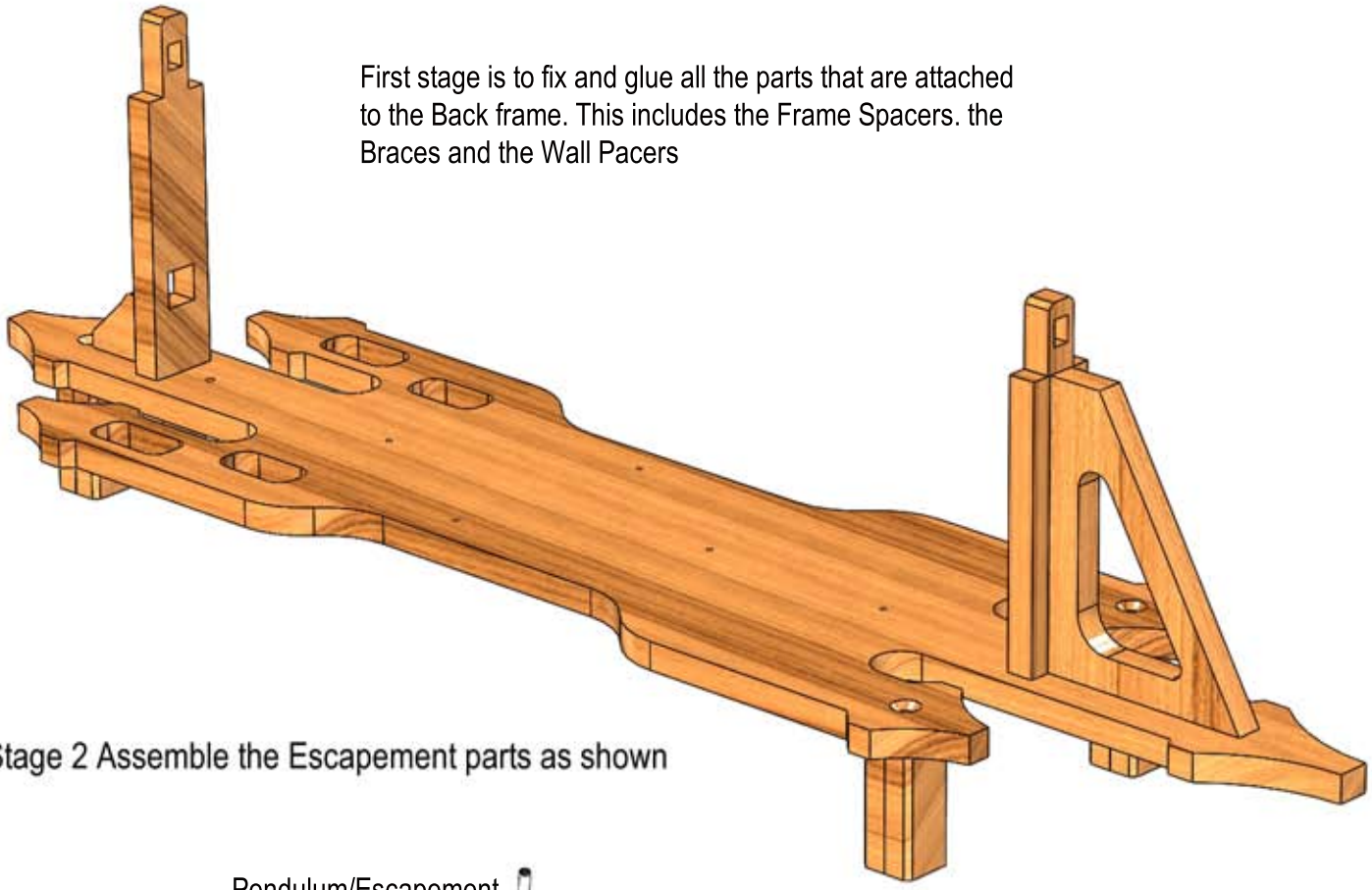
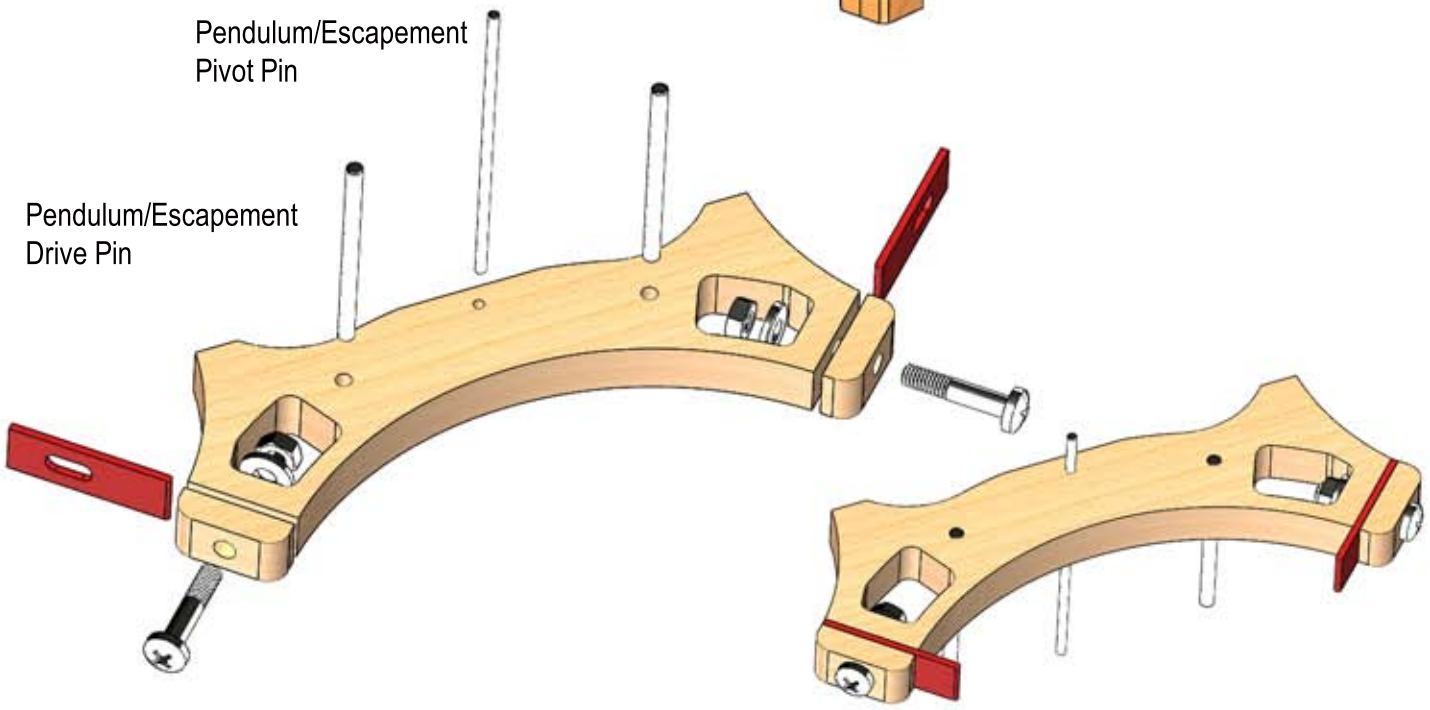
Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 1 Assemble and glue all frame parts



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

Stage 2 Assemble the Escapement parts as shown



Assemble the Pallets to the Escapement using the screws and nuts, Initially adjust the position of the Pallets so that the top edge lines up with the top of the Escapement.
Now fit the two Pendulum/Escapement drive pins.
Fit the Pendulum / Escapement Pivot through the Escapement and leave protruding 1/4". This is now ready to fit to the Back Frame.

