Page 1 Restored Eureka



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Eureka Clock Serial Number 9082

Restoration of Eureka Clock Serial Number 9082

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Photos by kind permission of the owner.

The clock as delivered

The clock has a tall movement with two ball bearing and steel shim protector. The dial is the usual ceramic with no seconds subsidiary. The e movement is housed in very nice oak lancet style case with bevelled glass front door. Everything looks fine and complete.

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The rear of the case has a full length oak door made of three pieces. The second photo shows the front door open revealing the complete movement.

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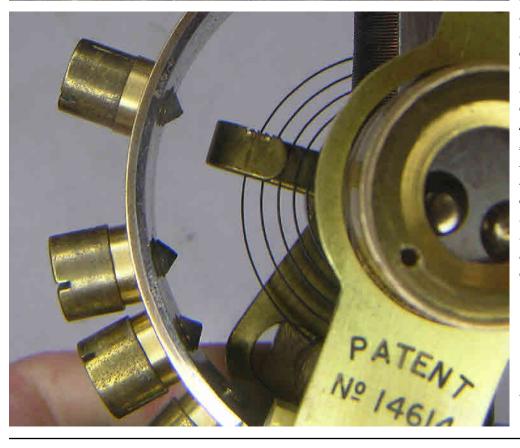




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This is rather odd. Note that at A and B there are what looks like two rubber washers. Why are these here. They provide no function other than to lift the movement higher in the case or to prevent the long case screws from bottoming in the knurled caps. Either way, they are not original.

At C and D notice the extra brass washers on each of the screws. These can only be to increase the weight of the wheel which immediately suggest that the clock is not running well to time. Further investigation shows that the balance spring is only 11.5 turns in length. When they are normally 12.5. This means that the clock would run fast and therefore the extra weights were added in an attempt to slow it down. We cannot add coils to the spring so we will balance the spring , wheel and power using the Horologix battery to try and regulate the clock for reasonable wheel amplitude and time keeping. All these things together suggest that the movement may not have started off with this case.

This photo shows the wqasher weights in more detail.

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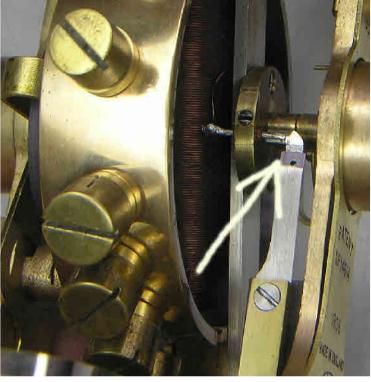
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The first three photos show the extra holes in the case and the missing bun foot. These holes are a mystery and the only thing I can think of is that someone has perhaps tried to fit a light to brighten the interior of the case to aid viewing the movement. Or maybe they were to allow wiring to a transformer of some sort.

The missing bun foot will need to be turned on the lathe.

The last photo shows the substantial home made contact flag. It is well made, if a little beefy.

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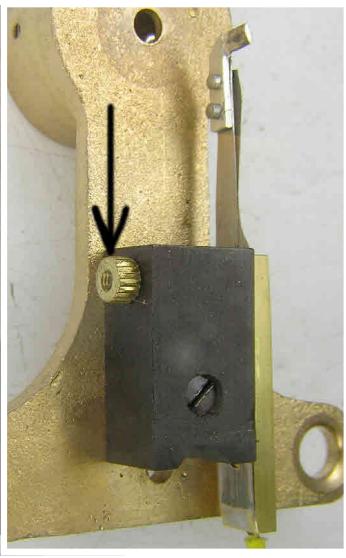


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This group of photos show the contact flag and terminal assembly. Although the flag is rather large it has probably worked OK. The knurled nut on the fibre terminal block is there because the thread in the fibre has been stripped and will no longer allow the screw to pull the contact tightly against the flags. The block will need to be replaced.

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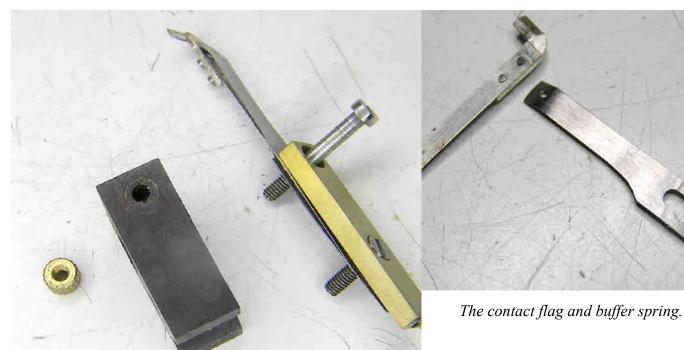




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The terminal block disassembled showing the extra long screw that replaced the original. and the hole in the fibre block to house it.



