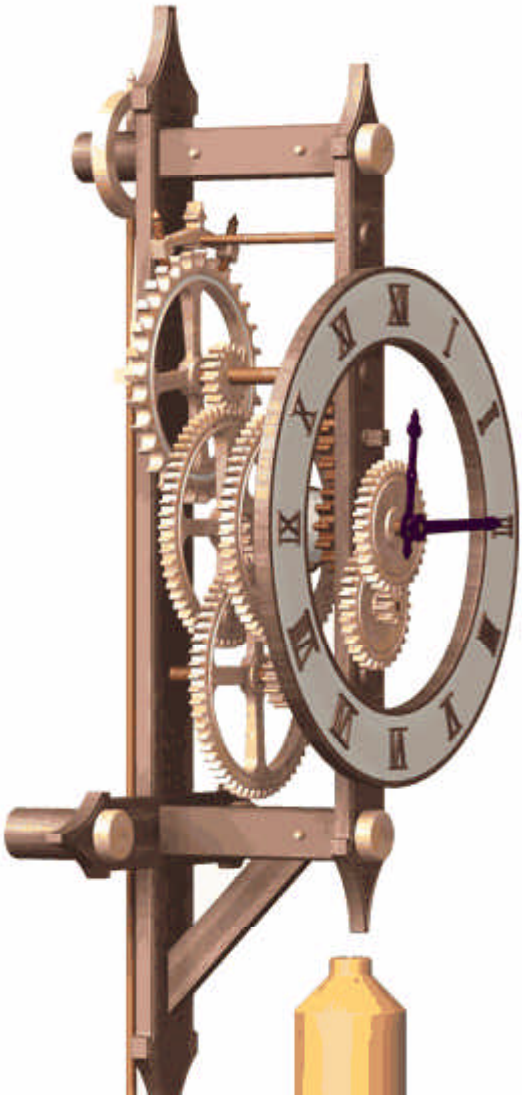
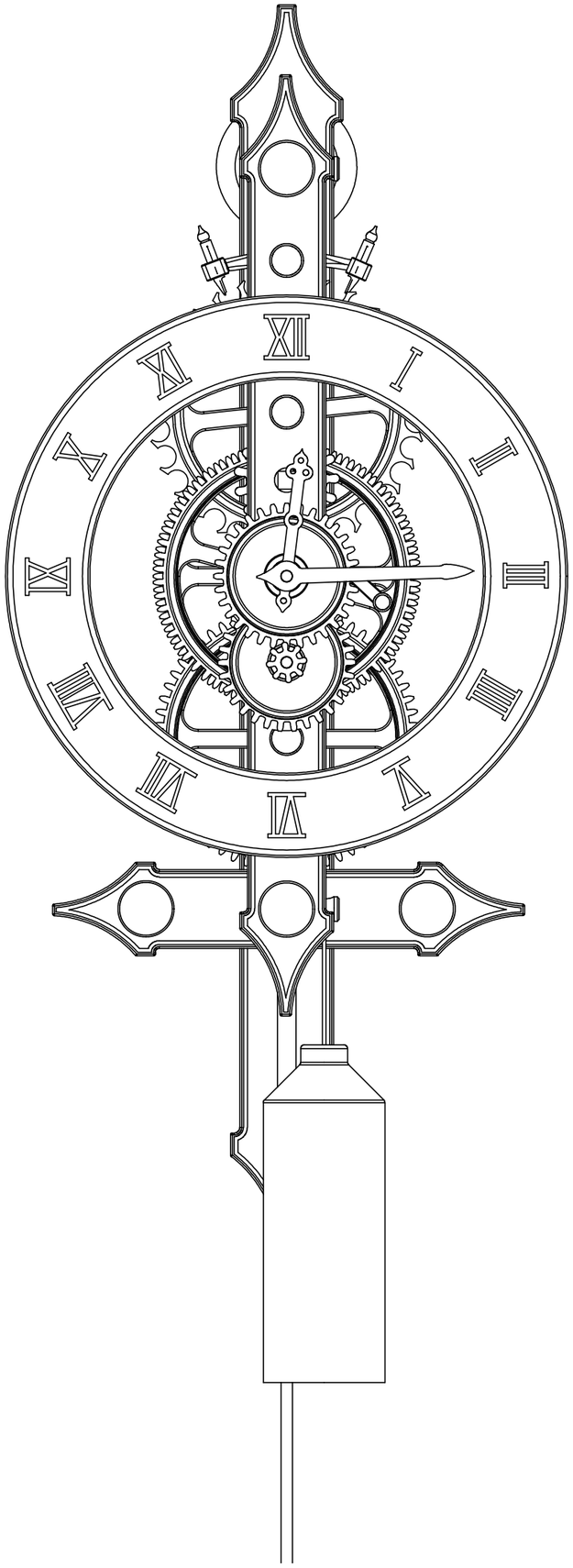
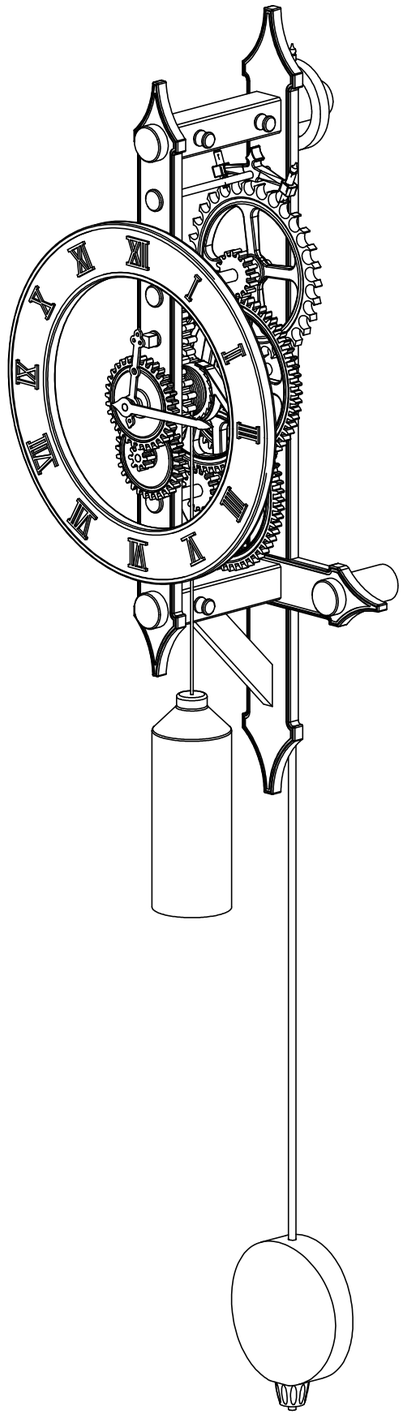
Woodenclocks

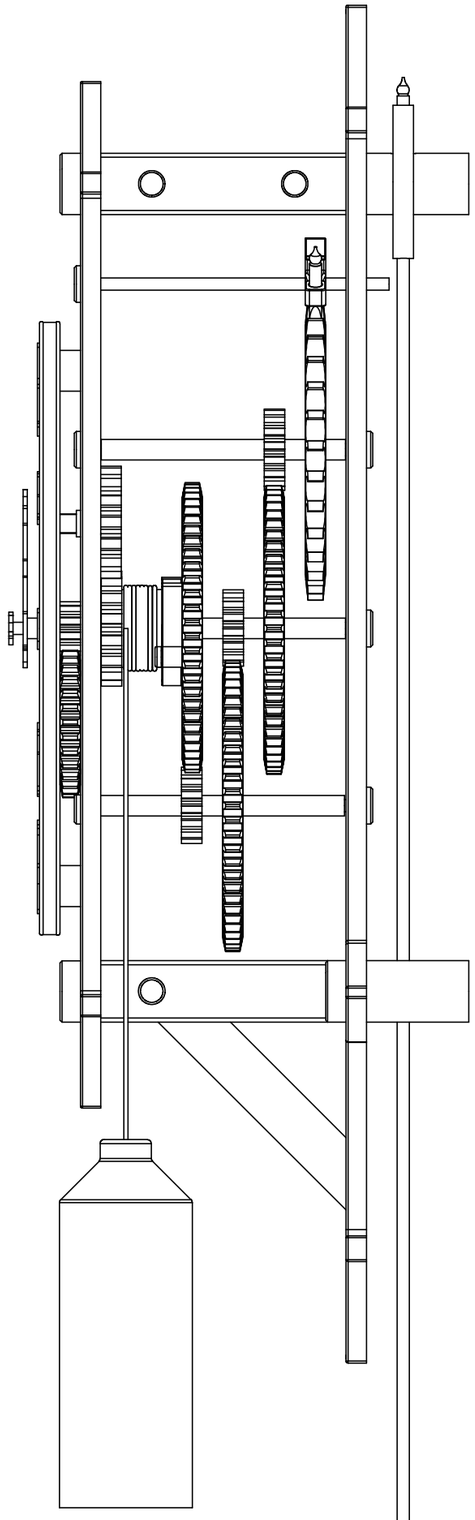
Clock1



The drawings on the following pages contain plans to build the wooden clock shown above.
For further information and more detailed rendered images visit
www.woodenclocks.co.uk

