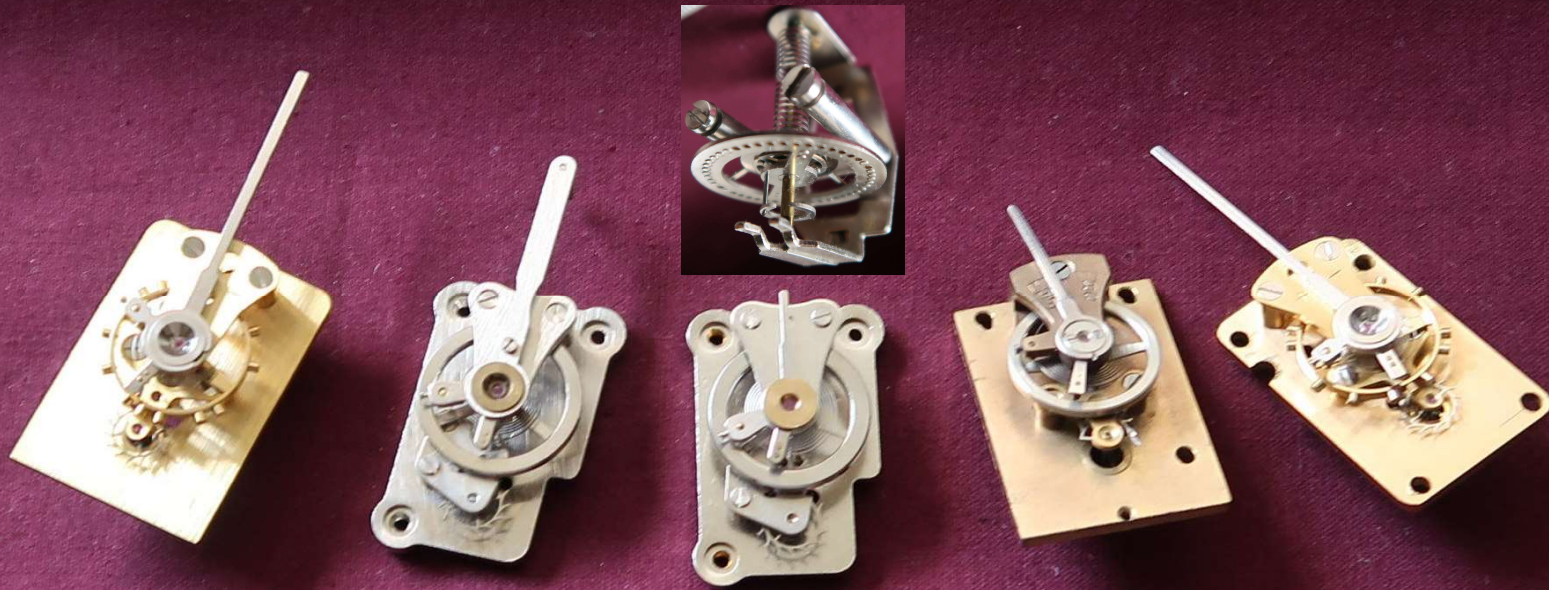


Floating and Platform Balances

An introduction



Floating and Platform Balances

Why Talk About Them?

- 1) Prefer servicing but insufficient knowledge; skill in doubt.
- 2) New assemblies expensive (debatable)
- 3) Prefer original (sentiment)
- 4) What is cost effective.

Floating and Platform Balances

Solution

Learn The Basics

Floating and Platform Balances

- **Introduce main types**
- **Present some detail including part ID**
- **Inspecting and Testing**
- **Cleaning tips**
- **Lubrication**
- **Performing repairs**

