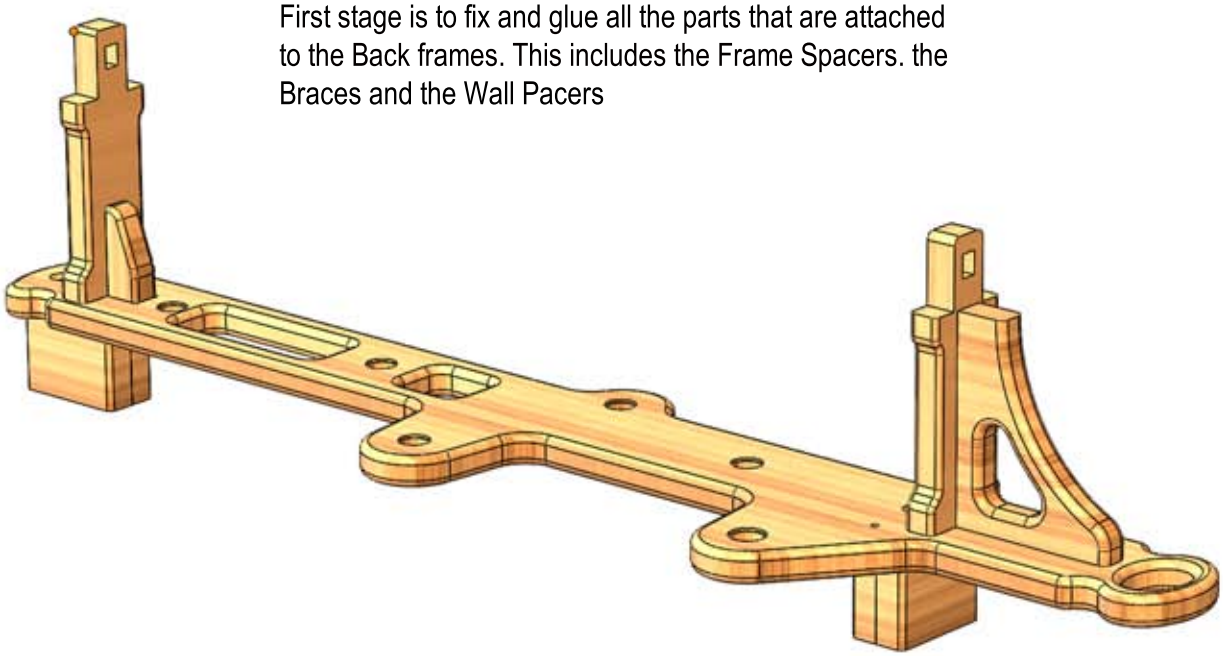
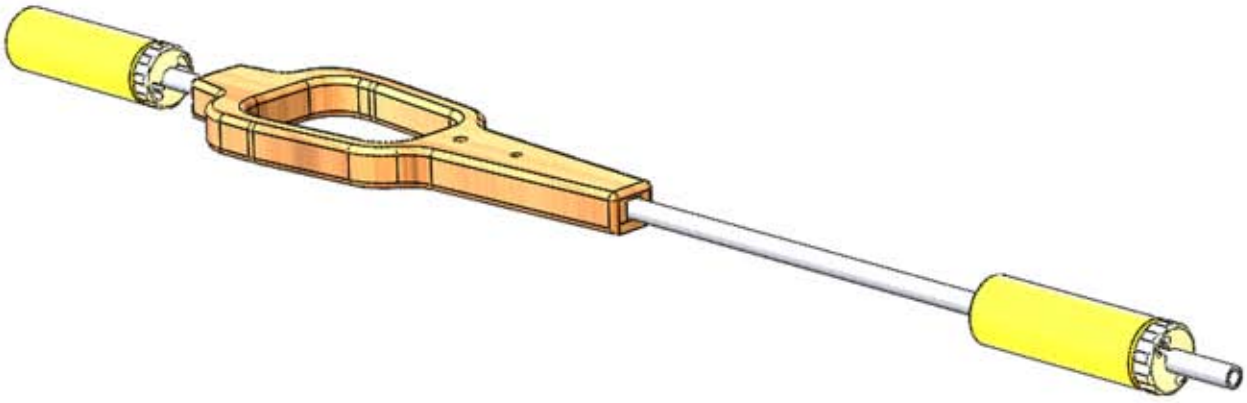
Brian Law's Wooden Clock 32 - with Compound Pendulum Assembly Sequence

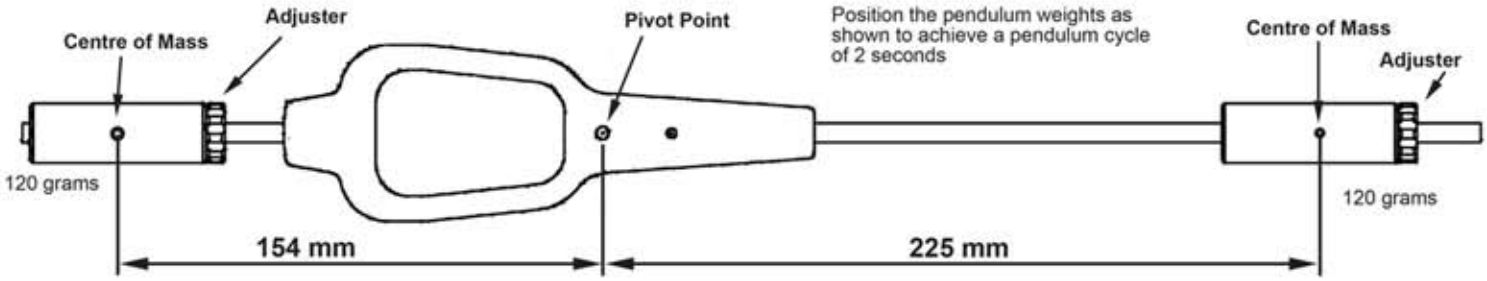
Stage 1 Assemble and glue all frame parts

First stage is to fix and glue all the parts that are attached to the Back frames. This includes the Frame Spacers. the Braces and the Wall Pacers