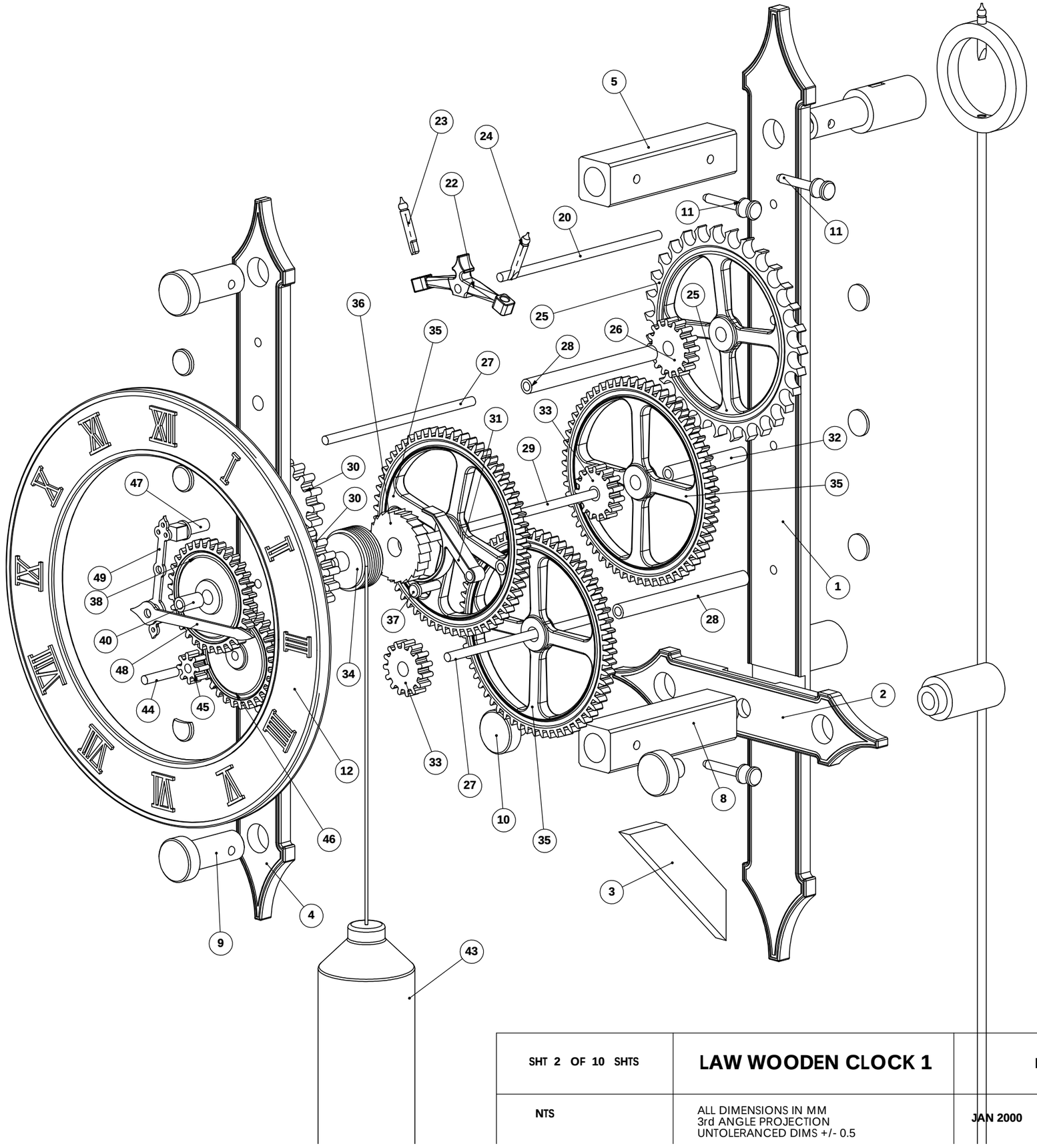




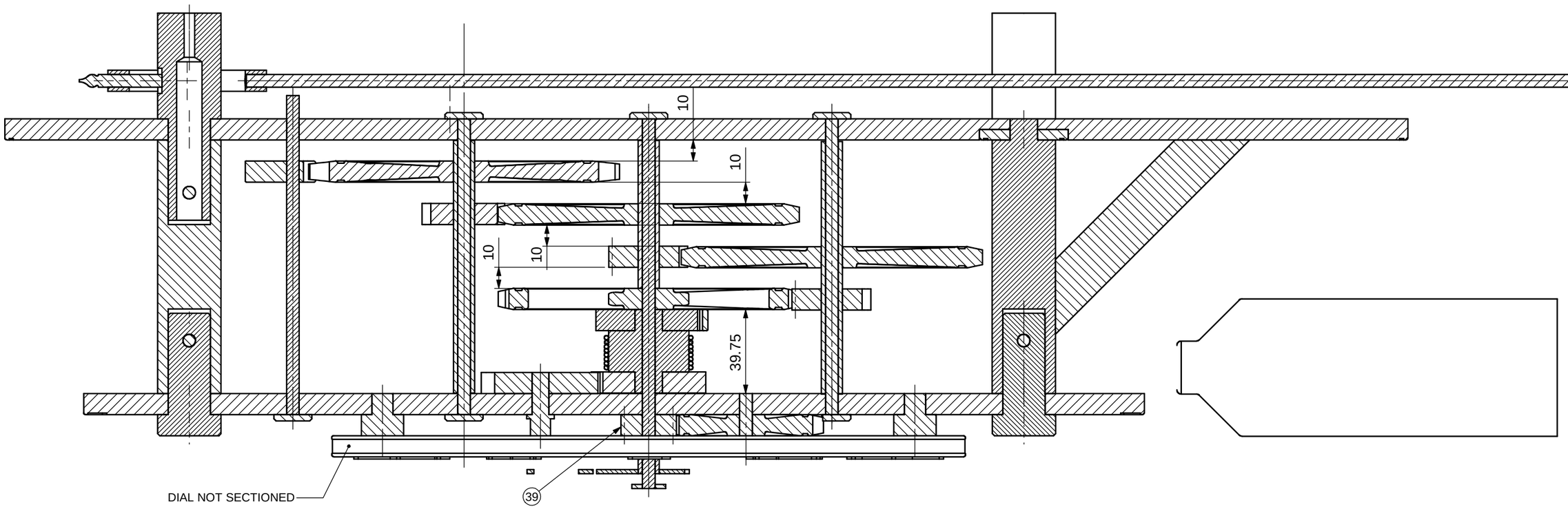


SHT 1 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**GENERAL ASSEMBLY**	
NTS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**

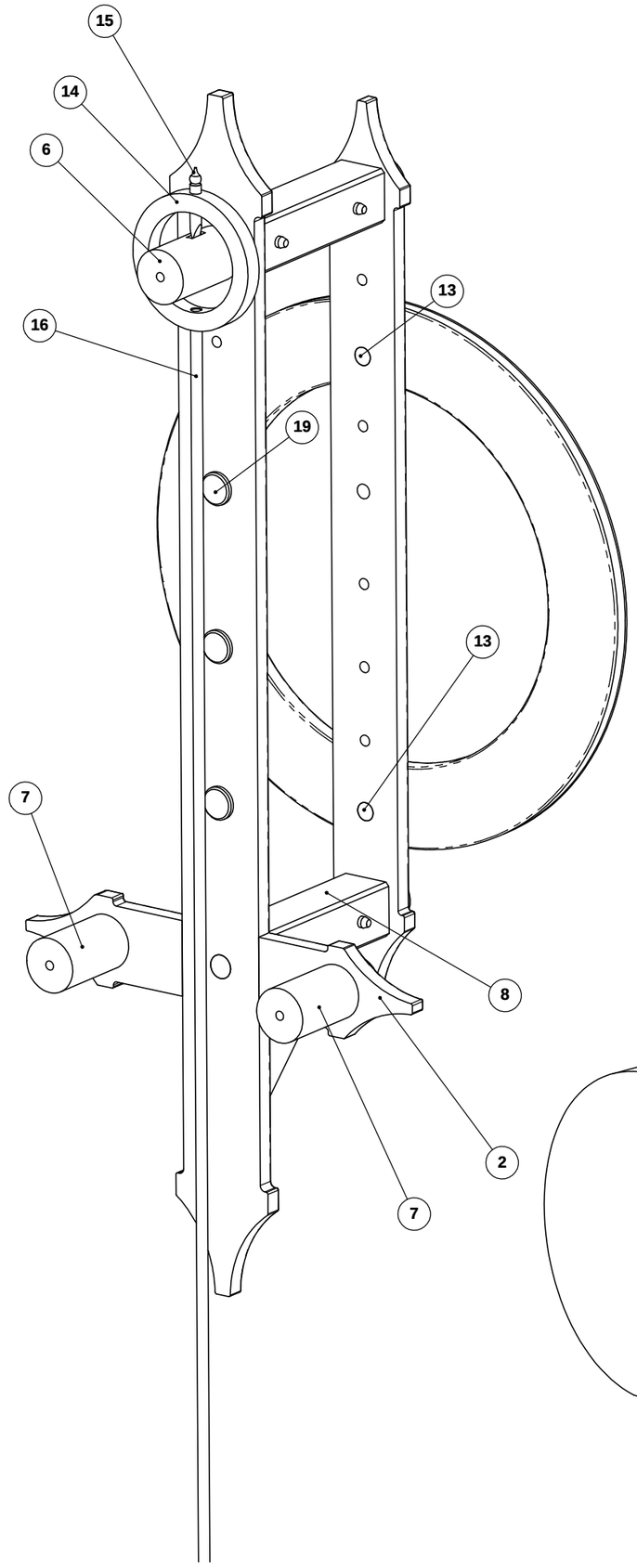
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	back	
2	1	cross	
3	1	Angled brace	
4	1	front	
5	1	squarespacer top	
6	1	Pendulum hanger	
7	2	Wall spacer	
8	1	squarespacer bottom	
9	2	Front pin	
10	2	cover pin	
11	3	Securing pin	
12	1	Clock dial	
13	2	Dial spacer	
14	1	Pendulum head	
15	1	Pendulum pivot	
16	1	Pendulum rod	
17	1	Pendulum bob	
18	1	Pendulum nut	
19	6	Shaft cover	
20	1	Shaft151	
21	1	yoke	
22	1	escape	
23	1	Pallet2	
24	1	Pallet1	
25	1	Timing	
26	1	16teeth	
27	2	Shaft140	
28	2	Sleeve119	
29	1	Shaft175	
30	2	15teeth_1.5	
31	1	Pawl	
32	1	Sleeve70	
33	2	15teeth	
34	1	drum	
35	3	60teeth	
36	1	Ratchet	
37	1	Pawl pin	
38	1	32teeth	
39	1	10teeth	
40	1	sleeve18	
41	8	ropering	
42	1	rope	
43	1	Weight	
44	1	shaft30	
45	1	8teeth	
46	1	30teeth	
47	1	Key shaft	
48	1	Minute hand	
49	1	Hour hand	

