

Horological Tools

A Presentation by John S Koepke

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For

NAWCC

Diablo Valley Chapter 107

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Wheel Stretcher used to increase the diameter of a watch wheel.



Rounding Up Tool used to make a wheel perfectly round after stretching or to reduce the diameter of a wheel.



Ingold Fraise is another form of the Rounding Up Tool used to make a wheel perfectly round. The tool can correct inaccuracies in the shape of the wheel teeth.



The Mandrel is a lathe having a face plate for holding watch plates.



The Depthing Tool allows a wheel and pinion to be arranged at their proper working depth and the correct distance to be transferred to the plate in which they run.



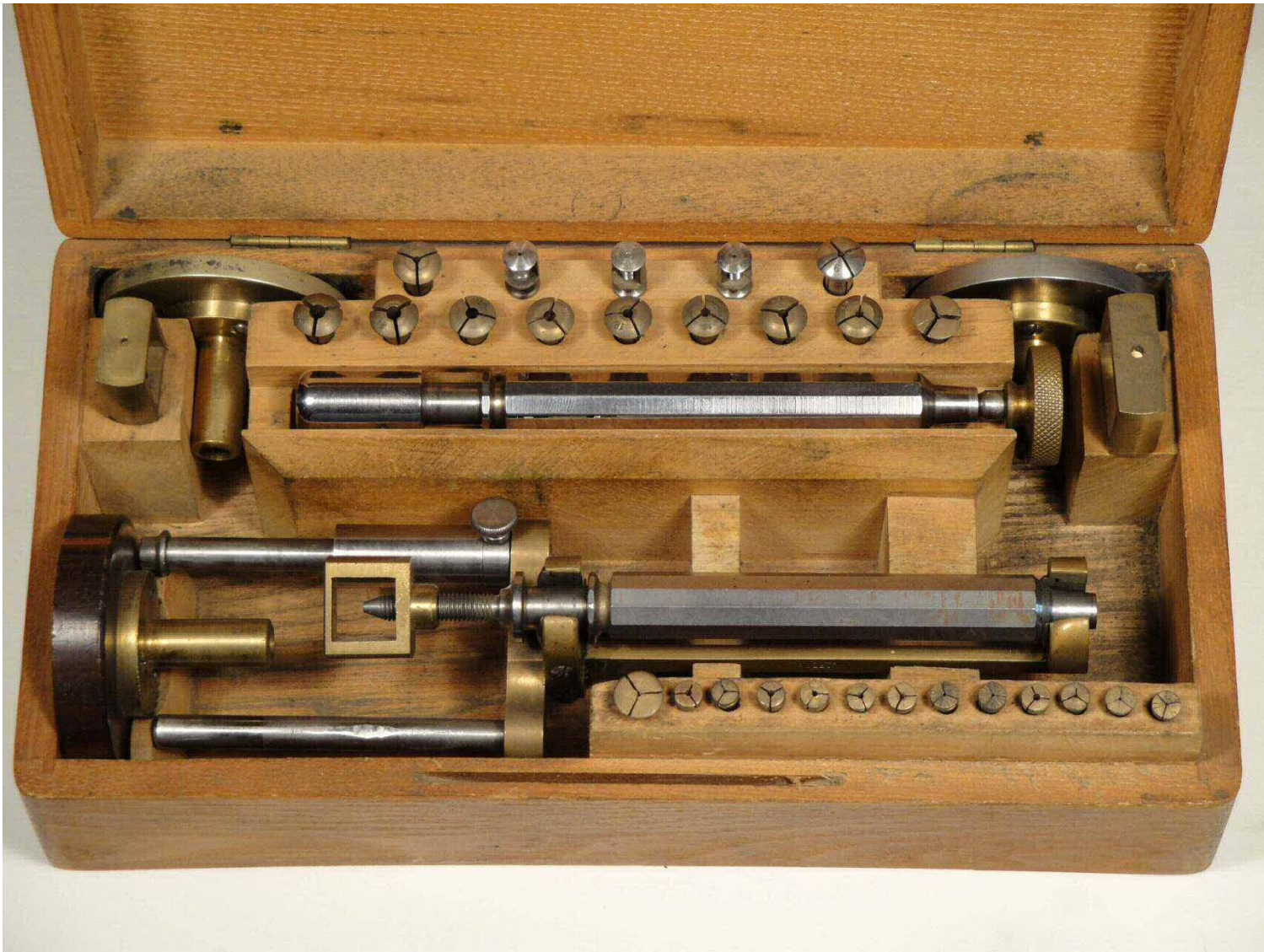
The Uprighting Tool allows for finding the exact location of a hole in the opposite plate or bridge so that the arbor that is supported in the two holes runs perpendicular to the plates.



