

		<p>The place to come for all your Bulle and Eureka restora- tion parts.</p>	<p>Contact Peter Smith Telephone 01454-880825 Or Mobile 07969-773480 Email peter_smith@horologix.com</p>
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Eureka Clock Serial Number 3067

Restoration of Eureka Clock Serial Number 3067

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Photos by kind permission of the owner. This short movement sits within a four glass case which seems to have been made for another clock. As you can see the movement seems a little lost sitting in the bottom of the cabinet. Unfortunately if the case was shortened to fit then all four side pieces of glass would have to be cut and reground.

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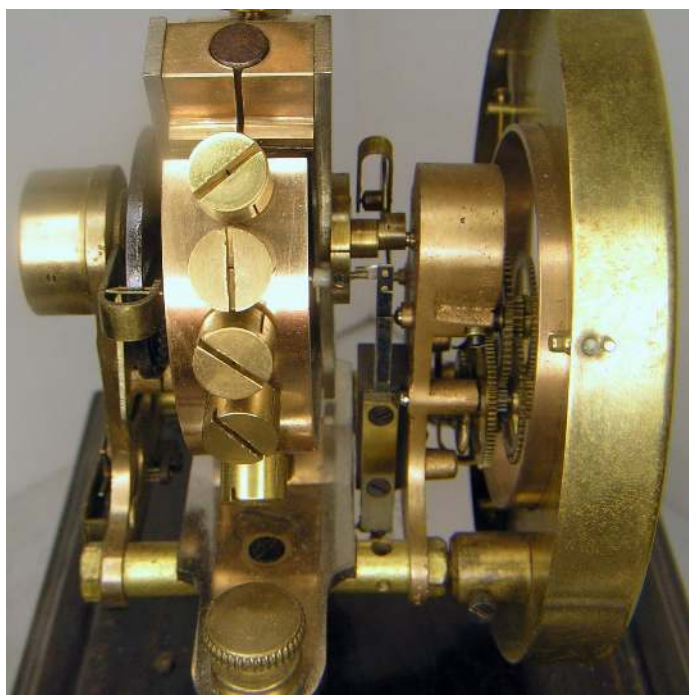
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The dial is a replacement, probably from a French Slate clock, Note the fussy arabic numerals. The Eureka had a much plainer style. The owner wishes the dial to be re-enamelled.



The dial surround is also wrong. It is of thin pressed brass whereas the Eureka should be machined from the solid and is much wider, heavier and ornate. I will have to turn up another.



The rear shows the name and serial number engraved into the back plate. However it is very shallow and ill defined such that the wax fill is very feint.



The underside. Not quite the standard you would expect with a Eureka. The wood is quite thin and only one battery stud is original. The battery retaining plate is also missing as are the ornamental nuts. All will need to be made.

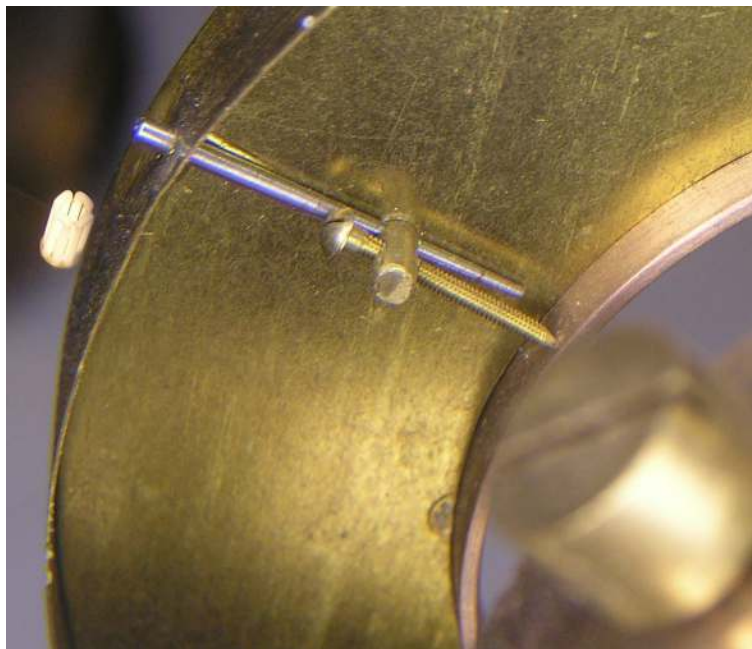
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Here we see the thin spun bezel and how it has been pinned through studs that have been added to the back plate. Note also in the photo above the inner bezel has been made up from a different coloured brass which is too deep and has had to have notches cut to avoid the movement. A new ring will have to be made.