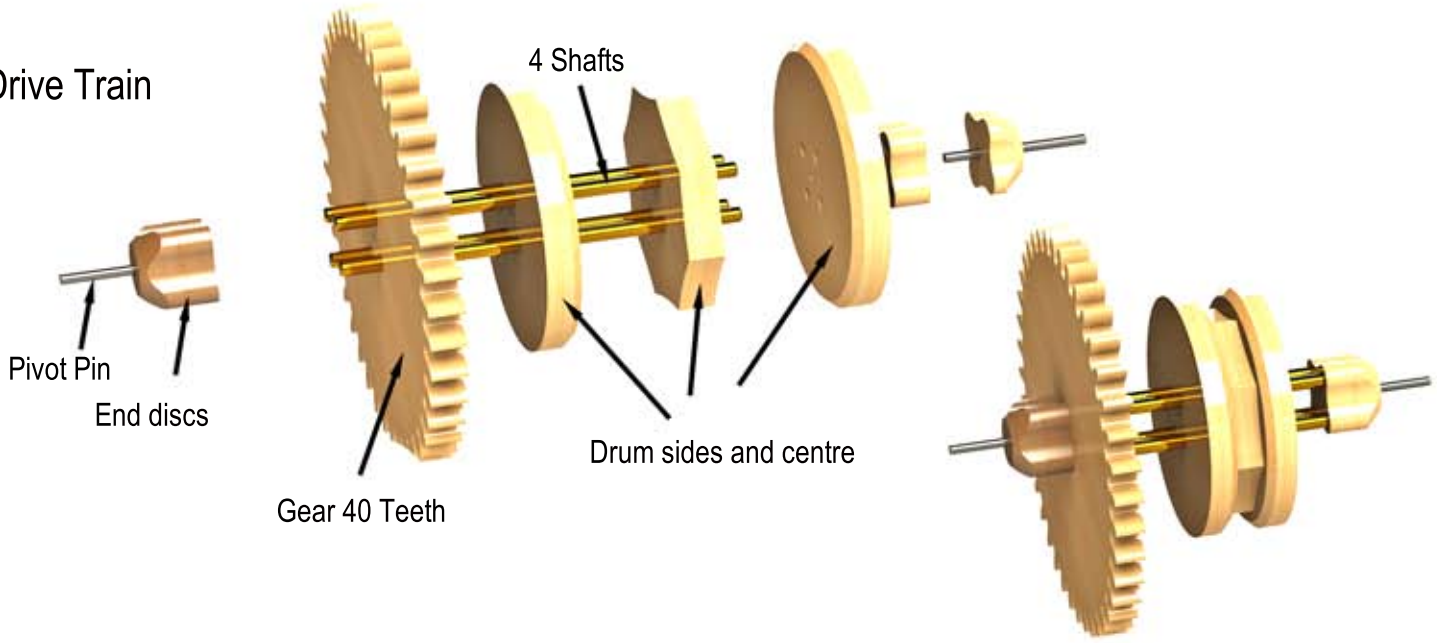
Brian Law - April 2017

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 3 Assemble the 5 Drive Train gears .

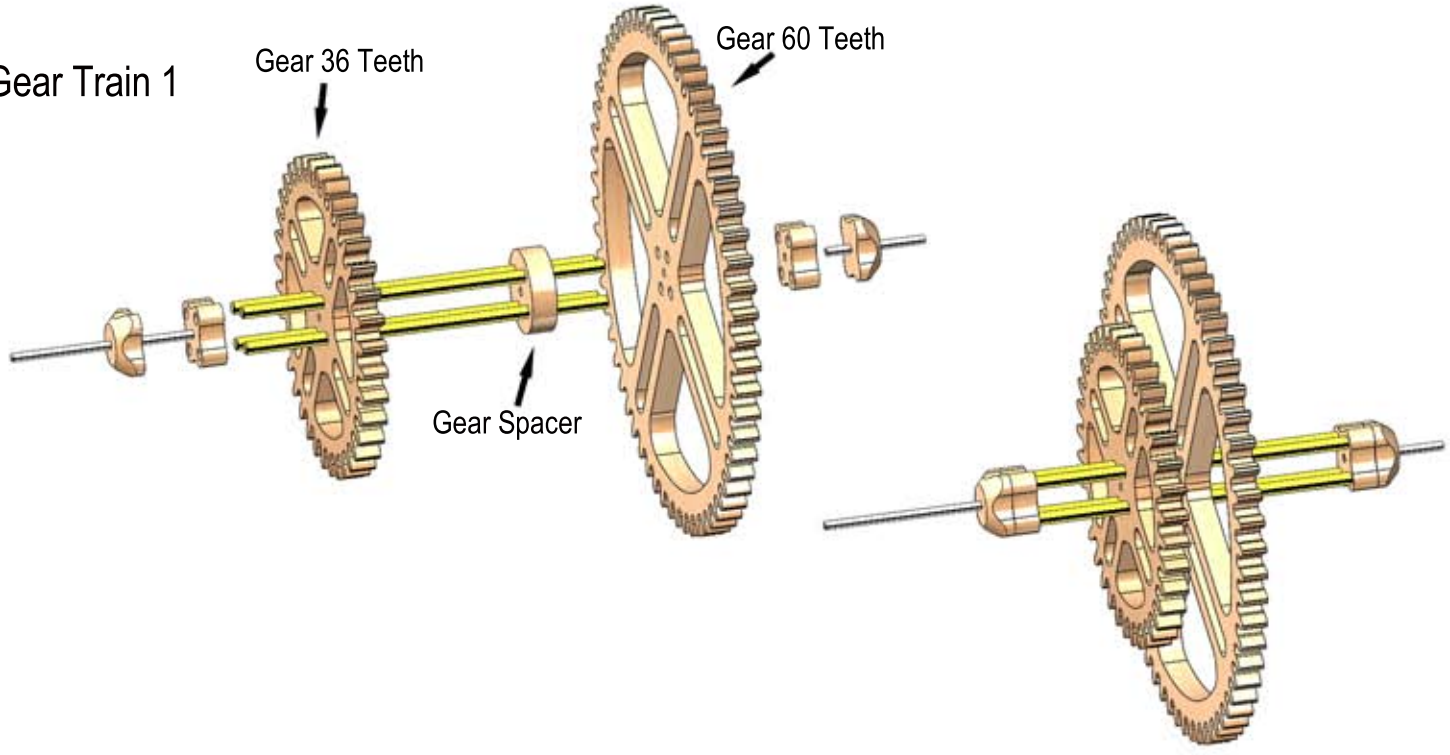
Slide the Drum parts onto the 4 rods and position according to the dimensions on the drawing and then glue the drum parts together. first and glue in position. Now slide on the End Disks and glue if necessary. Fit the Pivot pin into the ends.

