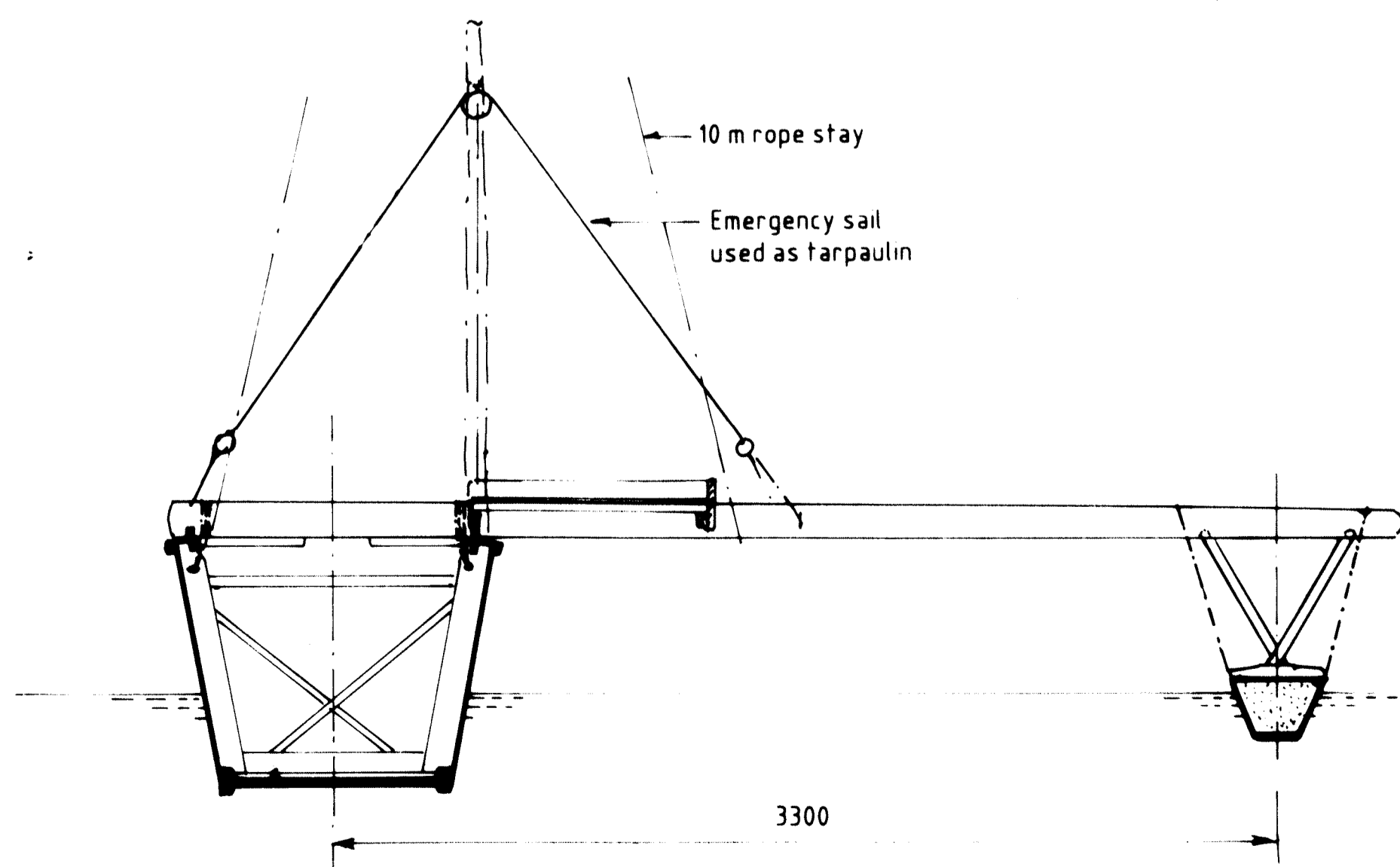
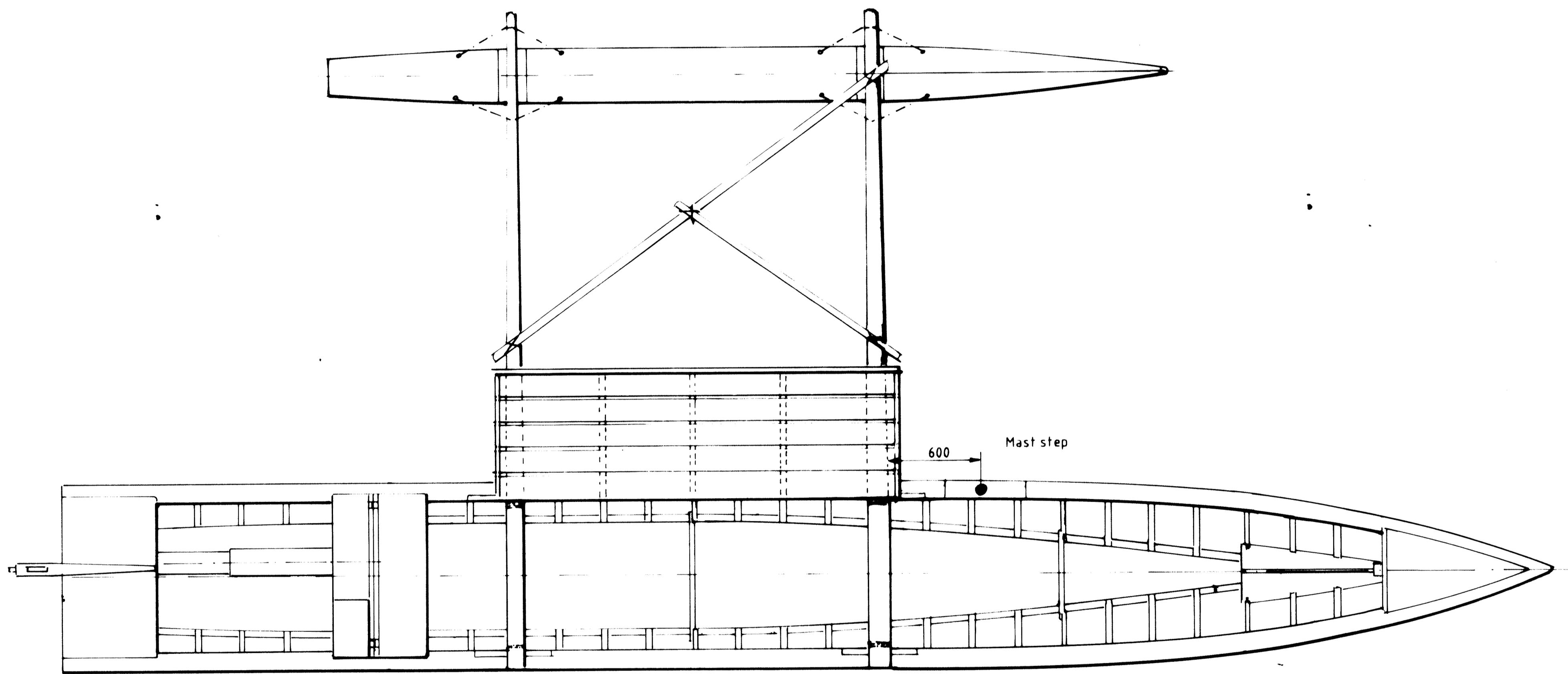
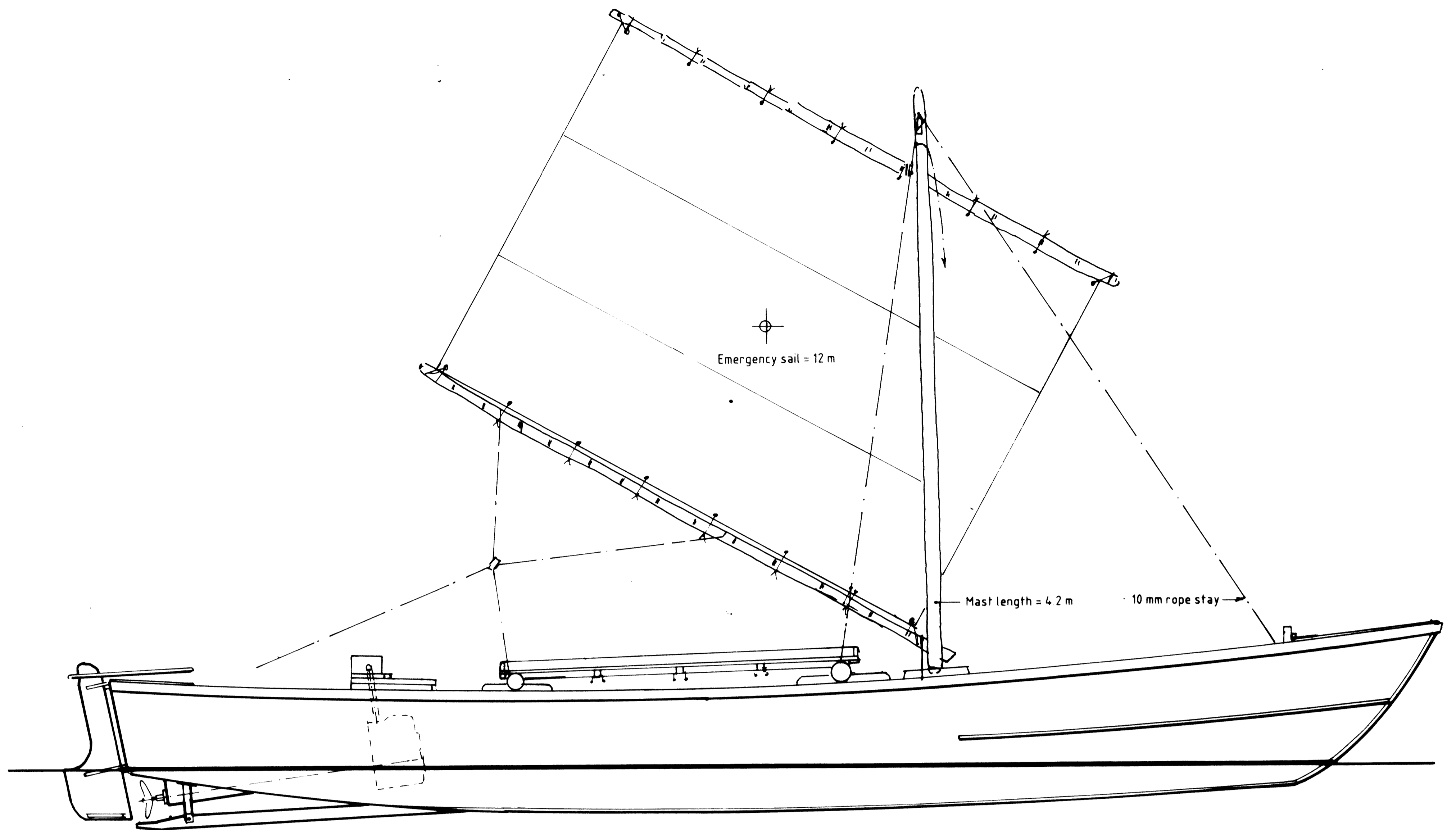


