ISO Standard:

ISO 7151 Instruments for Surgery—Hemostatic Forceps—General Requirements<sup>3</sup>

### 3. Terminology

#### Definitions of Hemostatic Forceps

**box lock**—the junction where the female member and the male member are secured, forming the pivoting feature.

**distal end**—the working end, comprised of two jaws, that is furthest from the surgeon when in use.

**female member**—the component that accommodates and encloses the male member at the box lock junction.

**finger rings**—the feature of both the female and the male members that forms the gripping surface for the surgeon (commonly classified as the ring-handled feature in ISO 7151).

**hemostatic forceps**—an instrument, available in various sizes and configurations, used in surgical procedures for the compression of blood vessels and the grasping of tissue.

**jaws**—parts that contain serrations to interrupt the flow of blood through any vessel.

**male member**—the component that is inserted through the female member and secured to the female member at the box lock junction.

**proximal end**—that portion of the instrument that is closest to the surgeon when in use.

**ratchets**—the portion of both the female and male members at the proximal end possessing inclined teeth and that form the locking mechanism.

**serrations or teeth**—the gripping or clamping surfaces of the jaws or ratchets.

**shank**—the part of either the female or the male member that yields configuration, length, and leverage.

#### Definitions of Physical Properties of Hemostatic Forceps

**chamfer**—the broken edge of the jaw serrations and the external edges of the box lock surfaces.

**corrosion**—the formation of rust.

**elasticity**—the capacity of the instrument to undergo induced stress without permanent distortion or breakage of any component.

**finish, n**—final surface visual appearance classified as follows:  
*bright or mirror finish, n*—highly reflective surface.  
*satin, matte, or black finish, n*—reduced reflective surface (as compared to bright or mirror finish) varying from a dull appearance to a blackened surface.

**hardness**—a measurement of the resistance to indentation.

**interdigitation**—the interlocking or meshing of the female and male jaw serrations.

**jaw alignment**—the positioning of the female and male jaws with respect to interdigitation (related to box lock function and ratchet performance).

**passivation**—the changing of the chemically active surface of stainless steel to a much less reactive state.

**stainless steel**—the raw material on the instrument that is in accordance with Specification F899.

<sup>1</sup> This terminology is under the jurisdiction of ASTM Committee F04 on Medical and Surgical Materials and Devices and is the direct responsibility of Subcommittee F04.33 on Medical/Surgical Instruments.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