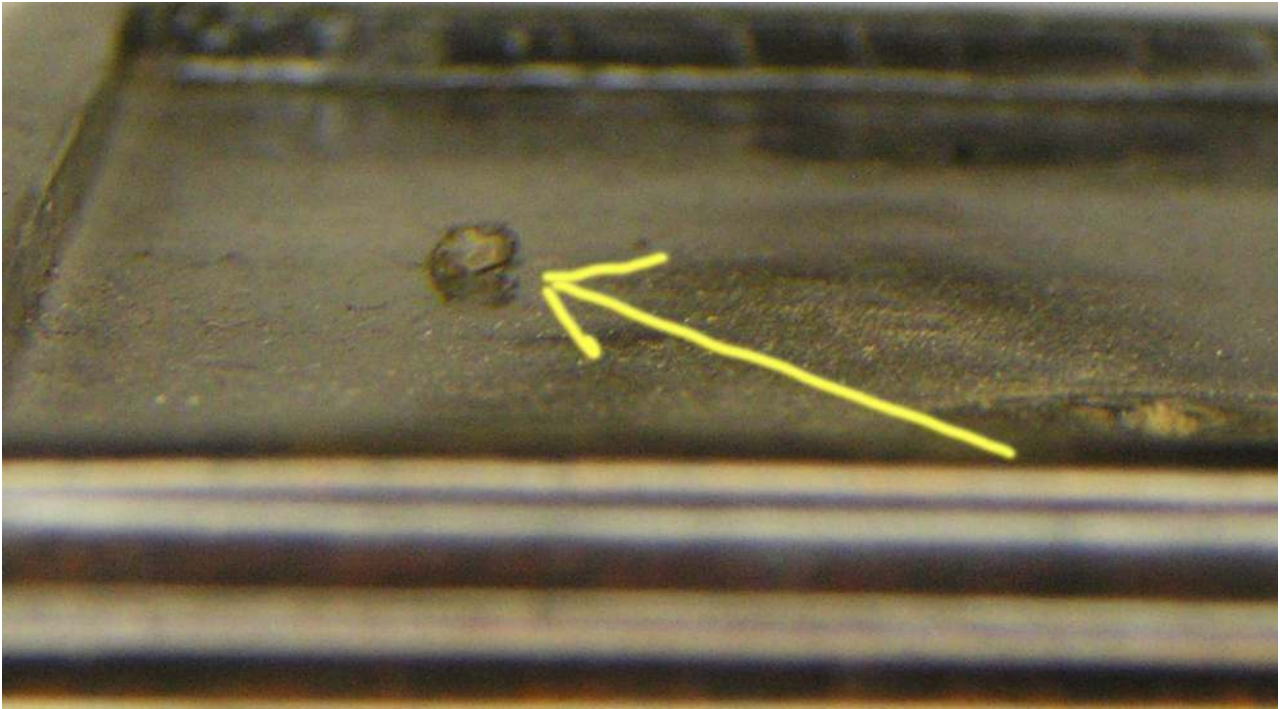
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Above we see that the battery studs protrude through the thin wood base. But there is not much we can do about this. The owner wishes to leave the case as is. Below we see the elegant method of bringing the wiring through the base to the movement.