The contact pin itself has been worn oval. The outer bronze casing and insulation have been worn away. A whole new assembly will have to be made.

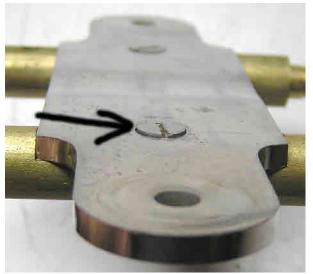
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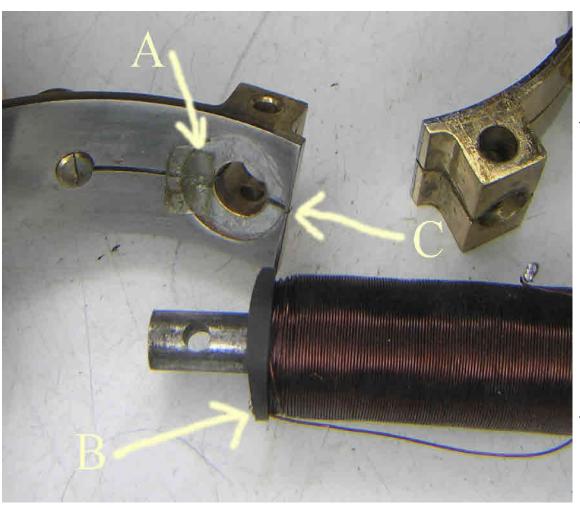
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The base plate screws seem to be little sitting proud which may impede the wheel . On removal it can be seen that there is a layer of rust which prevents the screws from bedding down correctly. This will be cleaned out and the screws reblued



Note the cellotape at A where a previous restorer has tried to insulate the coil wire at B from contacting and possibly shorting the armature. The problem has come about because the armature has been accidentally turned 180 degrees from where it is intended to sit. The coil wire is looped in the fibre at B and should sit in the balance wheel housing so that it faces the gap at C thereby negating the need of any extra insulation.

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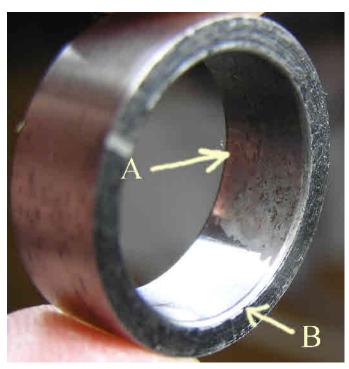




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The ball bearing housings on both front and rear Above we can see the new bun foot being turned in the "A". Luckily the housing can be turned through 180 photo shows it in position on the case. degrees to present a fresh clean surface at "B". If the movement was a three ball type then this would have not been possible and the bearing would need to be re polished.

bearings has been badly scored as can be seen at lathe with the finished foot shown below left. The final





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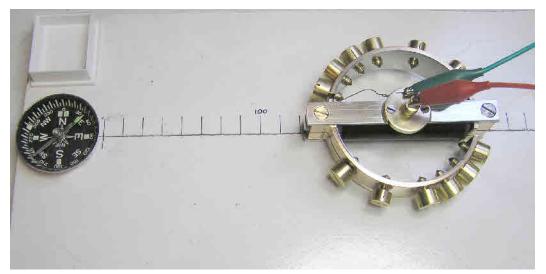
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The two photos at left show the new fibre terminal block and contact flag. The photo above shows the shims necessary to bring the base plate armature as close as possible to the balance wheel armature.



Testing the strength of the armature using the magnetometer. For Eureka clocks the needle should be deflected from North to 45 degrees (NE) by presenting the energised armature at 120mm on the scale.

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The movement completed and back in the case for testing. Note that the washer weights have all been removed.



The rubber washers have been replaced with newly turned and relieved brass of the same dimensions.

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The rear of the restored movement and the replacement "Horologix" regulated battery power supply.



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The completed movement.

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The completed clock.