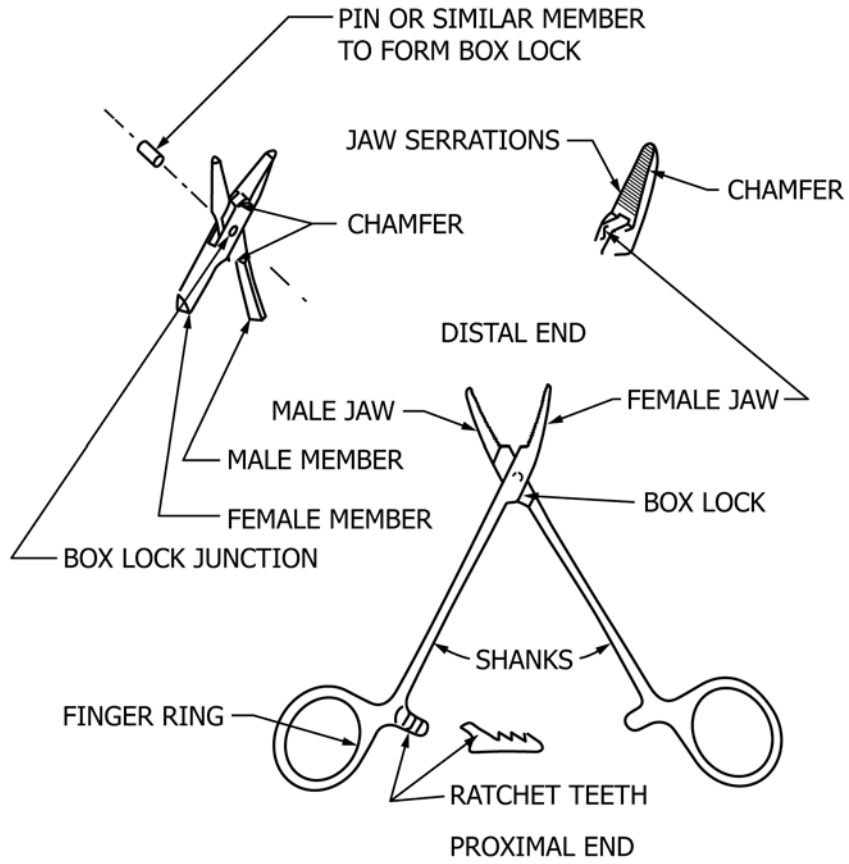


FIG. 1 Components of a Hemostatic Forceps

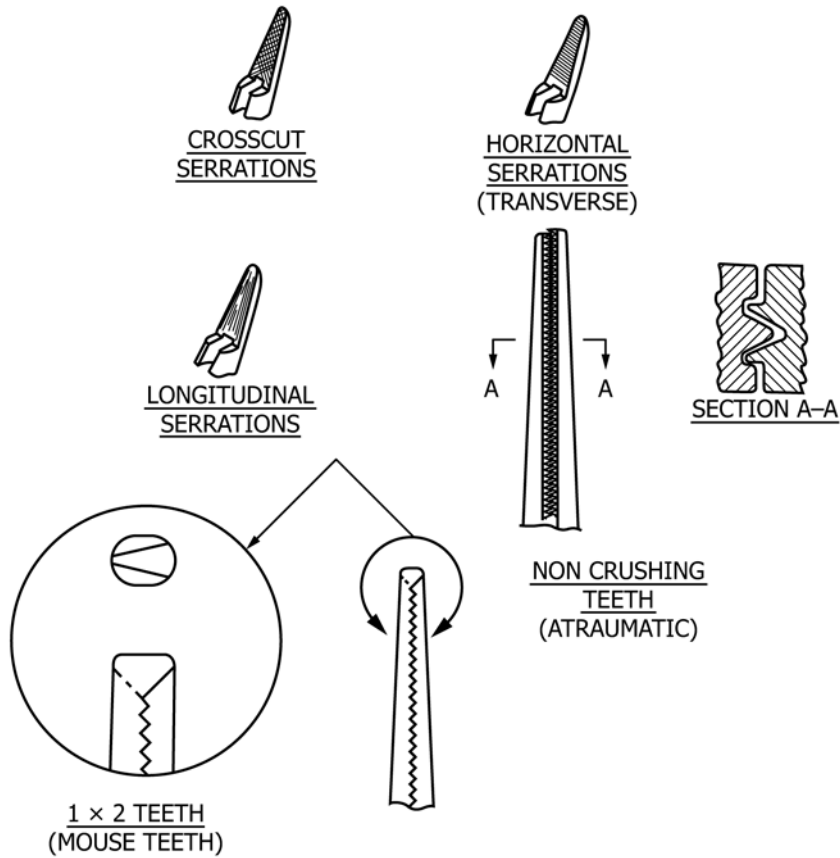


FIG. 2 Typical Types of Serrations and Teeth for Hemostatic Forceps

## APPENDIX

### (Nonmandatory Information)

#### X1. RATIONALE

X1.1 Because there is a clinical need for a variety of instruments for general and surgical procedures, they are manufactured in various configurations and from various types of stainless steel. For practical purposes and patient safety, these devices supplied by different manufacturers necessitate a defined system of categorization, materials, and performance requirements.

X1.2 This is the first standard of a multiple part standard that defines the components of a hemostatic forceps designed for repeated use, including various terminology that describes performance considerations.

X1.3 *Box Lock*—The box lock construction defined in this terminology is the most commonly produced junction for hemostatic forceps. However, the intent is not to prohibit technological innovation or to exclude instruments manufactured with other types of pivoting features such as lap joints.

X1.4 Disposable instruments are not included in this terminology, nor are the instruments designed for specific surgery. However, a part or all of the terminology defined herein may be applicable to specific and disposable surgical instruments.

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