Balance Assembly Type

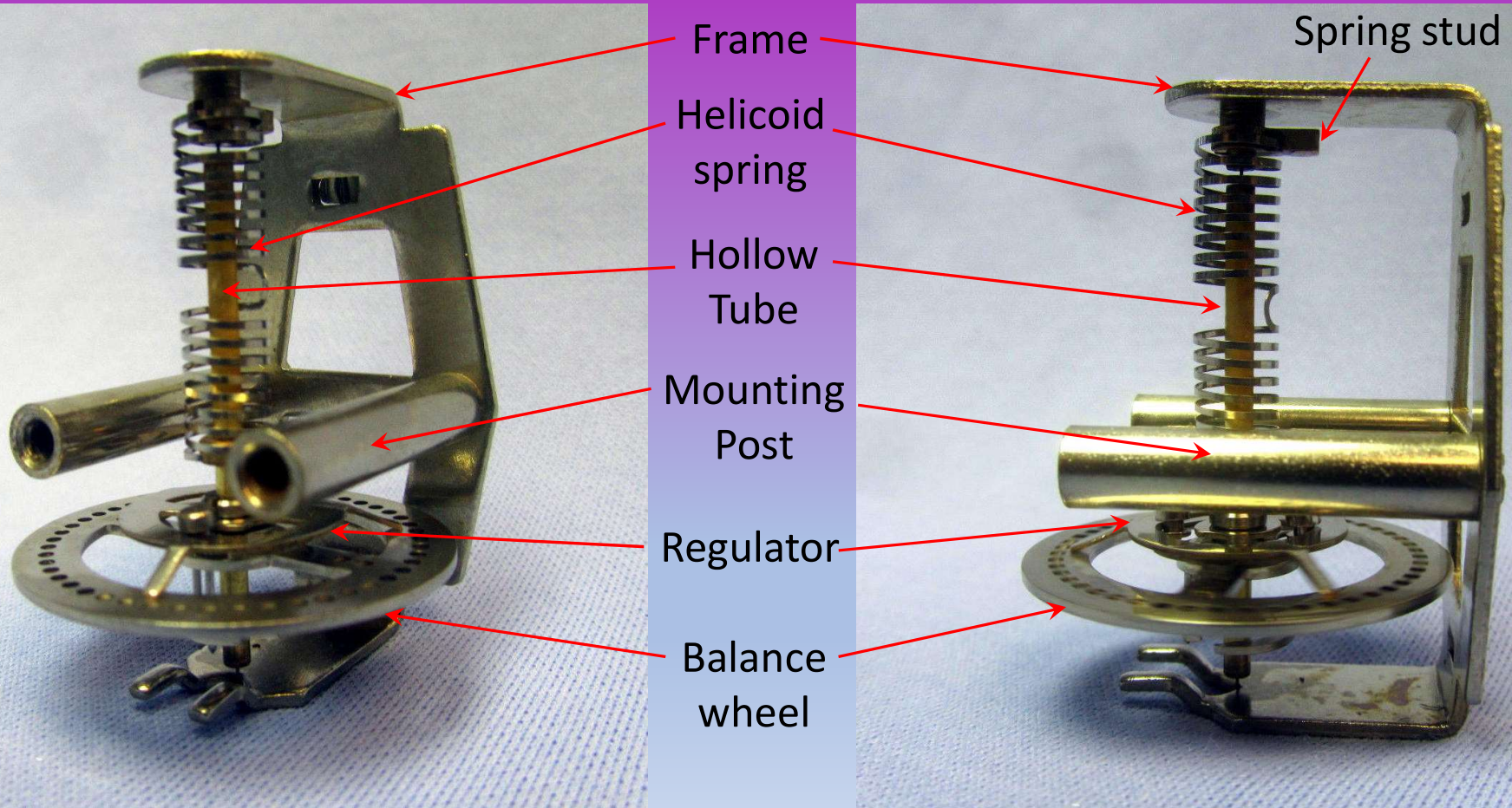
Floating



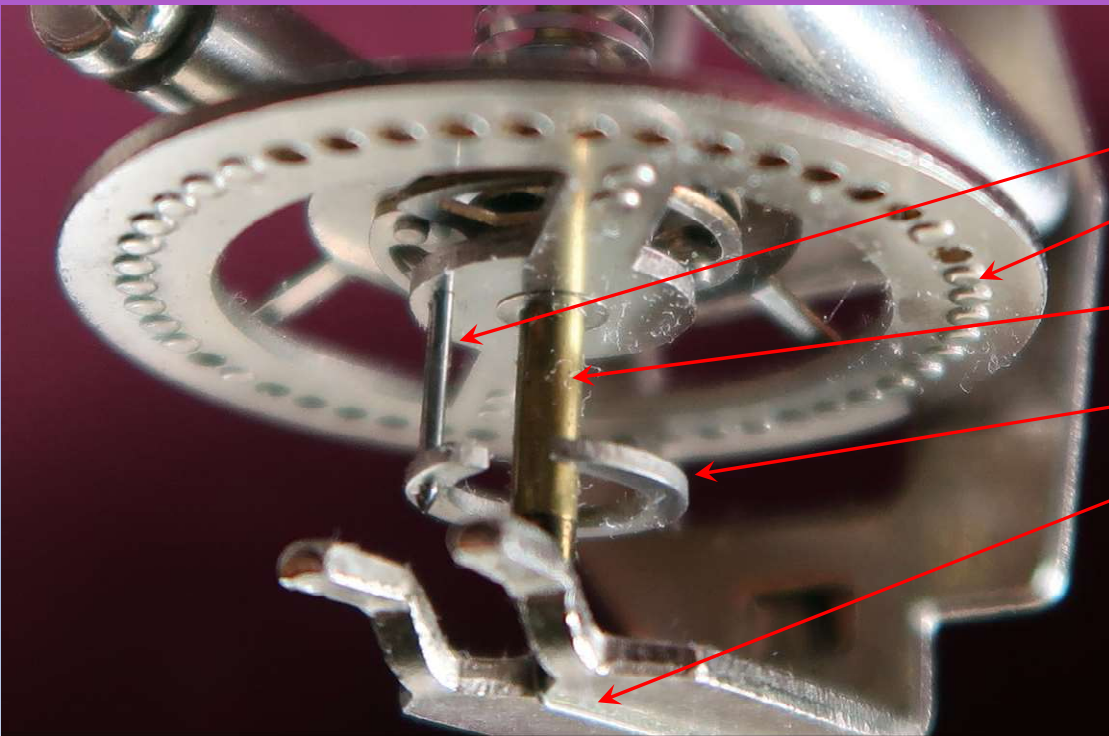
Platform



Floating Balance



Floating Balance cont.



Jewel

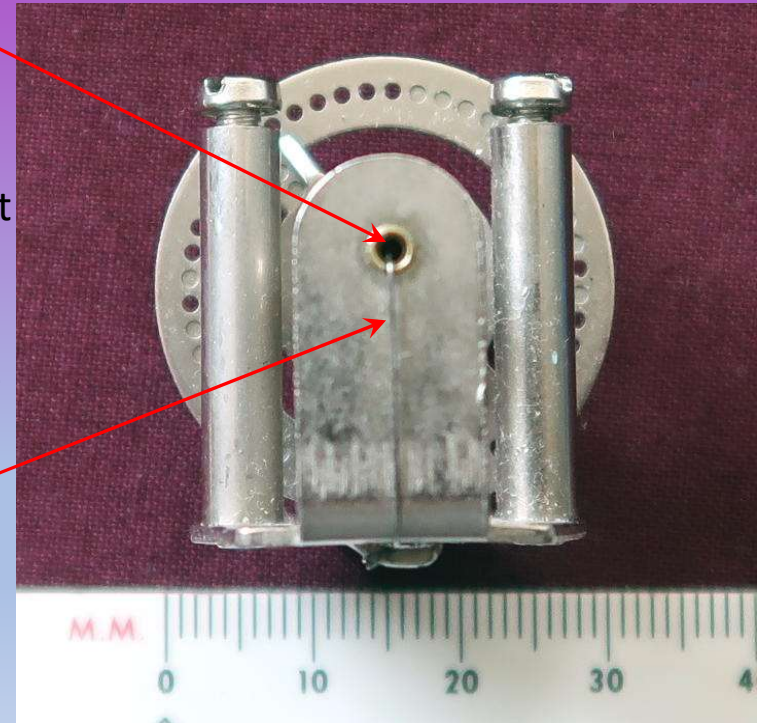
Roller Pin

Paired weight

Hollow Tube

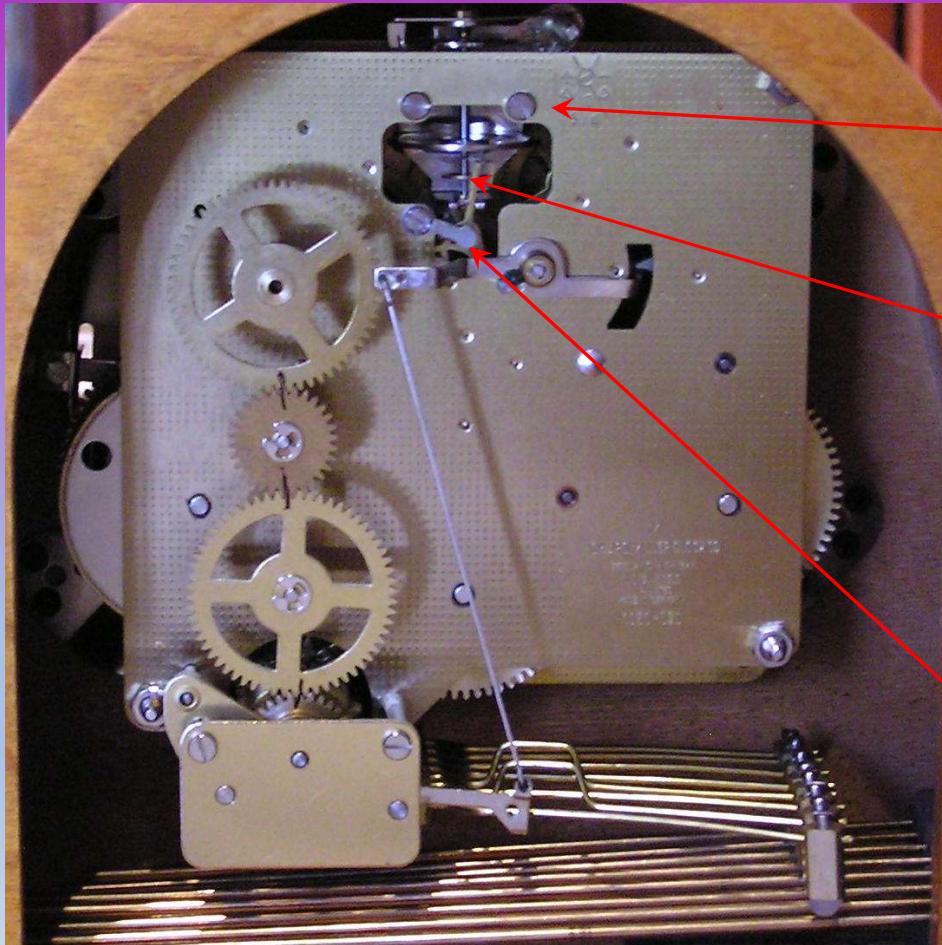
Safety Roller

Pivot Wire



Floating Balance cont.