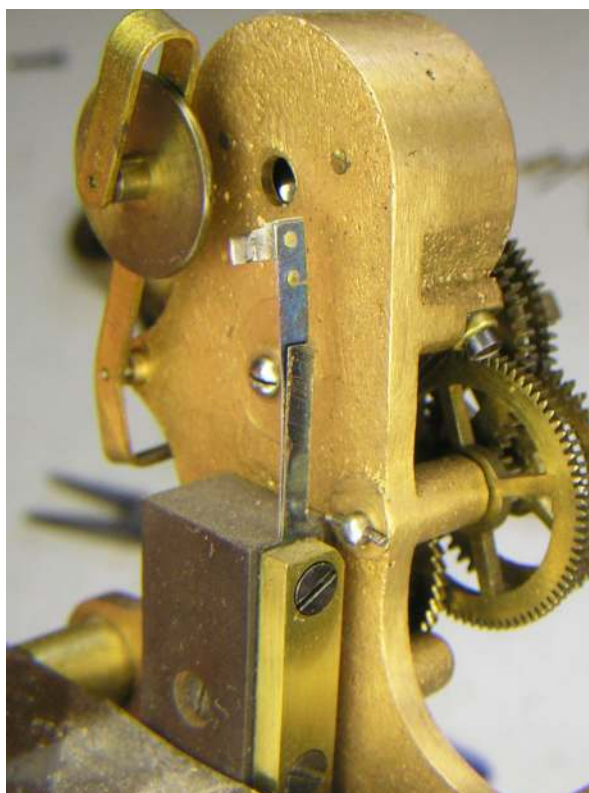
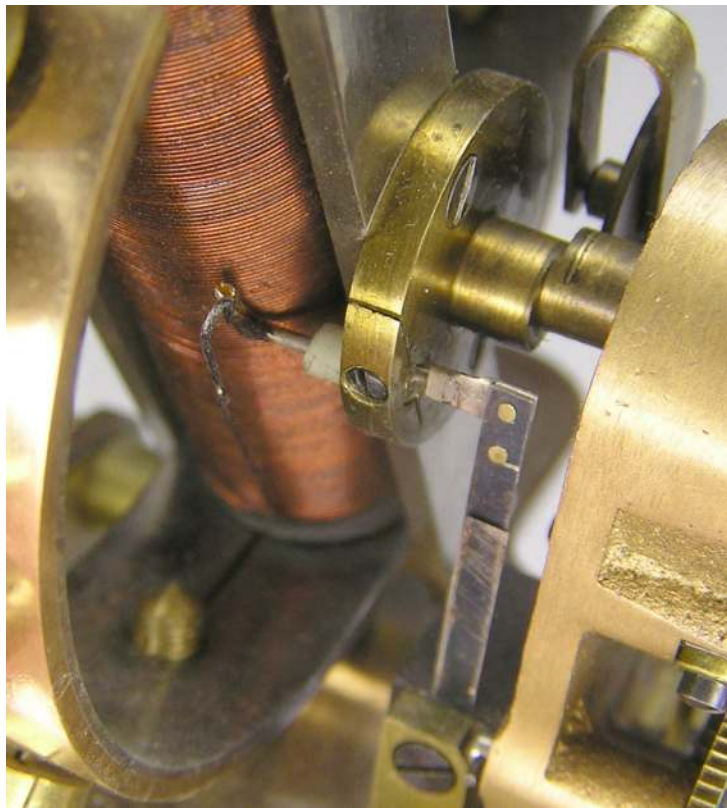
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*This group of photos
show that the move-
ment seems to have es-
caped any major
damage and looks to
be all original with
nothing major missing.*

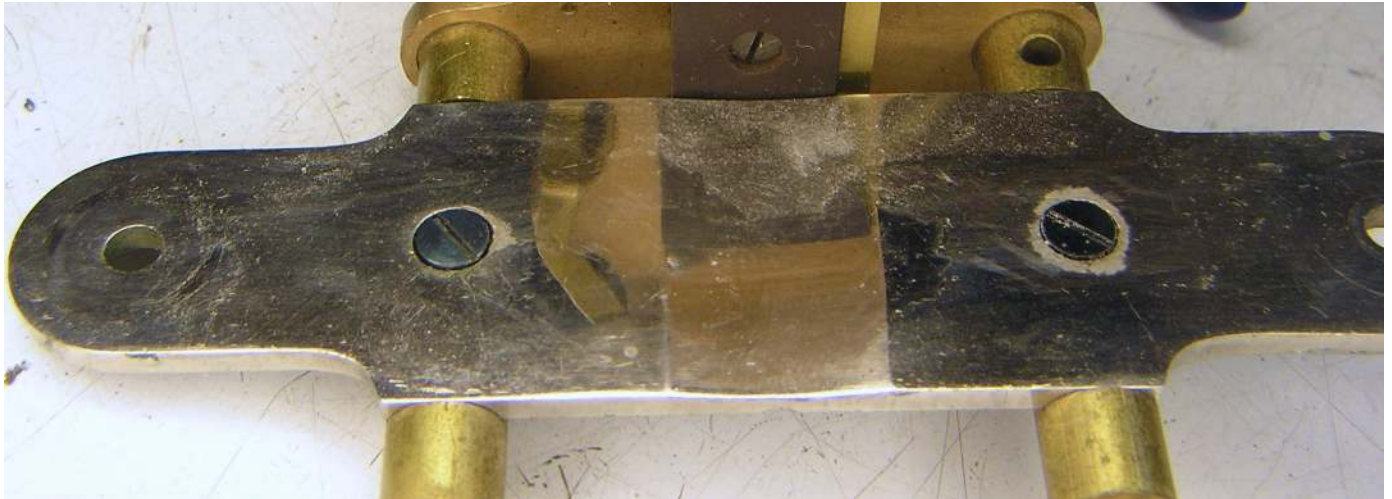
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Generally the movement looks OK with just a bit of rust on the steel parts. But, as is common with Eureka clocks, the click spring has worn through and will need repair.