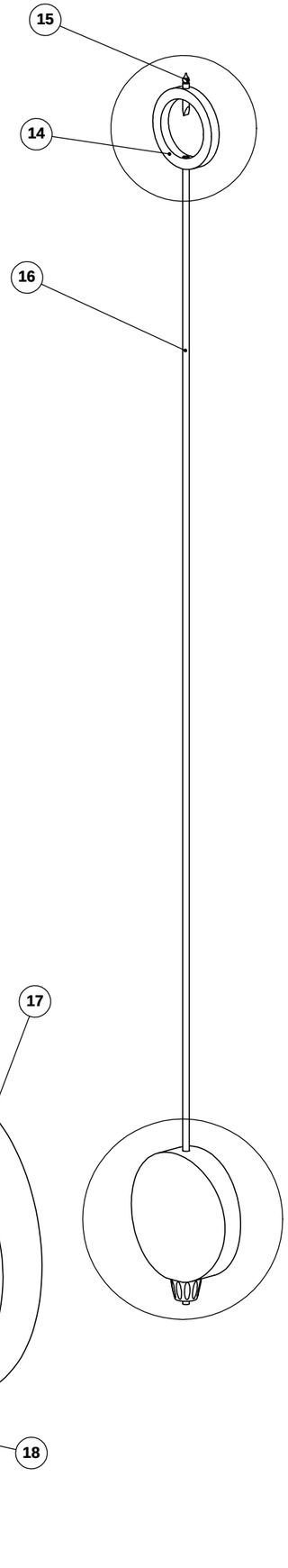


SHT 2 OF 10 SHTS	**LAW WOODEN CLOCK 1**		**EXPLODED VIEW**
NTS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**

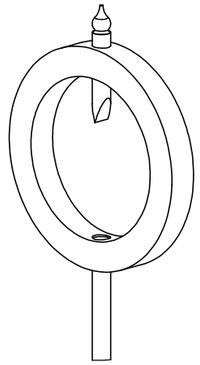


SHT 3 OF 10 SHTS	**LAW WOODEN CLOCK 1**	CENTRELINE CROSS SECTION	
NTS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**

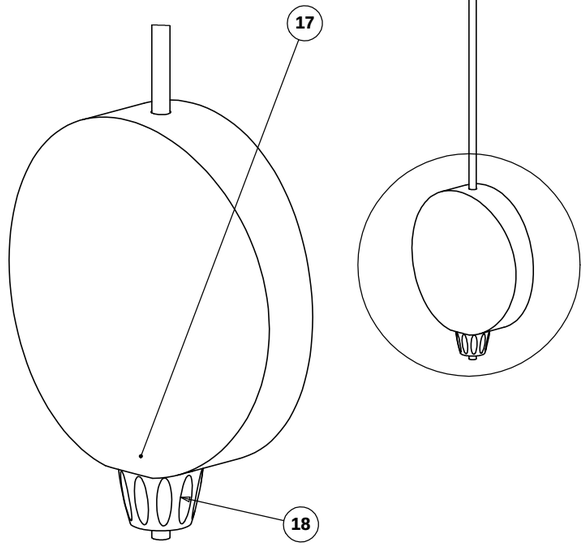




B

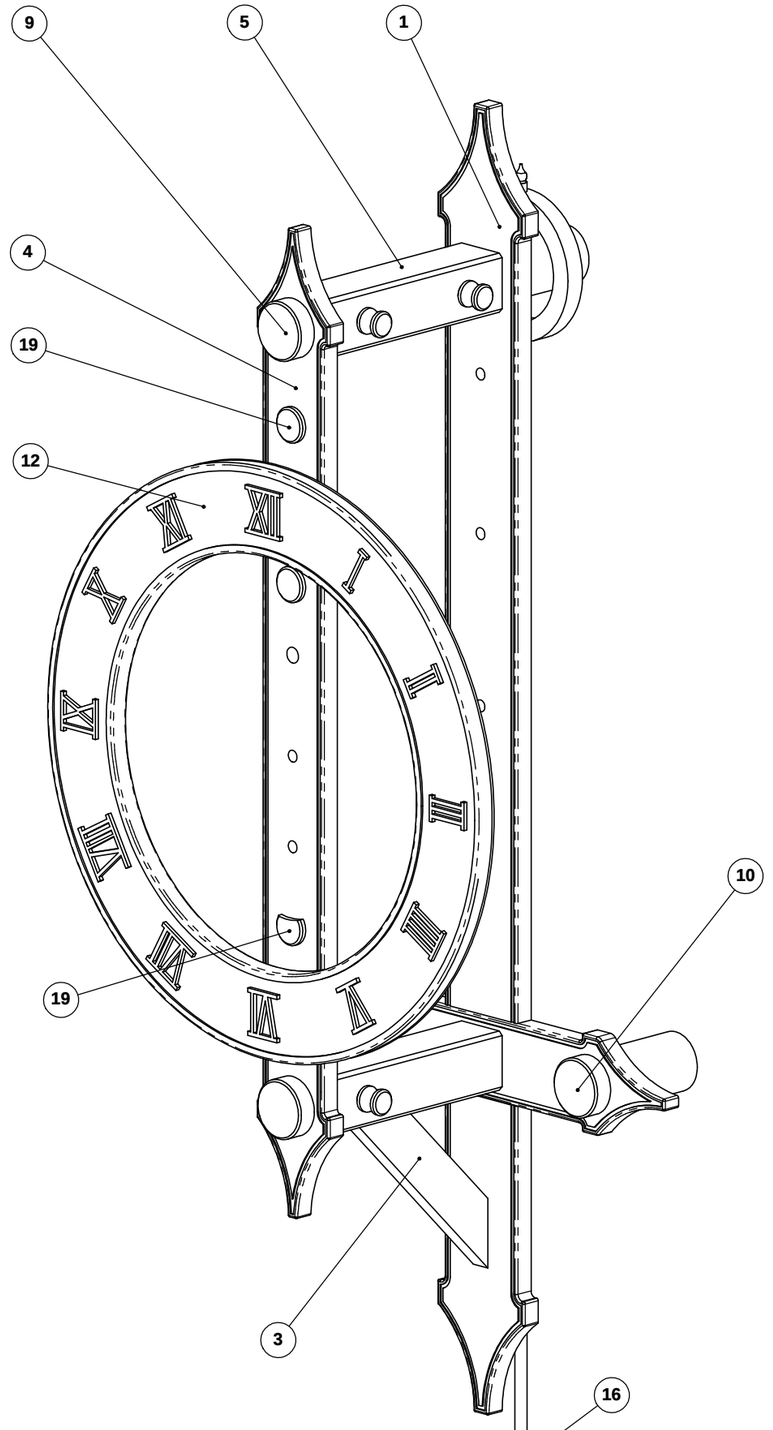


B (1 : 2)

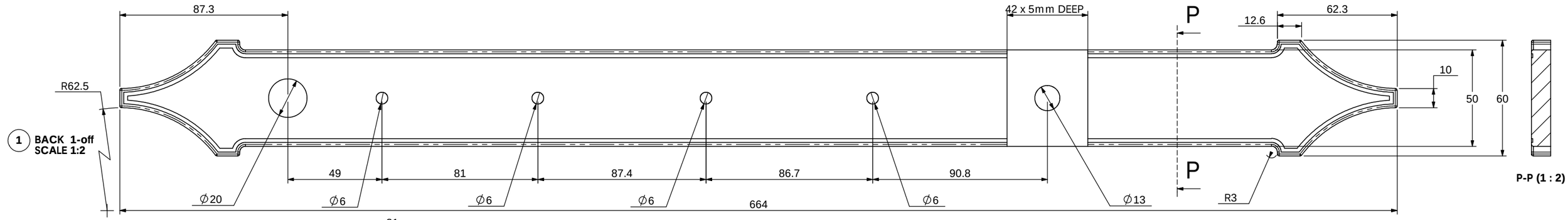


C

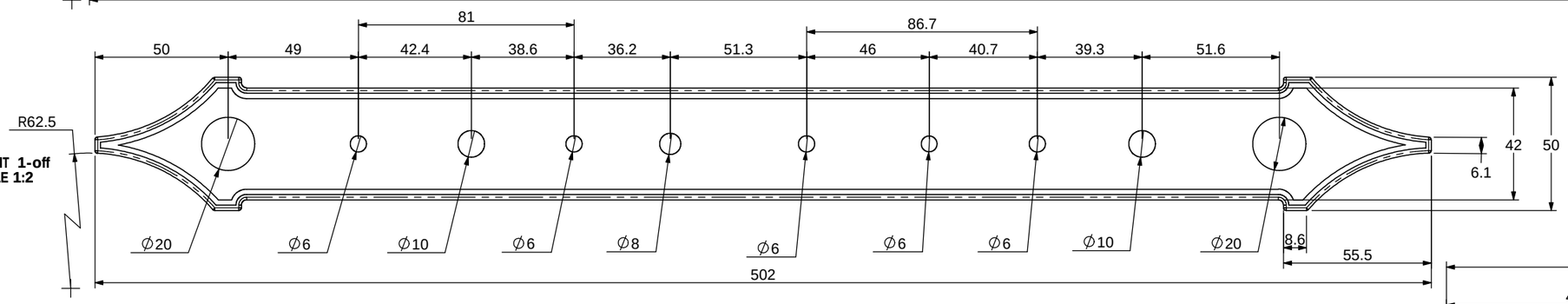
C (1 : 2)



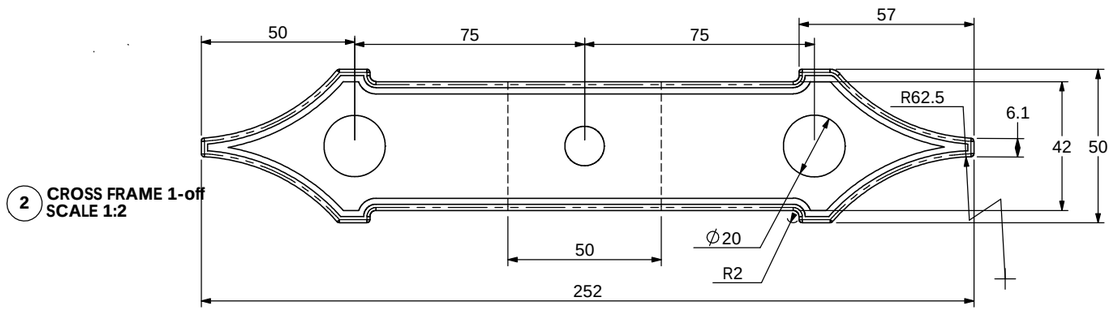
SHT 4 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**FRAME SUB ASSY**	
NTS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**