Example



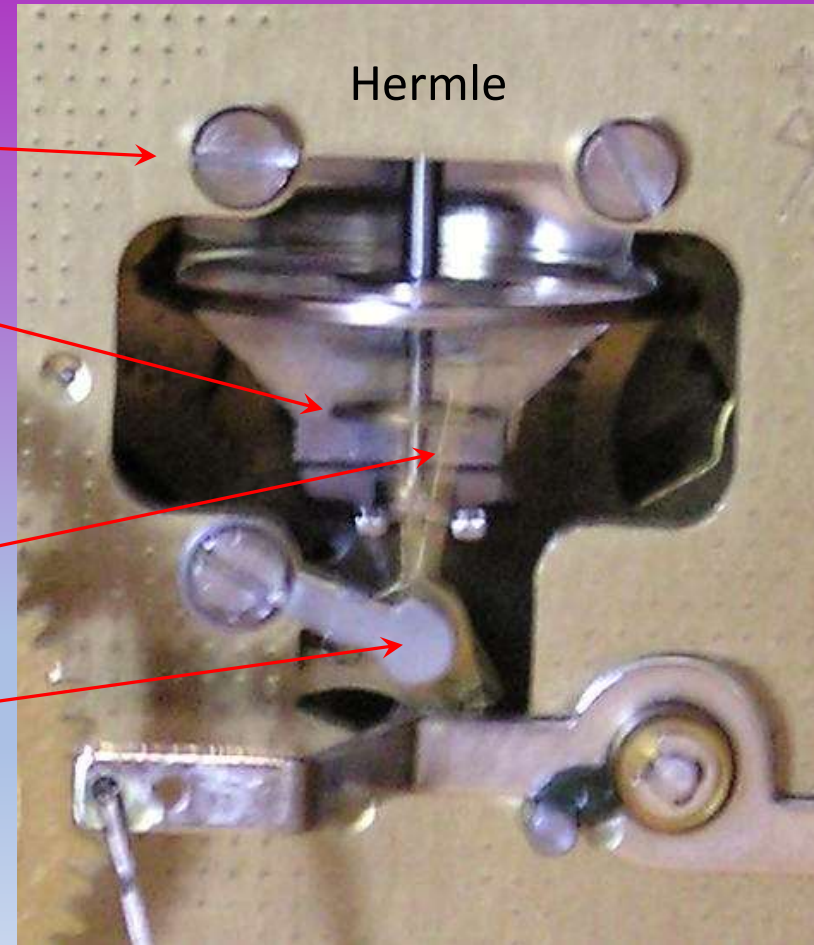
Retaining screws

Safety Roller

Note: moving fork

Jewel cover

[Vid](#)



Hermle

Floating Balance cont.

Inspecting and Testing

(Balance assembly is removed from movement)

- **Inspect pivot (suspension) wire for distortion, corrosion, breakage.**
- **Balance should appear to float between frame. Top and bottom distance.**
- **Balance spring should be proportional and not distorted in any way.**
- **Inspect jewels for cracks and or breakage.**
- **Roller pin should be centered when viewed from front. (beat)**
- **Rotate balance wheel three quarters of a turn (270°) and release. It should rotate smoothly with no distortion and should oscillate for several (3) minutes. Otherwise it needs attention.**

Floating Balance cont.

Visible Damage



Distorted
helicoid
spring



Cracked
jewel

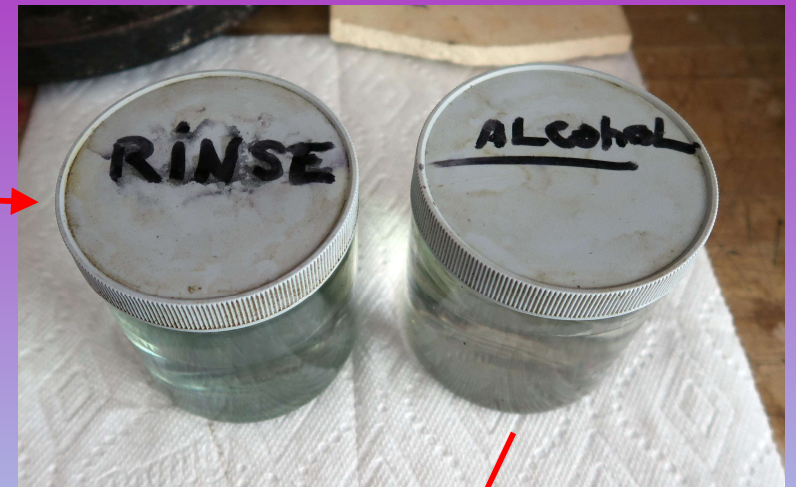
Floating Balance cont.

Cleaning

- **Power let down not necessary for floater balance removal but DO IT anyhow.**
- **Use non-aqueous watch cleaner and rinse.**
- **Agitate in cleaner/rinse by hand or briefly in ultrasonic.**
- **Rinse twice in naphtha or equivalent. Coleman fuel (or similar) and/or alcohol OK as final rinse. Your preference.**
- **Allow to dry.**

Floating Balance cont.

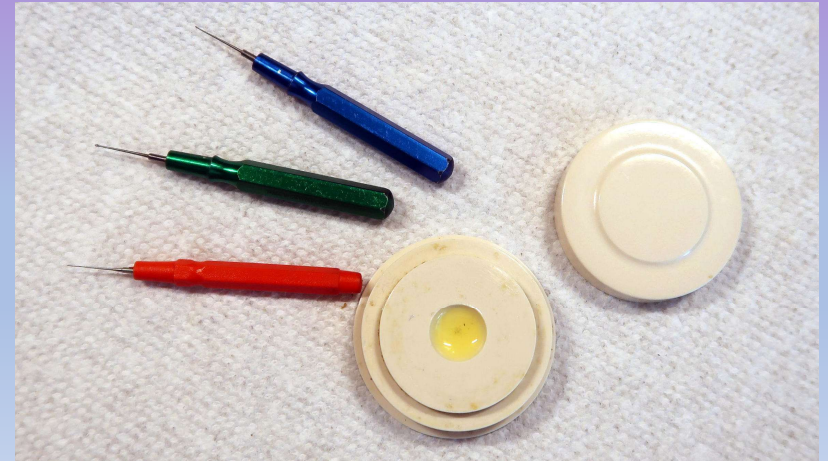
Cleaning



Floating Balance cont.

