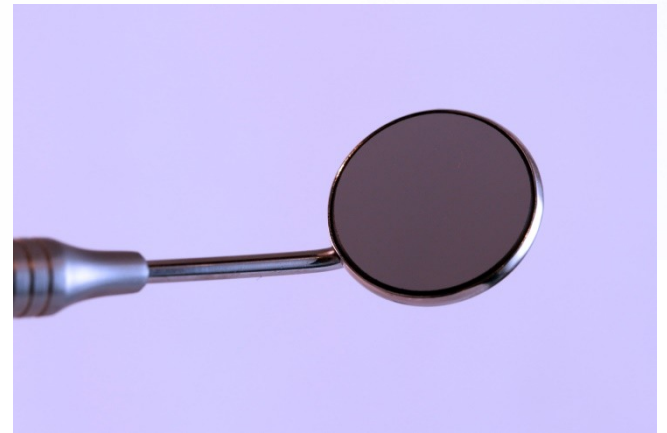


# III. Selected instruments in restorative dentistry

# Instruments for investigation



Mirror



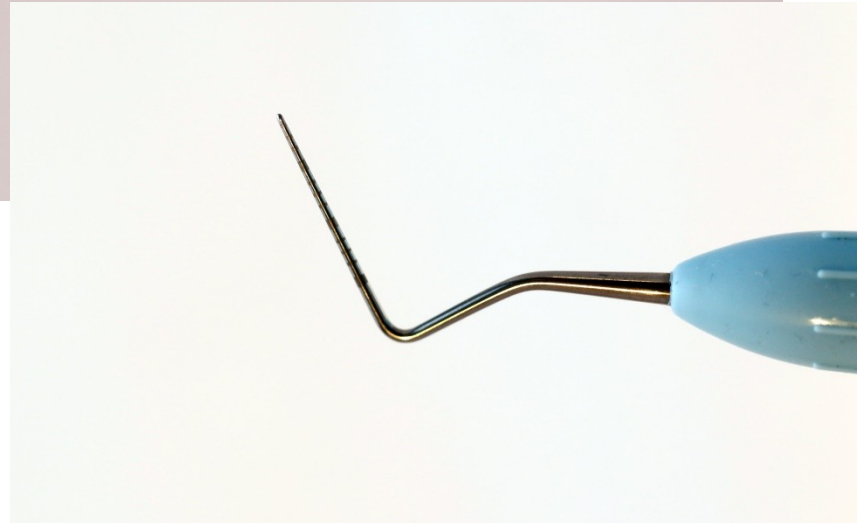
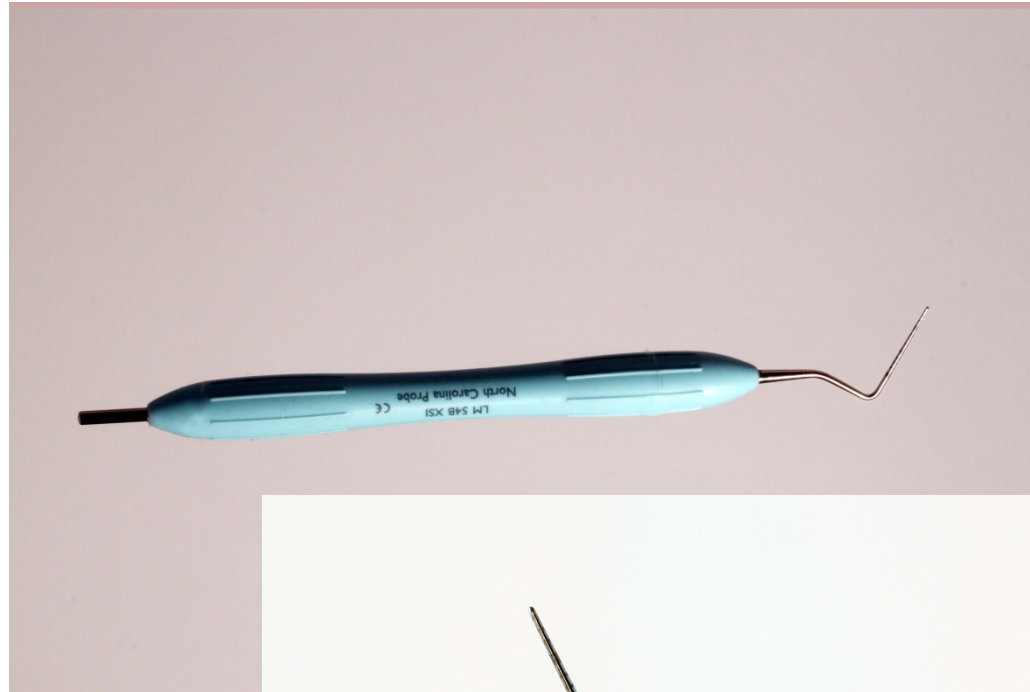
# Instruments for investigation