The rear bearing housing looks good with no rust.

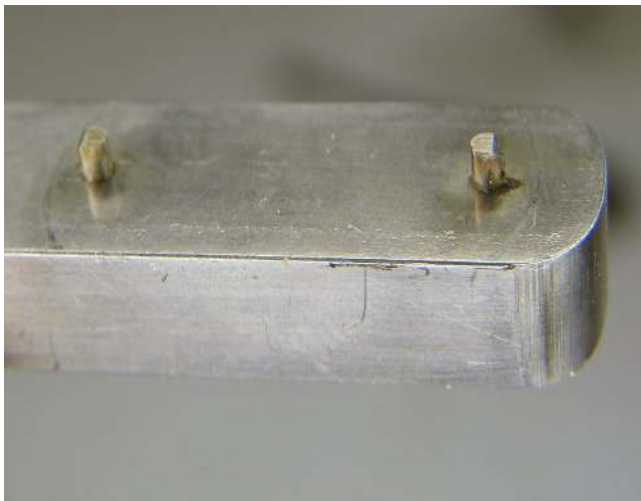
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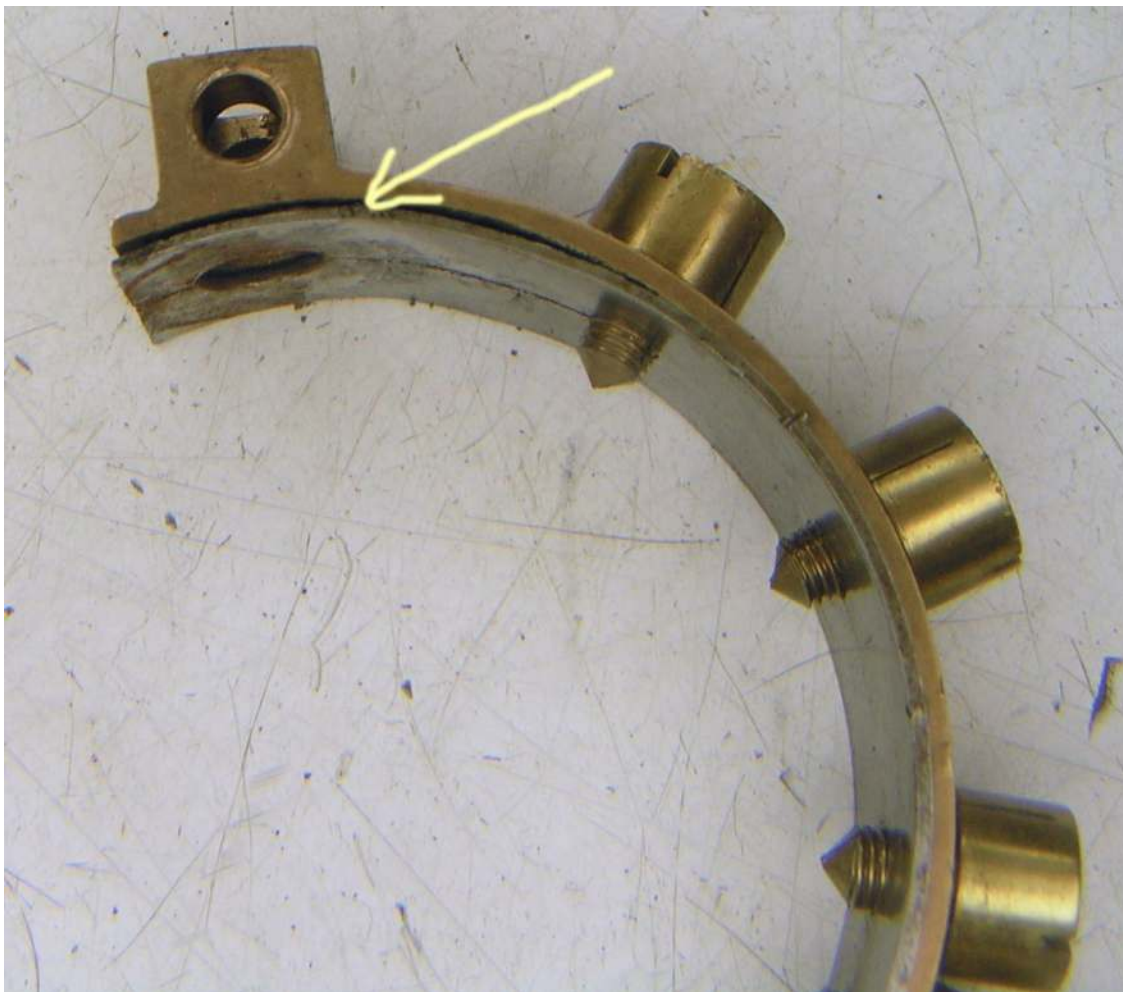
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A simple tool with tapered steel pins to open the bearing housings.