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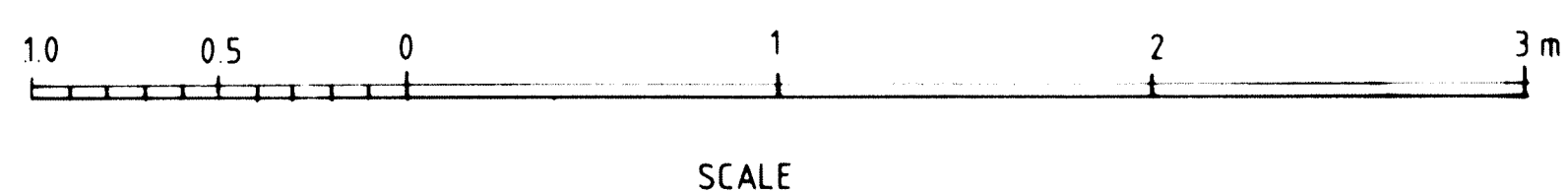
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PARTICULARS

	MAIN HULL	OUTRIGGER
Length over all	LOA = 9.70 m (32 ft)	5.4 m (17.7 ft)
Beam moulded	BMD = 1.15 m	0.36 m
Depth moulded	DMD = 0.88 m	0.23 m
Cubic number	LOA x BMD x DMD = 9.8 m ³	0.45 m ³
Draught maximum	T = 0.40 m	
Displacement no load	= 800 kg	90 kg
Service load	= 800 kg	40 kg
Displacement DWL	= 1600 kg	130 kg
Engine	Horizontal cylinder diesel engine 12.5 hp / 2400 rpm	
Service speed	= 7.5 knots at service power = 8 hp	