Straight probe



# Instruments for investigation



Periodontal probe -calibrated

# Tweezer



# Preparation - techniques

- Power driven – mostly rotary
- Hand
- Less common – laser, ultrasound etc.

# Turbine handpiece

400.000 rpm

Low torque control, vigorous preparation





# Electromotor and Air Motor

Electromotor – maximum 40.000 rpm

Air motor – maximum 20.000 rpm

The rpm is possible to modify using hanpieces with various gear.

High speed

Low speed

Gear 1:1

Oscillation

(rotation is blocked)





# High speed handpiece

**Red coded. Better control in comparison with the turbine handpiece**



# Gear 1:1

**Blue coded. Preparation in dentin recommended**



# Low speed handpiece

Suitable for slow work e.g. excavation of carious dentin



# Special handpieces

- Handpiece for compaction of amalgam
- EWA system ( instrument does not rotate, if oscillate only)
- Handpieces for endodontology and implantology



# Hand instruments

## Chisels

For finishing of gingival wall in class II



# Excavator



# Rotary instruments

- Burs and diamonds.
- ISO norm 6360
- 5 figures A – E

A- material (Stainless steel, tungsten - carbide, diamond)

B,C size and kind of the handpiece (straight handpiece, contraangle, turbine)

D shape of the working part (ball, pear, fissure)

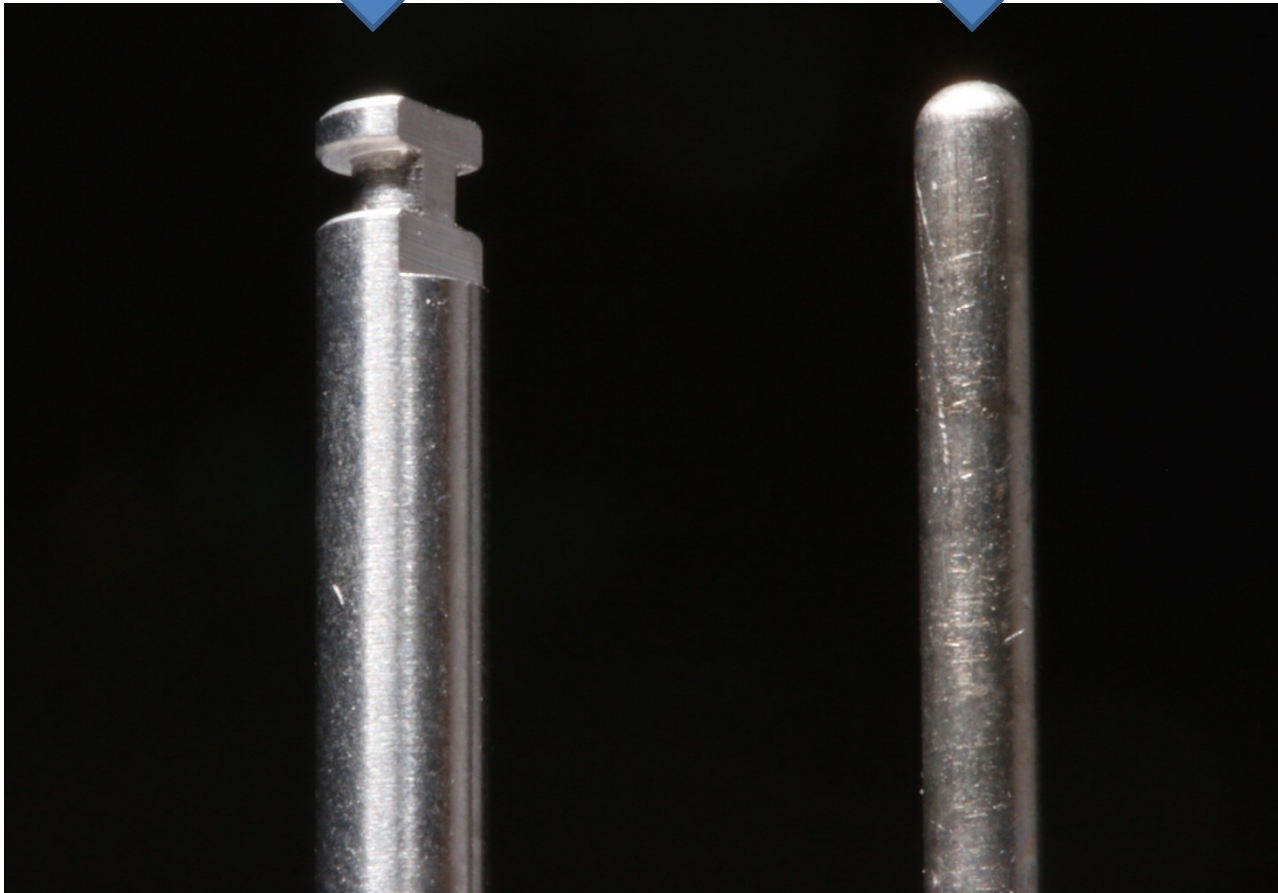
E further characterization ( blades or grit)