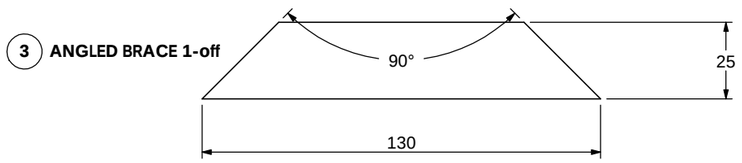
1 BACK 1-off
SCALE 1:2



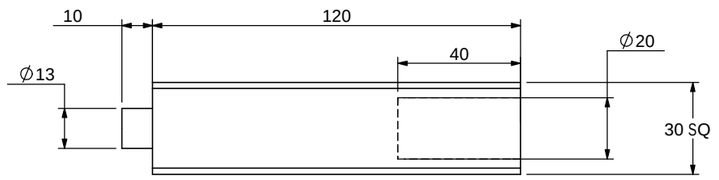
4 FRONT 1-off
SCALE 1:2



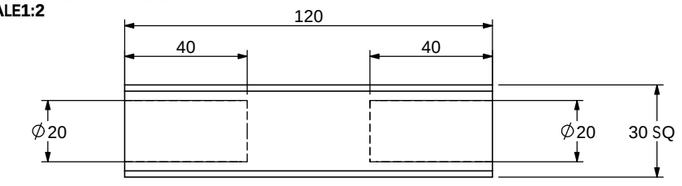
2 CROSS FRAME 1-off
SCALE 1:2



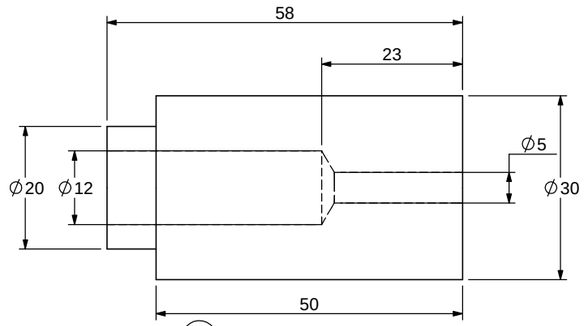
3 ANGLED BRACE 1-off



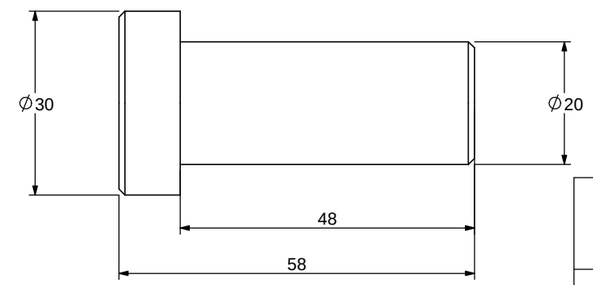
8 SQUARE SPACER BOTTOM 1-off
SCALE1:2



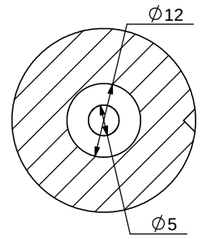
5 SQUARE SPACER TOP 1-off
SCALE1:2



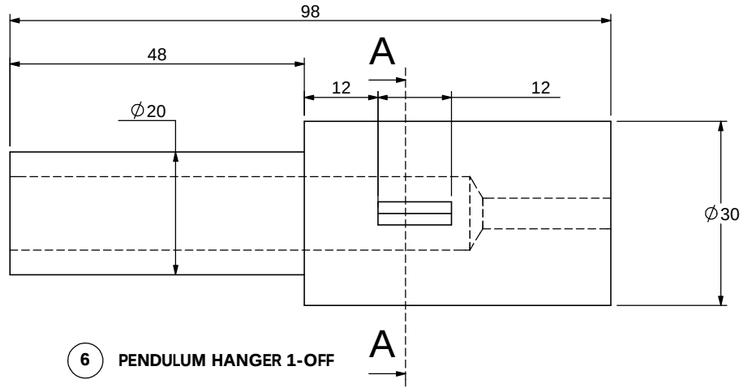
7 WALL SPACER 2-off



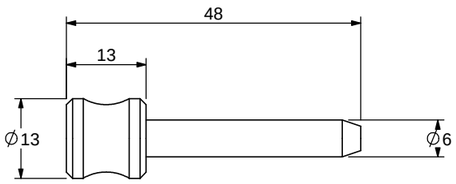
9 FRONT PIN 2-off



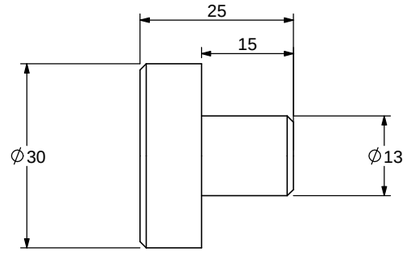
A-A (1 : 1)



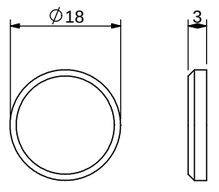
6 PENDULUM HANGER 1-OFF



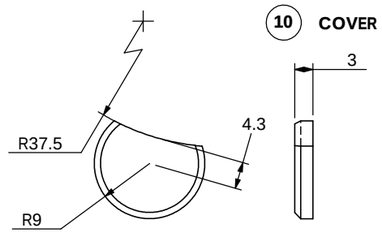
11 SECURING PIN 3-off



10 COVER PIN 2-off



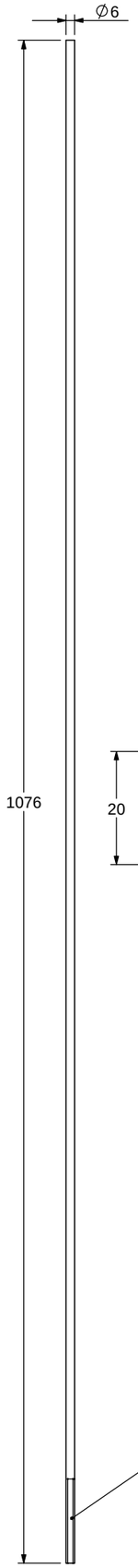
19 SHAFT COVER 5-off

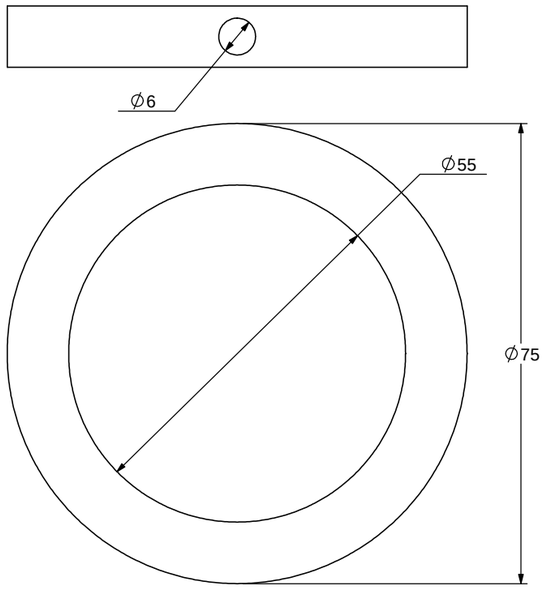


20 SHAFT COVER 1-off

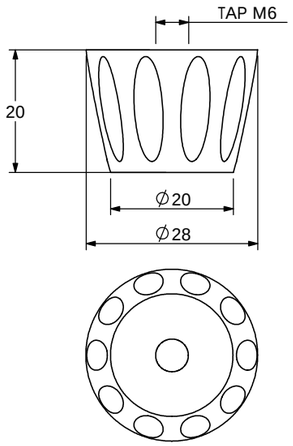
SHT 5 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**FRAME DETAILS**
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000