Stage 2 Assemble the Compound Pendulum





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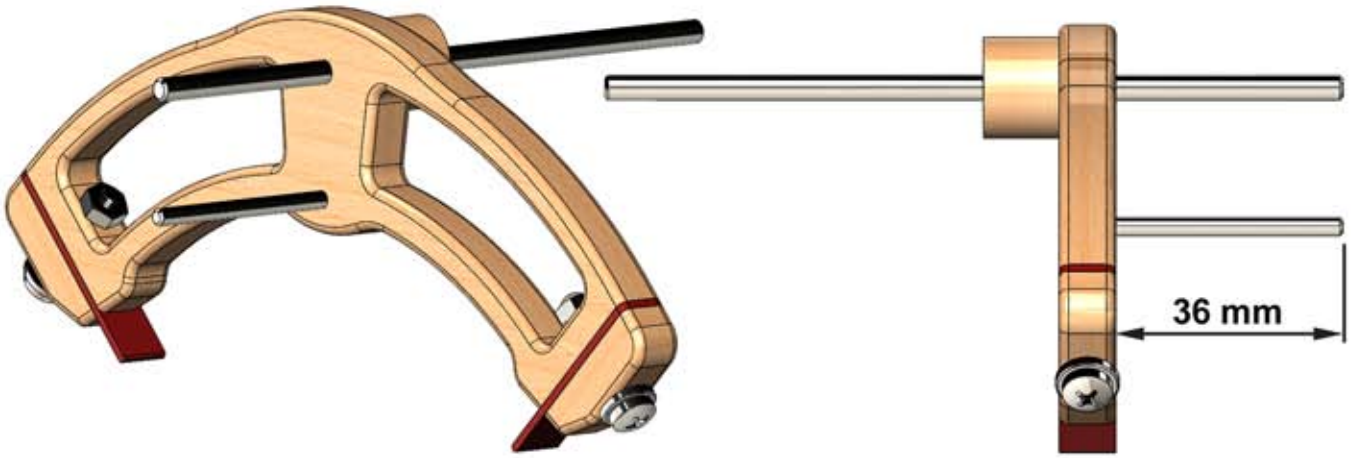
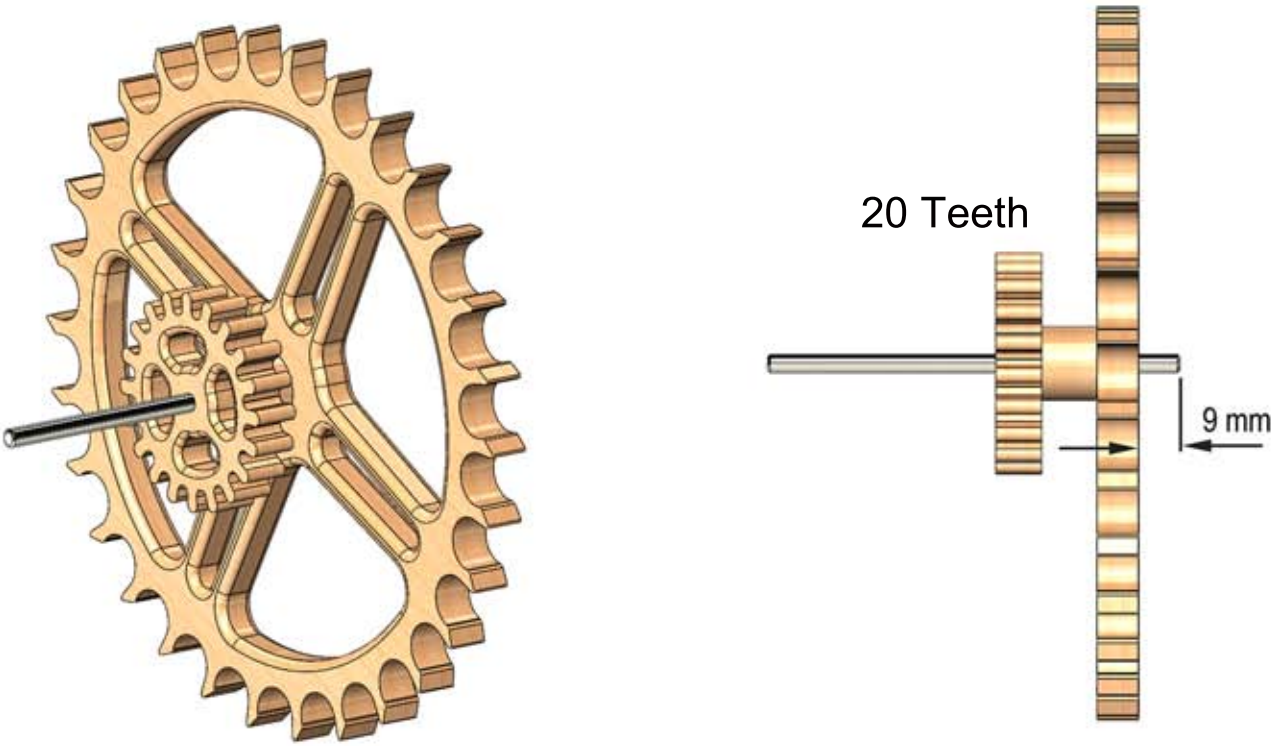
Stage 3 Assemble the Escapement Arm and Escape wheel





Assemble the Escape Wheel and the 20 Toothed gear with a 12 mm spacer to the shaft as shown