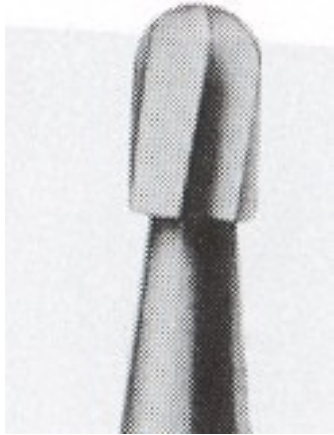


# Shape of the shank

Contra angle handpiece

Turbine handpiece





Inverted cone, pear formed bur, fissure bur, round (ball) bur

# Diamonds

- Blue - standard (90 – 120  $\mu\text{m}$ ) ISO 524  
Universal use



# Diamonds

- Black extra coarse (150 – 180  $\mu\text{m}$ ) ISO 544 –  
No for cavities, e.g. for cutting old crowns



# Diamonds

- Green - coarse (125 – 150  $\mu\text{m}$ ) ISO 534,
- For special purposism no for cavities



# Diamonds

- Red- fine ( 20 – 40  $\mu\text{m}$ ) ISO 514 – finishing of preparation – smoothen of beveling



# Diamonds

- Yellow – extra fine (12 – 22 $\mu$ m) ISO 504,
- Finishing of composite fillings





# Diamonds

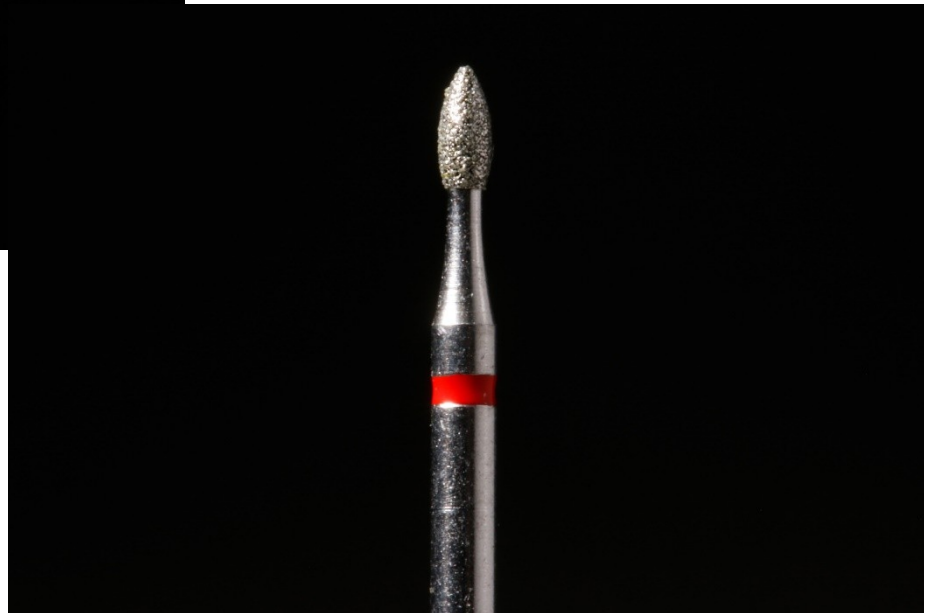
- White –ultra fine (6-12  $\mu\text{m}$ ) ISO 494 –  
Polishing of composite fillings