Designed by:
BRLAW
www.woodenclocks.co.uk

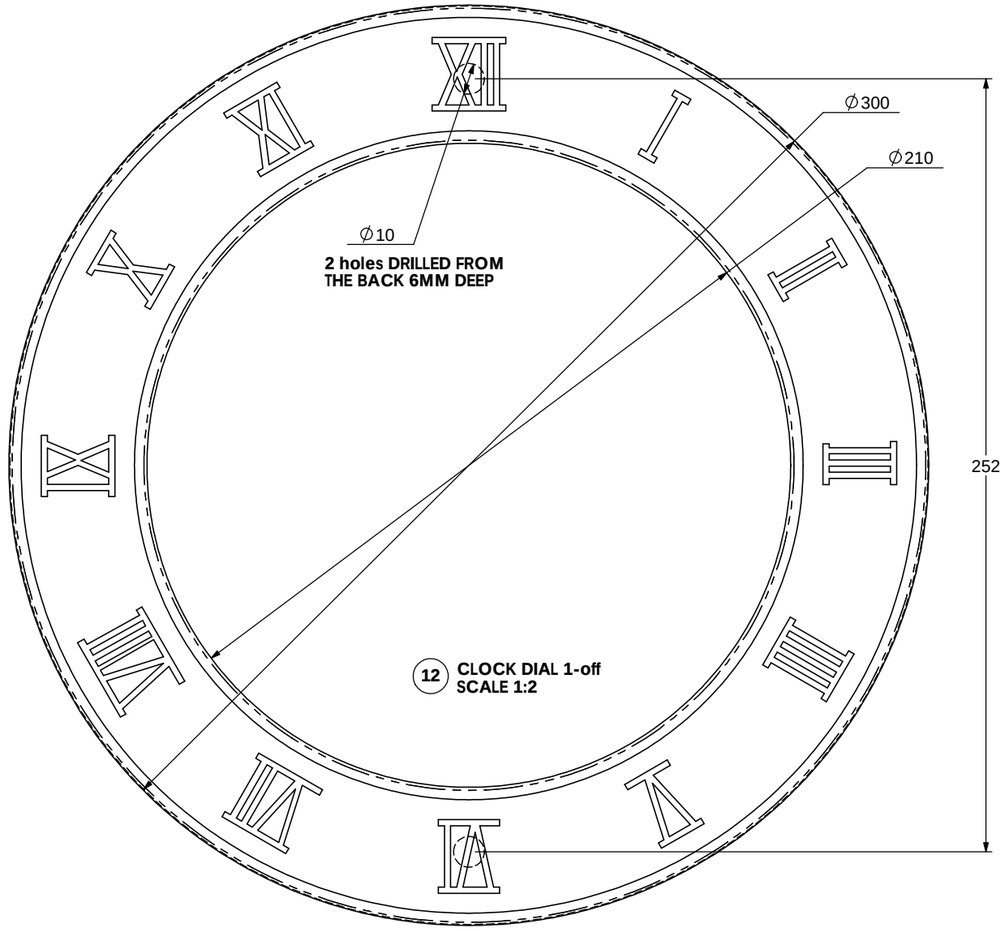




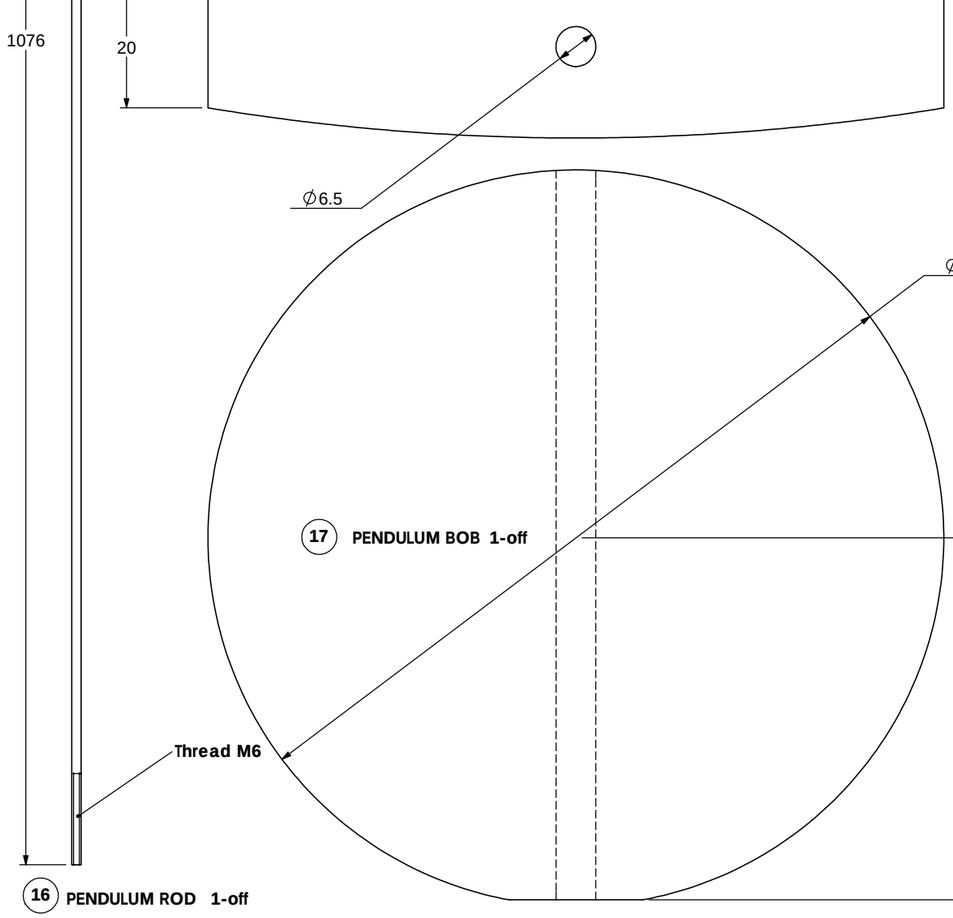
14 **PENDULUM HEAD 1-off**



18 **PENDULUM NUT 1-off**

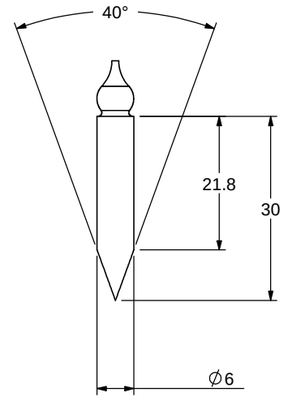


12 **CLOCK DIAL 1-off**
SCALE 1:2

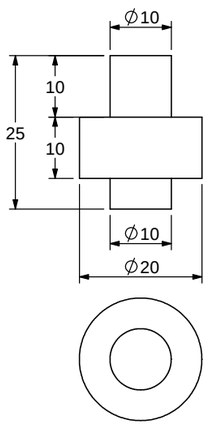


17 **PENDULUM BOB 1-off**

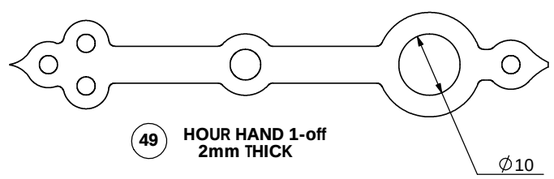
16 **PENDULUM ROD 1-off**



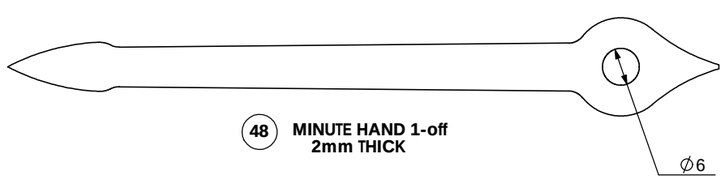
15 **PENDULUM PIVOT 1_off**



13 **DIAL SPACER 2-off**

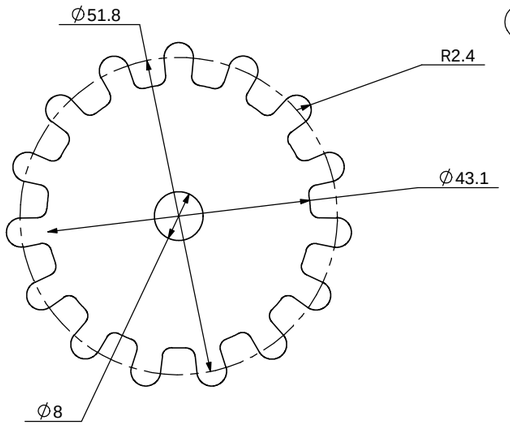


49 **HOUR HAND 1-off**
2mm THICK

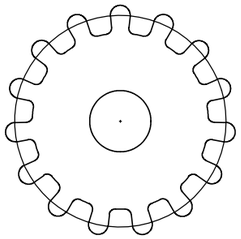


48 **MINUTE HAND 1-off**
2mm THICK

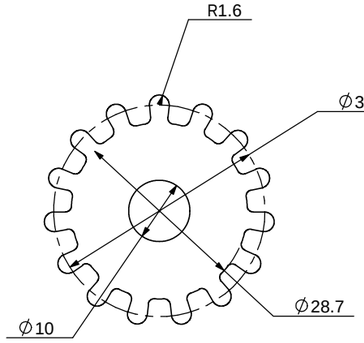
SHT 6 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**DIAL AND PENDULUM DETAILS**	
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**