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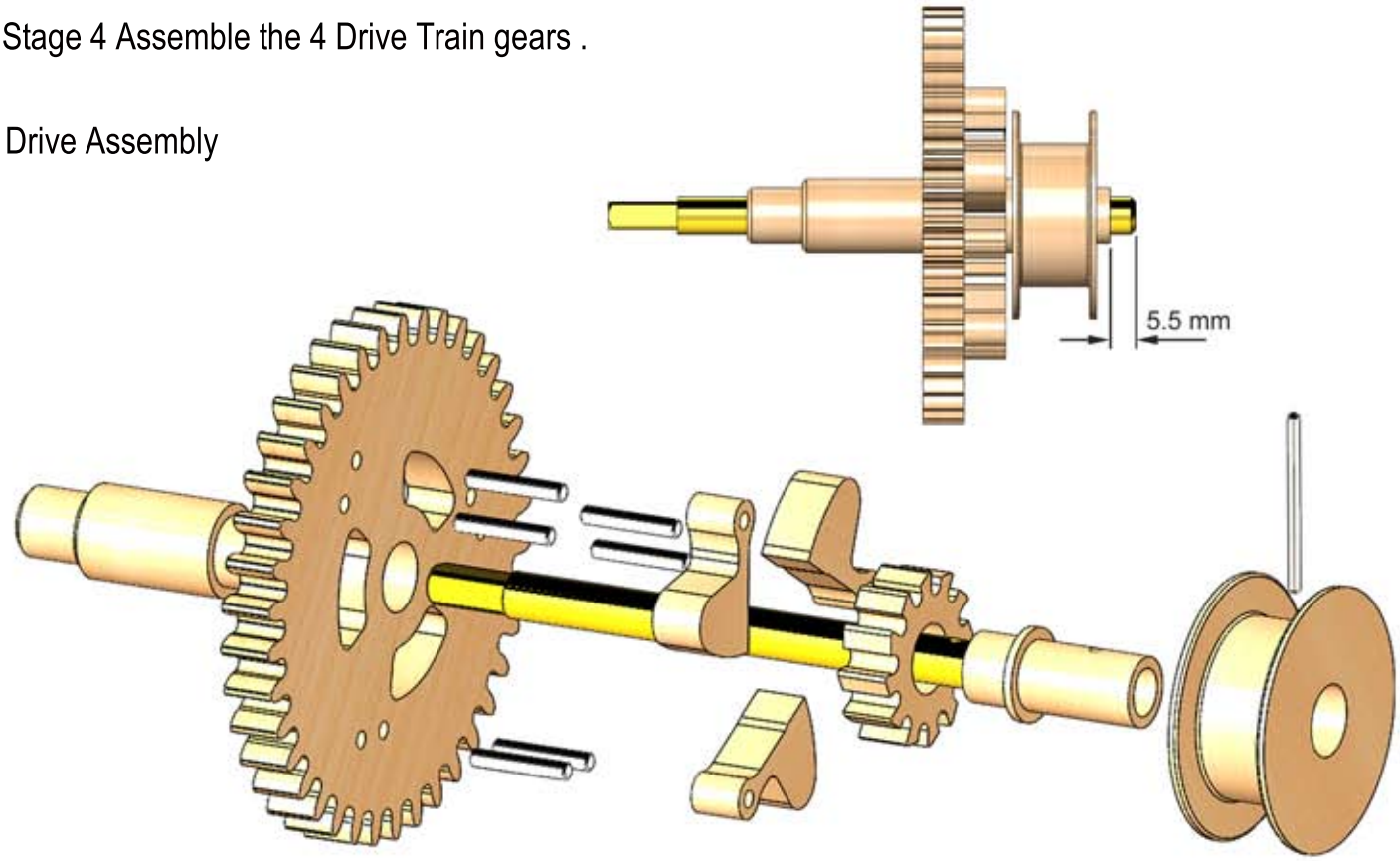
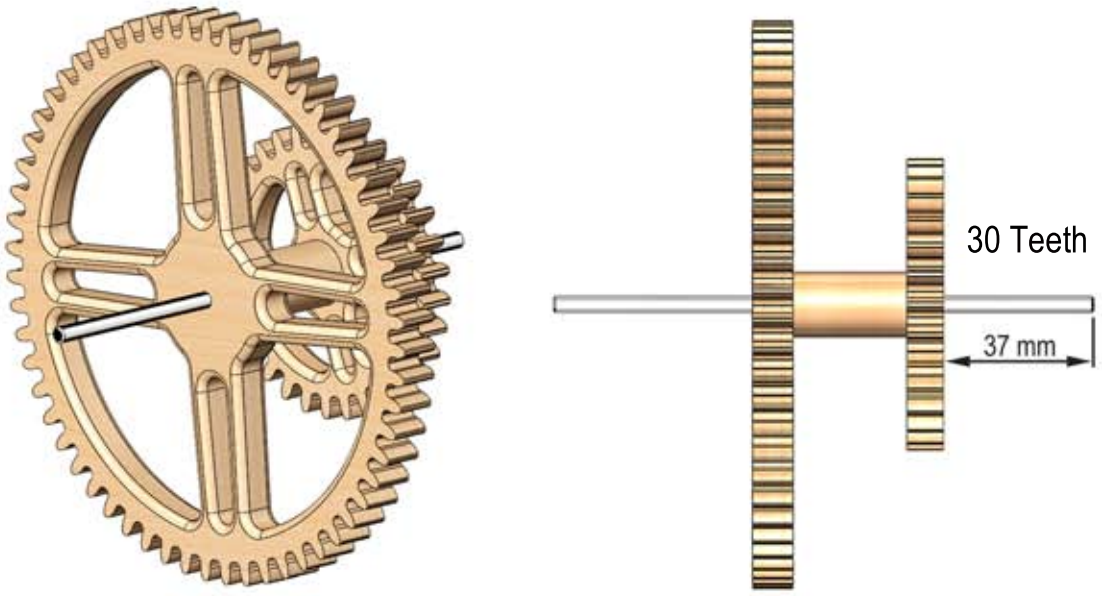
Stage 4 Assemble the 4 Drive Train gears .