Drive Train



Slide the Gear and spacer parts onto the 4 rods and position according to the dimensions on the drawing. Then fit the End Disks and glue if necessary. Finally fit the Pivot pins into the ends.

Gear Train 1

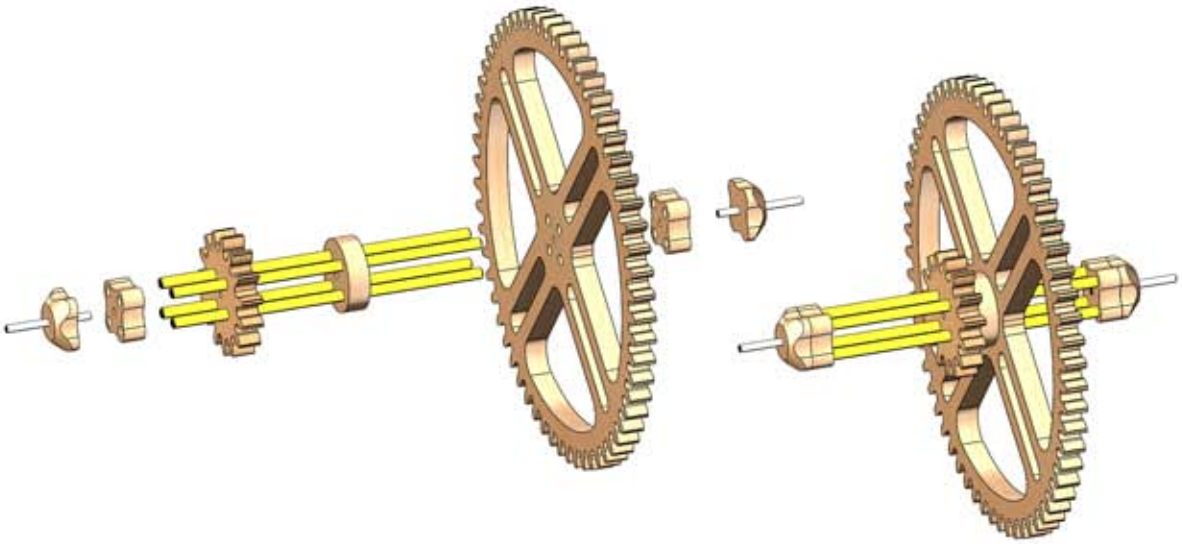


Brian Law - April 2017

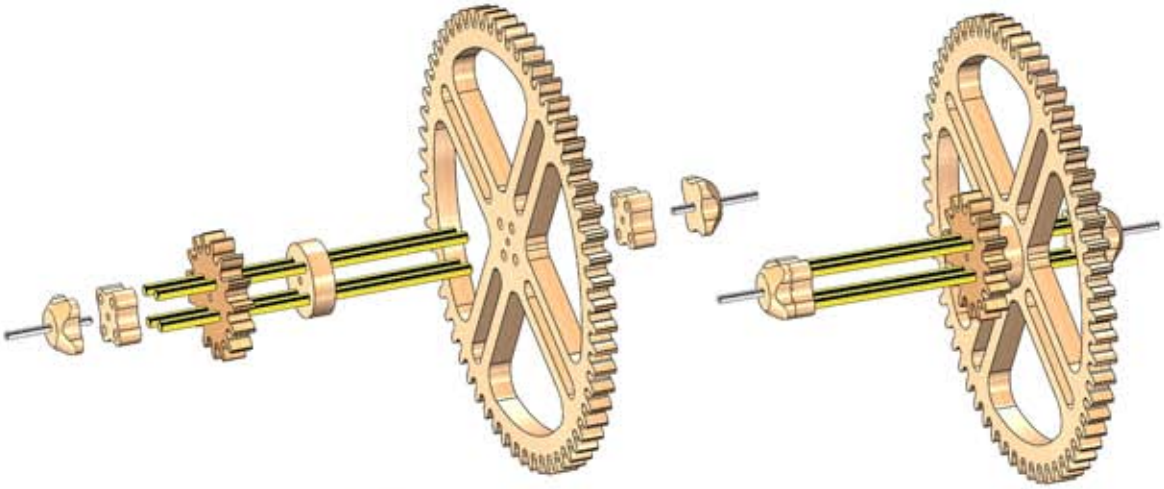
Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 3 Assemble the 5 drive train gears - continued