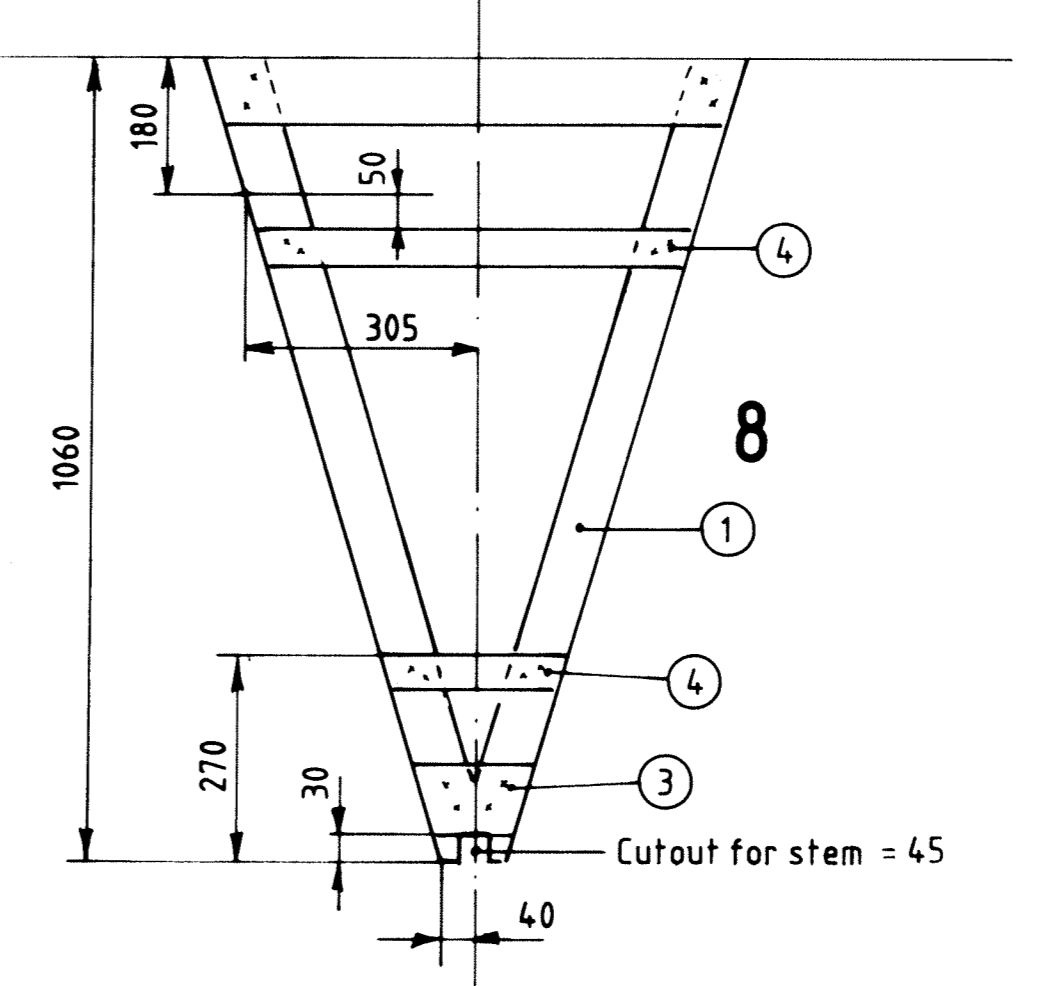
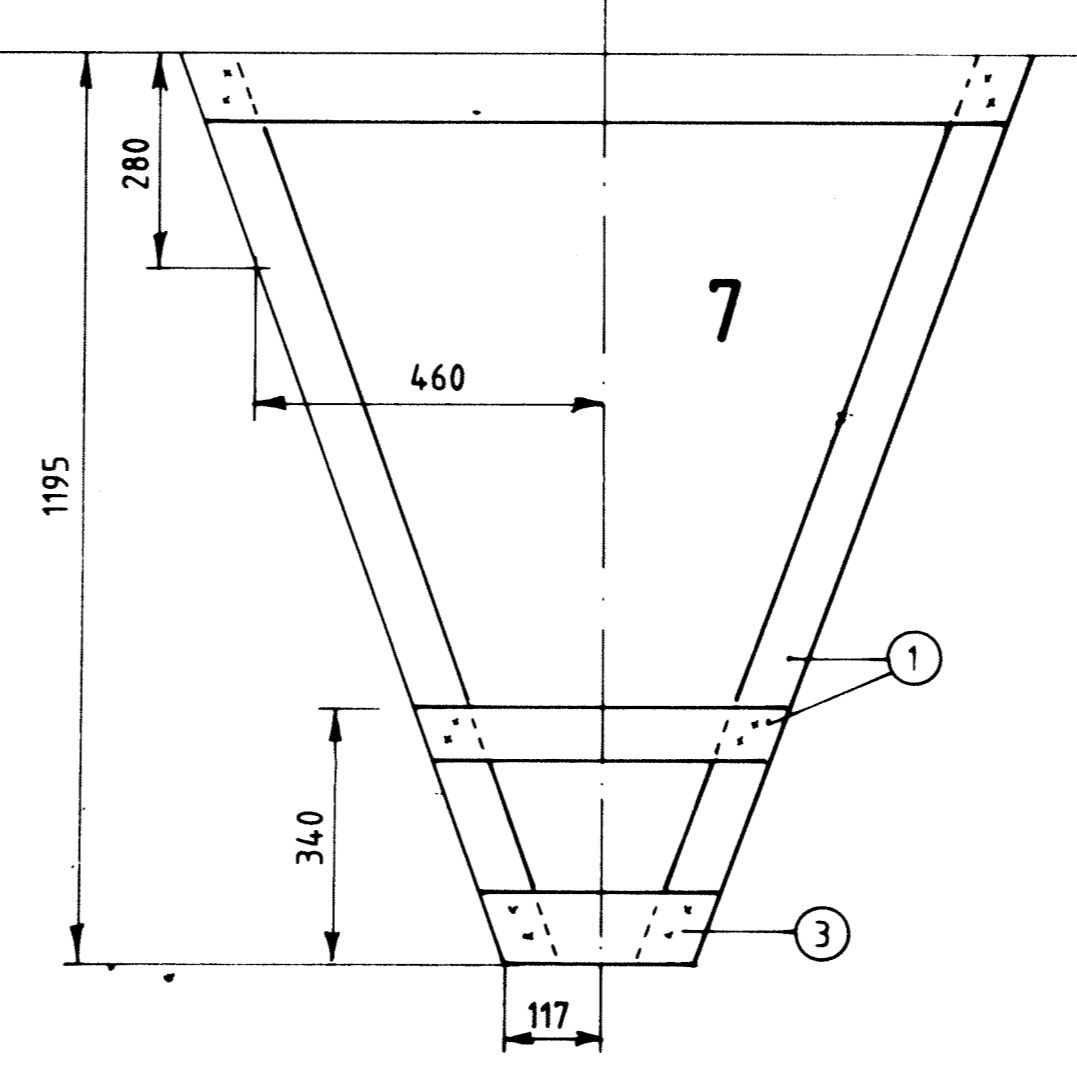
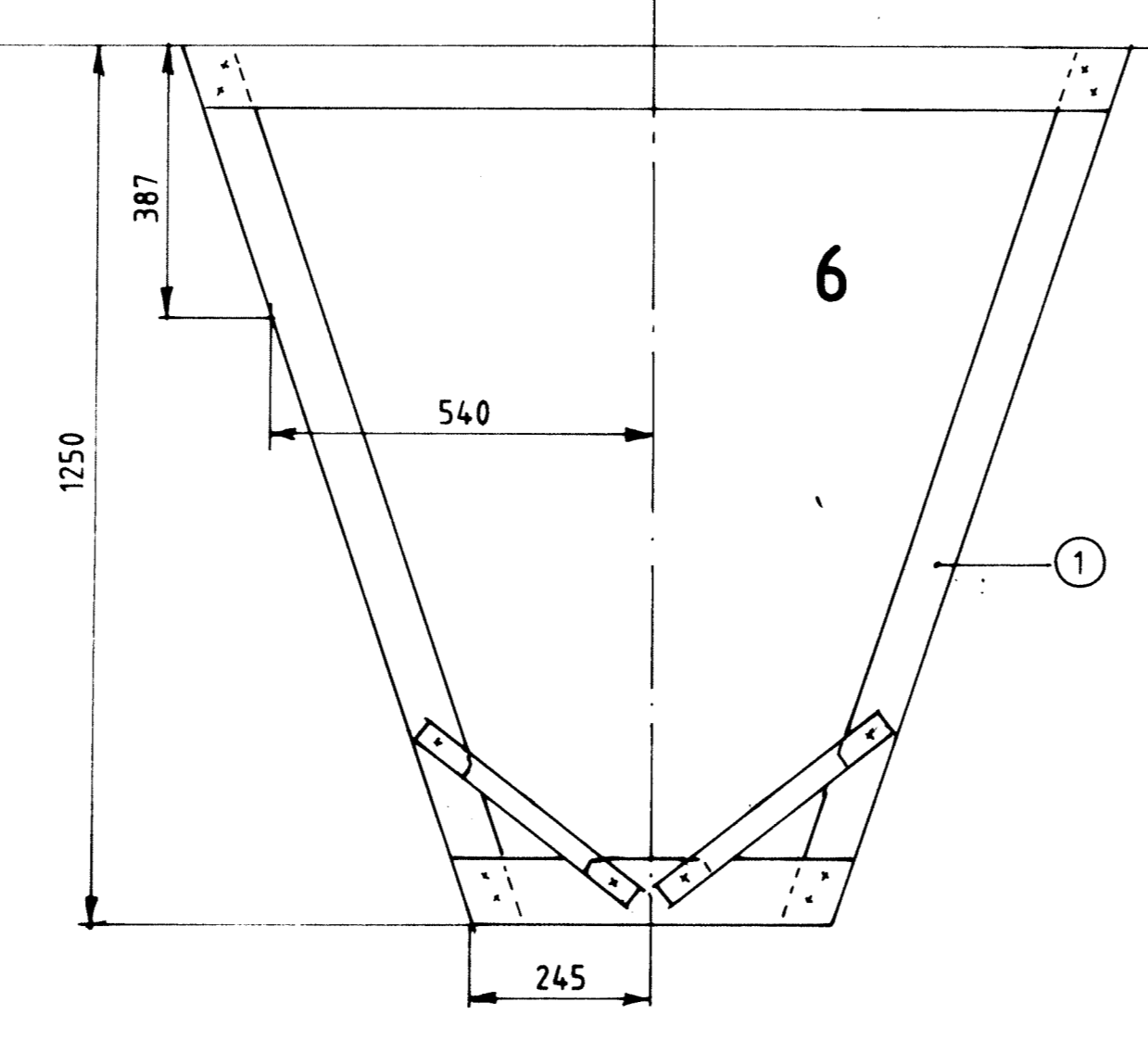
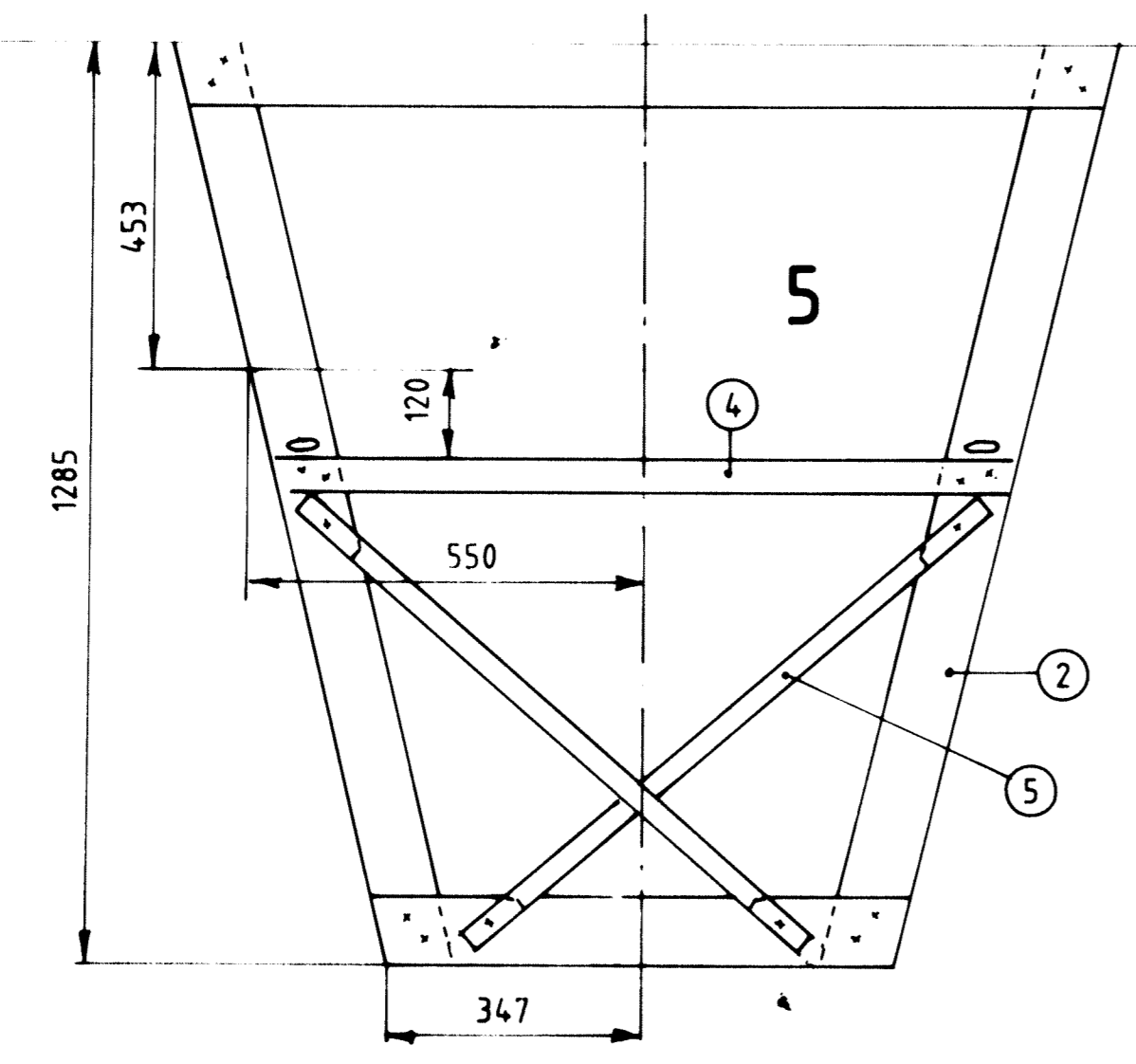