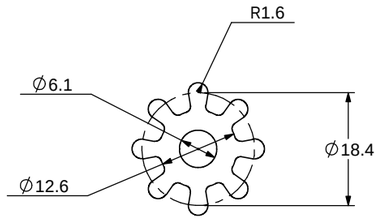
30 **15 TEETH 1.5 1-off**



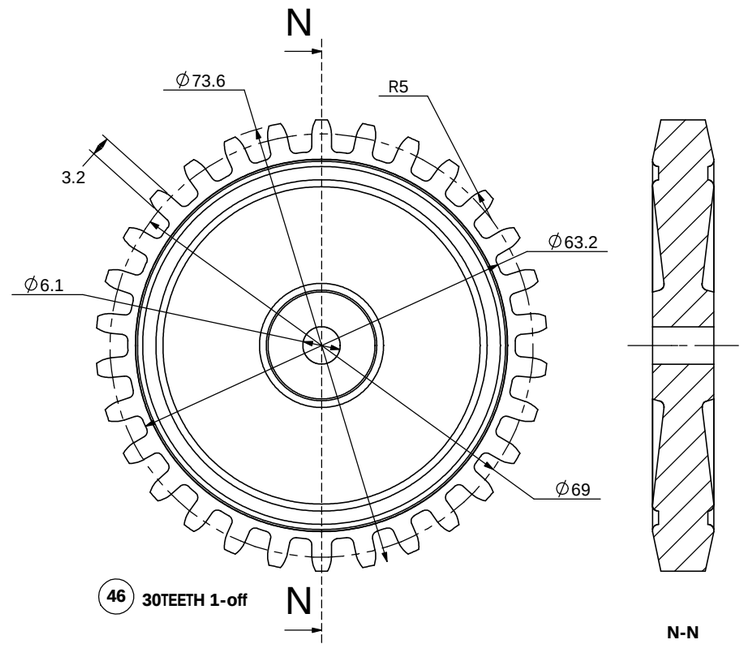
33 **15 TEETH 1-off**



33 **15 TEETH 1-off**

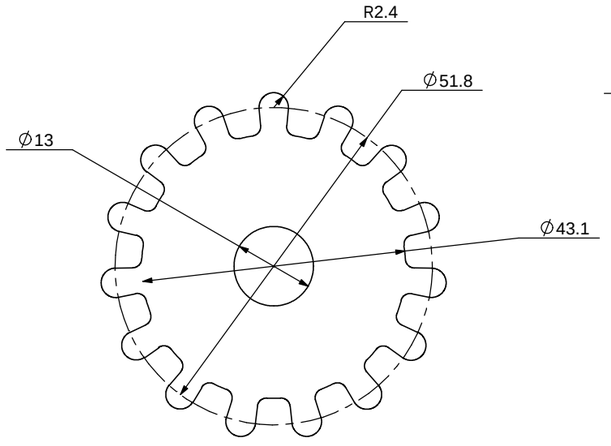


45 **8 TEETH 1-off**

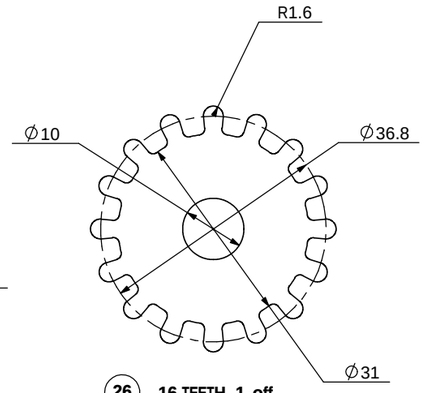


46 **30TEETH 1-off**

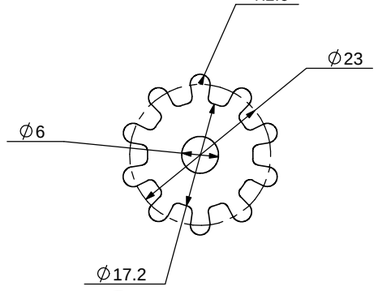
N-N



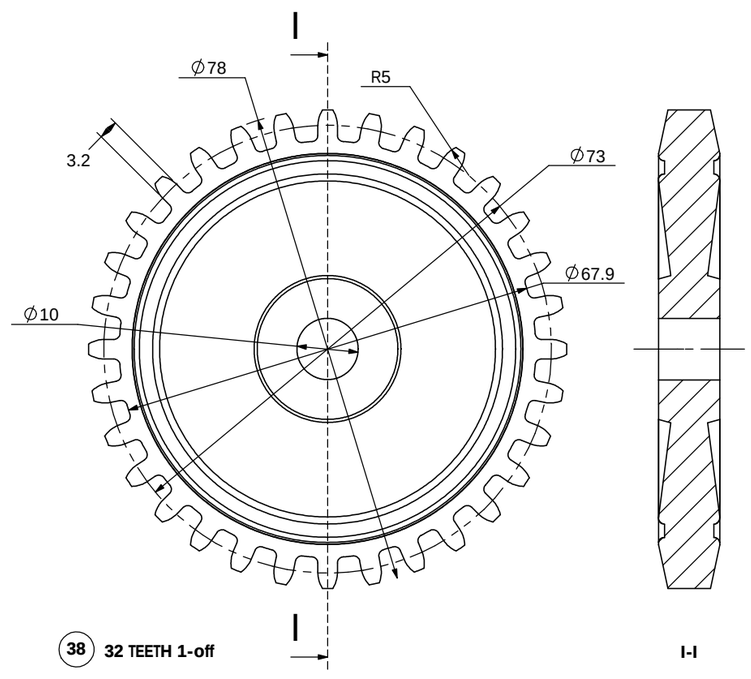
30 **15 teeth 1.5 1-off**



26 **16 TEETH 1-off**



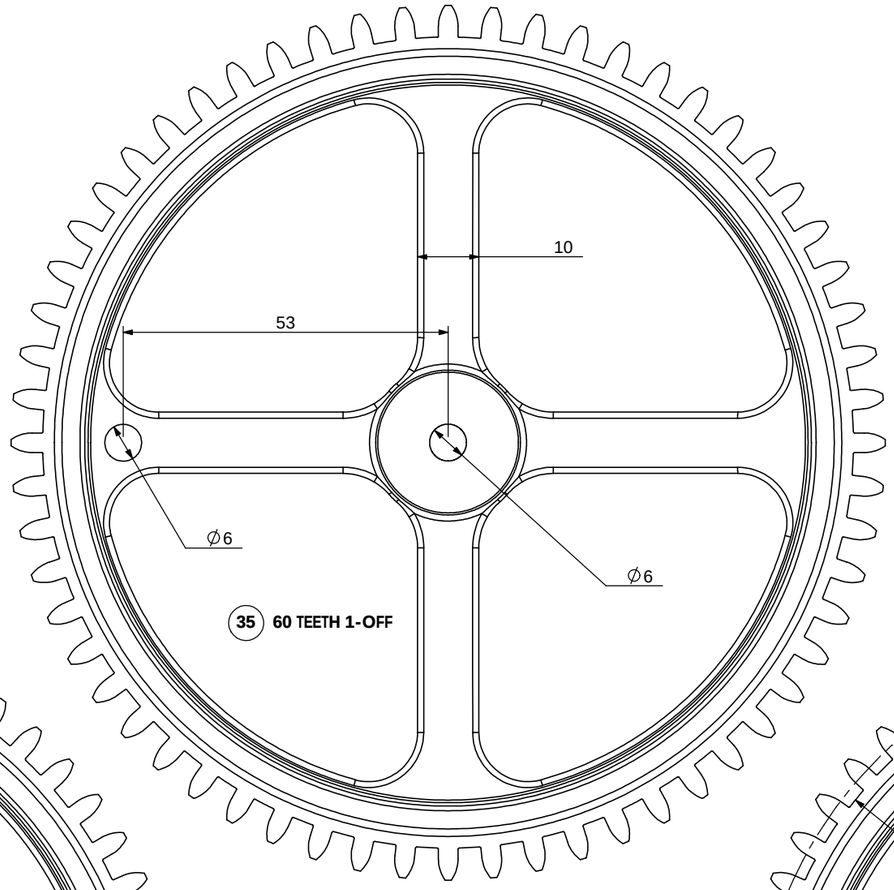
39 **10 TEETH 1-off**

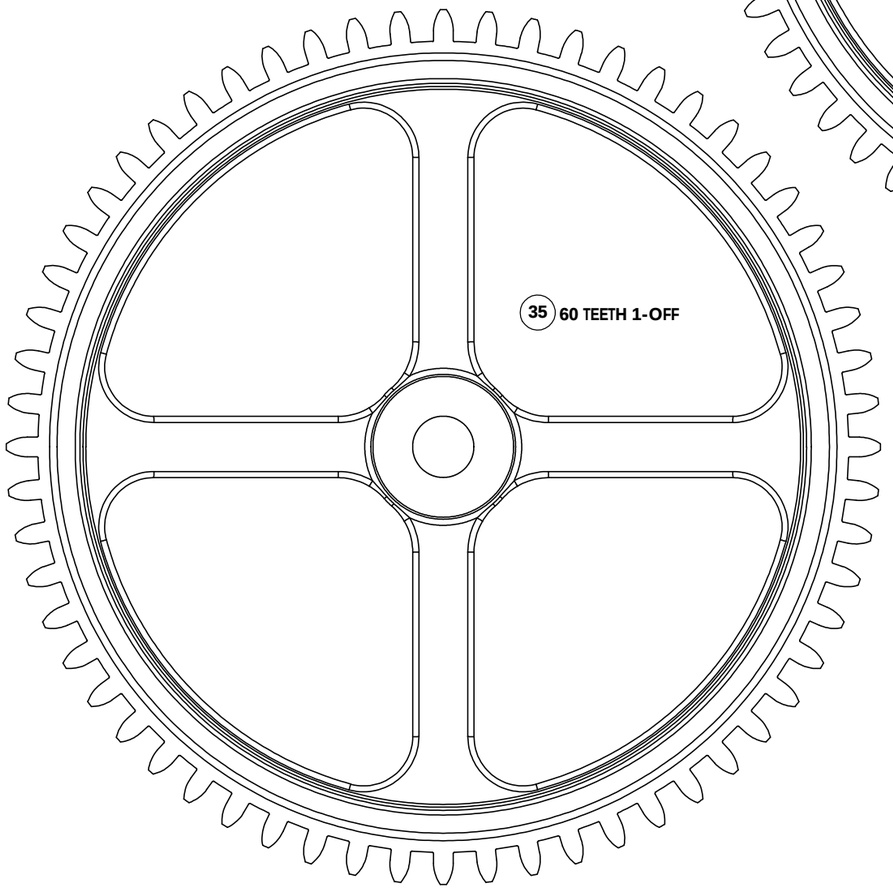


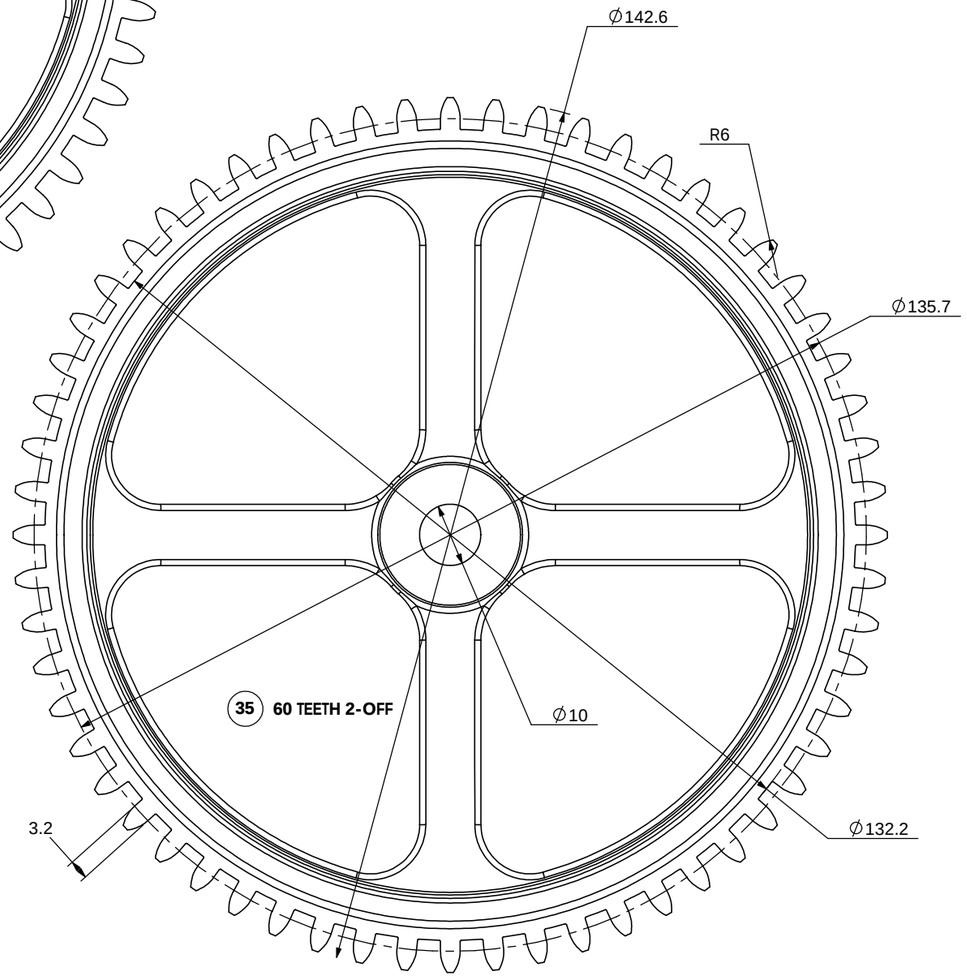
38 **32 TEETH 1-off**

I-I

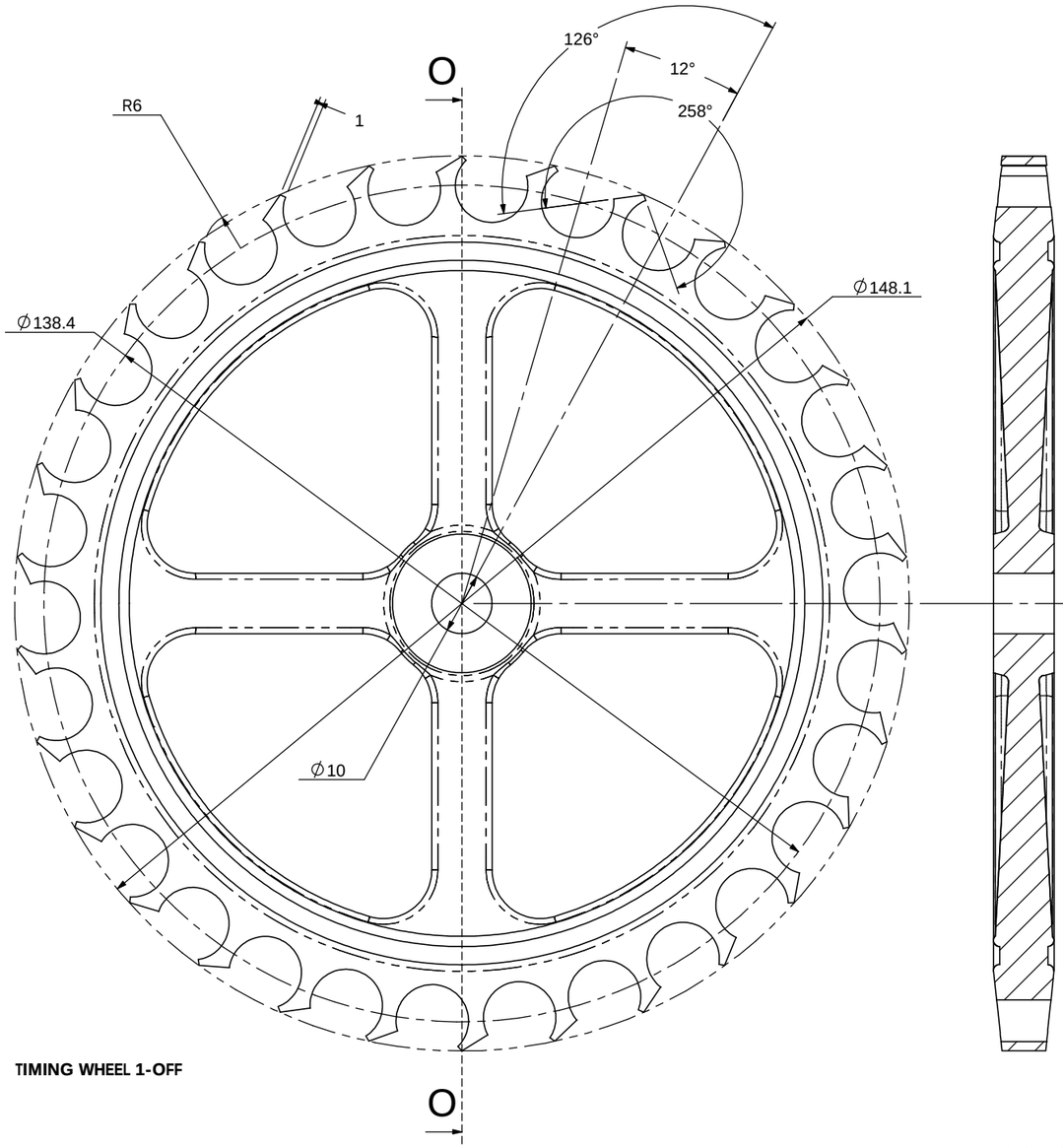
SHT 7 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**GEARS**	