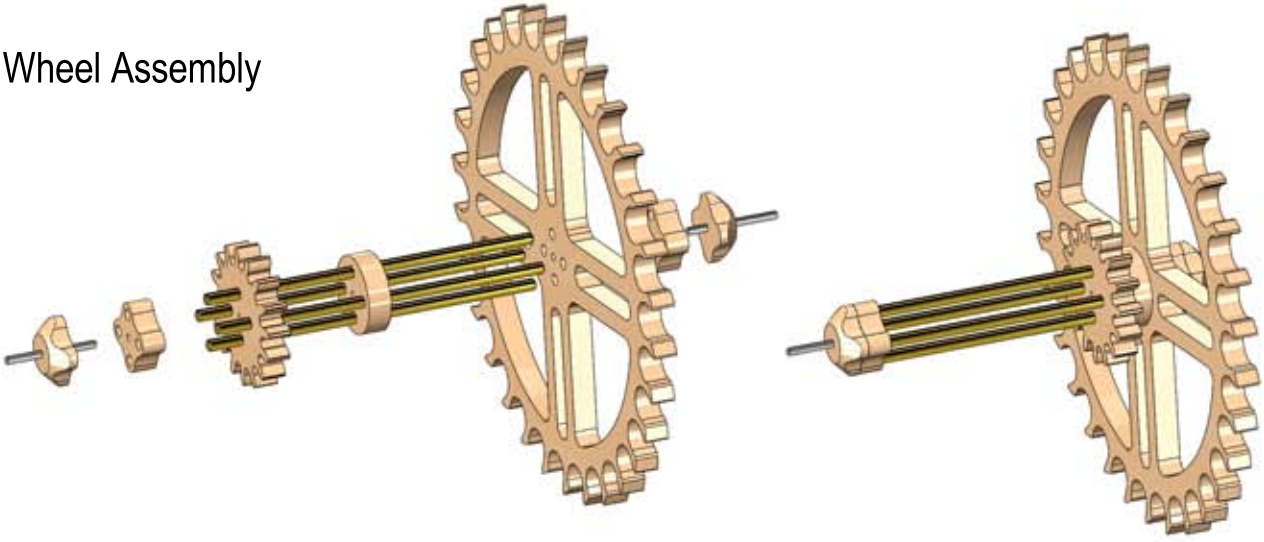
Gear Train 2



Gear Train 3



Escape Wheel Assembly

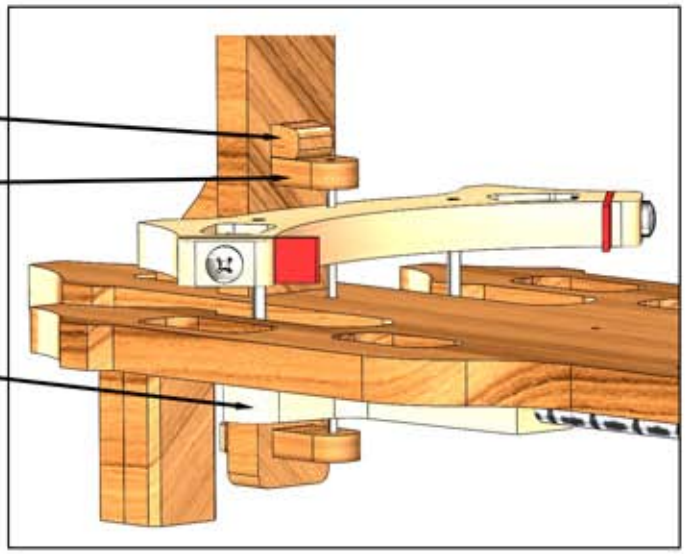


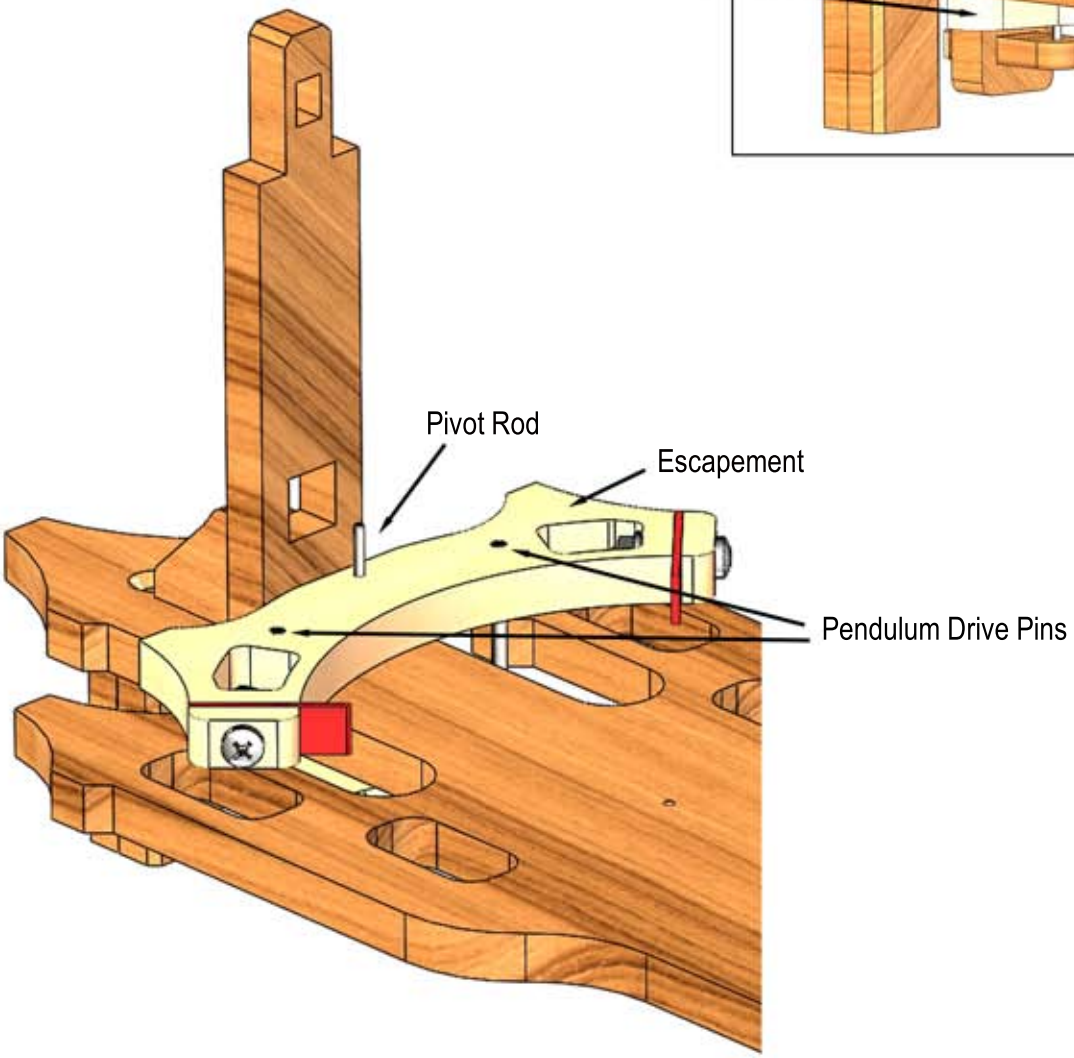
Slide the Gear and spacer parts onto the 4 rods and position according to the dimensions on the drawing. Then fit the End Disks and glue if necessary. Finally fit the Pivot pins into the ends.