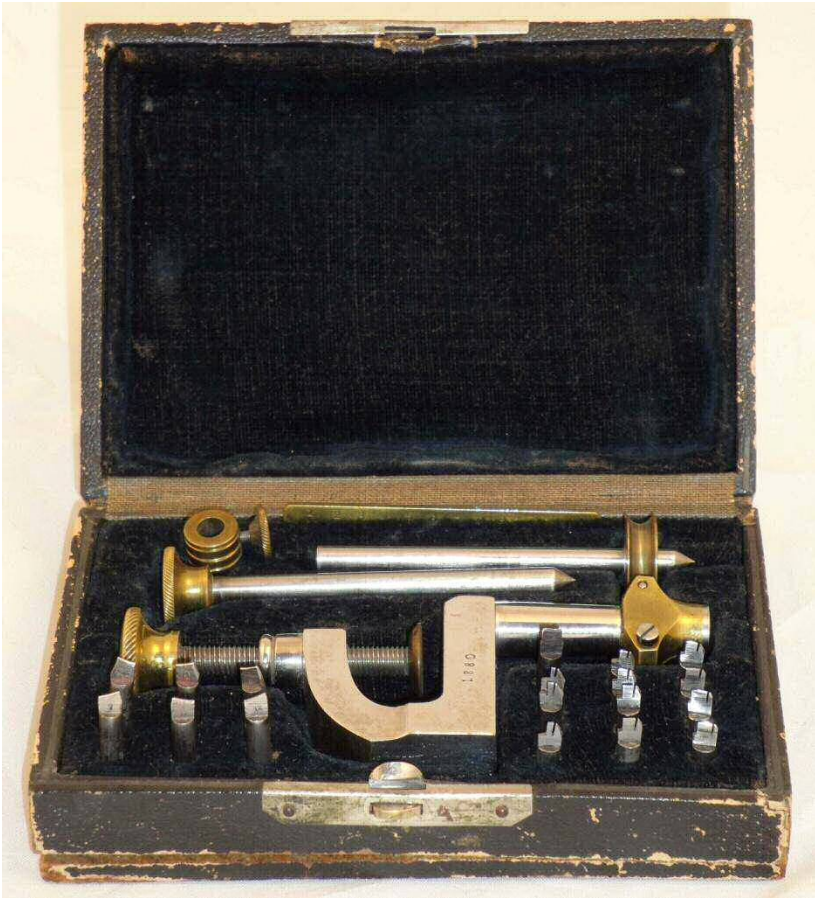
Turning Arbors allow objects to be mounted for work in the lathe.



**Jacot Tool used for burnishing
watch pivots.**



Screw Head Tool for polishing the heads and tips of screws.



Anderson Jewelling Tool used to cut jewel sink and bezel at same time.

JEWELING TOOLS.

1. Clamping Tool.
2. Feeder to regulate depth in Cutting Work.
3. Loose Washer on Main Screw to prevent marring the work.
4. Main Screw to hold Plate.
5. Representation of Watch Plate when Clamped and Ready for Setting Jewel.
6. Stock with Socket to hold Cutter and Burnisher.
7. Groove in Socket to Prevent Cutter from Turning.
8. Stopper to Regulate Depth.
9. Showing Shape of Cutter.
- 10 and 11 having same Incline to make use of full Length of Cutter when Sharpened.
11. Cuts Jewel Bed.
12. Cuts outside Wall Heavy at Bottom and Light on Top.
13. Countersink around Setting.
14. Burnisher can be used for Old or New Settings.
15. Safety Pin to fit Groove No. 7.
16. Centering Tool.