Lubrication

- There are two opinions. 1. To lube or 2. not lube.
- Place a vary small amount of watch oil on to the upper and lower jewel where the pivot wire passed through the jewel holes.
- Sometimes the roller pin needs a slight
- coating (film = barely see it)
- Some do not recommend any lubrication.
- *I recommend = no initial oil.*



Floating Balance cont.

Repairing

A skilled worker can complete the following:

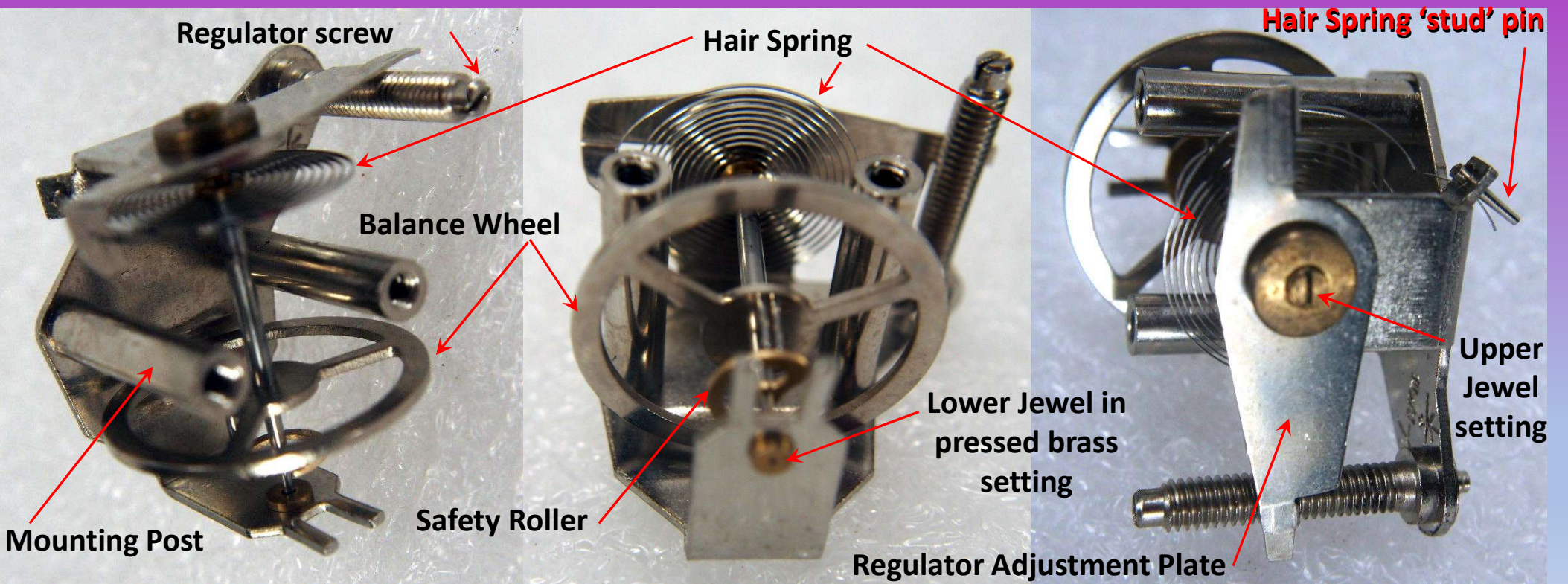
- Replace wire
- Replace broken jewel
- Reshape spring (within reasonable condition)
- Adjust balance

Repair work should be made by experienced clock and watch personnel with advanced skills.

Note: One can always clean a clock movement and then have a balance assembly serviced by a professional

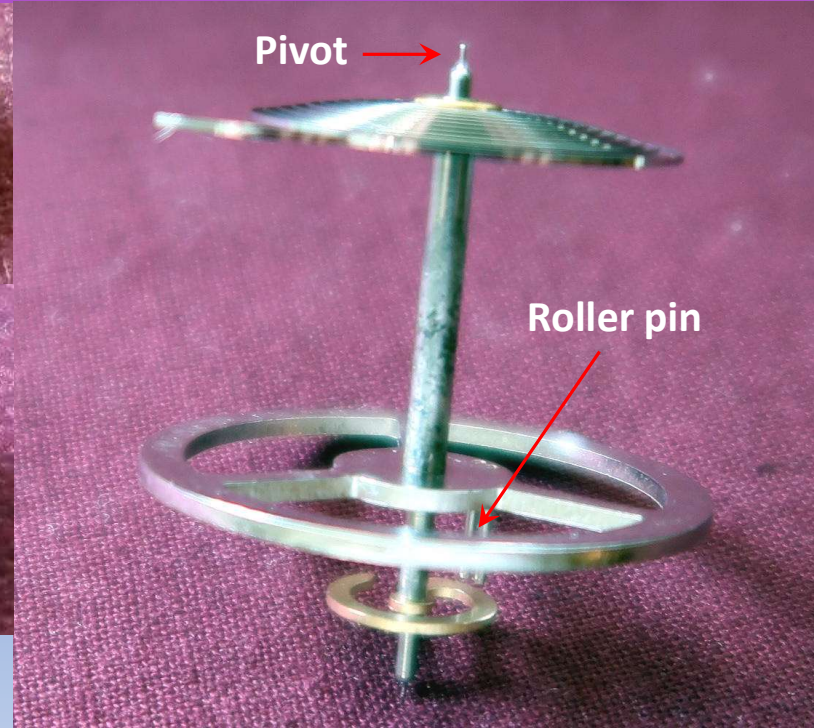
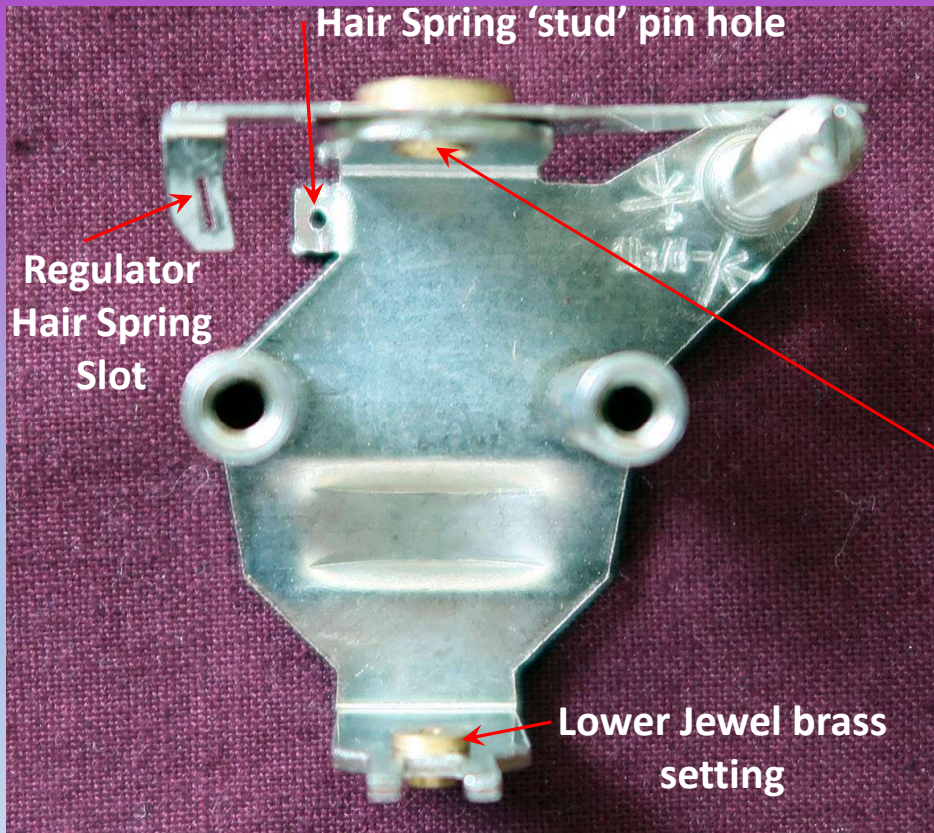
Floating Balance cont.