Brian Law - April 2017

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 4 Fit the Pendulum to the Escapement



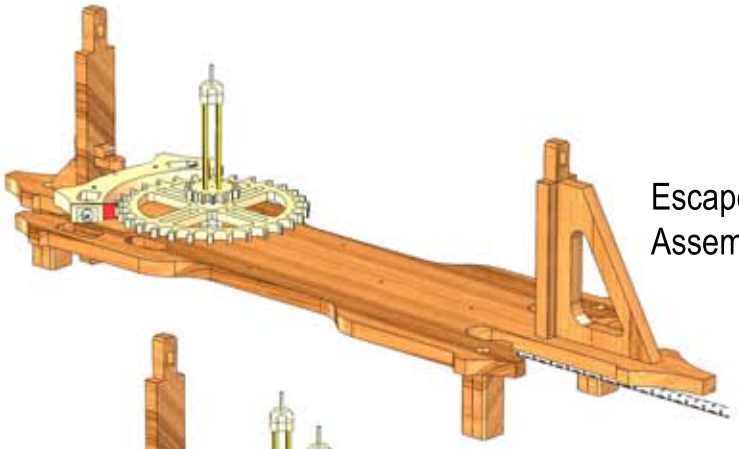


Insert the Pendulum Hanger to the back side of the Back Frame and then move the Pendulum Head into position shown. Note the Carbon Fibre tube needs to be glued into the Pendulum Head)
Now insert the Escapement through the Back Frame and insert the Pivot Rod and the The Pendulum Drive Pins into the Pendulum Head
When the Escapement is fully engaged with the Pendulum, fit the Top Pendulum hanger and secure it in position with the Hanger Wedge.

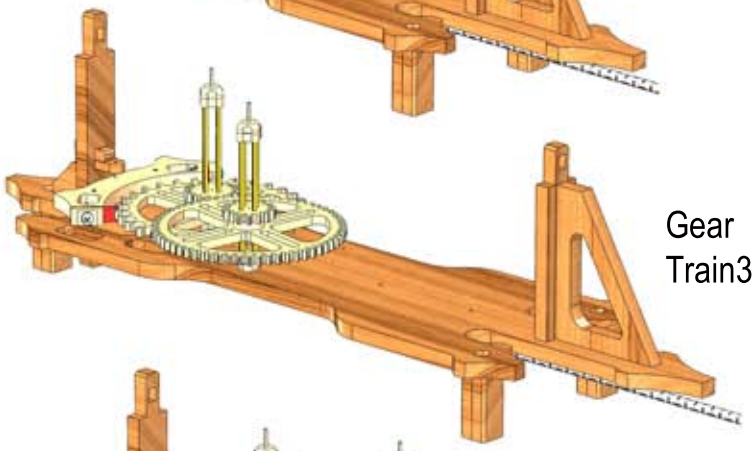
Brian Law - April 2017

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

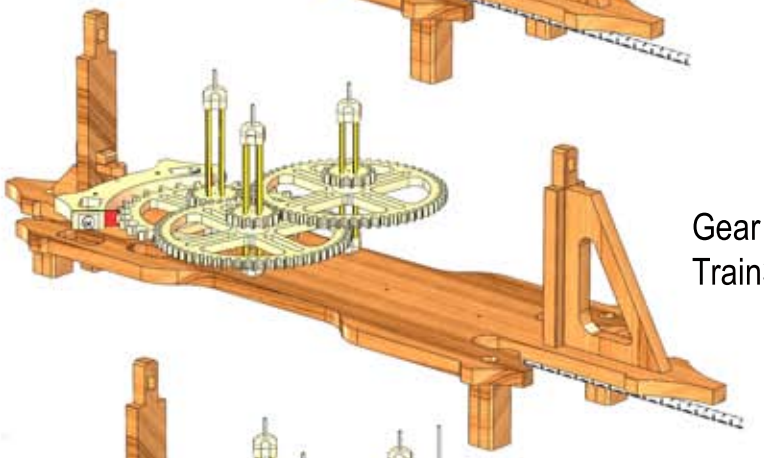
Stage 5 Fit the Gear Trains into the Back frame