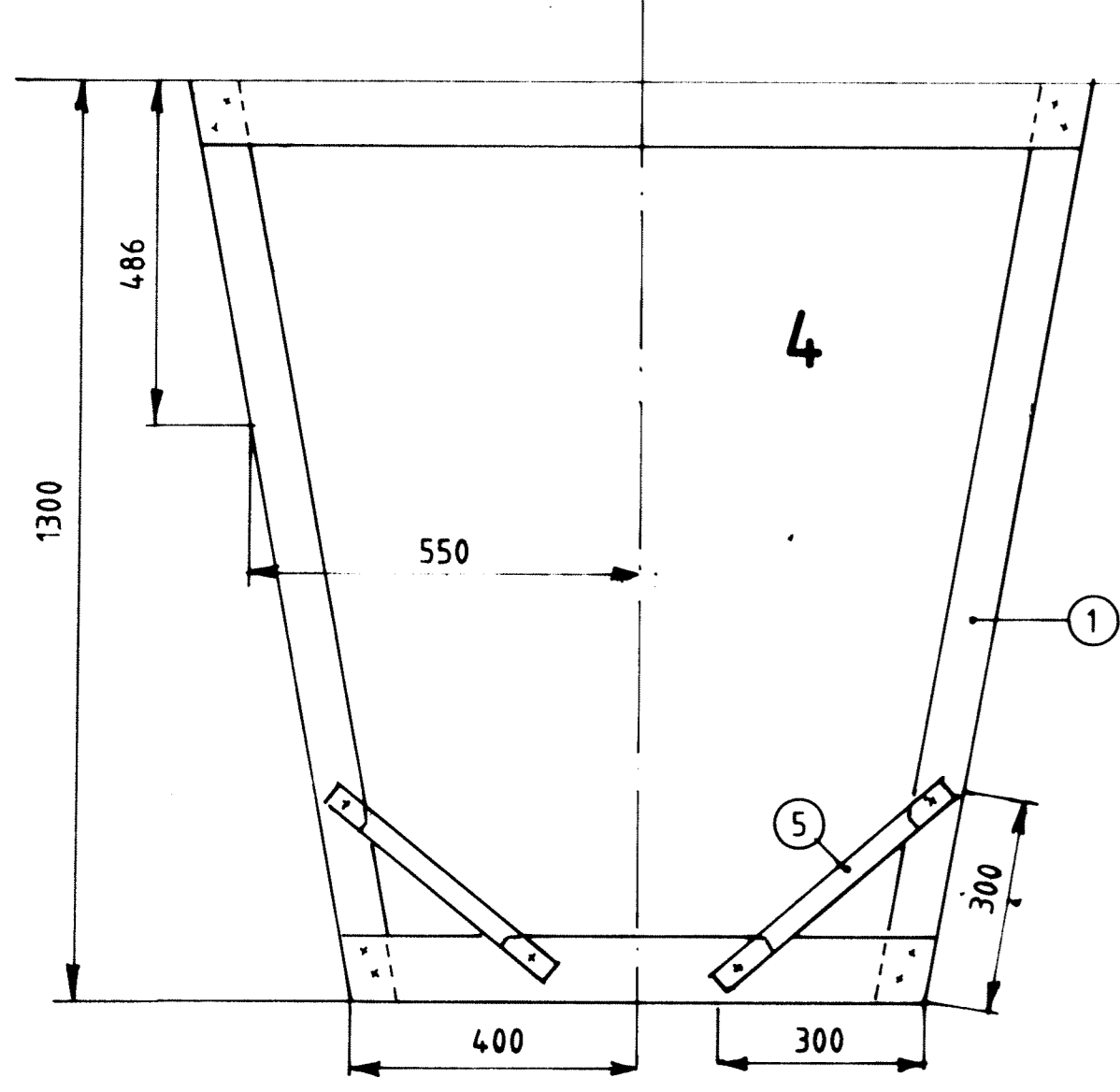
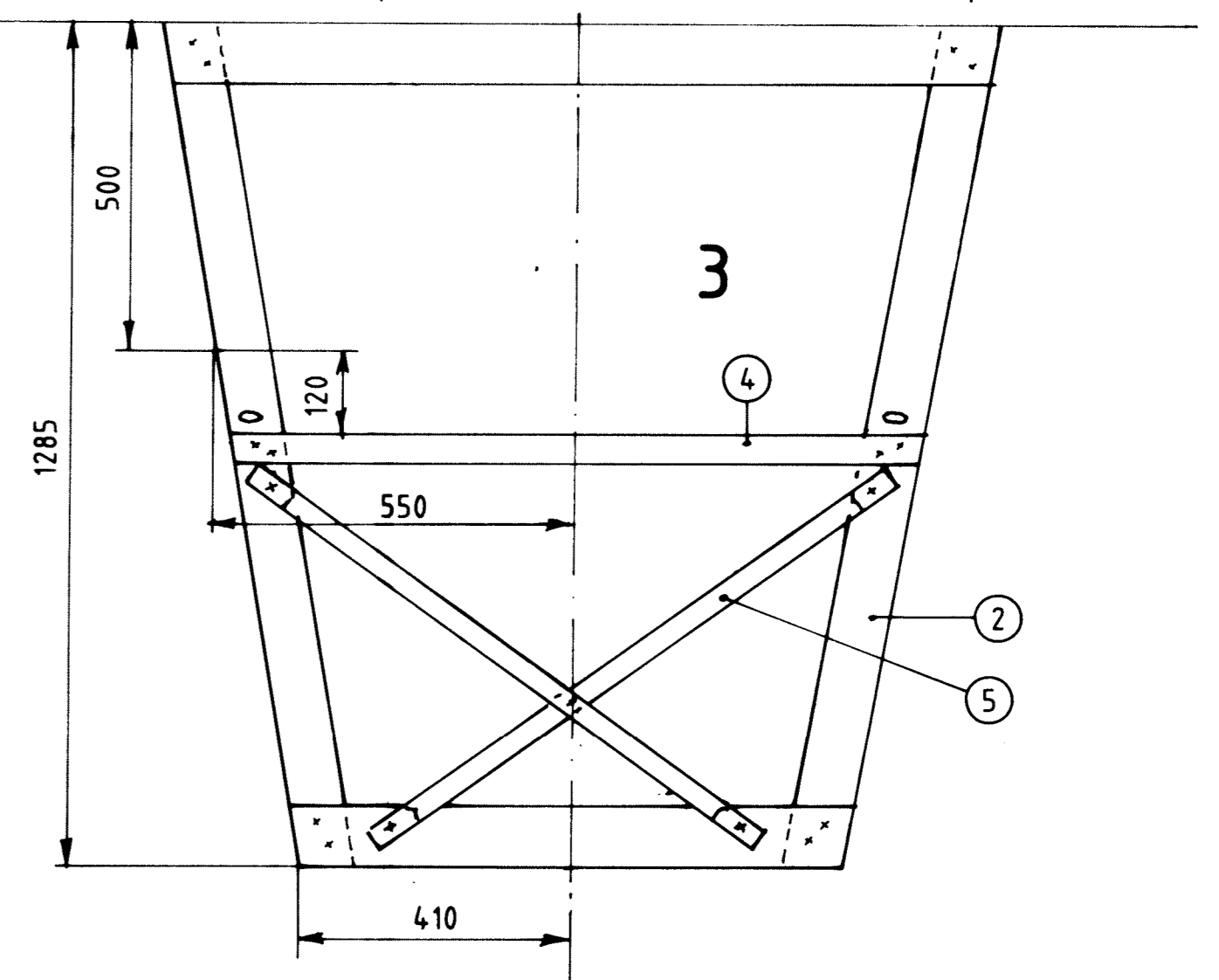
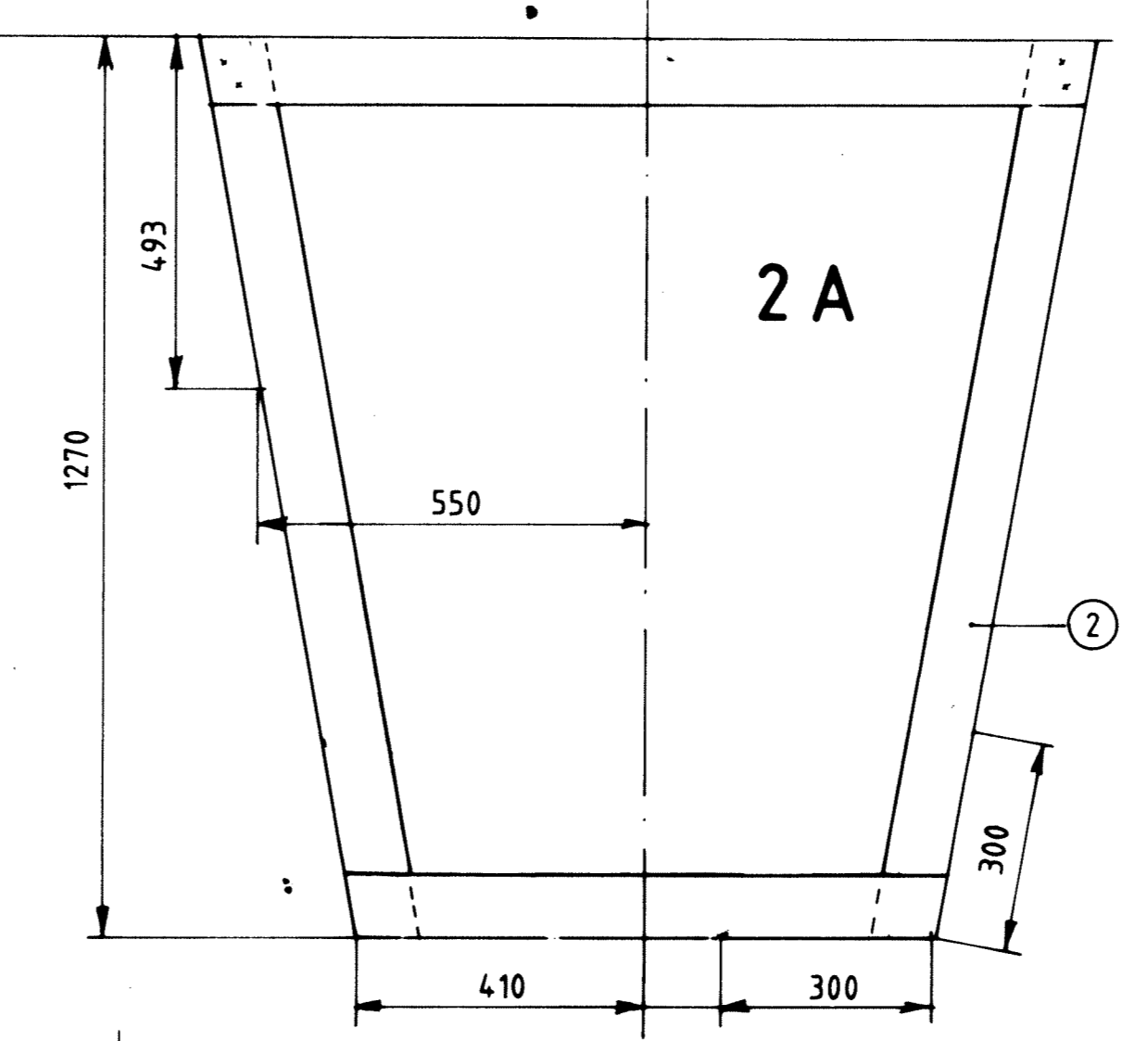