Drive Assembly



Drive Train 1



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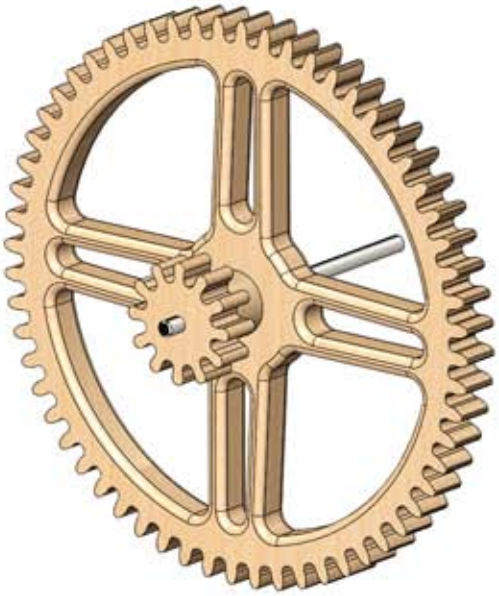
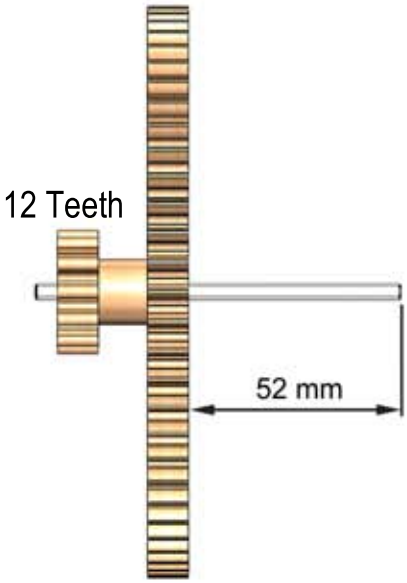
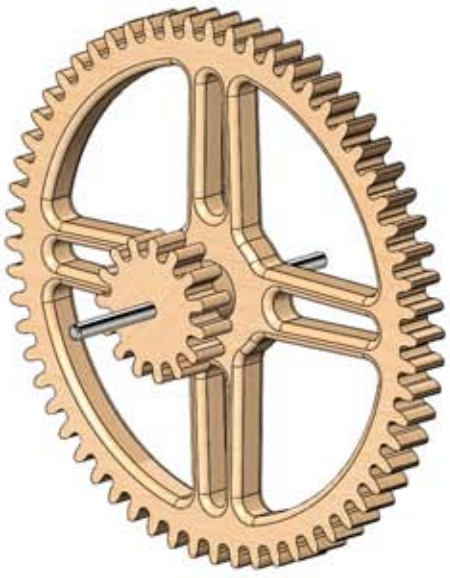
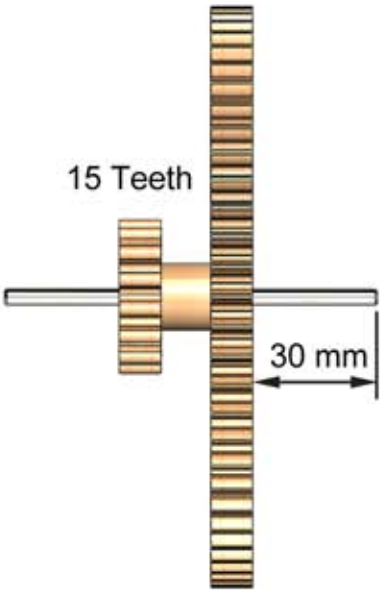
Drive Train 2