'Floating' Look Alike



Floating Balance cont.

'Floating' Look Alike cont.

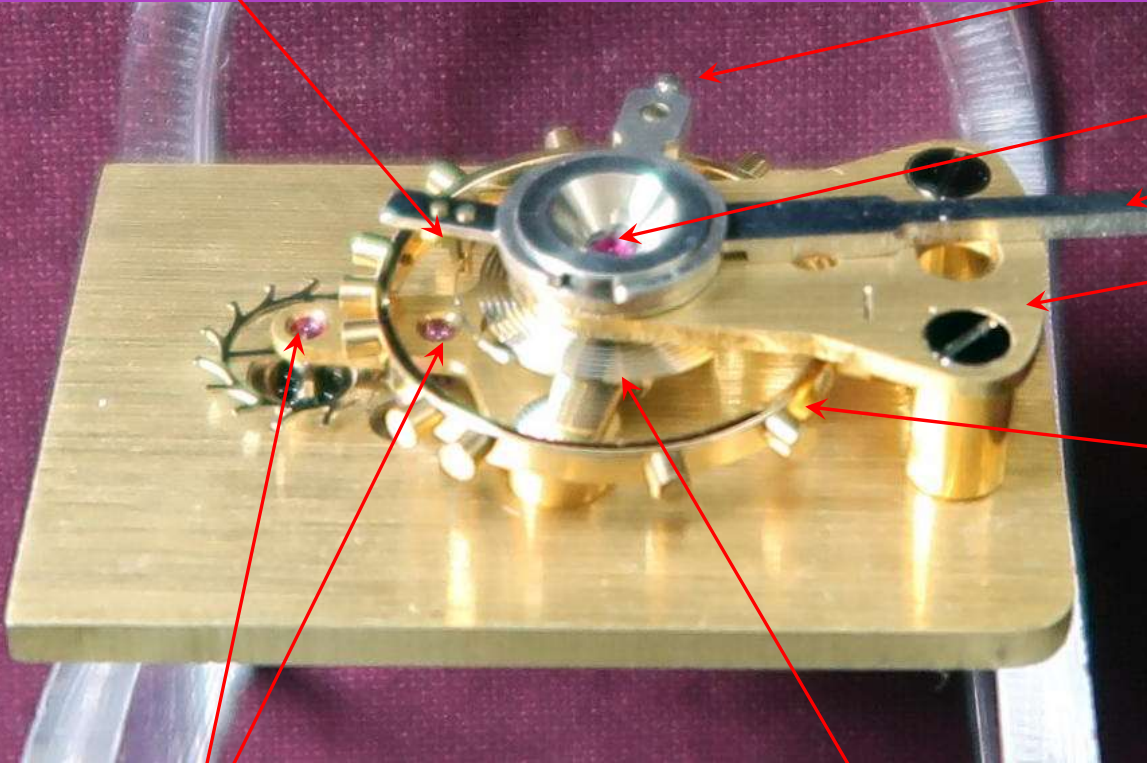


And Now- - -The Platform Balance

Regulator curb pins

Beat adjust/
stud pin

Escape wheel leaves; depth varies



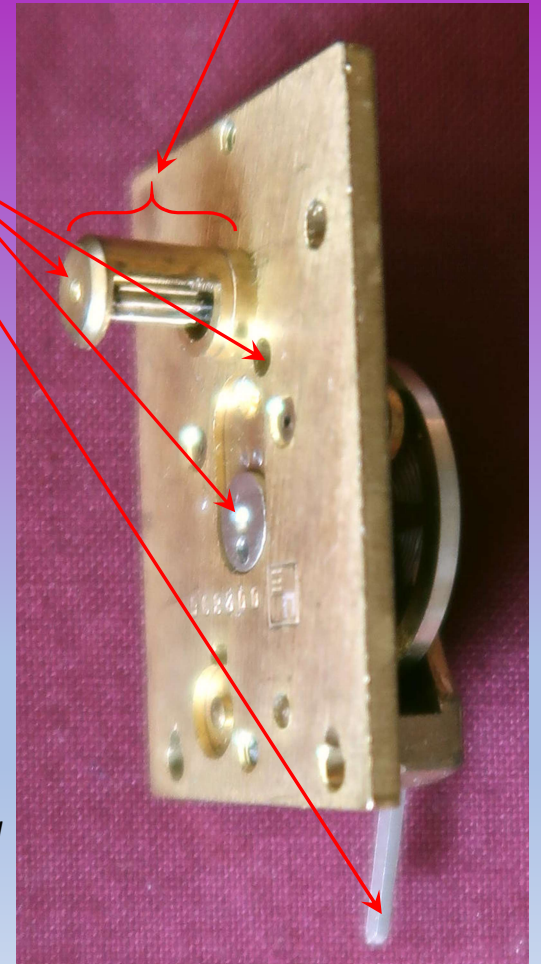
Jewels
Regulator