No. 16. Jewelling Tool with 12 Cutters and Burnishers, sizes corresponding with Gauge. This Tool cuts on opposite sides, thus avoiding all danger of injuring the Wall, the opening giving space for chips to escape. Price, Complete in Case..... \$5.00



Jewelling Tools for cutting the jewel sink and bezel.

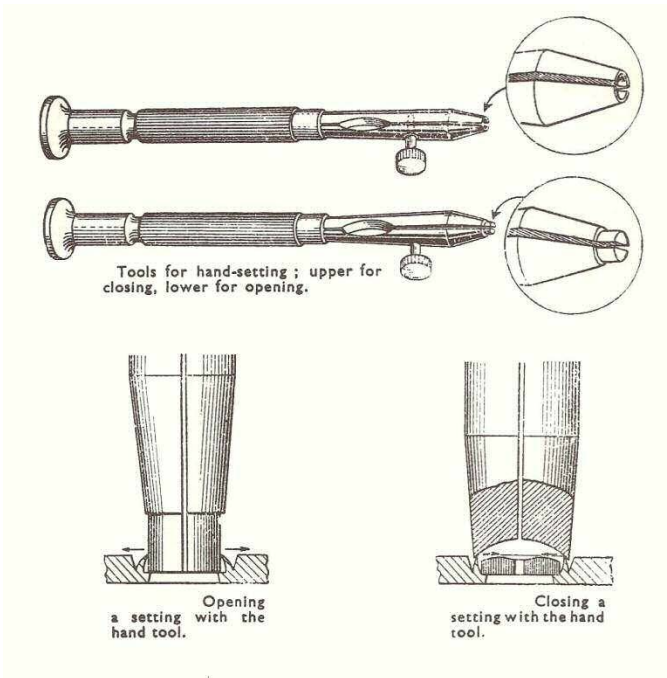


Jewelling Tools for opening and closing Jewel settings.

Bottom tool is marked Crosby.



Bezel Jewelling Tools used to open and close jewel settings.