Drive Train 3





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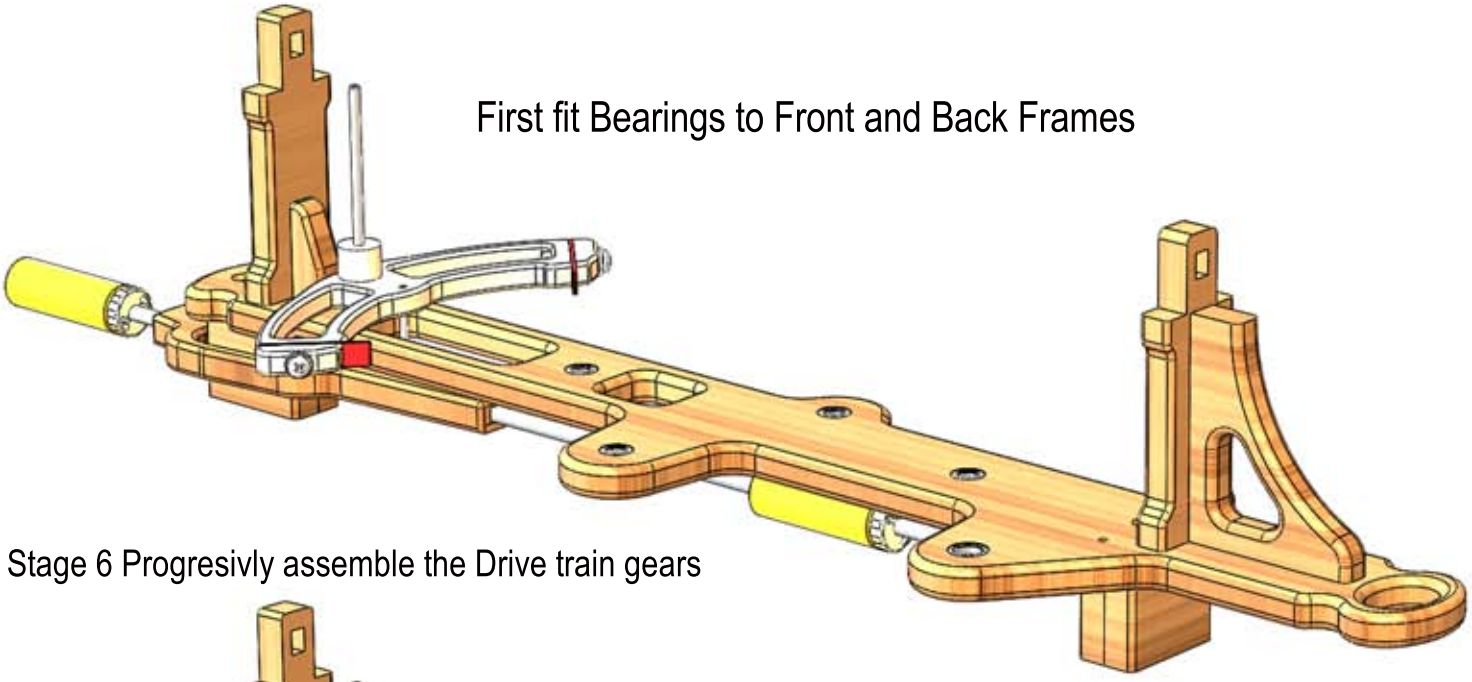
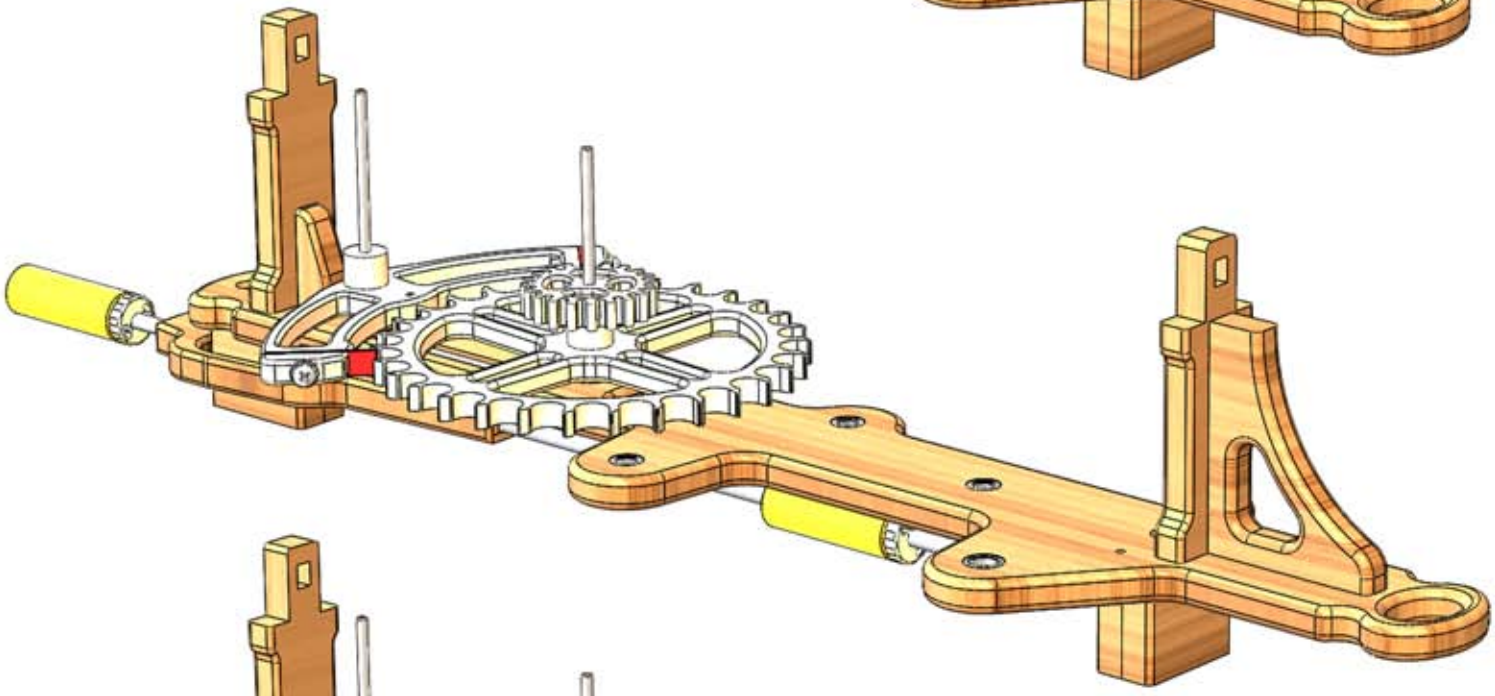
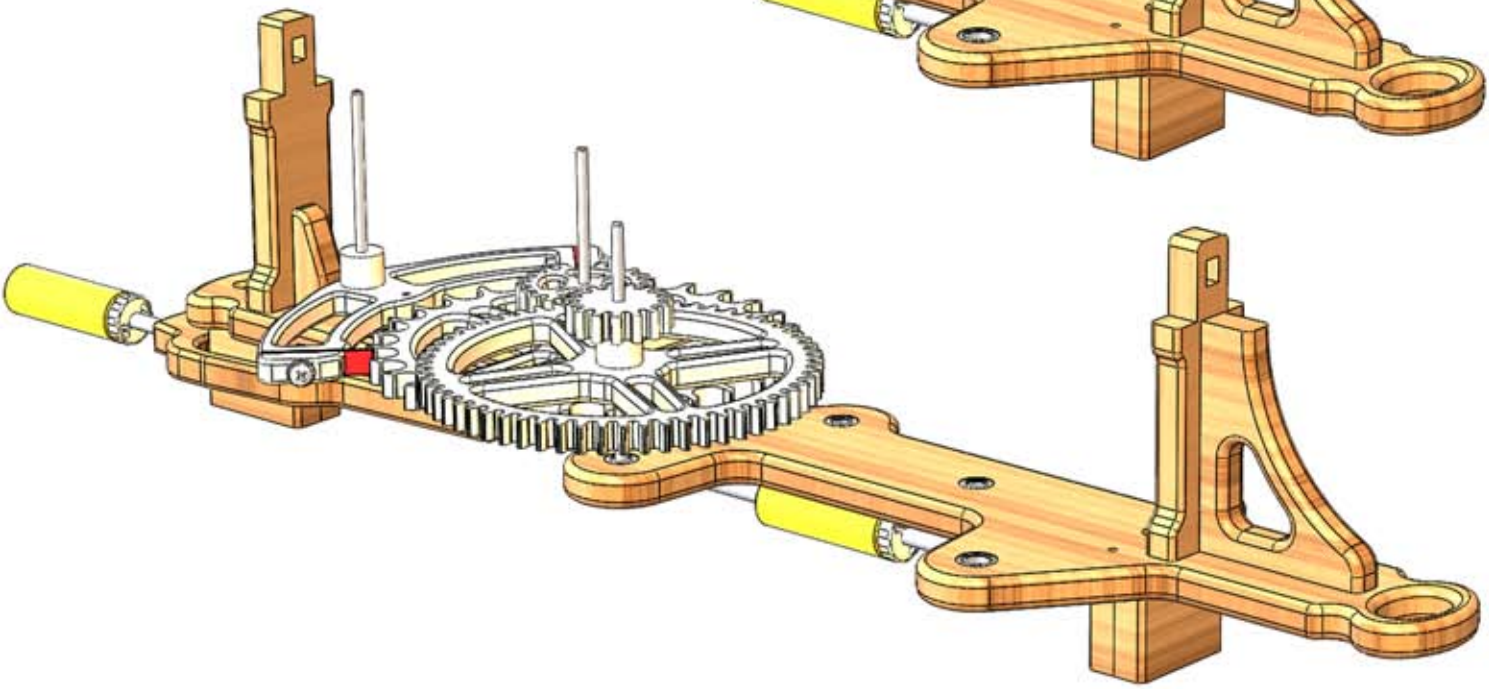
Stage 5 Assemble the Escapement and the Pendulum through the Back Frame