Balance
Bridge

Balance
Wheel

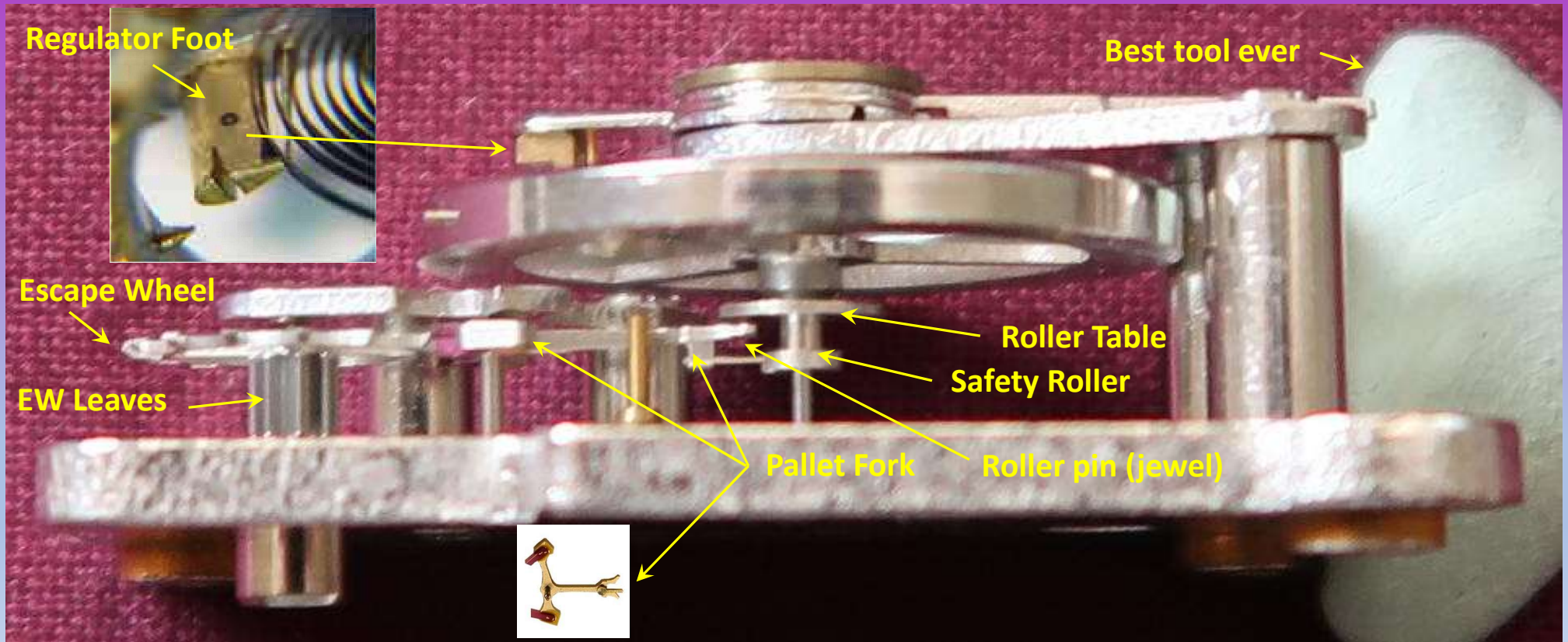
More jewels

Hair Spring

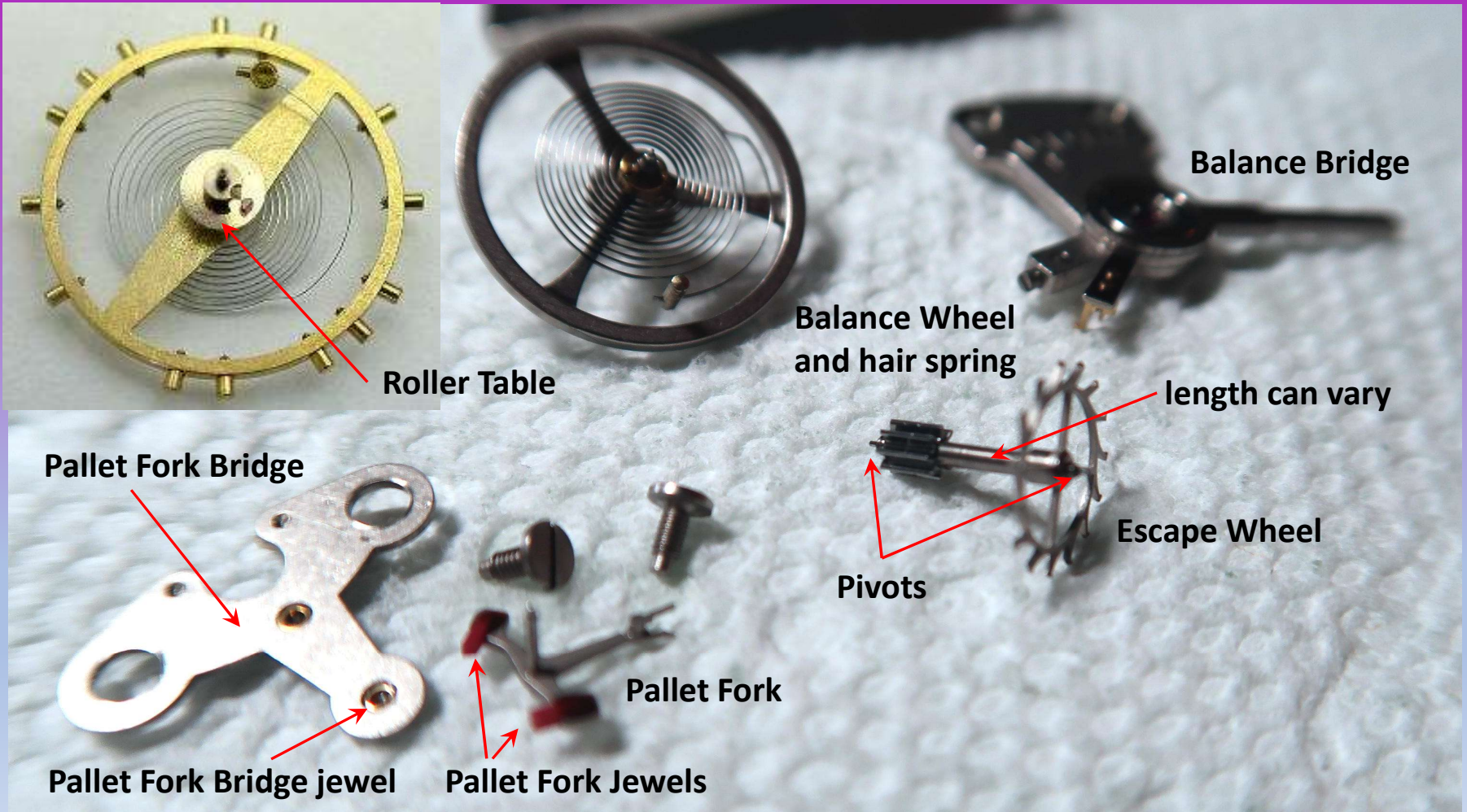


*(Note: Several
escapement types
exist but cleaning and
care pretty much the
same.)*

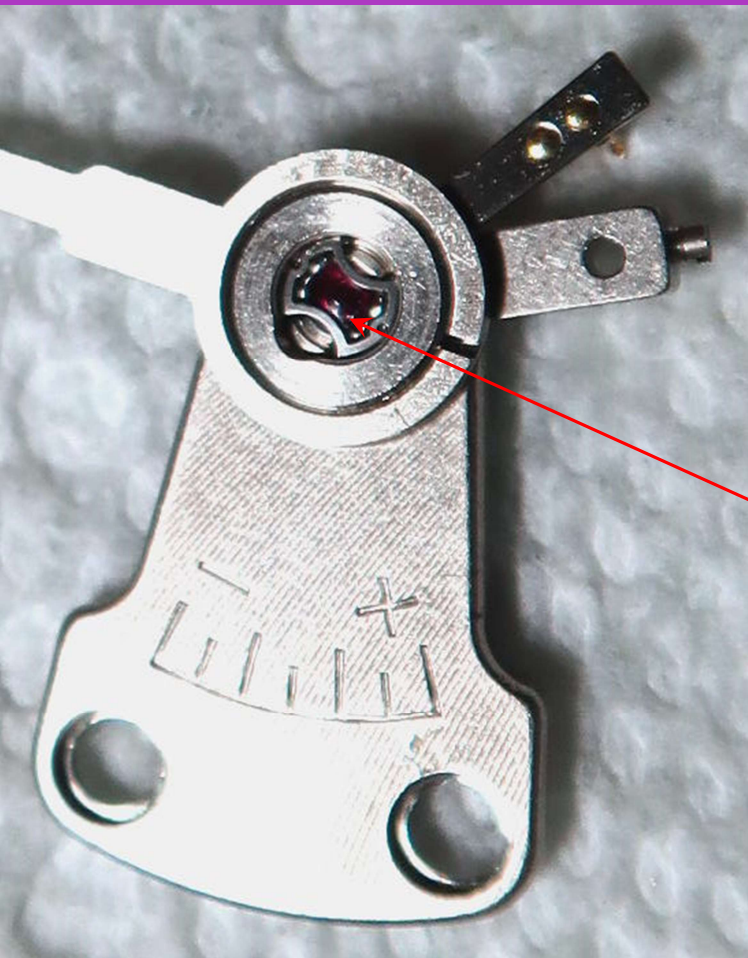
Platform Balance cont.



