

# **Guidebook**

## **Extraction Instrument Post-Modern Dentistry (1700s)**

By Nimra Khan

*This guide was created as a volunteer project by Nimra Khan for the National Museum of Dentistry. Nimra is a pre-dental student at the University of Maryland, Baltimore County, where she is pursuing a degree in Biology. Nimra loves to explore the unknown and is always up for a challenge. In her free time, she likes to read, get creative with DIYs around the house, and paint.*

# **Introduction**

This guidebook is meant to help readers understand different dental extraction instruments used in post-modern dentistry (1700s-today) (*Dental History*, n.d.) era. An extensive search uncovered different instruments used during this period. This guidebook continues *Extraction Instruments Before Modern Dentistry (1700s)*. This is the second portion of the findings of extraction instrument development up to the 20th century.

In this guidebook, forceps are reintroduced with another instrument, the elevator. As mentioned in *Extraction Instruments Before Modern Dentistry (1700s)*, forceps were around before the Pelican and the tooth key. Records show forceps have been used to extract teeth since Ancient Greece, dating to 3000 BCE (A History of Dentistry, by Arthur Ward Lufkin ... Illustrated with 90 Engravings, n.d., p. 48). It is uncertain when societies stopped using forceps as the primary extraction instrument but their use resumed around the 1700s and eventually became the primary dental extraction instrument in the late 1900s. With the reintroduction of the forceps, elevators share a similar past.

Elevators are used primarily to remove root tips and can be used before forceps to help loosen the tooth. Like the forceps, this instrument was used before the pelican and tooth key, first mentioned in Ancient Rome (Guerini & National Dental Association (1897-1922), 1909, p. 57). It is unclear when elevators were no longer in use, but Thomas Bell brought them back into use around the 1700s (Bussell & Graham, 2008). This instrument was not mentioned in *Extraction Instruments Before Modern Dentistry (1700s)* because much was not known about its history until the return of the forceps when more information about this instrument came to light.

Closer to the date of modern dentistry, there has been a shift in the development of extraction instruments. This begins with the introduction of combination instruments. These instruments are a fusion of the past and future where the main shape of the instrument is a forceps combined with pelican or tooth key-like components. Later, transitional instruments were developed during the 1800s and 1900s. These instruments mainly focused on modifying the tooth key by keeping its claw shape for the head and the body of the instrument as a forceps. Some exceptions are made with transitional instruments in which pelican-like features and other

unique components aside from the tooth key are added to the forceps. The details that led to these developments are not precise.

With these advancements, extraction instruments helped extract teeth of a more complicated kind, like root tips. Compound root forceps were used for this particular issue. This instrument has a thin beak to grasp onto the root tip, but this Forceps has a unique feature, a conical screw. The conical screw is used to strengthen the grip on the root tip for easier removal. This instrument is placed under the forceps because of its similar structure, but its design has little to no further development.

As the 20th century approached, extraction instruments resembled those currently used in dentists' offices. Current forceps have a universal shape, with the head consisting of various beak shapes to remove teeth in different parts of the mouth.

## Combination Instrument

Fusion of forceps with elements of the pelican or tooth key.



A)



B)

**Date:** 1700s

**Material:** Iron

**Origin:** Unknown

**Characteristic:** The body is a forceps with a pelican-shaped head (See Guidebook: Extraction Instruments Before Modern Dentistry (1700s) for reference). This pelican-like forceps is double-ended, with the claw at the end attached by a pivot point, allowing movement.

## Transitional Instrument

Tooth key modification with forceps.



**Date:** (A)-1840; (B)-1870; (C)-1900s

**Material:** Steel

**Origin:** (A)-Albany, New York; made by Edward Owens. (B)-Columbus, Ohio; Patented by W.W. Riley, made by K. Klot. (C)-By John Weiss

**Characteristic:** The head of the forceps represents the claw of a tooth key. The claw does not appear to be detachable.

**\*Uniquely Shaped Transitional Instruments\***



**Date:** 1860

**Material:** Stainless steel

**Origin:** S.S White

**Characteristic:** The head of the forceps has a bolster mounted on one beak.





**Date:** Late 1800s

**Material:** Iron

**Origin:** Unknown

**Characteristic:** The overall shape of this instrument is uncertain. From the previous guidebook, the claws at both ends appear like a pelican. One of the claws is connected to a straight long shaft, while the other end is a claw attached to the body shaft with a lever action beak.



**Date:** 1900s

**Material:** Iron

**Origin:** Made by: E. Goltte

**Characteristic:** The head of the forceps is a claw of a pelican with an adjustable lever action beak. These Forceps are used to extract teeth from the lower jaw of the mouth.