First fit Bearings to Front and Back Frames

Stage 6 Progresivly assemble the Drive train gears





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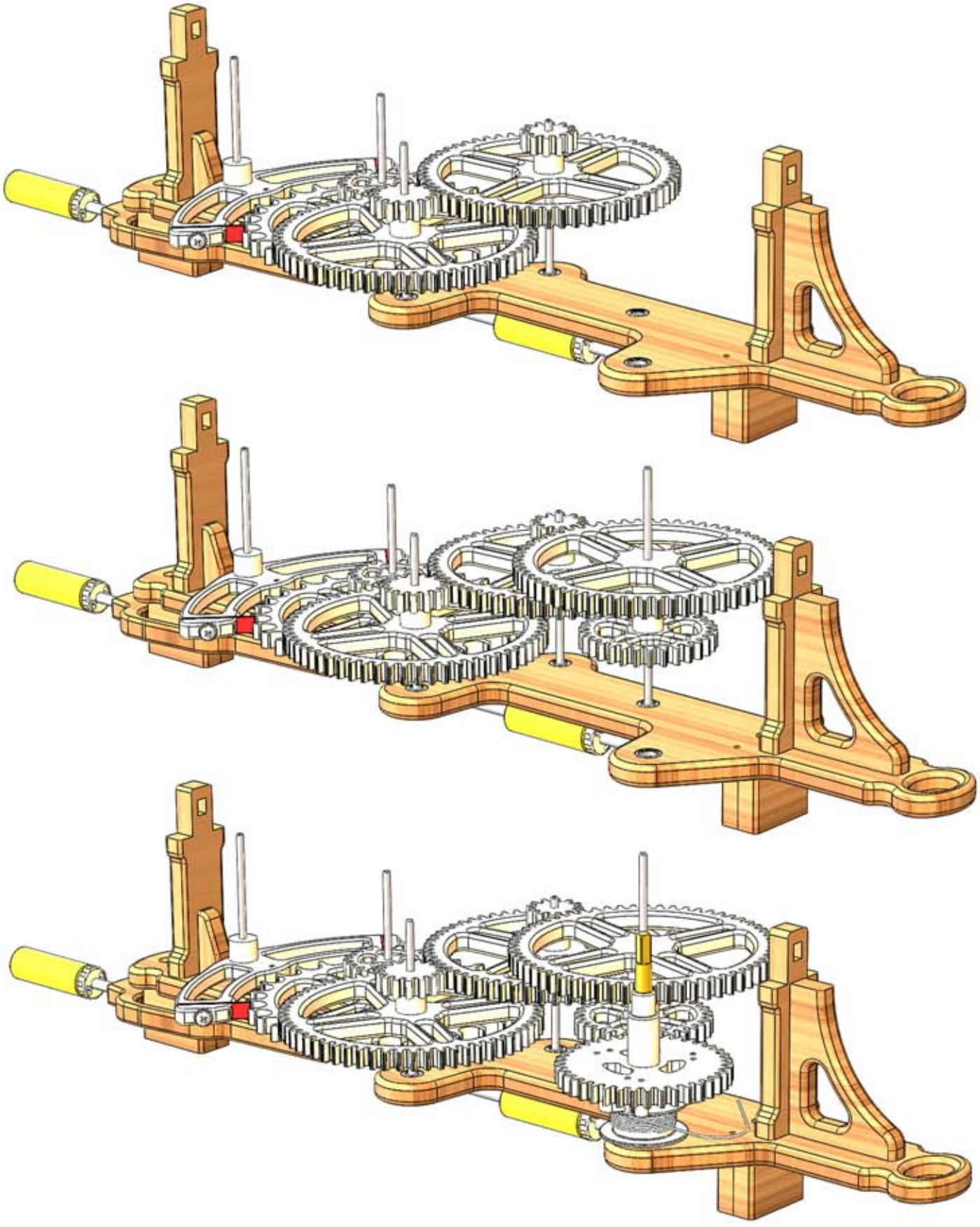
Stage 6-continued - Progresivly assemble the Drive train gears



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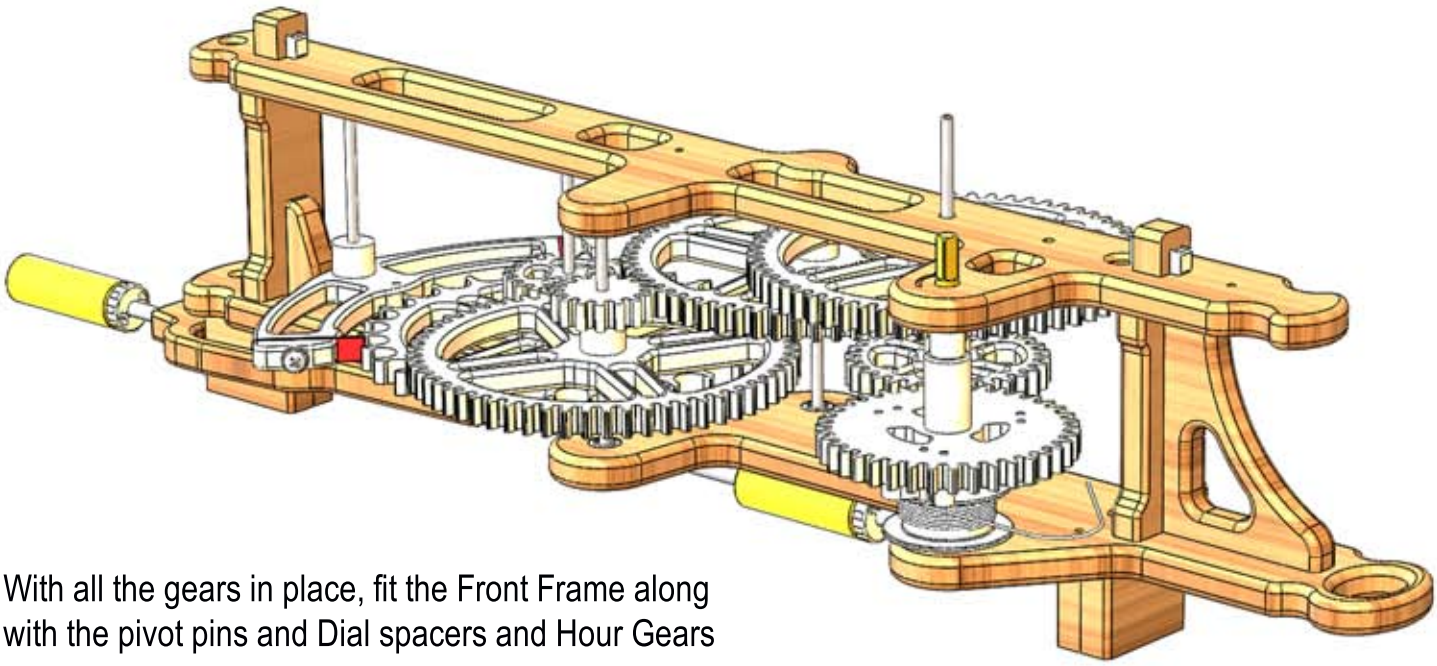
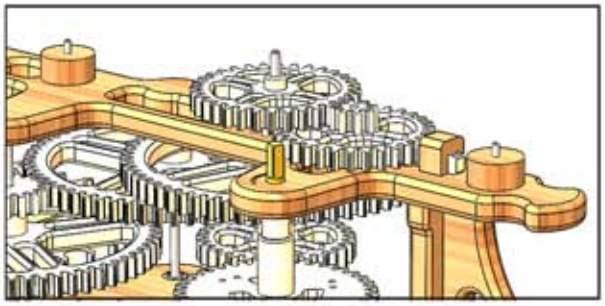
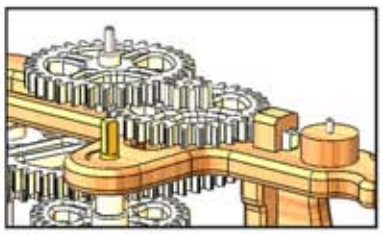
Stage 7 Fit Front Frame with Wedges, Pivots, Dials and Hands