Platform Balance cont.



Platform Balance cont.



Swiss Cap Jewel Shock Feature

(There are several styles of shock springs with slightly different means of attachment but all function the same).

Incabloc



Platform Balance cont.

Examples



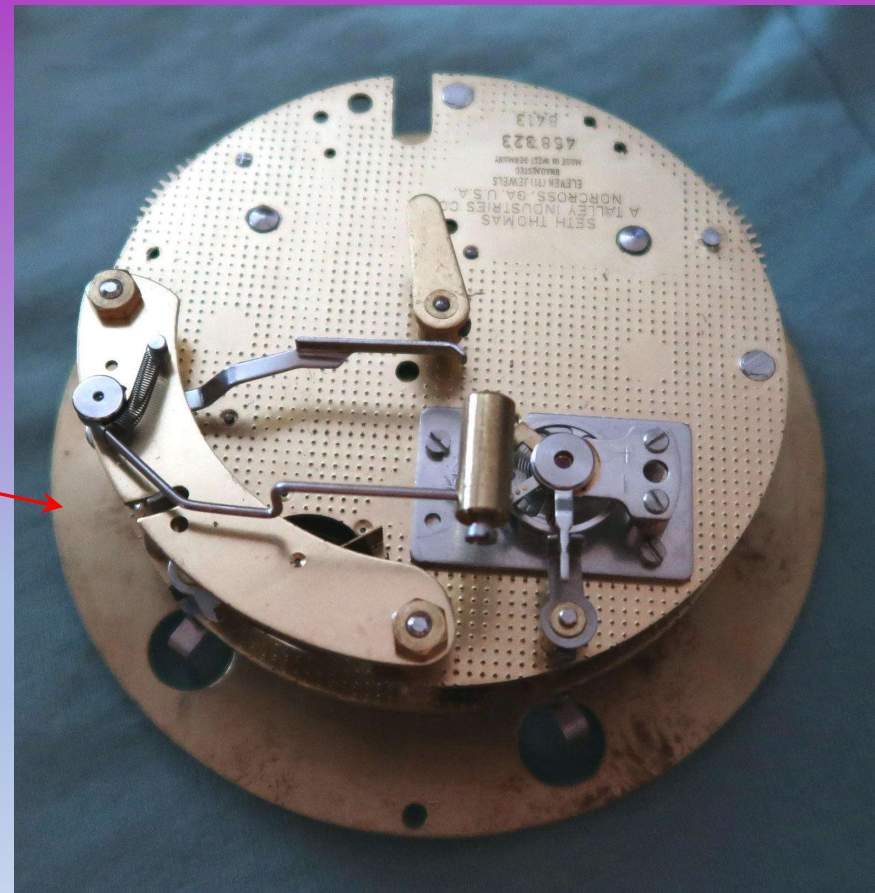
**French Carriage
Clock Movement**

**Seth Thomas
Military Clock
Movement**

[Vid 1](#) Bill Stoddard [Vid 2](#)

Cylinder - forkless

[Cyl 1](#) Time Menders [closeup](#)



Platform Balance cont.

Inspecting and Testing

(Balance assembly is removed from movement – **Power Down**)

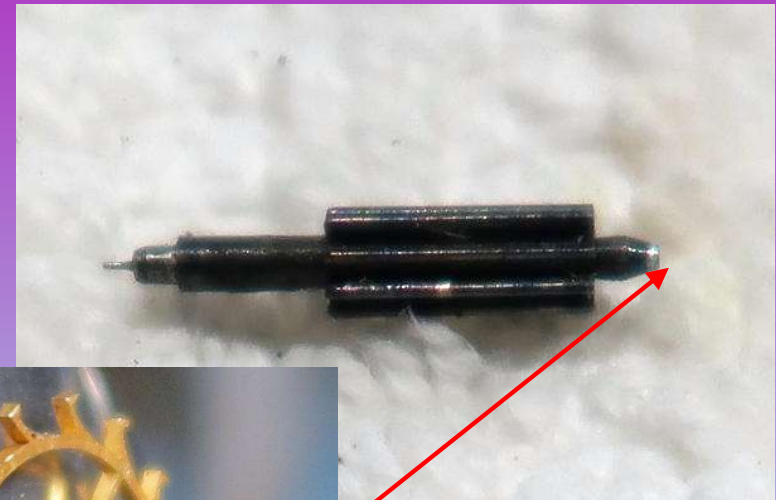
- Visually inspect for dirt, corrosion, breakage.
- Gently rotate assembly so that balance wheel rotates and check for smooth rotation. Balance wheel should want to run forever (seems like) **when pallet fork removed**.
- Most common problem usually old (sticky) oil or broken balance staff (pivot).

Platform Balance cont.

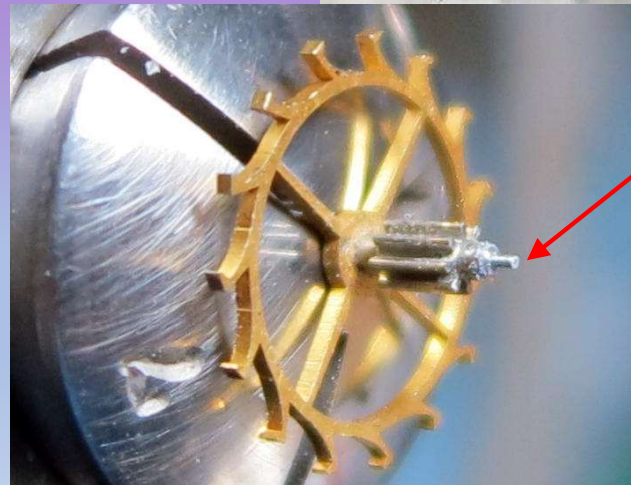
Visible Damage



Replace or reform hair spring



Replace broken pivot



Platform Balance cont.