# Preparation instruments for cavosurface margin



# Preparation instruments for finishing of borders

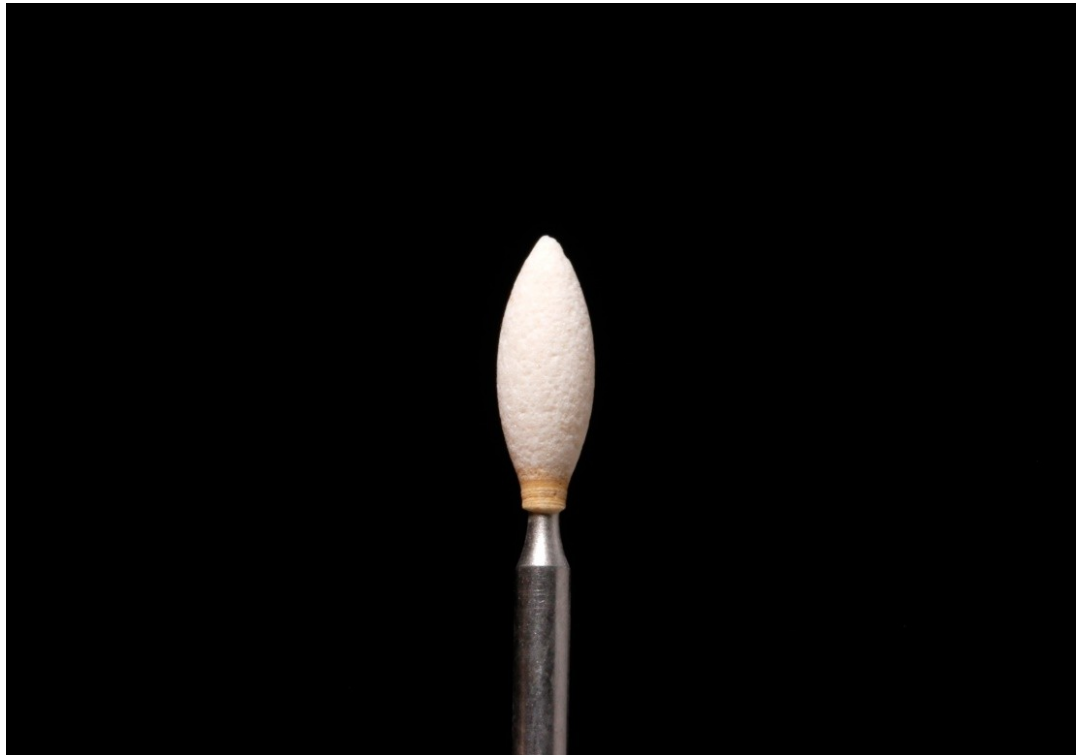


# Preparation instruments

## Bur for excavation of carious dentin



# Rotary instruments