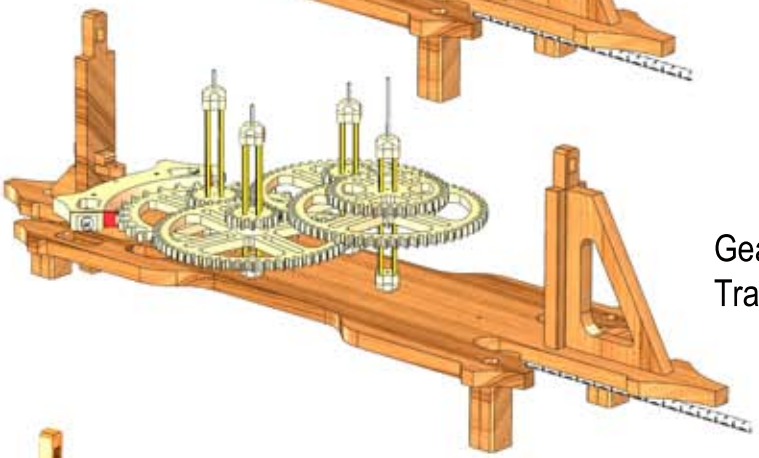
Escapewheel Assembly



Gear Train3



Gear Train3



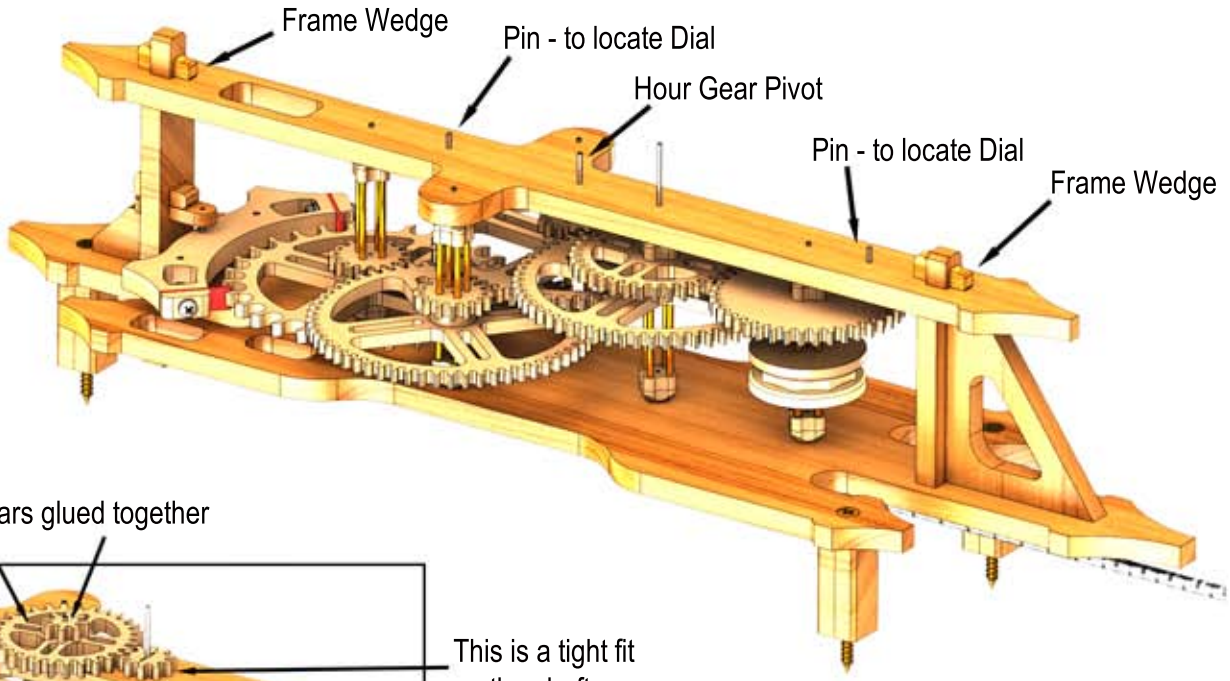
Gear Train1

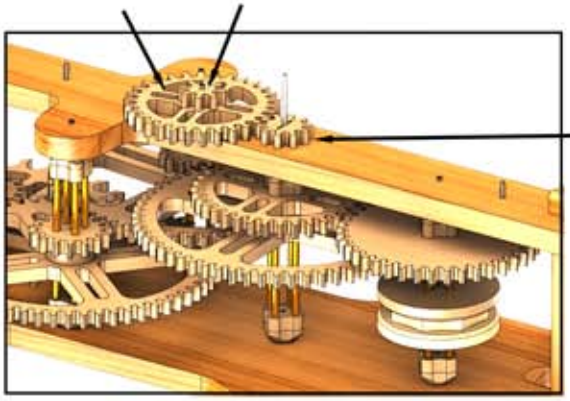
Drive Train

Brian Law - April 2017

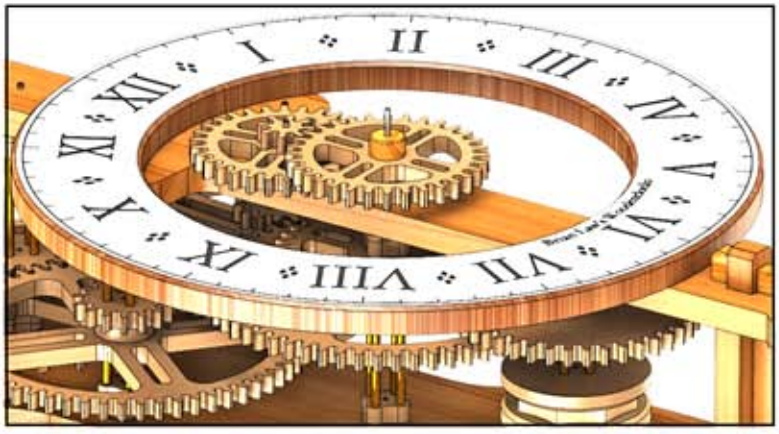
Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 6 Fit Front Frame with Wedges and Pivots

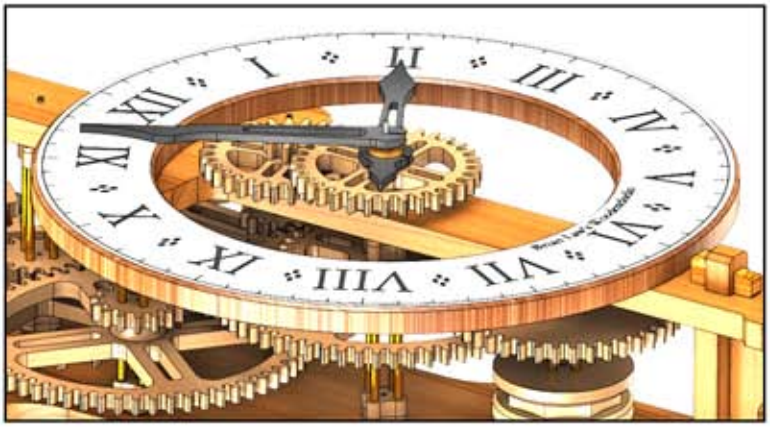




Fit the Hour Gears



Fit the Dial and the 32 tooth gear with Bush



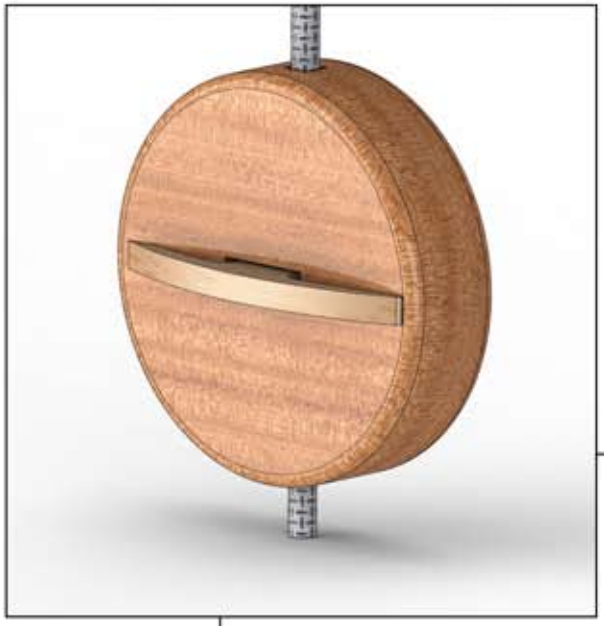
Fit the Hands

Brian Law - April 2017

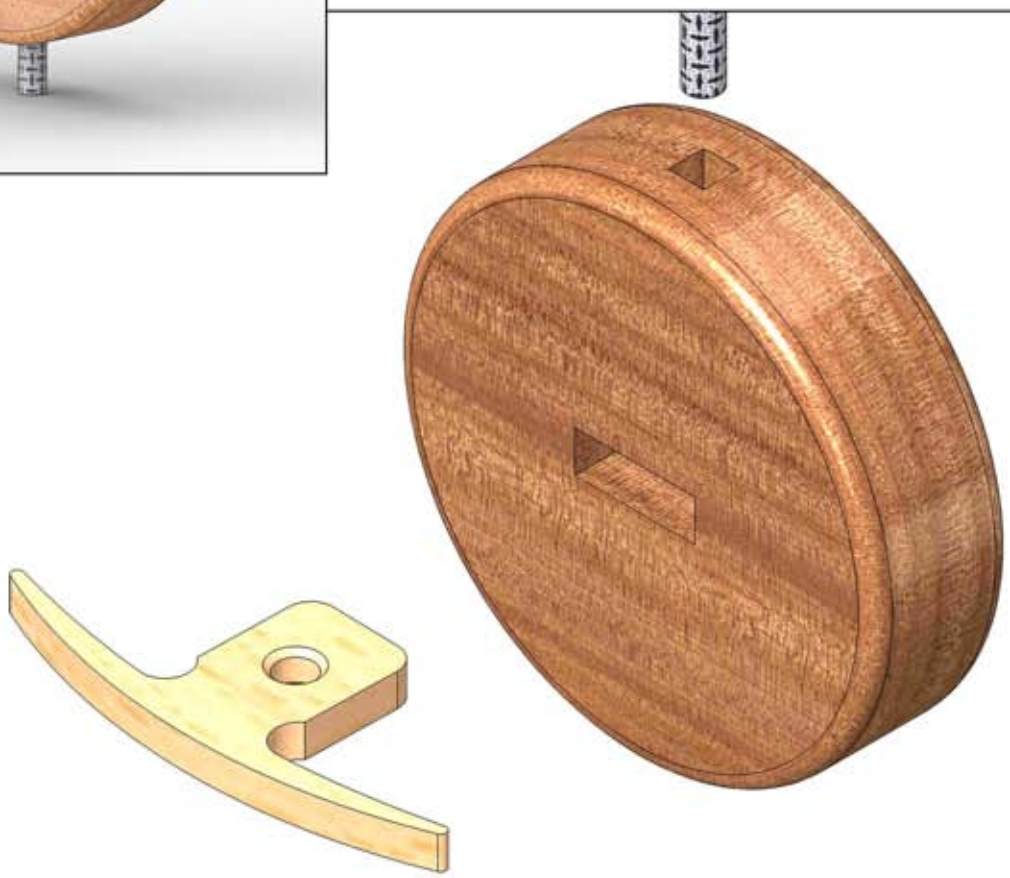
Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Stage 7 Assemble Pendulum Bob