Cleaning

- **Make sure main spring has been let down before working on movement\platform.**
- **Remove stud pin to release hair spring, from frame or regulator, and regulating pins. Disassemble all parts except components attached to balance wheel (hair spring and roller table)**
- **Use non-aqueous watch cleaner and/or rinse.**
- **Agitate in cleaner/rinse by hand or briefly in ultrasonic.**
- **Rinse twice in naphtha, final can be with Coleman fuel (or similar) or alcohol. Exception = No alcohol on balance wheel assembly.**
- **Allow to dry.** *(Heat not necessary since all parts are disassembled and open to air. Can dry with blow bulb but use caution since small parts tend to fly away.)*
- **Peg pivot holes. Rub flat sides of cap jewels on clean 'no-lint' towel.**



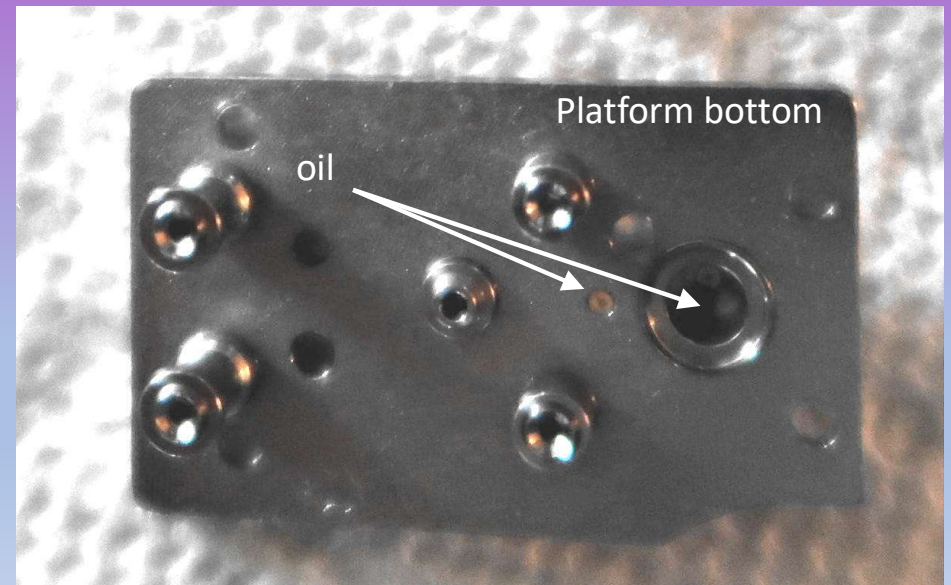
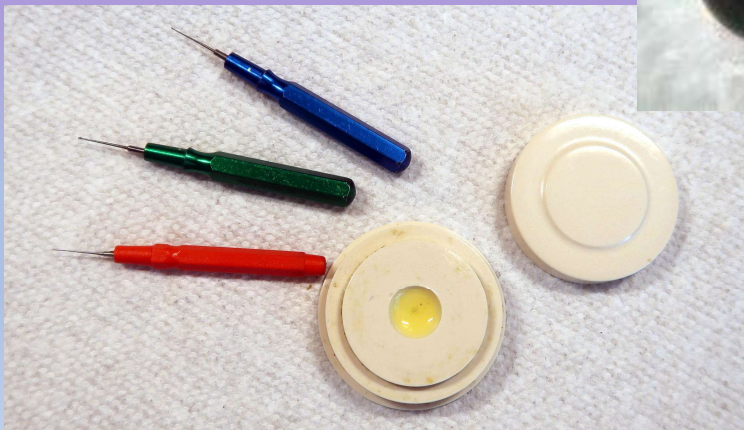
NO Alcohol !



Platform Balance cont.

Lubrication

- Place a vary small amount of watch oil in all hole jewels or pivot holes.
- Cap jewels need to have oil placed between cap and hole jewel prior to assembly.



Platform Balance cont.

Repairing

Common problems:

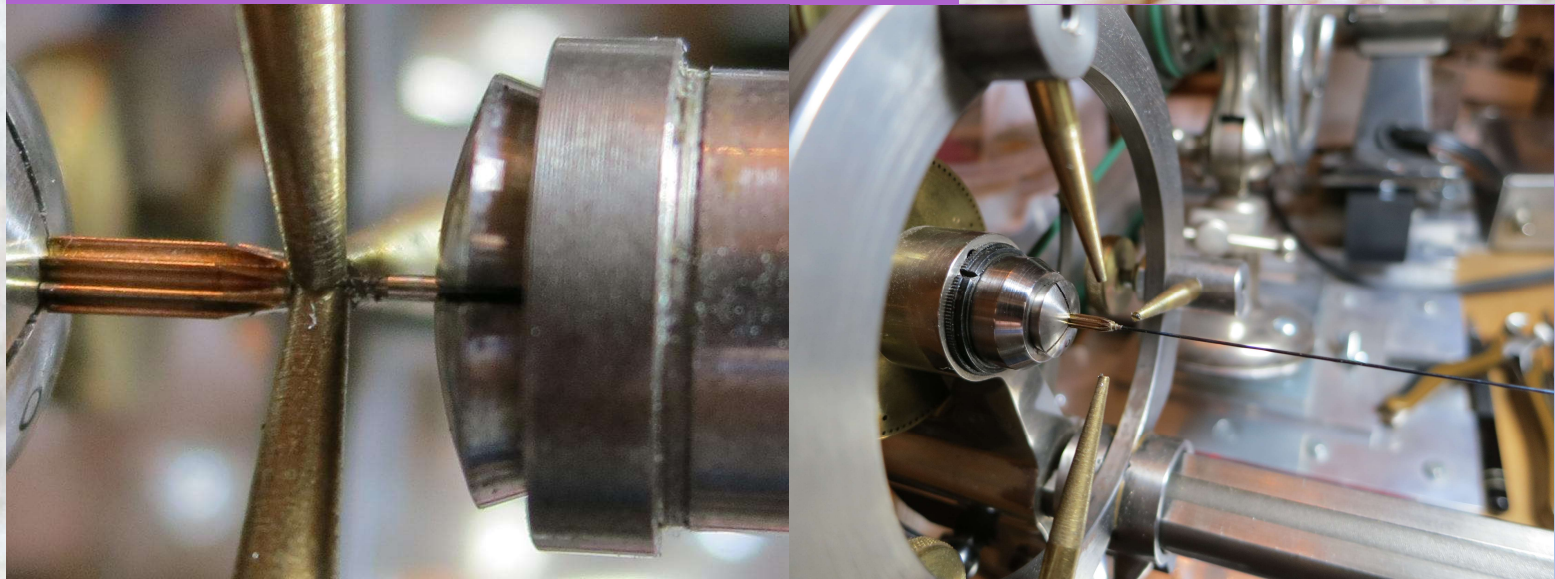
- Old sticky oil
- Balance staff – broken pivot
- Damaged jewel - cracked
- Hair spring – bent, mis-shaped, magnetized

Repair work should be made by experienced clock and watch personnel with advanced skills.

Note: One can always clean a clock movement and then have a balance assembly serviced by a professional to reduce cost.

Platform Balance cont.

Why is repair so expensive?



It takes tools and time, time, time,.....

Floating and Platform Balances

Now you can decide !

References

Hermle Floating Balance

Do internet search on 'clock floating balance'.

Platform Balance

Do internet search on 'clock platform balance'.

Also check authors David Robertson and David J. LaBounty for cleaning and restoration tips.

Platform Balance cont.

Thank You Very Much

Questions?