Bow Mills



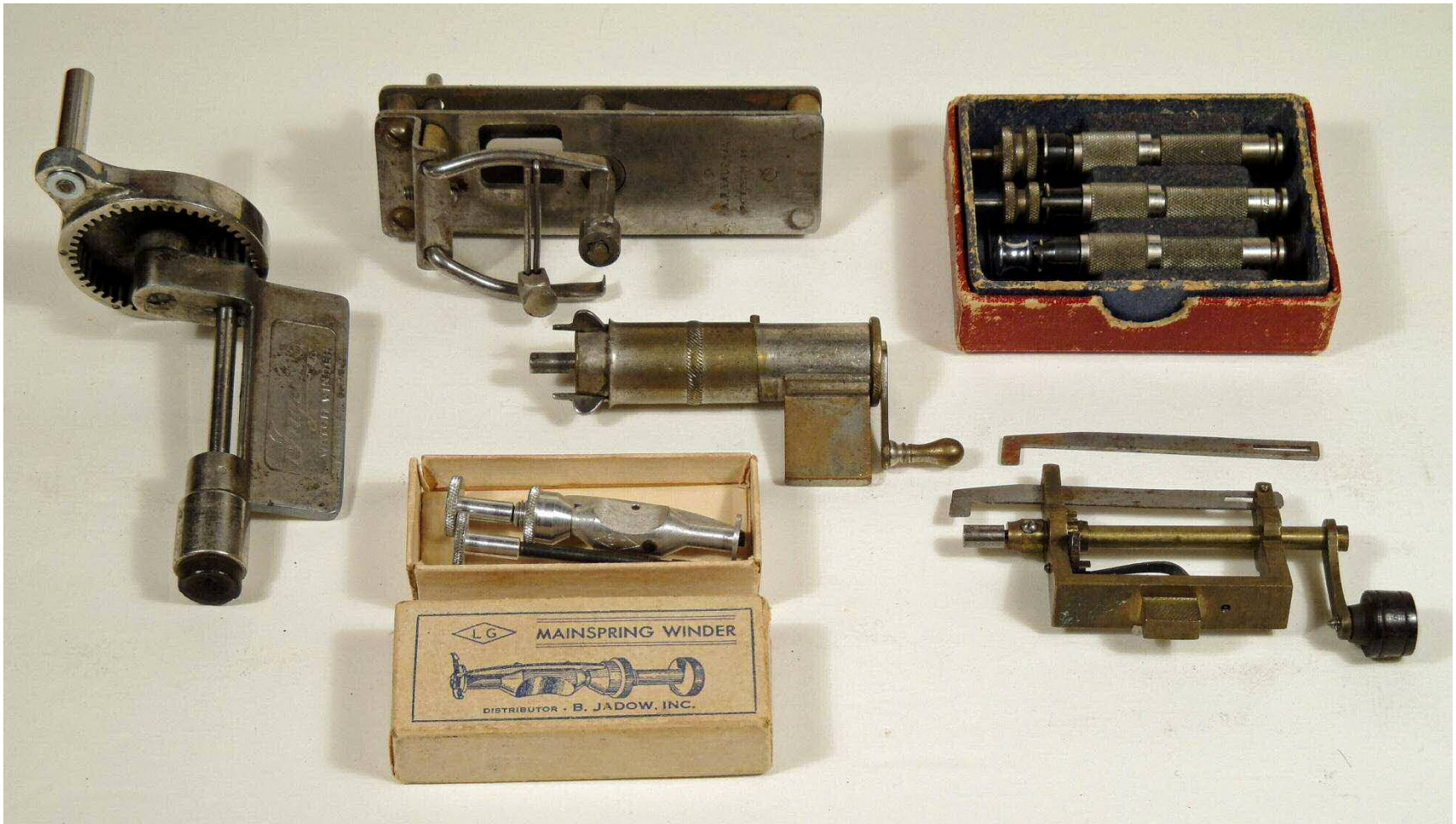
Crown Reamers



Centering and Drilling Lathes



Pivot Drill Sets



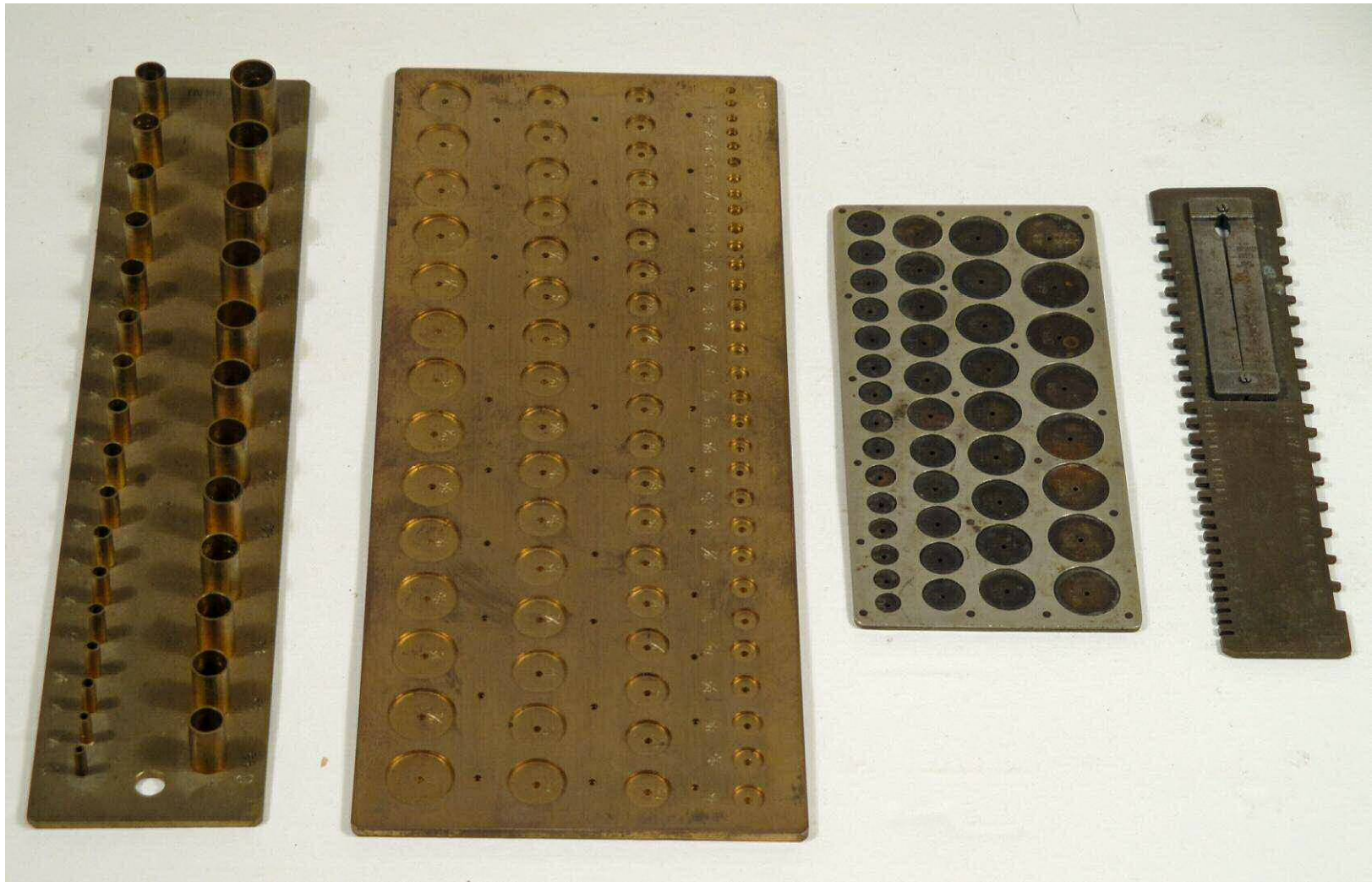
Assortment of Mainspring Winders



Mainspring Winder



**Assortment of gauges for mainsprings, Jewels,
Pivots and Watch crystals**



Assortment of gauges for measuring crowns, wheels and mainsprings



Poising Tools



Roller Tools



Assorted Glassware

Alcohol Lamps, Movement Cover, Alcohol Cups and Acid Bottle



Blow Pipes



Blow Torches



Balance Calipers



Balance Calipers



Boettger & Wittig Watch and Tool Demagnetizer made for both Direct and Alternating Current Systems.

Boettger's Latest Improved Watch and Tool Demagnetizer

DIRECTIONS FOR USING

Remove electric lamp from fixture of your line, screw same in socket **C** of the Demagnetizer. In case your lamp has not an Edison base, then get a lamp of the same voltage as yours, with Edison base, to fit the instrument. This will give the proper resistance required.

To connect the instrument with the light circuit, be sure to first connect the two loose ends of the cord into the two binding-posts of Demagnetizer, and after this, cord **D** to your chandelier-socket, from which lamp was removed. When slide **A** is entirely in base of the instrument, the current is disconnected.

ON DIRECT CURRENT SYSTEM

To destroy magnetism in steel articles, or magnetized watches, hold the article with the left hand in the hollow space of wire spool **B** and draw out the slide **A** about $\frac{3}{4}$ of the entire length without stopping, with the right hand, at the same time withdrawing the article, out of spool **B**, with the left hand, about one foot away from instrument.