SCALE 1:1	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	**JAN 2000**	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**





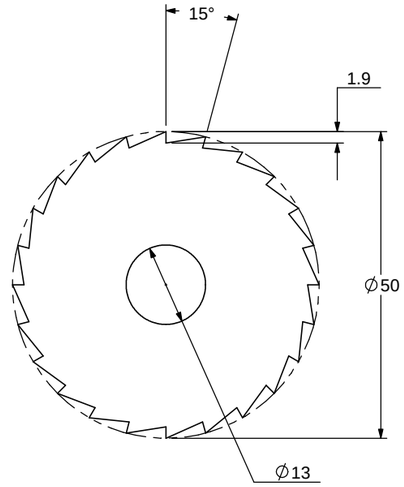


SHT 8 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**GEARS LARGE**	
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	**Designed by:** **BRLAW** **www.woodenclocks.co.uk**

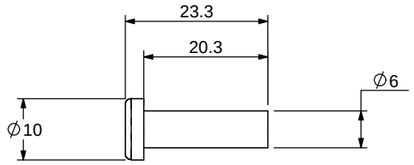


25 TIMING WHEEL 1-OFF

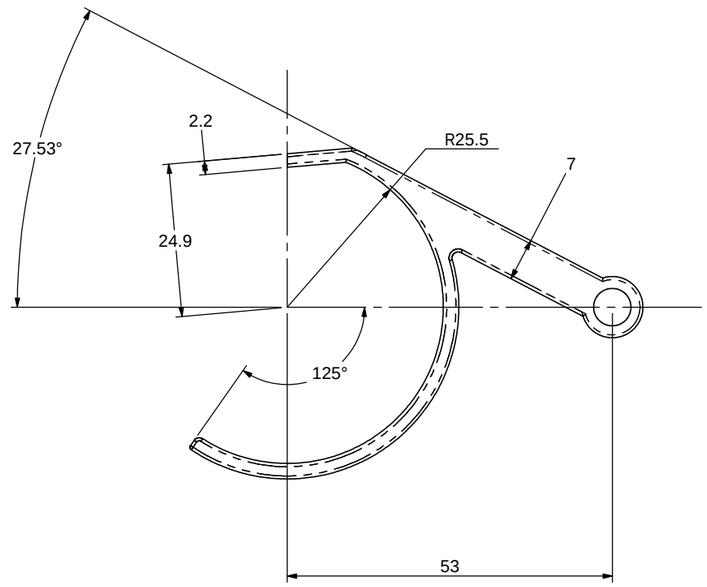
O-O (1 : 1)



36 RATCHET 1-OFF

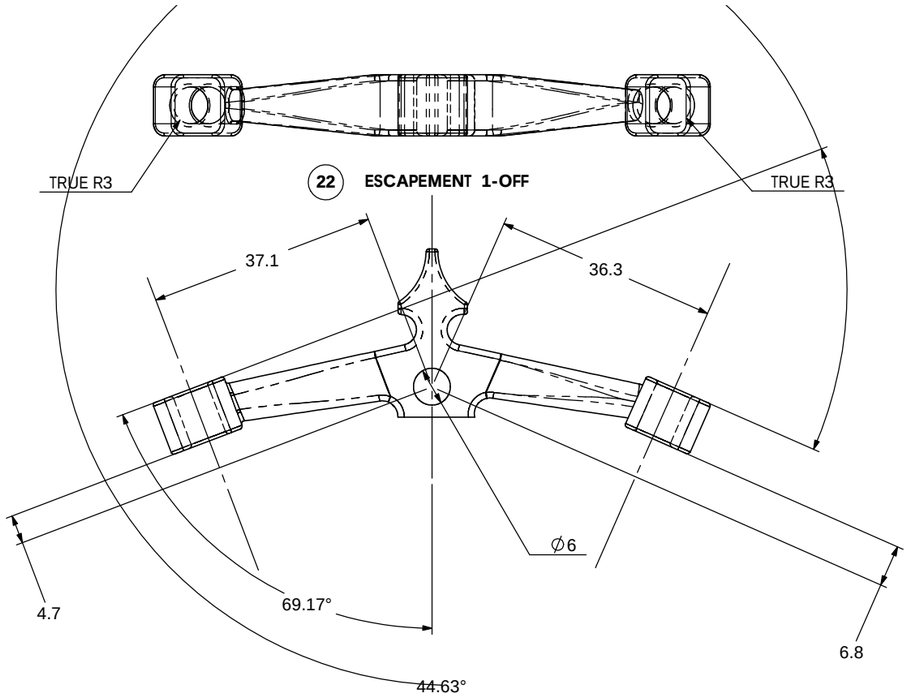


37 PAWL PIN 1-OFF

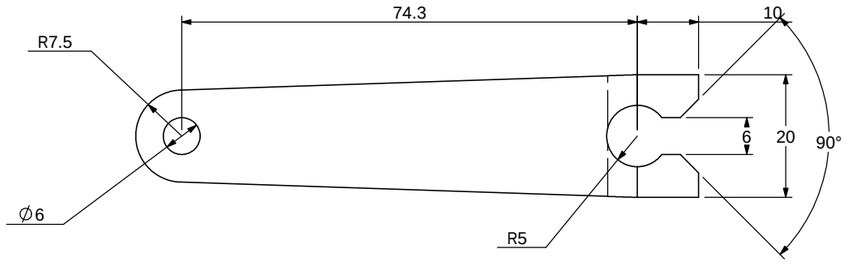


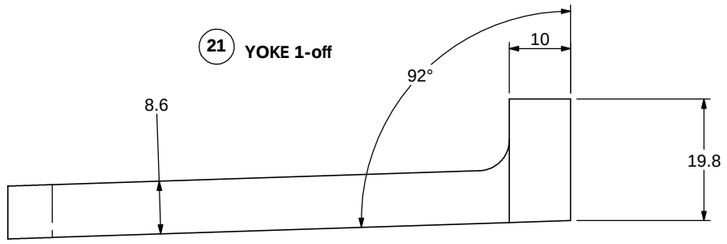
31 PAWL 1-OFF

SHT 9 OF 10 SHTS	**LAW WOODEN CLOCK 1**	TIMING WHEEL AND RATCHET	
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	Designed by: BRLAW www.woodenclocks.co.uk