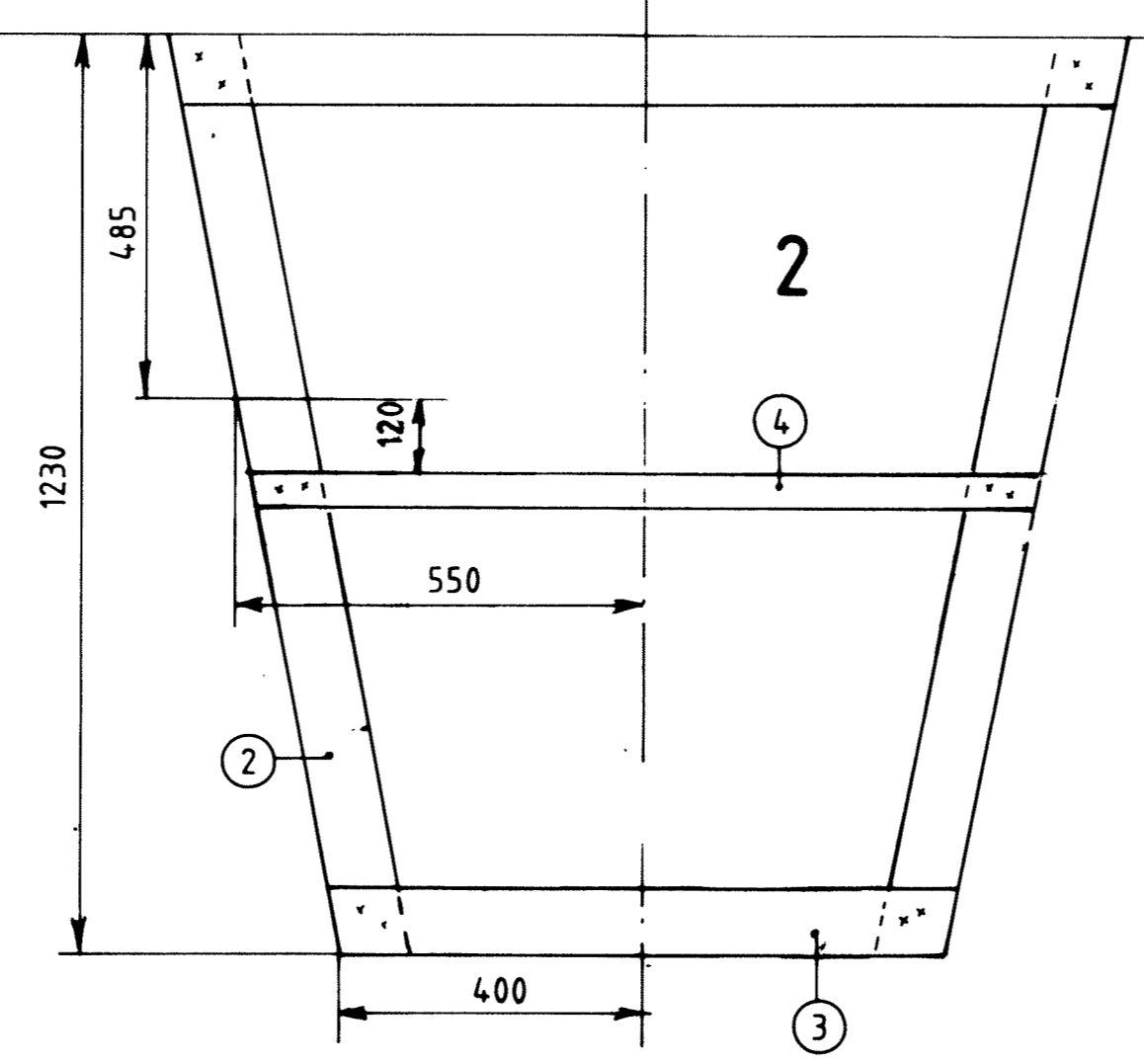
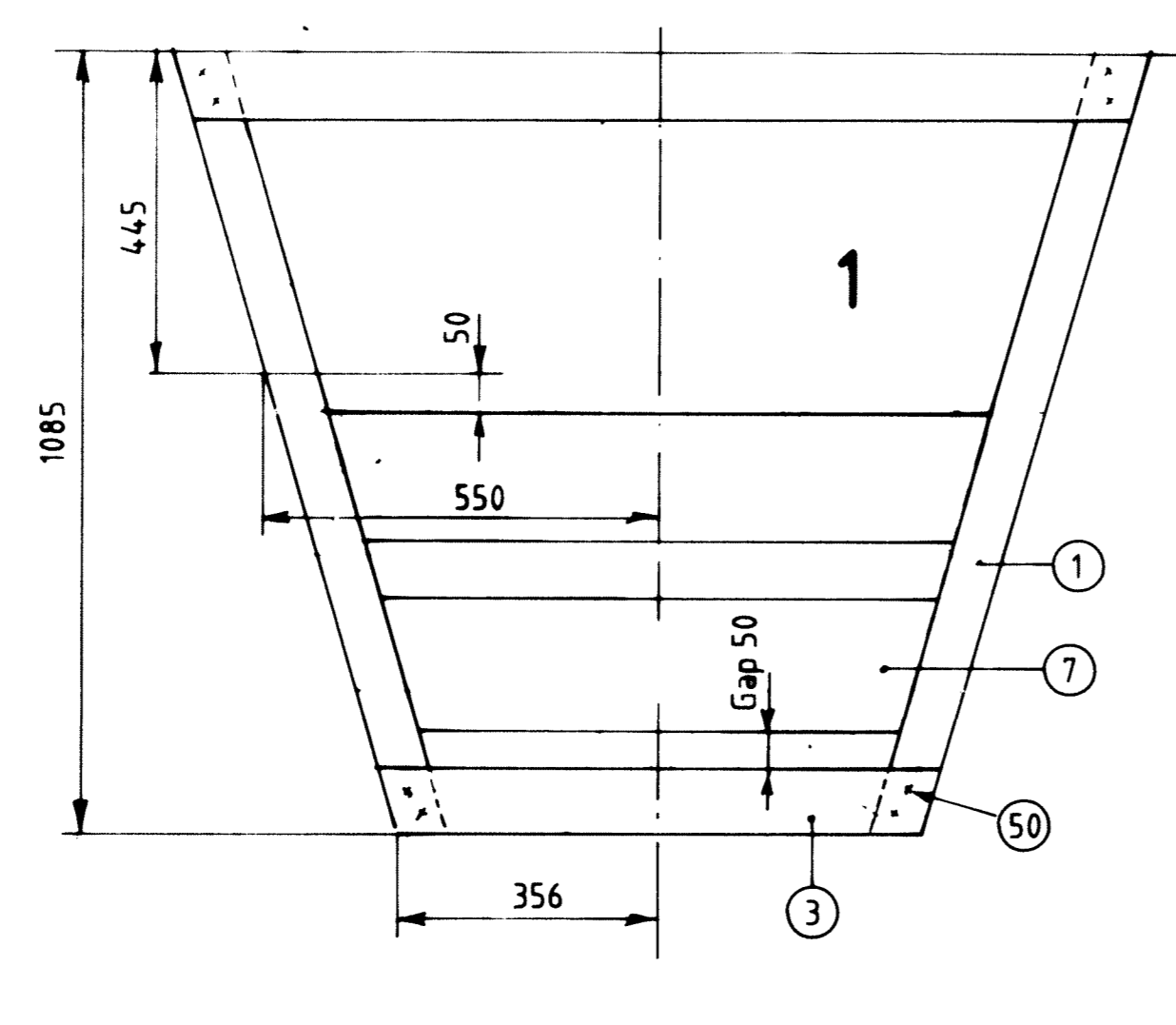
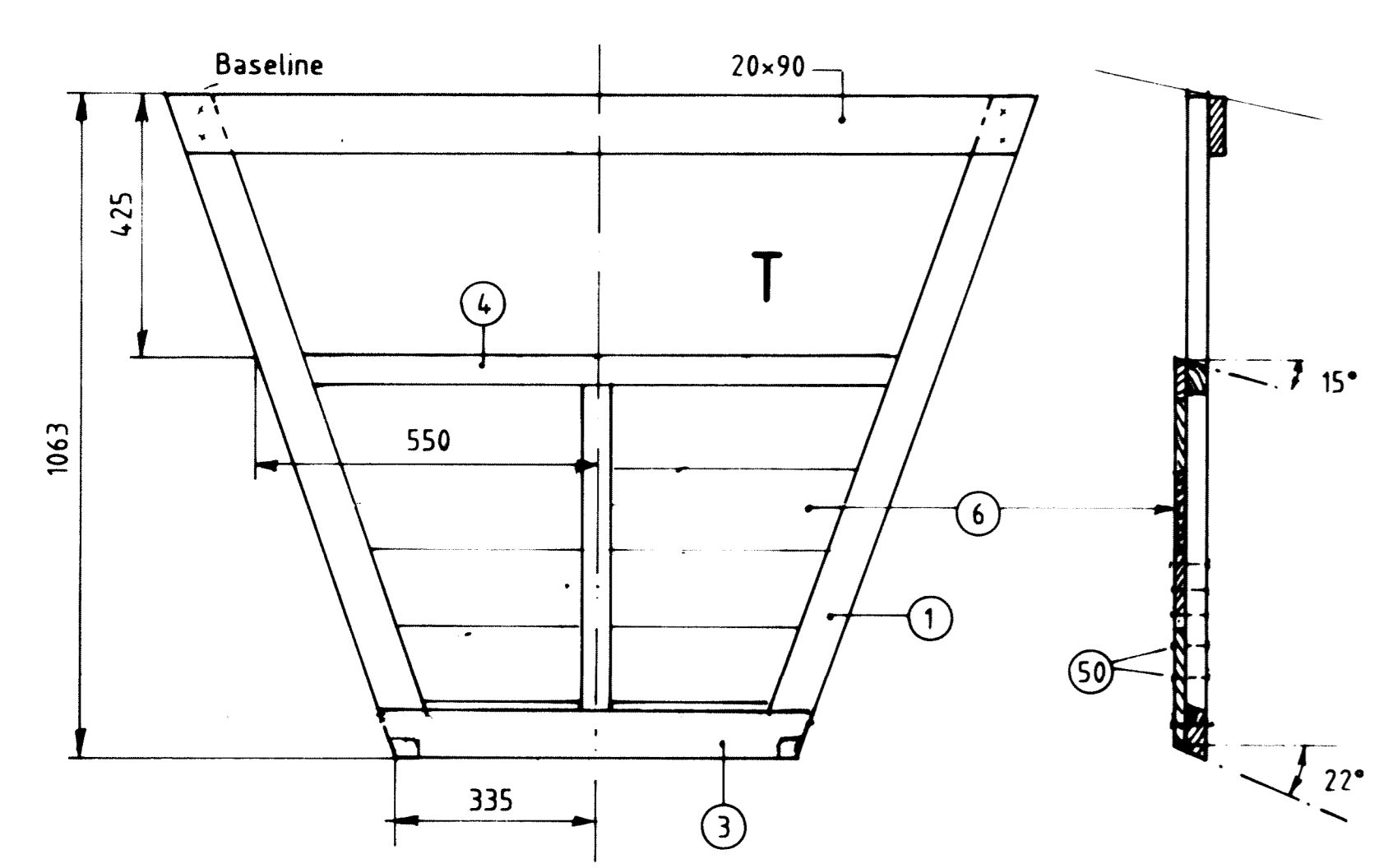
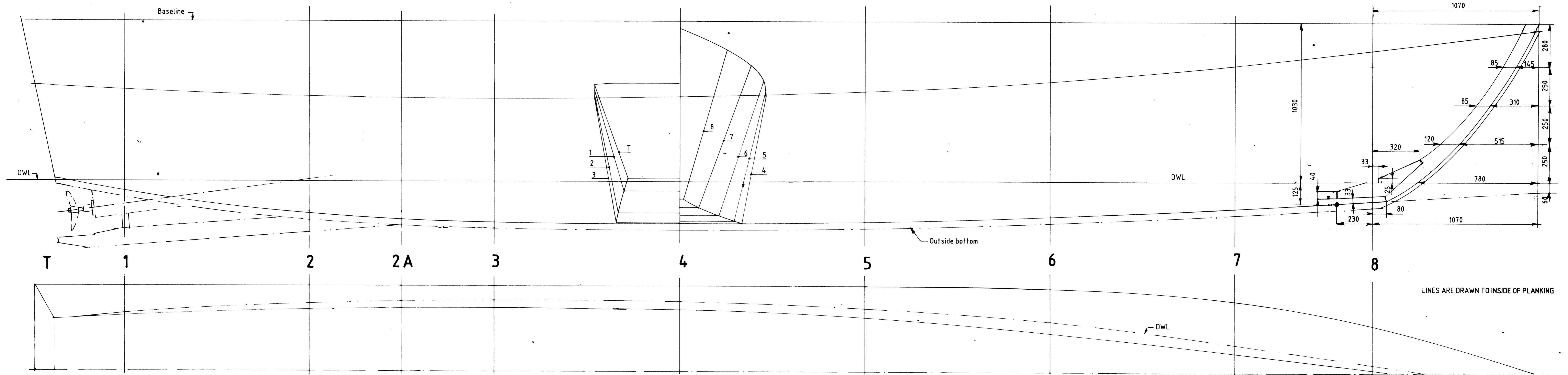
SCALE