The balance wheel disassembled.



This is going to be a problem. The inner steel rim has separated from the outer brass rim. It looks as though it has been like it for some time as it looks rather rusty.

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The rim has been separated completely and it is now evident that the corrosion is bad and has been like this for some years. I will try and clean the parts and re solder but the problem is lining up the holes and threads.



The corrosion is not just limited to the balance wheel as the photo on the left shows. This will all have to be carefully cleaned. It looks as though the clock may have been in contact with a very damp atmosphere at some point.



The hands have a covering of radio active radium and is a bit of a headache. I will need to wear a face mask and carefully seal the scrapings in a container before disposal.



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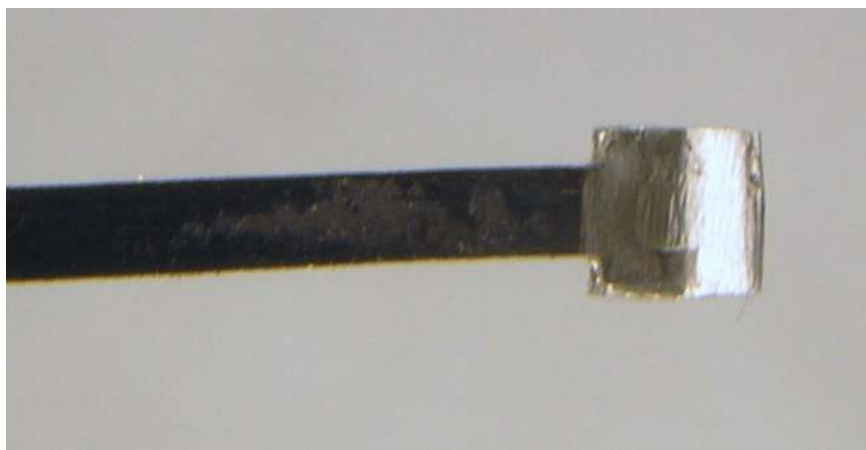


A method of making sure the balance wheel screws get re-assembled in the correct order. This of course assumes that they are in the correct place in the first place and have not been moved in the past. I set them out like the hours on a clock and then weigh each one with a set of scales capable of reading to 0.1 grams. It is then easy to weigh them when cleaned for replacement.



S/W 3067 6/

12	4.00	1	6.42
11	4.39 4.40	2	3.90
10	6.37	3	3.85
9	6.35	4	6.36
8	6.21	5	4.30
7	4.10	6	6.20



The click spring with new steel, soft soldered in place. This view is from the top or inside the "V" where the original hole can still be seen