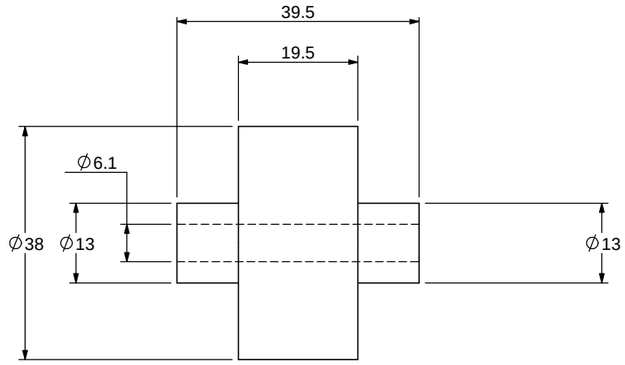


22 **ESCAPEMENT 1-OFF**

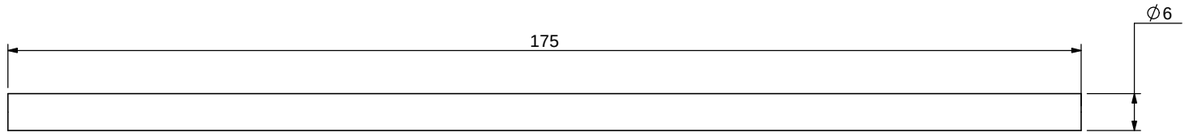




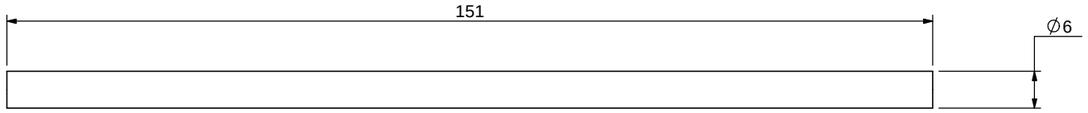
21 **YOKE 1-off**



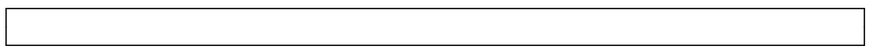
34 **DRUM 1-OFF**



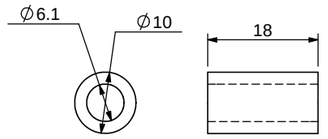
29 **SHAFT 175 1-OFF**



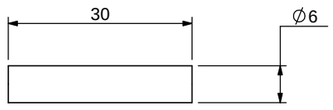
20 **SHAFT 151 1-OFF**



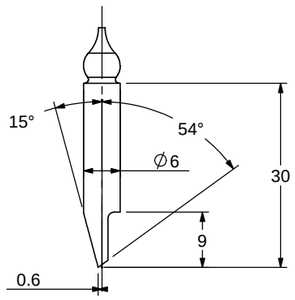
27 **SHAFT 140 2-OFF**



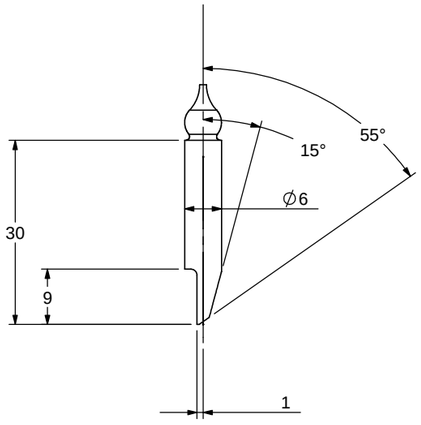
40 **SLEEVE 18 1-OFF**



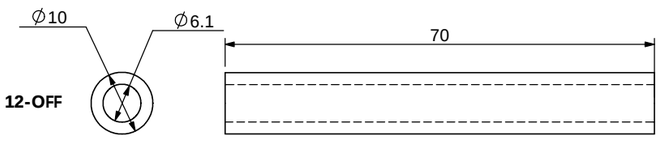
44 **SHAFT 30 1-OFF**



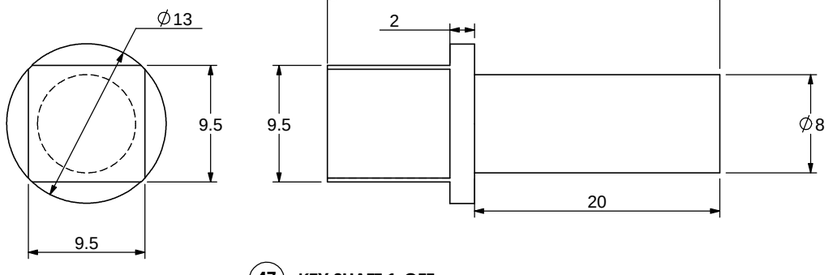
23 **PALLET 2 1-OFF**



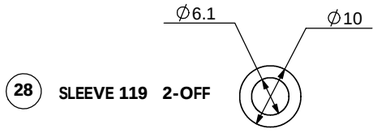
24 **PALLET 1 1-OFF**



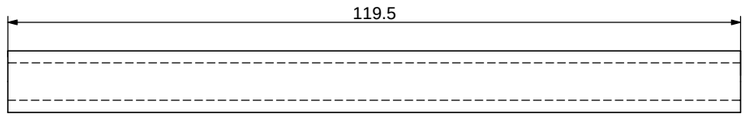
32 **SLEEVE 70 12-OFF**



47 **KEY SHAFT 1-OFF**



28 **SLEEVE 119 2-OFF**



SHT 10 OF 10 SHTS	**LAW WOODEN CLOCK 1**	**Shafts and sleeves**
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000 — **Designed by: BRLAW** **www.woodenclocks.co.uk**

Woodenclock Clock I

Notes

1. Use close-grained timber such as Beech planed down to a thickness of 1 10 mm for all components unless otherwise stated.

2. All shafts for spindles should be made from 6 mm diameter bar.

3. Any suitable material can be used for the weight. The mass of the weight will need to be established by experiment, but a good starting point would be 6 lbs.

4. Details of the dial numerals are shown for guidance only, the actual form of the numerals is left to your own discretion. They can be applied by painting or as relief numerals cut from thin sheet.

5. The hands are again given for guidance only, although in this instance they are drawn to size so that you can copy these if you wish. They should in any event be cut from thin sheet.

6. Where the components are drawn to 1:1 scale you can attach the drawing to the timber using a low tack adhesive, and cut around the profiles. Great care should be taken with this approach when cutting the gear teeth because they need to be cut very accurately to avoid problems when assembling the clock

7. The frame is held together using 3 pins fitted through holes crossdrilled after assembly.

8. Care should be taken to adjust the pallets (23 & 24) relative to the timing wheel. They should operate to allow the timing wheel to move incrementally forward when swinging through a small arc of movement of the pendulum. (<10°).

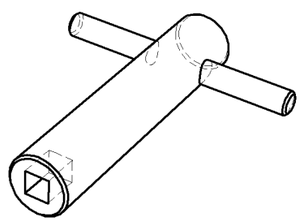
9. The pitch of the gears is controlled by the drilling of the hole centres in the front and back frames. It may help to delay the drilling of these holes in the frames until after the gears are first cut and then linished to size. At this point it would help to mount them on two separate pieces of wood and test there free movement one to the other and measure the centre distance between them, so that the hole centres can be drilled at this dimension rather than the theoretical dimension on the drawing.

10. The winder used is not drawn on the plans but a simple 'T' bar with a square hole in the end to engage over the end of the square end of the shaft holding the winding gears.

11. The profiling of the larger gears is not necessary to the functioning of the clock, and can be carried out at the discretion of the clock builder.

Fits between components

Loose	Tight	Bond
1 & 20	11 & 5	1 & 19
1 & 7	11 & 8	1 & 2
1 & 29	12 & 13	1 & 3
16 & 17	20 & 21	1 & 8
27 & 28	20 & 22	14 & 15
29 & 32	22 & 23	14 & 16
29 & 35	22 & 24	3 & 8
31 & 37	25 & 28	4 & 13
32 & 29	26 & 28	4 & 19
4 &20	30 & 34	7 & 2
4 & 27	32 & 33	45 & 46
4 & 29	32 & 34	
4 & 44	32 & 35	
4 & 47	35 & 37	
45 & 4	38 & 40	
46 & 4	44 & 4	
	44 & 45	
	44 & 46	
	47 & 30	
	6 & 5	
	9 & 5	
	9 & 8	
	28 & 35	



Notes	LAW WOODEN CLOCK 1		
SCALE 1:1 UOS	ALL DIMENSIONS IN MM 3rd ANGLE PROJECTION UNTOLERANCED DIMS +/- 0.5	JAN 2000	Designed by: BRLAW www.woodenclocks.co.uk