The article must be removed out of spool **B** before the slide **A** comes to a stop. The operation of drawing the slide should not take more time than one second. With a little practice a person will be able to gauge the speed of drawing the slide. If magnetism is not removed entirely by the first operation, repeat the same.

Only while the slide **A** is in motion, the direct current is transformed into an alternating current which will destroy magnetism. As soon as slide **A** is stopped in its course and if only for a small portion of a second, the direct current in its original state, will pass through the wire-spool **B** again and will magnetize any inserted article.

ON ALTERNATING CURRENT SYSTEM

To demagnetize steel articles, lay same in spool **B** and draw slide **A** about half, stop slide when lamp burns dim, which occurs every $\frac{1}{8}$ of an inch of the motion of slide. After stopping the slide **A** remove article about a foot away from the instrument.

Only while slide **A** is in motion a direct current is formed out of the alternating current which will magnetize any article, inserted in spool **B**, but stopping slide **A** in any place, where lamp burns dim, will let the original alternating current pass through spool **B** and demagnetize the inserted article again.

Immediately after every operation, during the use of the instrument, care must be taken that slide **A** is fully inserted in the base so that the light will be extinguished, so that this will disconnect the current and will prevent any unnecessary flow of current through the instrument. The slide should be cleaned occasionally and care taken, that no metallic dust or steel filings will accumulate between the metal combs as this will form a short circuit.