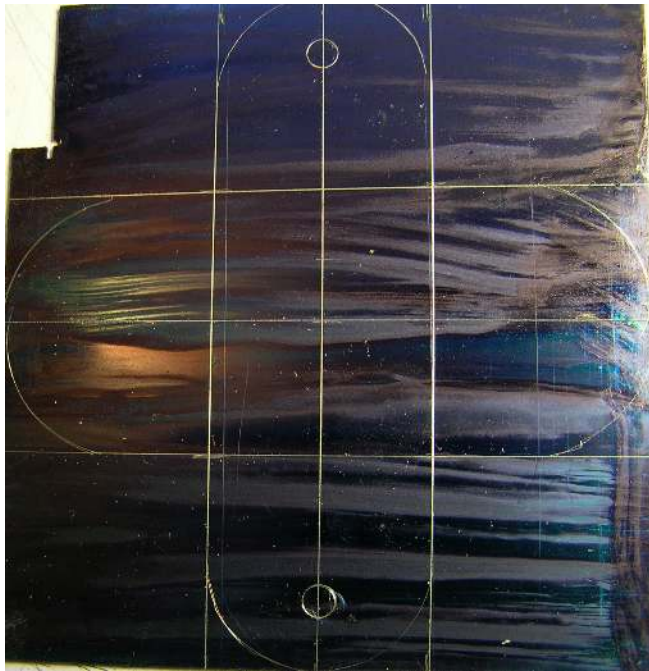
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Stages in making a new battery retainer. The retainer is marked out on flat brass sheet. Note that the dimensions have taken into account the curve that will need to be put in later. The photo on the right shows the retainer after cutting to the line.



The final photo on the left shows the method of forming the curve. I use a hardened steel gudgeon pin from a truck. It works quite well.

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The finished battery retainer.



The new studs and nuts for the battery retainer.



The new parts holding the flag cell battery in place under the base.

This last photo on the right shows that although the eureka clock was a very expensive timepiece, some of the manufacturing could not be said to be of highest craftsmanship. Note that the spokes of the wheel are not very well defined nor have they been fettled or even filed at all. They are just left as "punched" as on cheap foreign imports of the time.



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The balance wheel with repaired rim. All the steel work has come up fine after treatment for the rust.



I had to make new screws for holding the dial in the rim. I used existing pan head 2 BA screws which I turned the heads round on the lathe. They are shown here before cutting, polishing and bluing.

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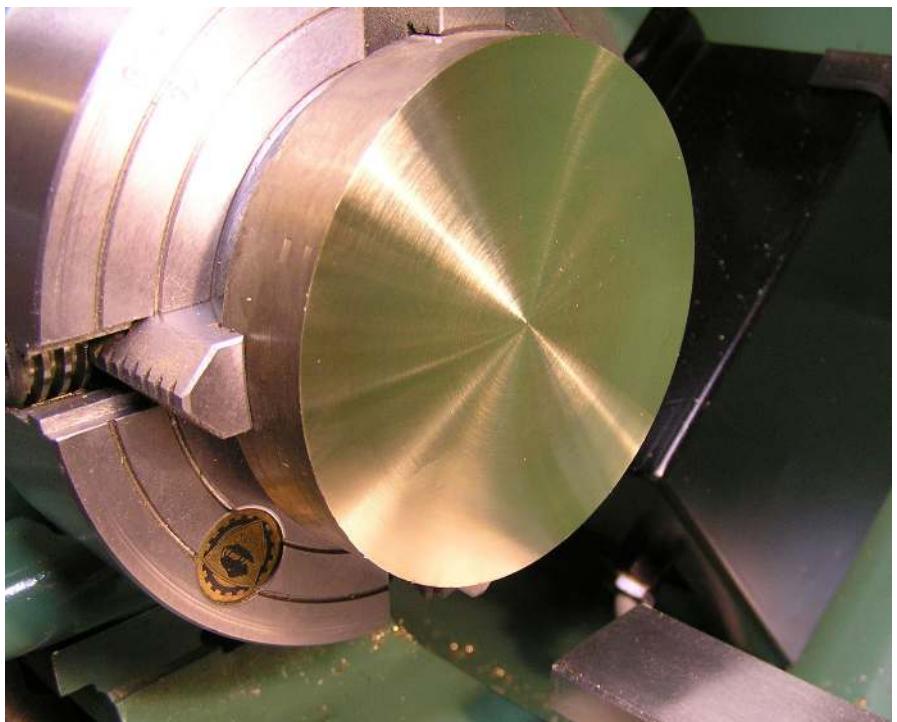
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Some stages in machining the bezel and sight ring. Most of the detail photos are shown in the "Making a Eureka Bezel" pages in the downloads section of this website, and so not reproduced here.