Fit the Pendulum lock into the centre of the pendulum Bob, and slide onto the Pendulum Rod. You have to press the pendulum lock so it can line up with the rod before it will slip on. Chamfering the hole in the Pendulum lock will help this. The position of the Pendulum Bob can be adjusted by pressing the pendulum lock and sliding the Bob up, to speed up the clock and sliding down to slow it down.



If you have made the pendulum in 2 haves with the centre hollowed out , you should add steel Nuts, Bolts, Nails or Ball Bearingsearings to bring the overall weight to 170grms before gluing the 2 halves together. This will allow you use a 1 meter Carbon Fibre Pendulum rod without adding extensions. If you have not added the extra weight you will need a 100mm extension to the Pendulum Rod.

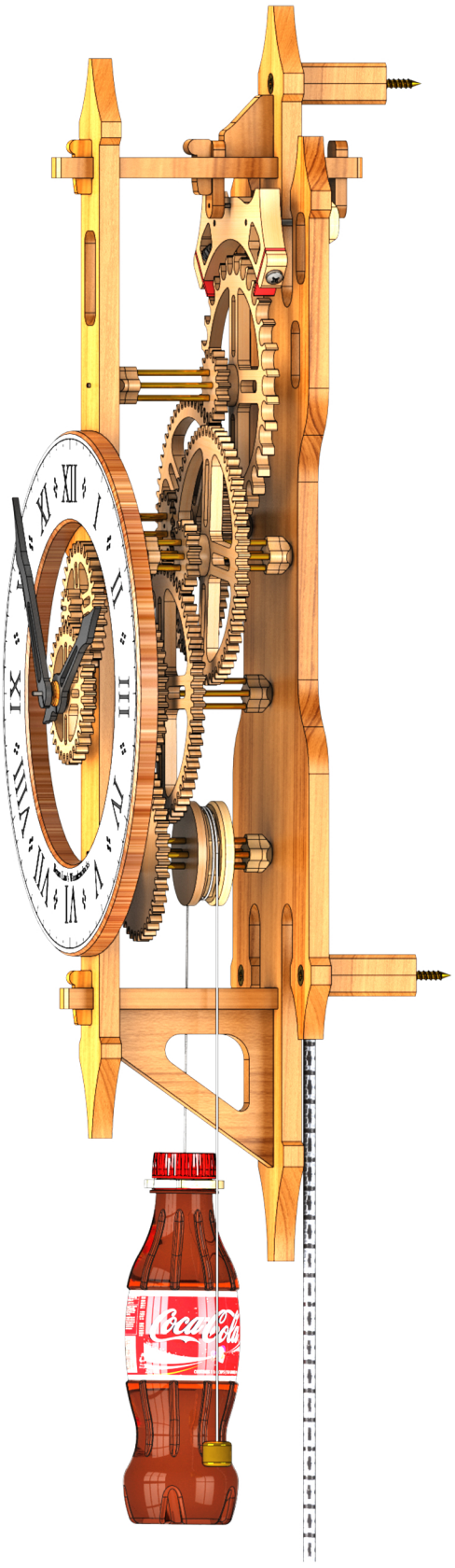


Push the pendulum lock into its slot on the Pendulum Bob and press in to allow the Pendulum rod to pass through, when you release pressure on the lock it should hold the Pendulum Bob tightly in position.