for polishing of fillings – Arkansas stone



# Rotary instruments for finishing extra fine diamonds



# Rubber rotary instruments – for polishing





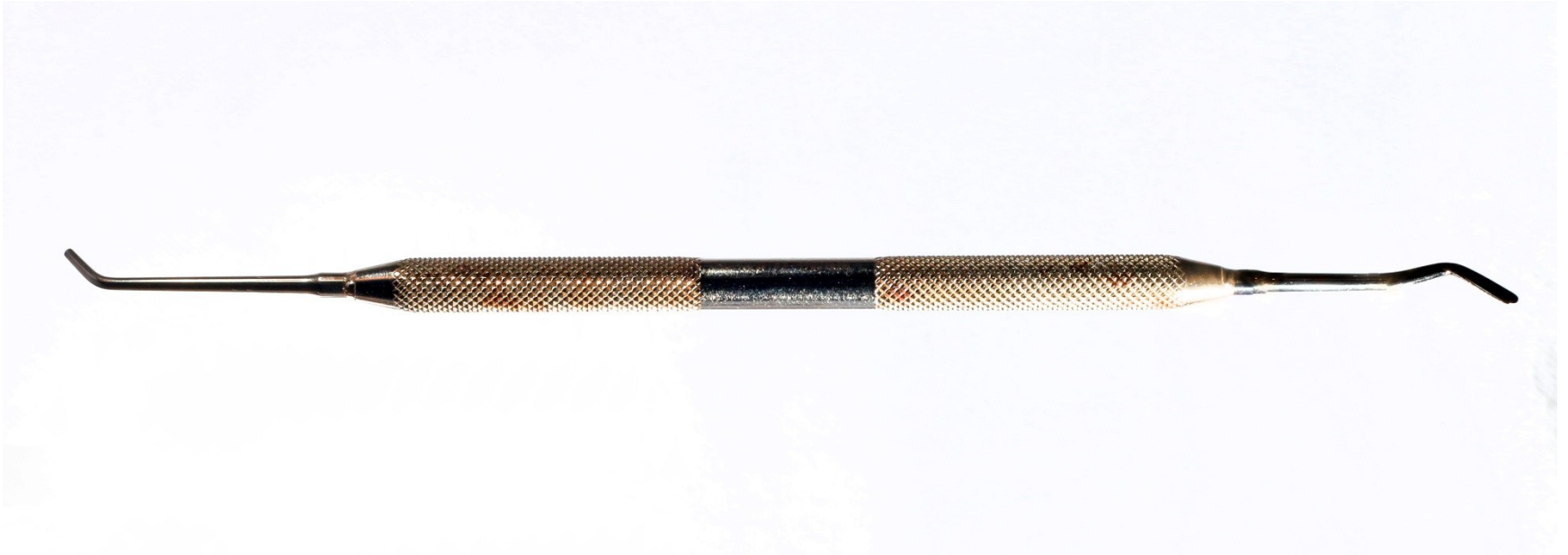
# Nástroje k úpravě výplní

## Rotační