9.7 m Canoe

GENERAL ARRANGEMENT

SCALE = 1:20	DESIGN NO.	DRAWING NO.
DESIGN : P. Gulbrandsen Grimstad, March-91	PNG - 12	1



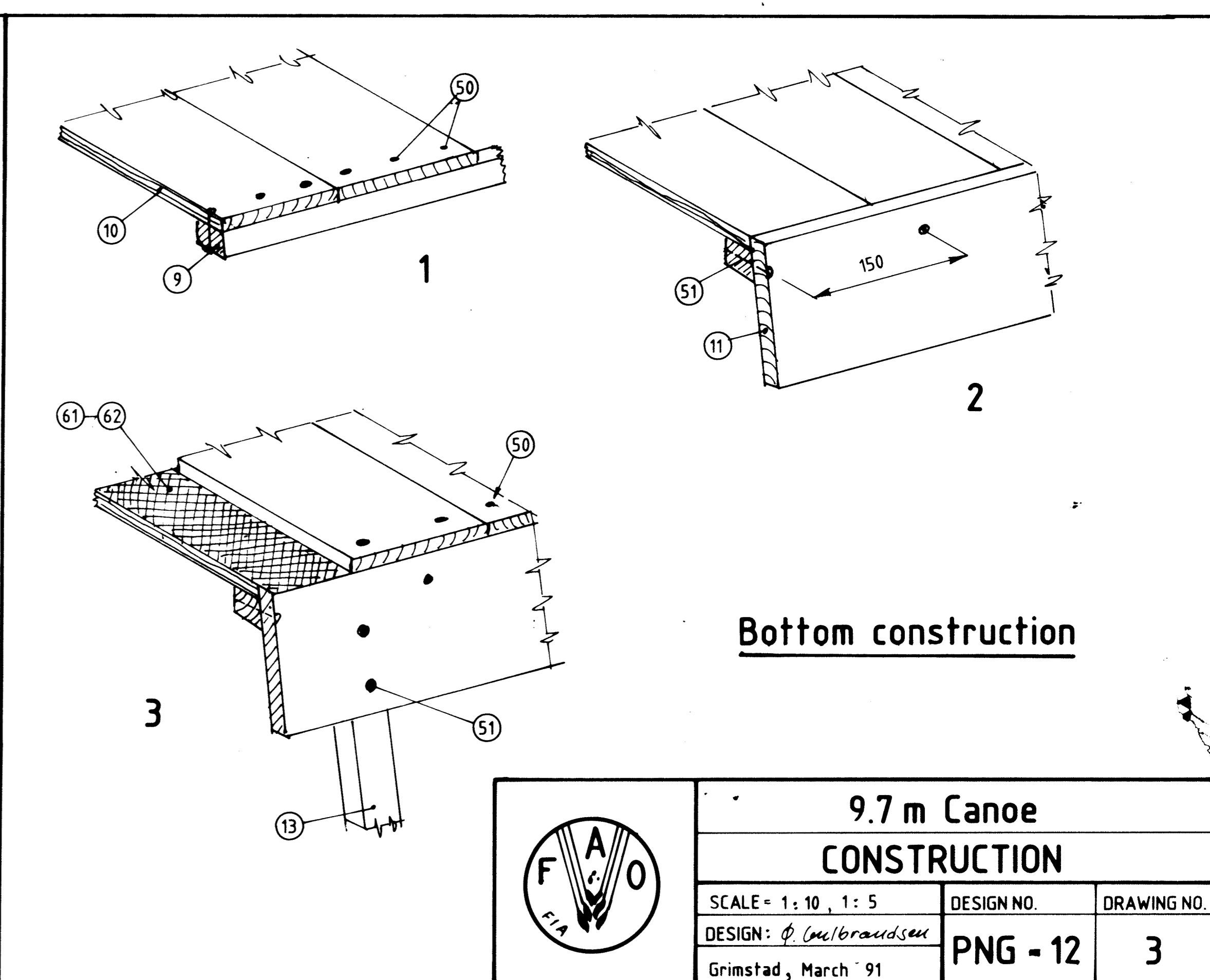
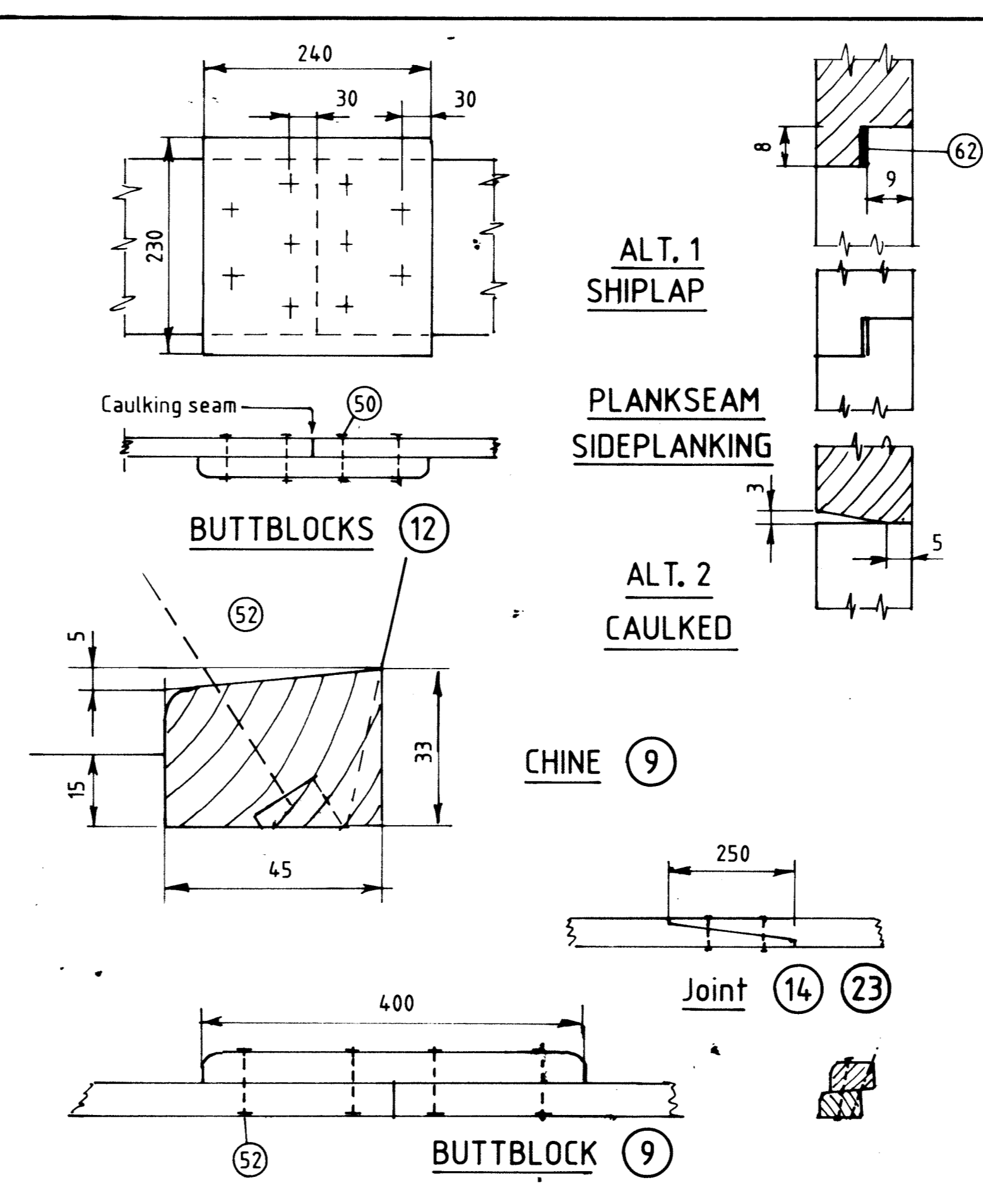
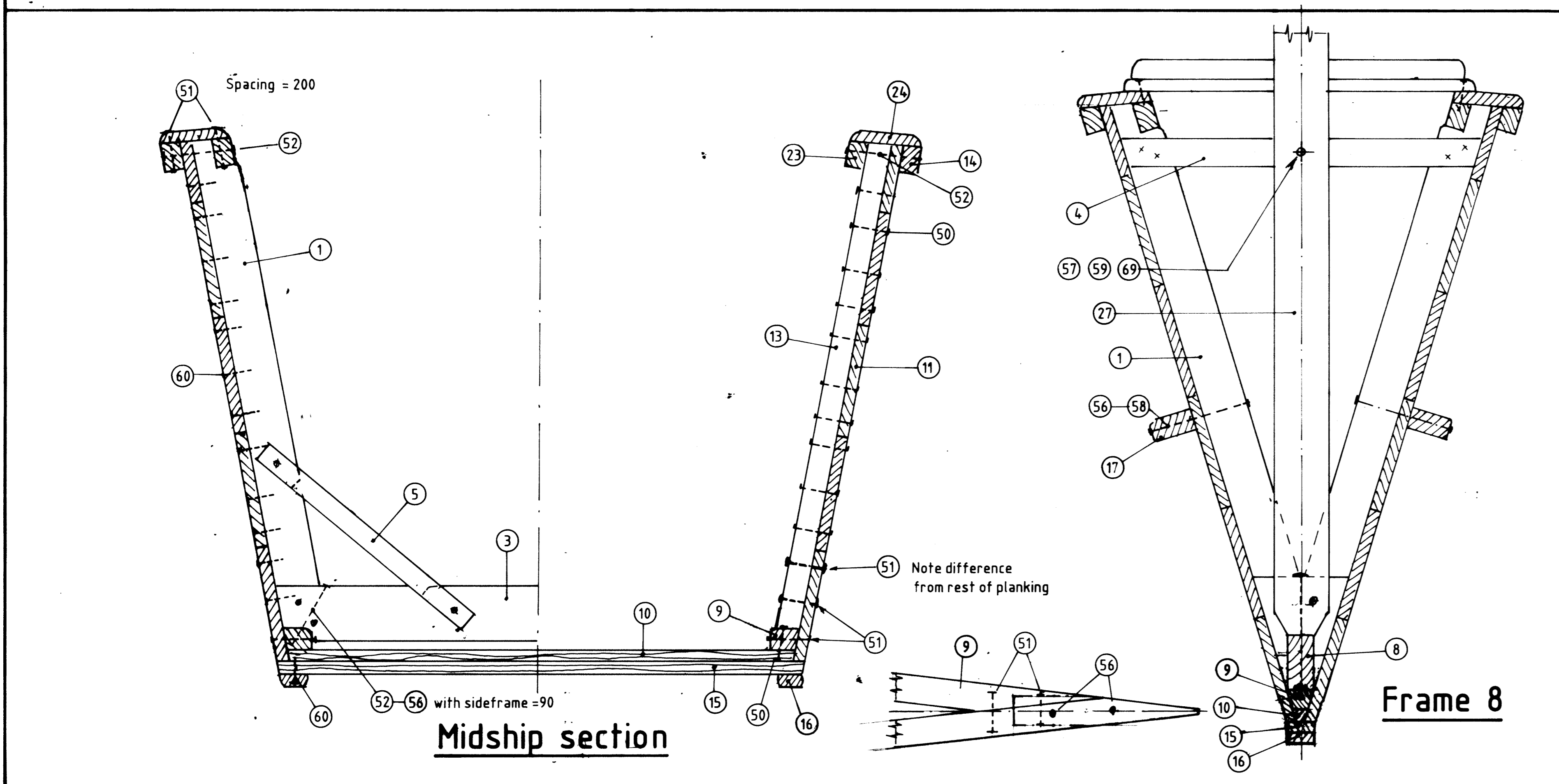
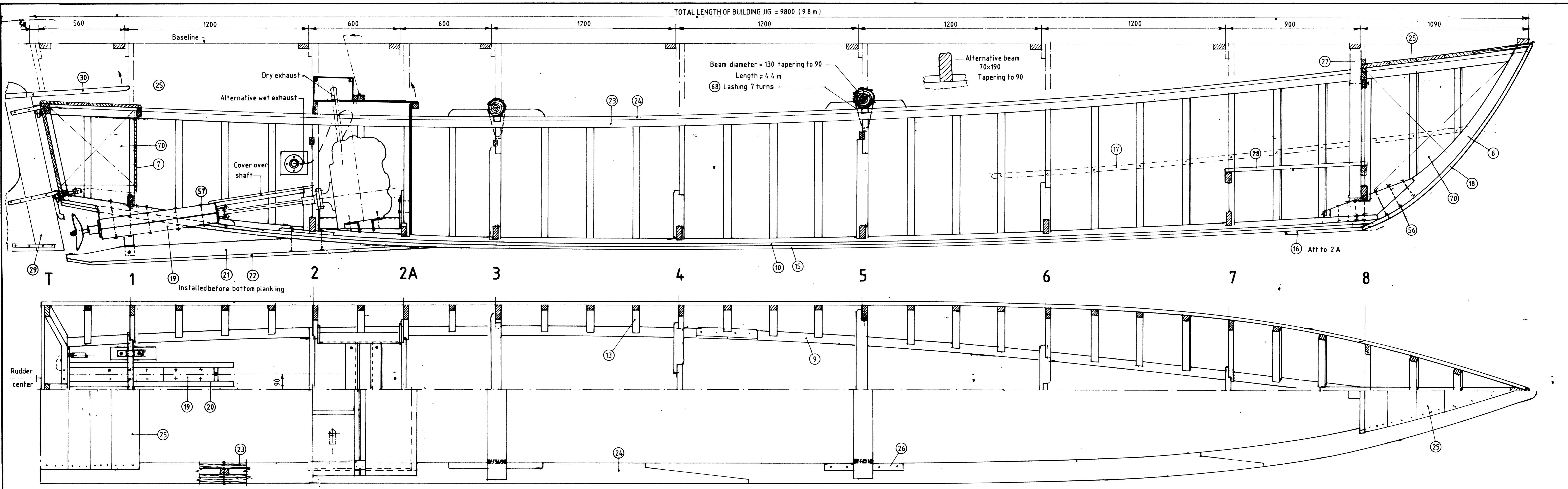
Characteristics