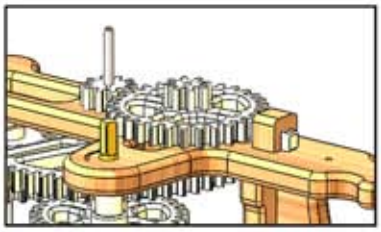
With all the gears in place, fit the Front Frame along with the pivot pins and Dial spacers and Hour Gears



Fit the Dial Spacers



Add the Hour Gears



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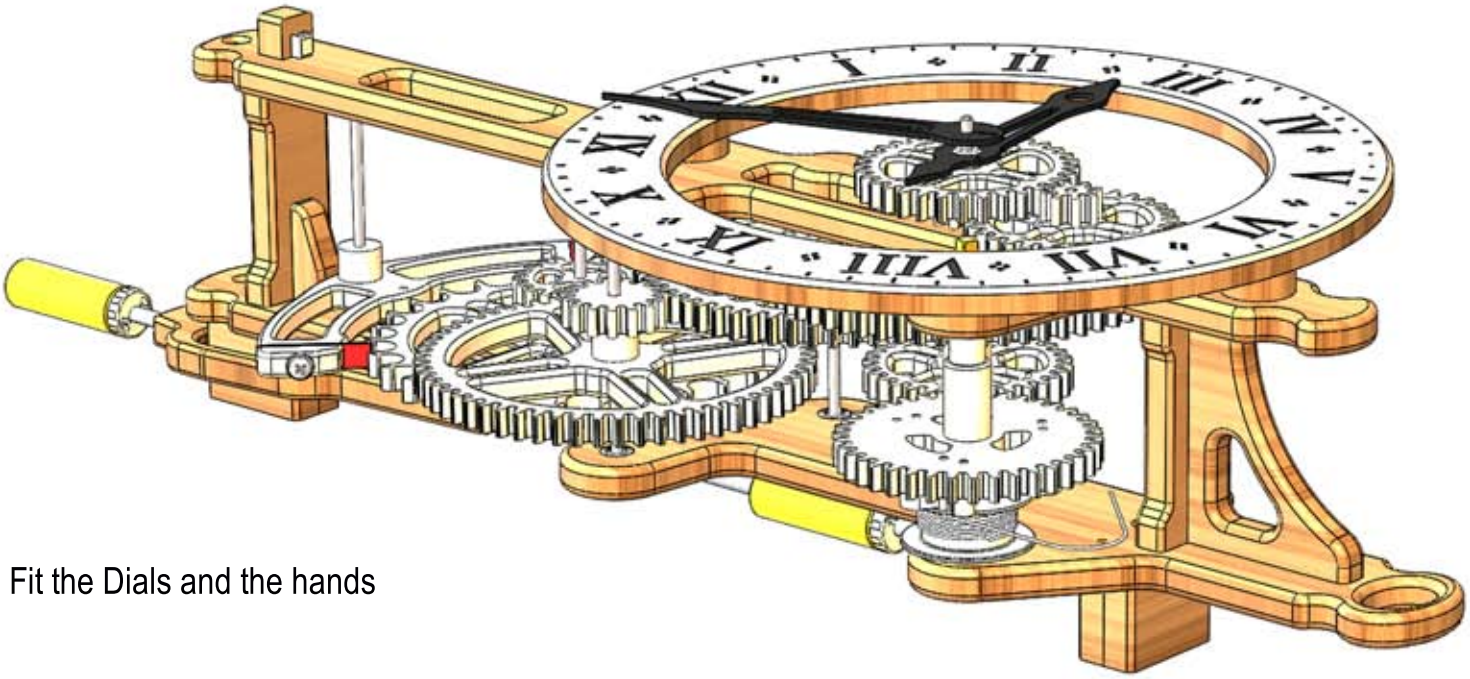
Stage 7 continued - Fit Front Frame with Wedges, Pivots, Dials and Hands