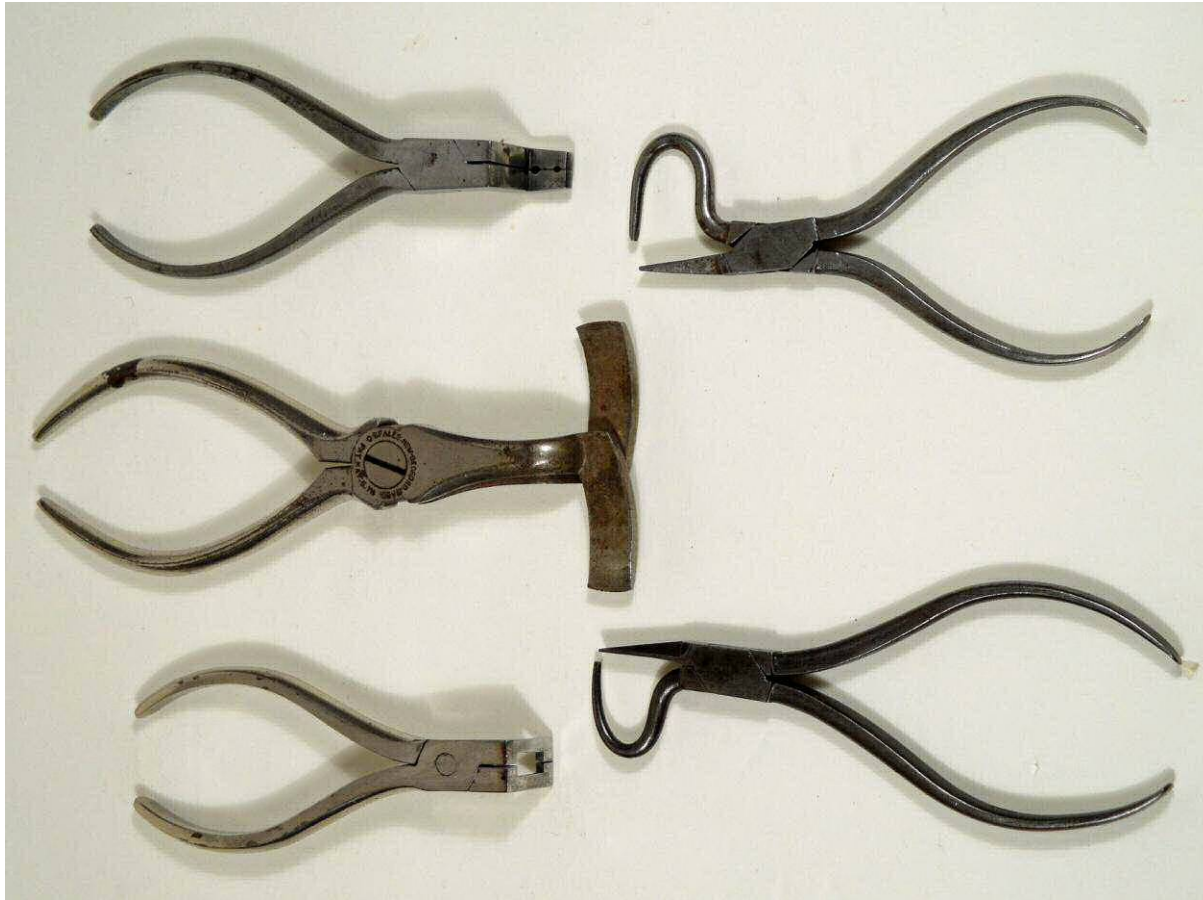
U. S. PATENT MAY 12, 1902. CANADIAN PATENT MARCH 24, 1900.

BOETTGER & WITTIG, MANUFACTURERS 375 Third Street, Milwaukee, Wis.

Instructions for Boettger & Wittig Watch and Tool Demagnetizer



An assortment of watch bow opening and closing pliers



An assortment of pliers

TL: hand & cannon pinion pliers, CL: Fales case spring pliers

BL: balance wheel pliers, TR & BR Hawk bill pliers



Assortment of wood items

Polishing Box, Movement Holders, Polishing Lap and Tweezers