Brian Law - April 2017

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

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



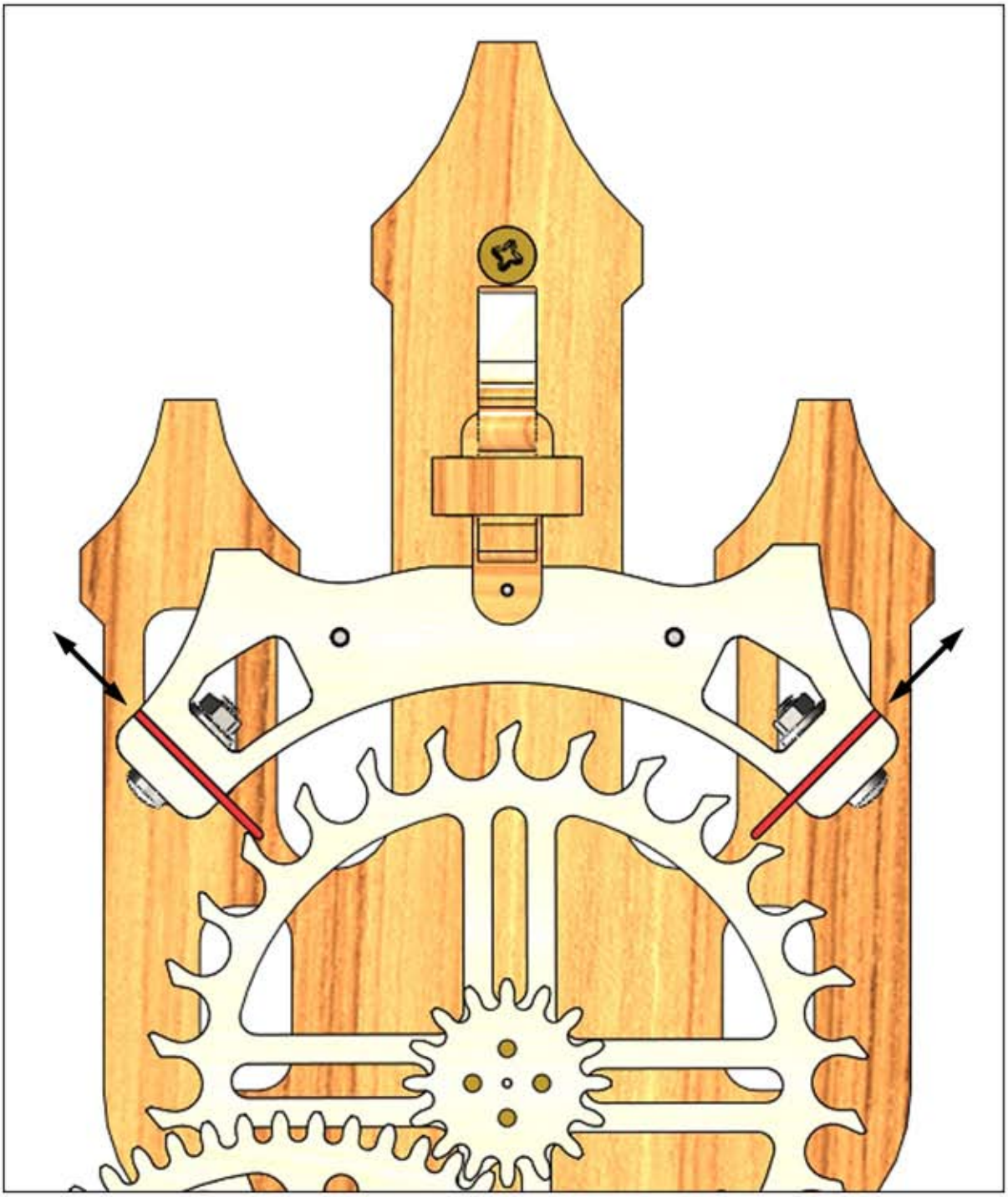
For the weight and the Counter weight you can use any convenient item, I have chosen to use a 500 ml Coke bottle filled either with the original coke or with water. You need to adjust the weight by adding or taking out some of the liquid but my prototype runs on around 500 grams. The counter weight only needs to be around an 28 grams and can be turned brass as I have shown or a couple of nuts, it is there to keep the cord taut and to stop the main weight slipping.
The Cord is Ø2 mm (or equivalent) and is attached to the bottle with a Bowline Knot wrapped around the Bottle Hanger shown in the files.
The main weight is attached to the cord hanging on the Left hand side of the Drum and is wrapped around the Drum clockwise one and a half times (1.5 turns)
The small weight should hang to the floor when the main weight is fully at the top. Now when the clock is fully assembled and mounted on the wall it should start to run under the power of the main weight. When the weight reaches the floor rewind by pulling down on the other cord.

To wind the clock and with the counter weight to the right, I hold that cord in my right hand, and the main weight cord in my left hand both near the top. Slightly lift both cords and slide cords up and down a bit to unlock them from the drum, then with the right hand pushed to the back and the left hand pulled to the front, gradually pull down on the counter weight whilst slightly supporting the main weight, shuffle hands up and down to repeat this until you complete the wind.

Brian Law - April 2017

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

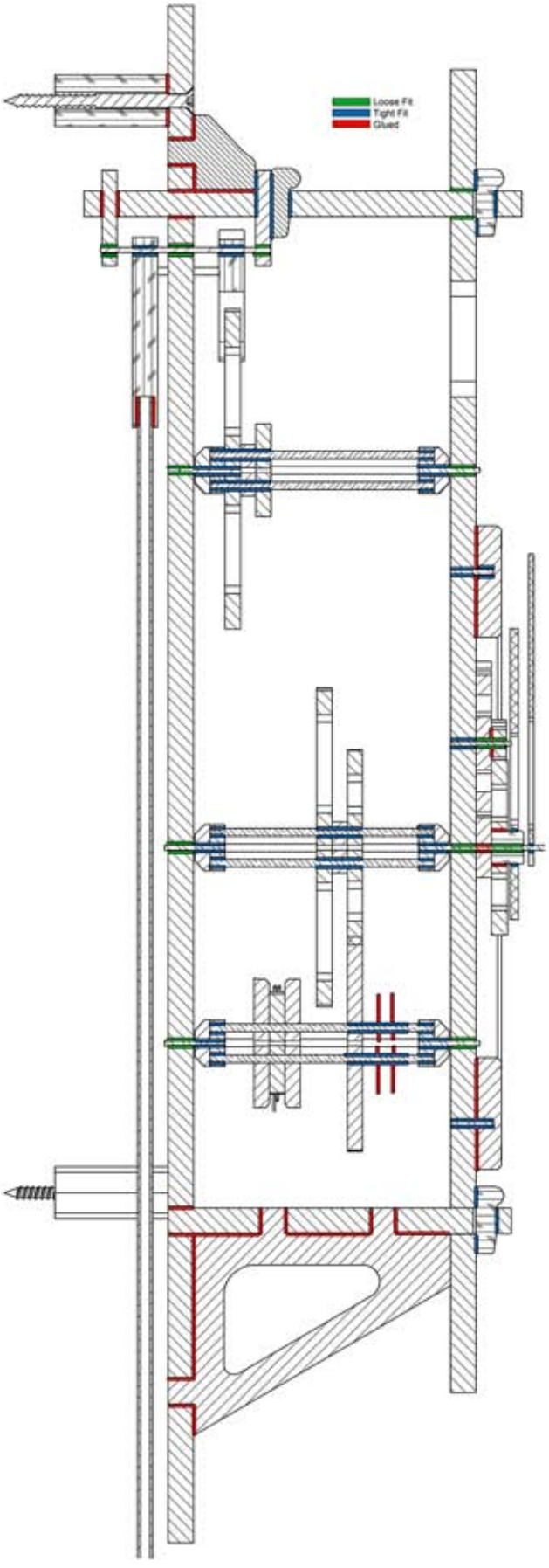
Stage 9 Adjust the escapement



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, and if that were to be running you would hear 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 very small amounts, one at a time until you get that even regular beat.

Brian Law's Wooden Clock 30 - Beginners Clock - No 2 Assembly Sequence

Typical fits required at all shafts.



The section shown is taken through the centre of the clock and shows the shafts and the type of fits required.

Each of the joints is shown in a colour to indicate the type of fit required, Green for a loose fit, Blue for a tight fit and Red for items needed to be glued. It is best to glue all of the parts for the Back frame together for a start.

Next assemble the Gear shafts making sure that the parts are a tight fit on the 4 rods, if there is any looseness here then it is best to glue these together as well. All the Pivots should be a loose fit in the holes in the front and back frames, if not then you will need to open the holes out slightly.

The only other places you will need to glue are the Carbon fibre rod into the Pendulum head and the two sides of the drum to the centre section.

Brian Law - April 2017