Fit the Dials and the hands

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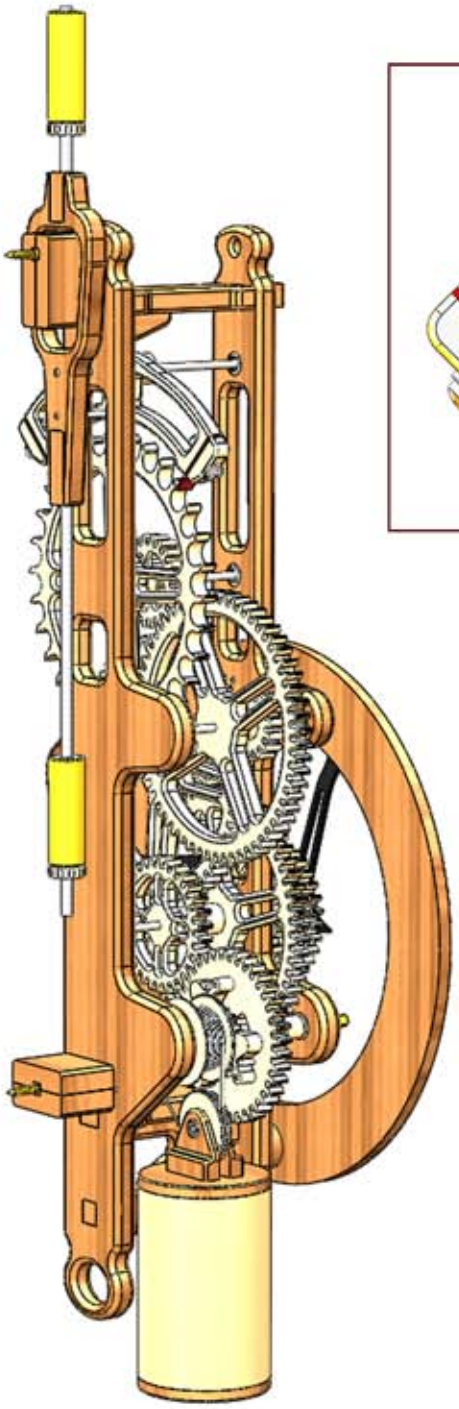
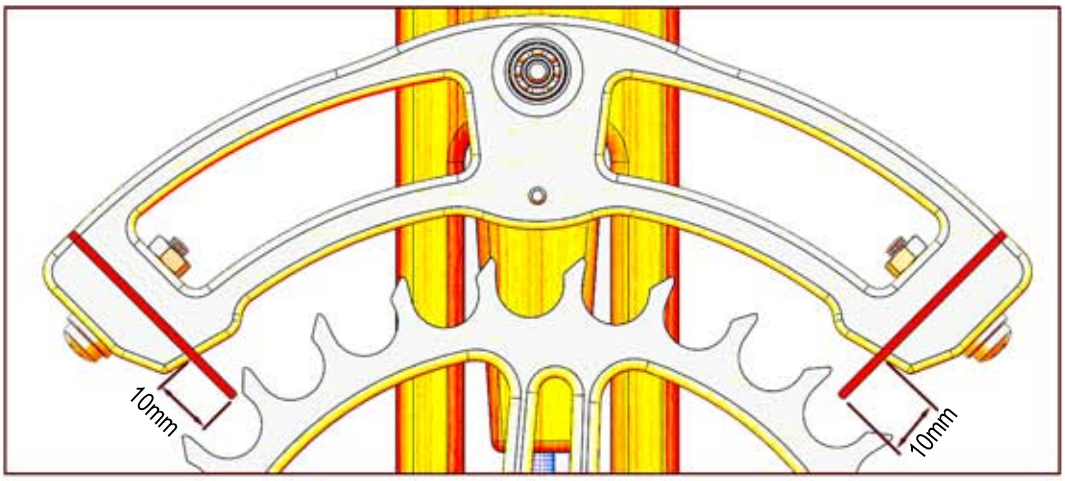
Stage 8 Mount Clock to the wall and hang the weights from the cord around the drum.





Stage 9 Adjust the escapement

Once the clock is assembled and running, you will need to check that the escapement is working correctly. The initial set up is as shown above and if that were to be running, you would here a nice even Tick-Tock. If your clock is not running evenly you will need to adjust the Pallets by moving them in or out in small steps, one at a time until you get that even regular beat.

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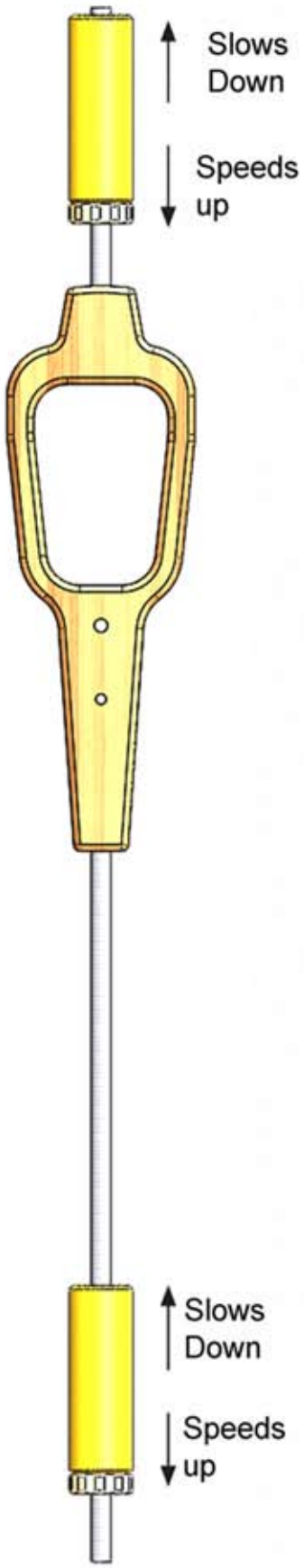
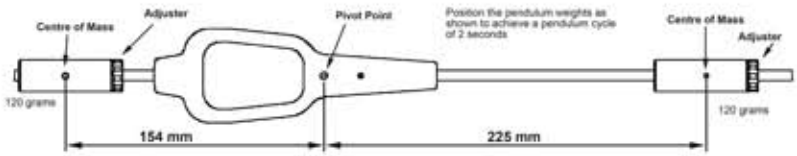


To adjust the rate at which the clock runs you will need to move the Pendulum Bobs up or down according to whether you need to speed the clock up or slow it down. From the diagram on the left you can see which way you will need to move the Bob in order to increase or decrease the rate.
You need only move one of the Bobs at a time, the top one is easier to get to but the adjustment will be coarser, the bottom harder to get to but you can make finer adjustments.

The design shown here is using a Carbon Fibre tube and friction rings to adjust the settings, but it would be easier if threaded rod was used and the Bobs tapped, so a screw adjustment could be made.



The diagram above shows the nominal positions for the Pendulum Bobs when making the initial set up.
The positions were calculated using this Excel file.

https://drive.google.com/file/d/0BzxNb7IiHhYNXzl2b3k2bXZXWUk/view?usp=sharing

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