Length over all	LOA = 9.70 m (32')
Beam moulded	BMD = 1.15 m
Depth moulded	DMD = 0.88 m
Cubic number CUNO = LOA x BMD x DMD	= 9.8 m ³
Length designed waterline DWL	L = 8.87 m
Beam DWL	B = 0.95 m
Draught DWL	T = 0.31 m
Draught maximum	T max = 0.40 m
Freeboard forward	F = 1.0 m
Freeboard midship	F = 0.57 m
Displacement no load	800 kg
Service load	800 kg
Displacement DWL	Δ = 1600 kg
Coefficients DWL	L/B = 9.3, $\Delta / 0.1L^3 = 2.2$, Prismatic = 0.61, $\frac{1}{2} \alpha' = 8^\circ$
Service speed = 7.5 knots at service power = 8 hp	
Installed power = 12.5 hp at 2400 rpm, 7.8 hp / tonne	



**9.7 m Canoe
LINES**

SCALE = 1 : 10	DESIGN NO.	DRAWING NO.
DESIGN : Ø Gullbrandsson		
Grimstad, Feb. 91	PNG-12	2



	9.7 m Canoe		
	CONSTRUCTION		
	SCALE = 1:10, 1:5	DESIGN NO.	DRAWING NO.
	DESIGN: <i>Ø. Uelbraudsen</i>	PNG - 12	3
	Grimstad, March '91		

MATERIALS EXCLUDING BUILDING JIG AND OUTRIGGER
Listed in order of assembly

POS	DESCRIPTION	TIMBER										FASTENINGS						
		PLANED DIMENSIONS LENGTH IN METER										COPPER NAILS			COPPER ROD		BRASS WOODSCREWS	
		20x45	20x185	20x230	25x185	33x45	33x70	33x90	45x190	70x90		63x3.3 2½"x10g	75x4.0 3"x8g	125x4.0 5"x6g	6 ¼"	10 ¾"	45x4.2 1½"x8g	63x4.9 2½"x10g
1	Sideframe 33x70						16											
2	Sideframe, wide 33x90							11										
3	Bottom frame 33x90							7										
4	Crossbrace 33x45					5												
5	Diagonal brace 33x70						6											
6	Transom planking 20x185		4															
7	Bulkhead planking 20x185		4															
8	Stem 45x190							2.3						0.5		20		
9	Chine 33x45					18						10	0.6					
10	Inner bottom planking 20x185		32															
11	Sideplanking 20x185		92															
12	Buttblocks 20x230			6														
13	Intermediate frames 33x45					40												
14	Sheerbatten 33x45					21												
15	Outer bottom planking 20x185		32															
16	Rubbing strips 20x45	13														70		
17	Spray strips 33x70						8							3.5				
18	Outer stem 20x45	2														8		
19	Shaft log 70x90 1)							2.4							2.2			
20	cheeks 33x45 1)					3								1.0				
21	Keel 70x90							2.3							0.4			
22	Rubbing strip 20x70		2 c													20		
TURN OVER																		
23	Coaming 33x45					21						65						
24	Rail cap 20x120		23 c															
25	Deck 20x185		7														50	
26	Beam cleats 33x45					3							16					
27	Mooring bitt 70x90							1.1							0.3			
28	Platform 20x185		2													10		
29	Rudder				1.7									0.2				
30	Tiller 33x70						1						2					
NET LENGTH in meter		15	198	6	1.7	111	31	18	2.3	5.8		14.42	182	91	5.8	2.9	4.58	
GROSS LENGTH INCL 25 % WASTE		20	260	8	2.	140	40	24	3	7		160pc	88pc	37pc	Per kg	3.6 m	1.4 m	
CUT FROM SAWN DIMENSION mm		25x200	25x200	25x250	30x200	38x150	38x150	38x150	50x200	75x100		9.0 kg	2.0 kg	2.5 kg		1.6 kg	2.0 kg	

1) Installed before bottomplanking (10)

ORDERLIST FASTENINGS ETC.