kartáčky



# Filling instruments

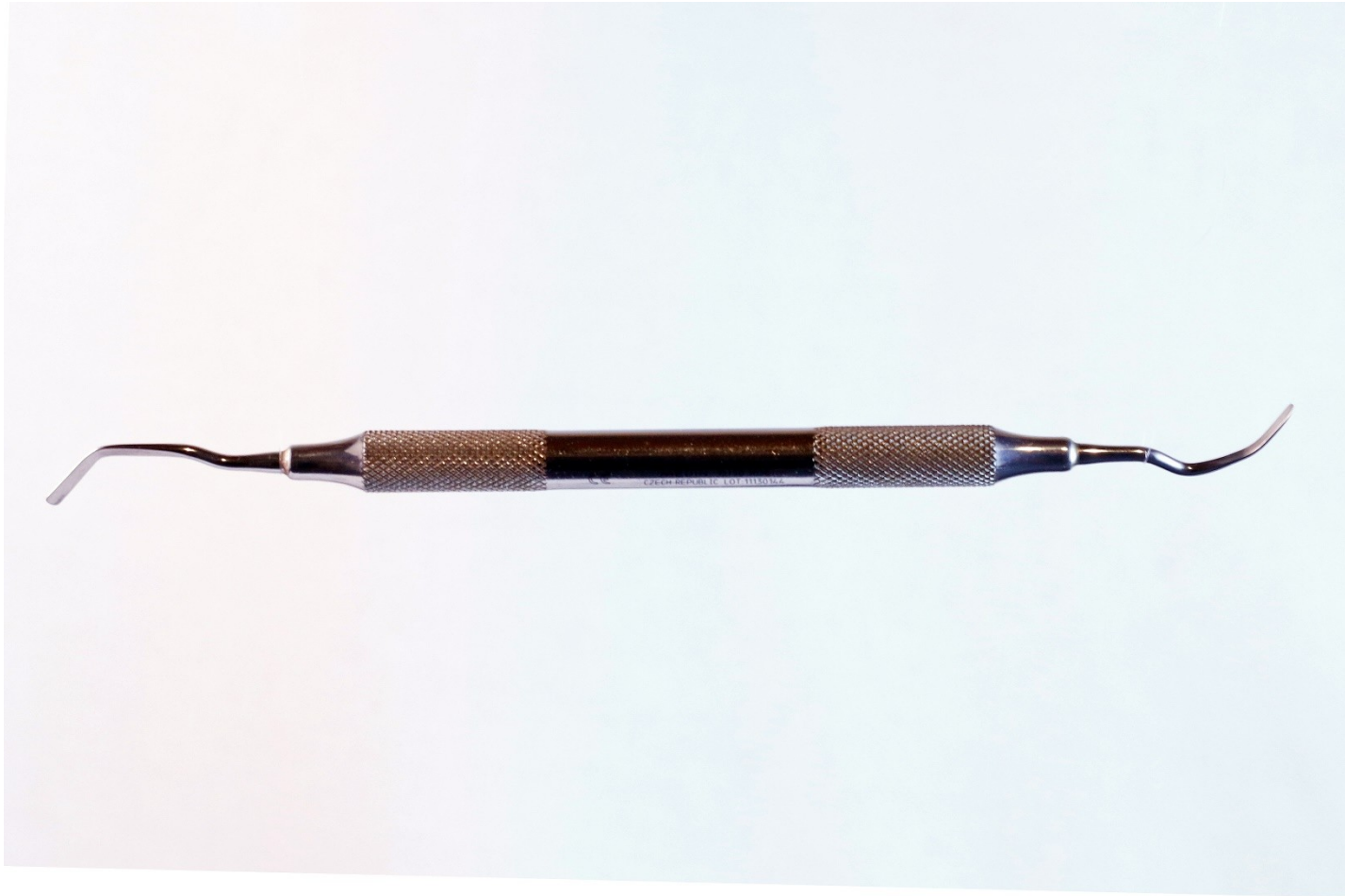
## Spatula + condensor



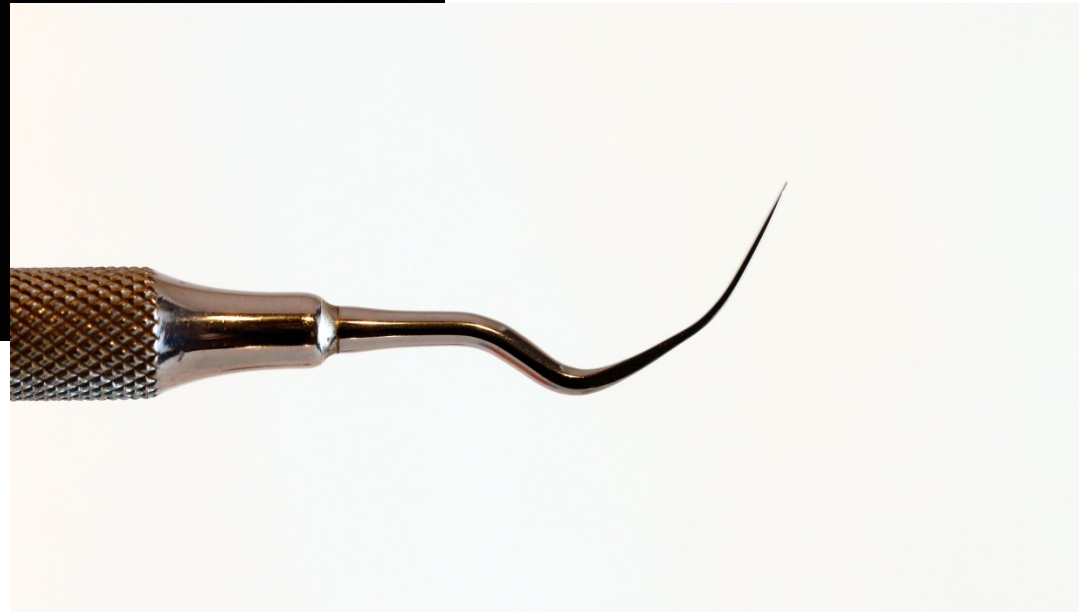
# Detail of a condenser



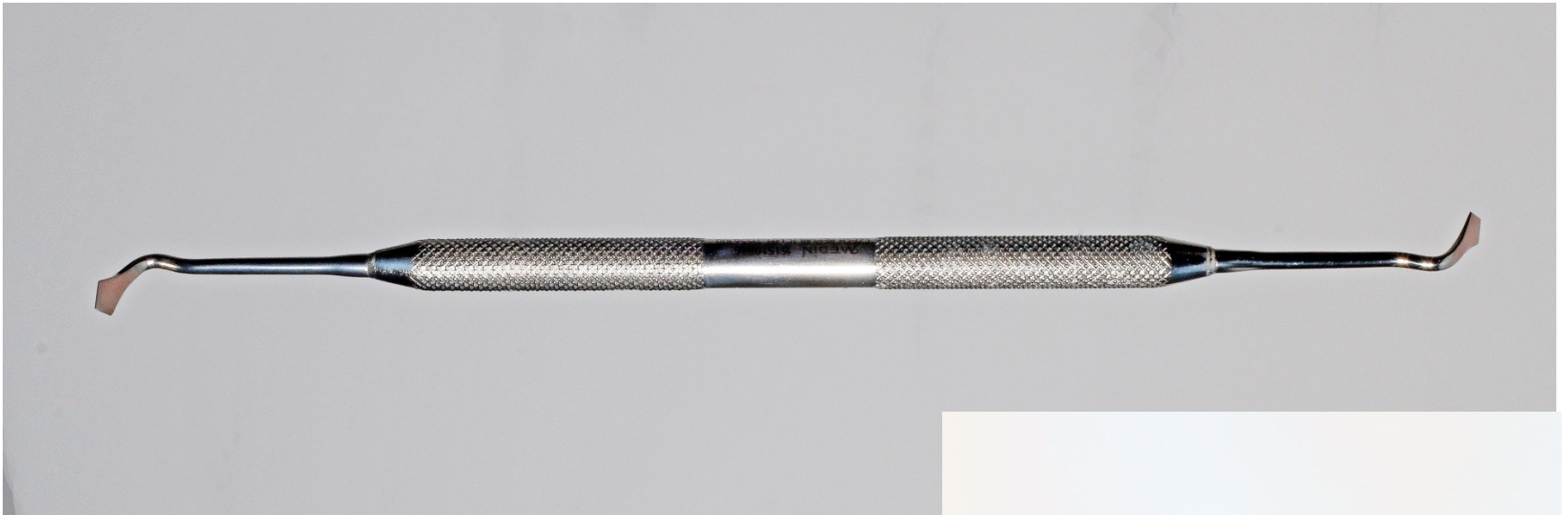
# Spatula (3 angled)



# Spatula in detailb(3 angled)

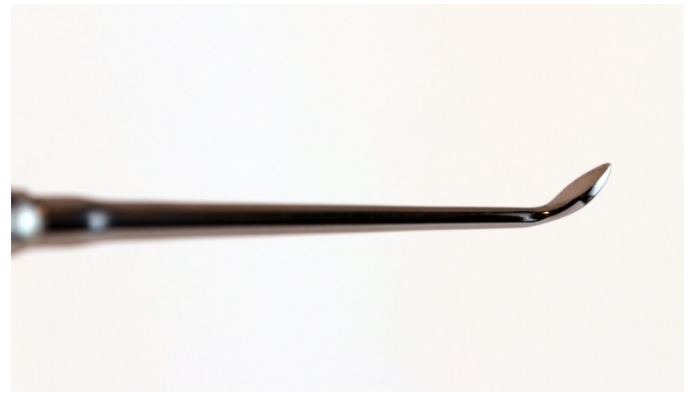


# Frahm





# Discoid-cleoid





# Wiland - carver



# Burnishers



# Instrument for composite fillings



# Instrument for composite fillings



# Condensor