## **Compound Root Forceps**

Extraction instrument used to remove root tips



**Date:** 1901

**Material:** Steel

**Origin:** Unknown

**Characteristic:** The familiar shape of a forceps is present, but between the two beaks, we have a conical screw.



## Perpendicular Extraction Instruments



**Date:** (A)-Early 1900s; (B)-Early 1900s; (C)-Early 1900s

**Material:** Steel

**Origin:** Unknown

**Characteristic:** (A) and (B) have an overall shape of forceps, with their structure representing the transition instruments. The only difference between the two instruments is the claws, which can be rotated perpendicular to the direction of the Forceps. (C) has the same features as (A) and (B), but instead of a forceps body shape, a handle is attached to a straight shaft with the same perpendicular claw.

# **Forceps**

Normal forceps body with modification made mostly to the head (beak) of the instrument.



**Date:** 1700s

**Material:** Iron

**Origin:** Unknown

**Characteristic:** The head of the forceps has ridges circling it.



A)



B)

**Date:** (A)-Late 1700s; (B)-Late 1700s

**Material:** Iron

**Origin:** Unknown

**Characteristic:** (A) Typical forceps shape with a hooked end to one of the forceps-handle ends but has the same beak structure as (B).



**Date:** Early 1900s

**Material:** Steel

**Origin:** Unknown

**Characteristic:** The head of the Forceps has a ridged beak, similar to a duck-bill.



A)



B)



C)



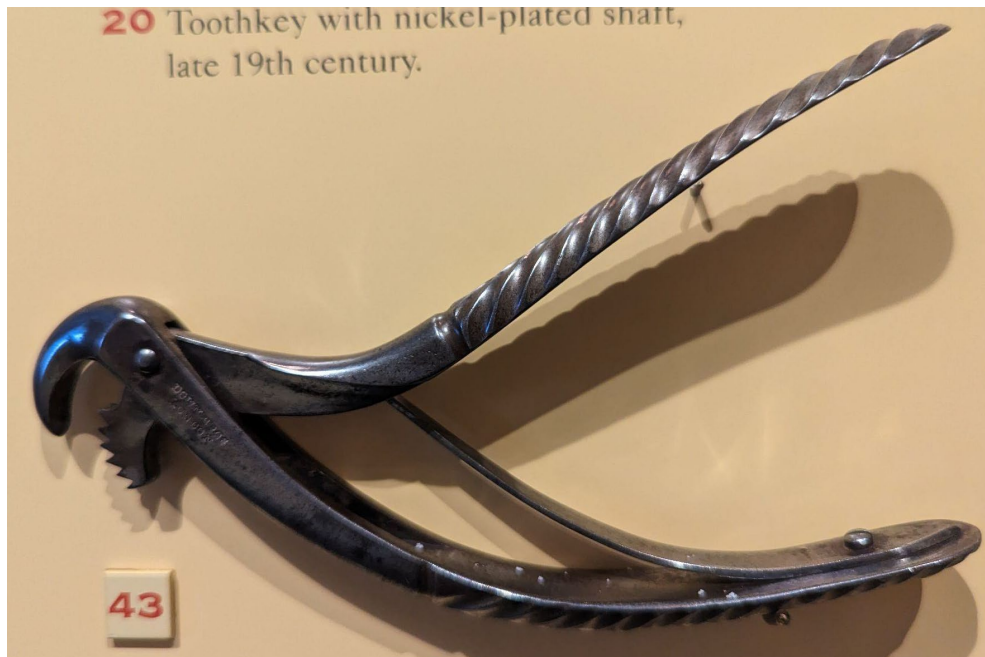
D)

**Date:** (A)- 1850; (B)-1850; (C)-1870; (D)-1995

**Material:** (A), (B), (C) – nickel-plated steel; (D) Stainless Steel

**Origin:** (A), (B) and (C)-Baltimore, Made by: F. Arnold; (D)-Unknown

**Characteristic:** Typical forceps shape with beaked heads but with different functions; (A) used for the upper right side of the mouth; (B) used for the upper left side of the mouth; (C) used for the upper front teeth; (D) used for the lower molars.



**Date:** 1880

**Material:** Nickle-plated Steel

**Origin:** London, by the Down Brothers

**Characteristic:** A forceps that looks like a plier, with a spring action between the levers and the head of the forceps. It is shaped like a pelican with ridged beaks.



**Date:** Early 20<sup>th</sup> Century

**Material:** Nickle-plated steel

**Origin:** By C. Neuhaus

**Characteristic:** This forceps is used for upper teeth, primarily for roots.



## **Elevators**

This extraction instrument can be used to loosen teeth before using forceps.

A)



B)



**Date:** Late 1700s

**Material:** Iron

**Origin:** Unknown

**Characteristic:** Double-ended elevator with curved ends.



## **References**

*A history of dentistry, by Arthur Ward Lufkin ... illustrated with 90 engravings.* (n.d.).

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