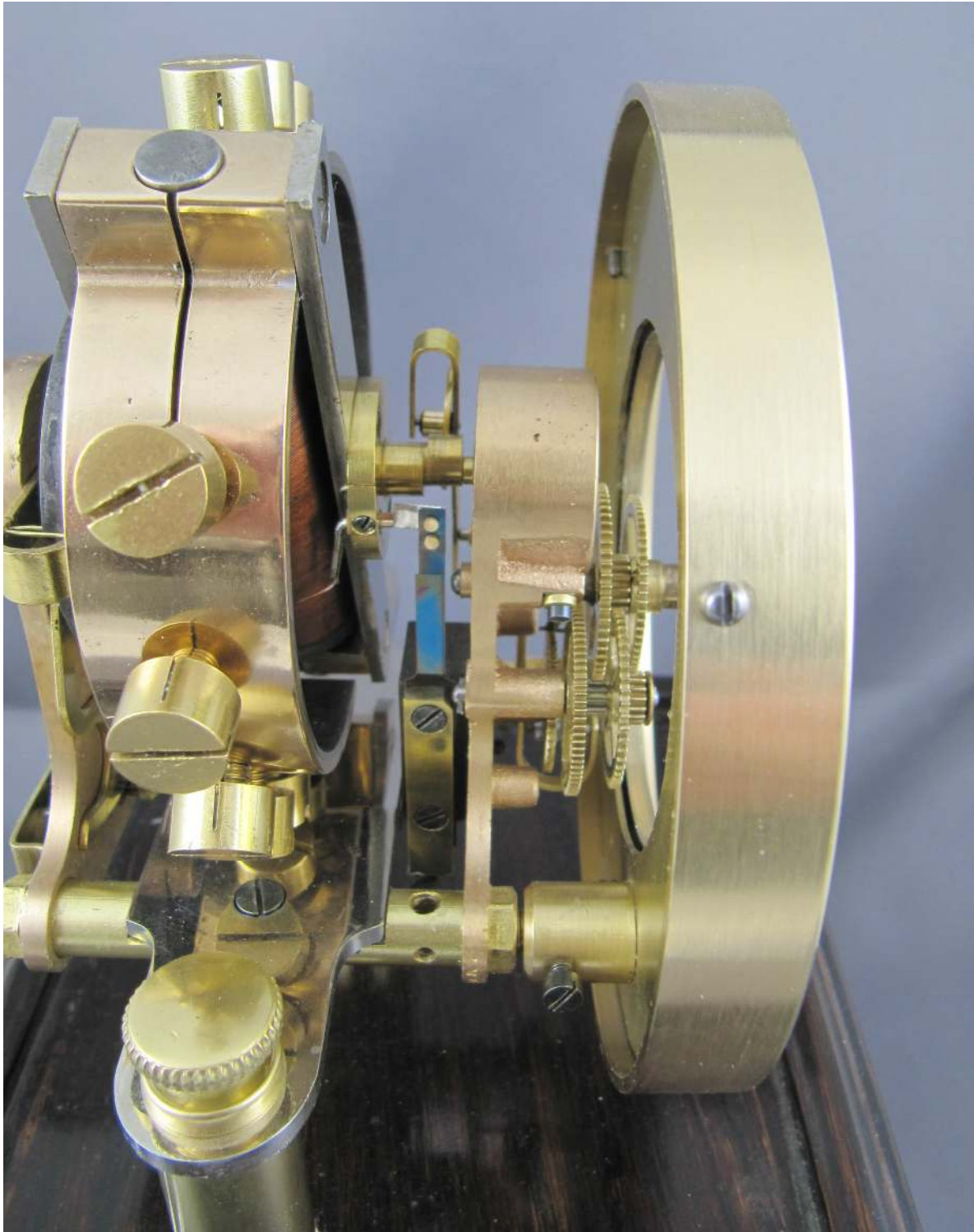
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The dial rim screws tested for length and function before being finished. They should be the correct distance front to back so that the dial and back plate are held without being loose or being too tight such that the ceramic dial is under too much pressure and cracks.

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The finished clock showing the new bezel, inner bezel and enamelled dial. Note the numerals in this photo compared to the dial as first delivered. Much simpler and tidier. The radium has been removed from the hands before they were cleaned and painted.

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The finished clock back on the base

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The rear of the clock. Unfortunately there was not enough depth in the engraved plate to refill the wax characters, so it still looks quite faint.

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*The finished
Clock*