ORDERLIST TIMBER

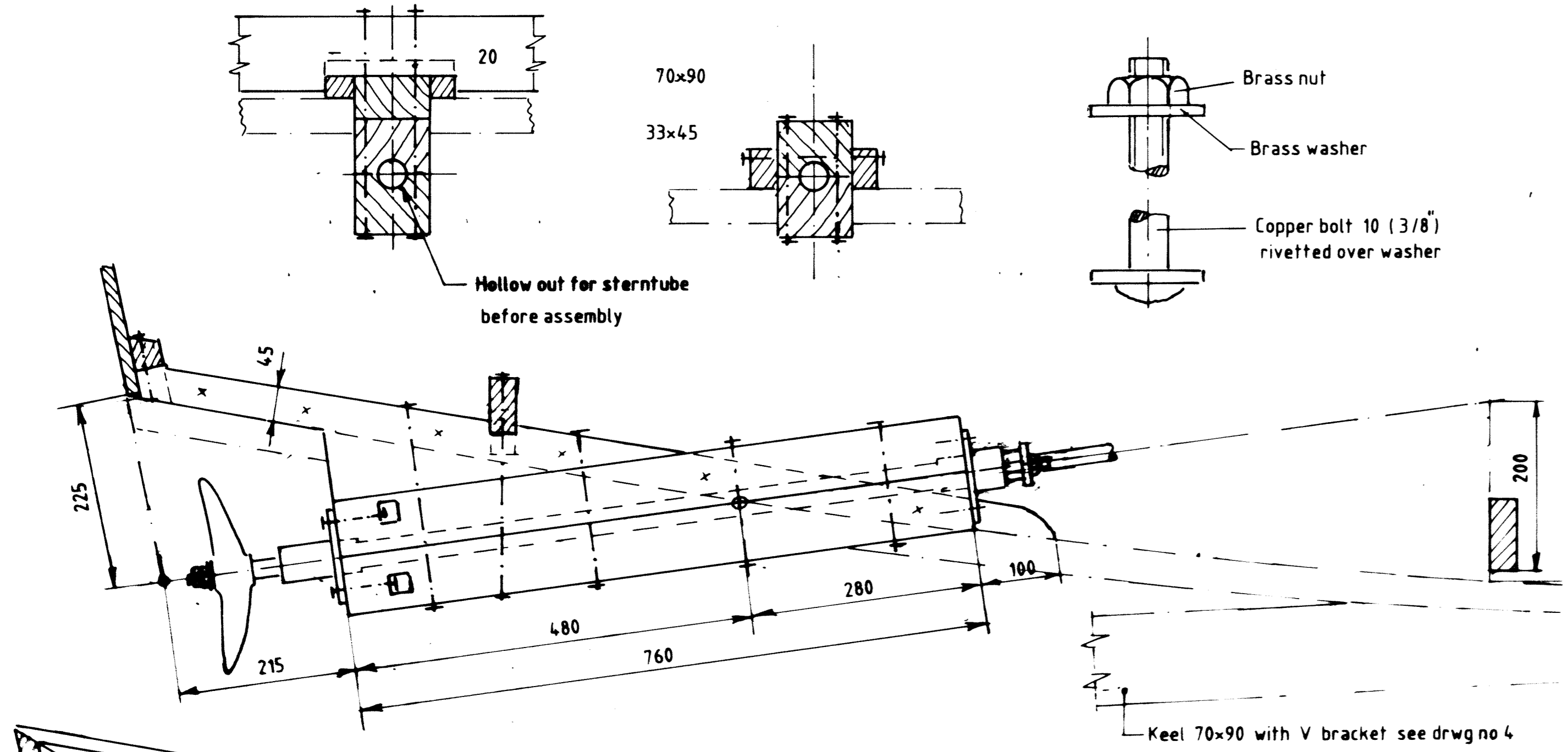
TIMBER IS ORDERED IN STANDARD SIZES AND CUT INTO SPECIFIED WIDTHS

POS	QTY	DESCRIPTION	WEIGHT airdry 15% MC	SAWN DIMENSION	PLANED DIM.	TOTAL LENGTH m	CUBIC m³
50	10 kg	Copper nails 63x3.3 (2½"x10g)		25x200 (1"x8")	20x185	265 m (870 ft)	1.33 (47 ft³)
51	2.5 kg	" " 75x4.0 (3"x8g)		25x250 (1"x10")	20x230	8 m (26 ft)	0.05 (0.2 ft³)
52	3.0 kg	" " 125x4.8 (5"x6g)	500-650 kg/m³	30x200 (1¼"x8")	25x185	2 m (7 ft)	0.01 (0.4 ft³)
53	2.1 kg	Copper roves 12 (½")		38x150 (1½"x6")	33x140	83 m (270 ft)	0.47 (16 ft³)
54	0.5 kg	" " 16 (¾")		50x200 (2"x8")	45x185	3 m (10 ft)	0.03 (1 ft³)
55	0.4 kg	" " 19 (¾")	650-750 kg/m³	75x100 (3"x4")	70x90	7 m (23 ft)	0.05 (2 ft³)
56	3.8 m	Copper round rod 6 (¼")					
57	1.6 m	" " 10 (¾")					
58	75 pc	Brass washers strong 6 (¼")					
59	30 pc	" " 10 (¾")					
60	500 pc	Brass woodscrews 63x4.9 (2½"x10g)					
61	7 m²	Mosquito / flyscreen, nylon					
62	20 kg	Bitumastic roofing compound					
63		Caulking cotton					
64		Putty					
65		Primer					
66		Topcoat					
67		Antifouling paint					
68	50 m	Lashing rope, nylon or polyester braided					
69	15 pc	Brass hex nuts 10 ()					
70	0.25 m³	Polystyrene buoyancy blocks					
71	1 sheet	WBP Plywood 9x1200x2400					
TOTAL							1.94 (68 ft³)

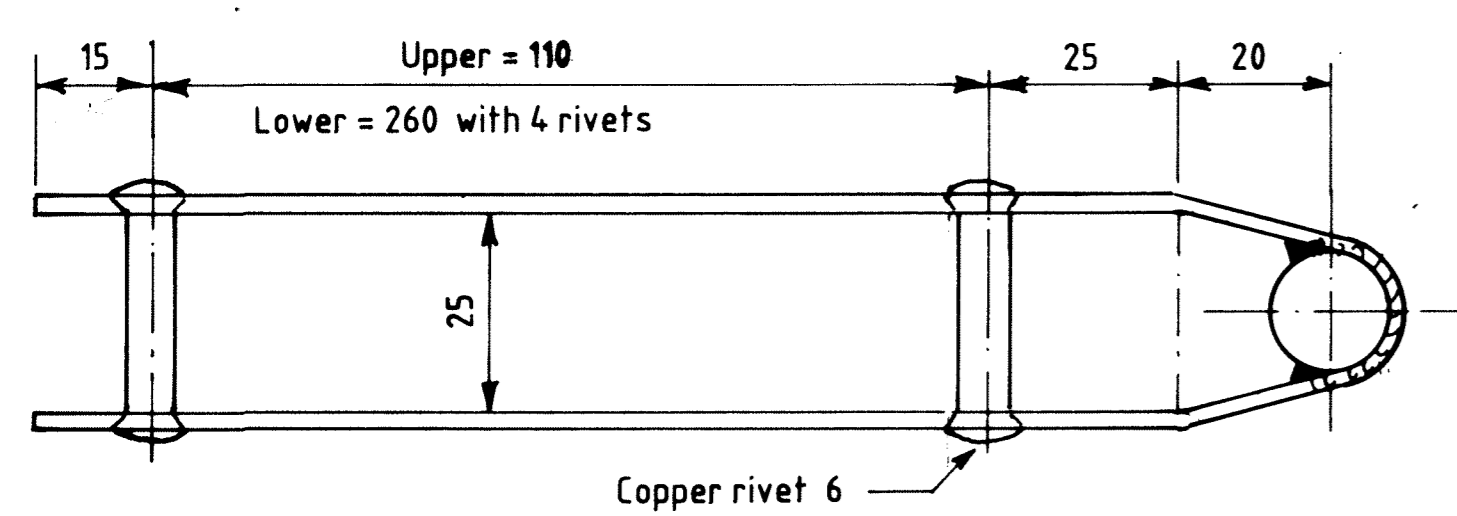
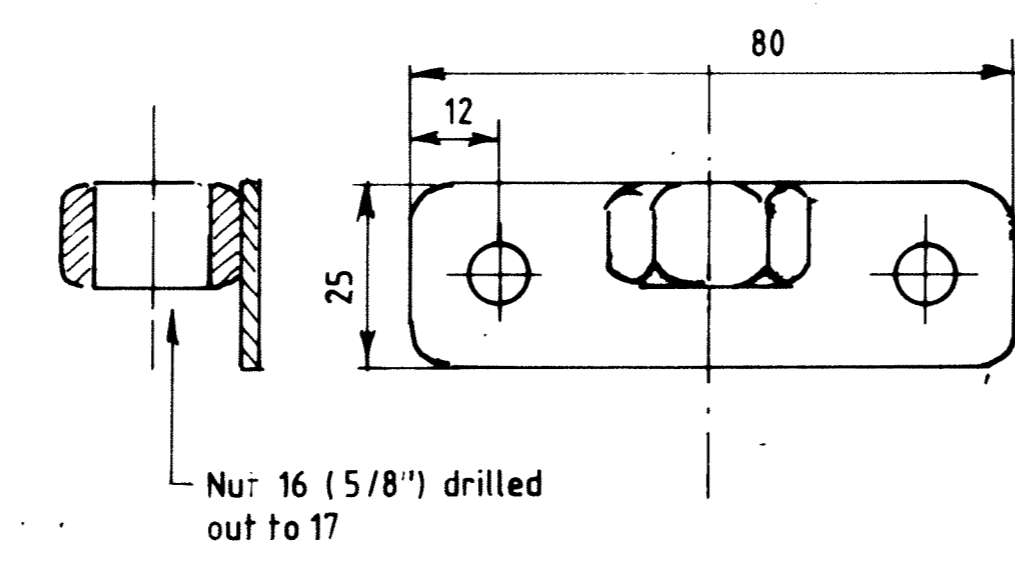
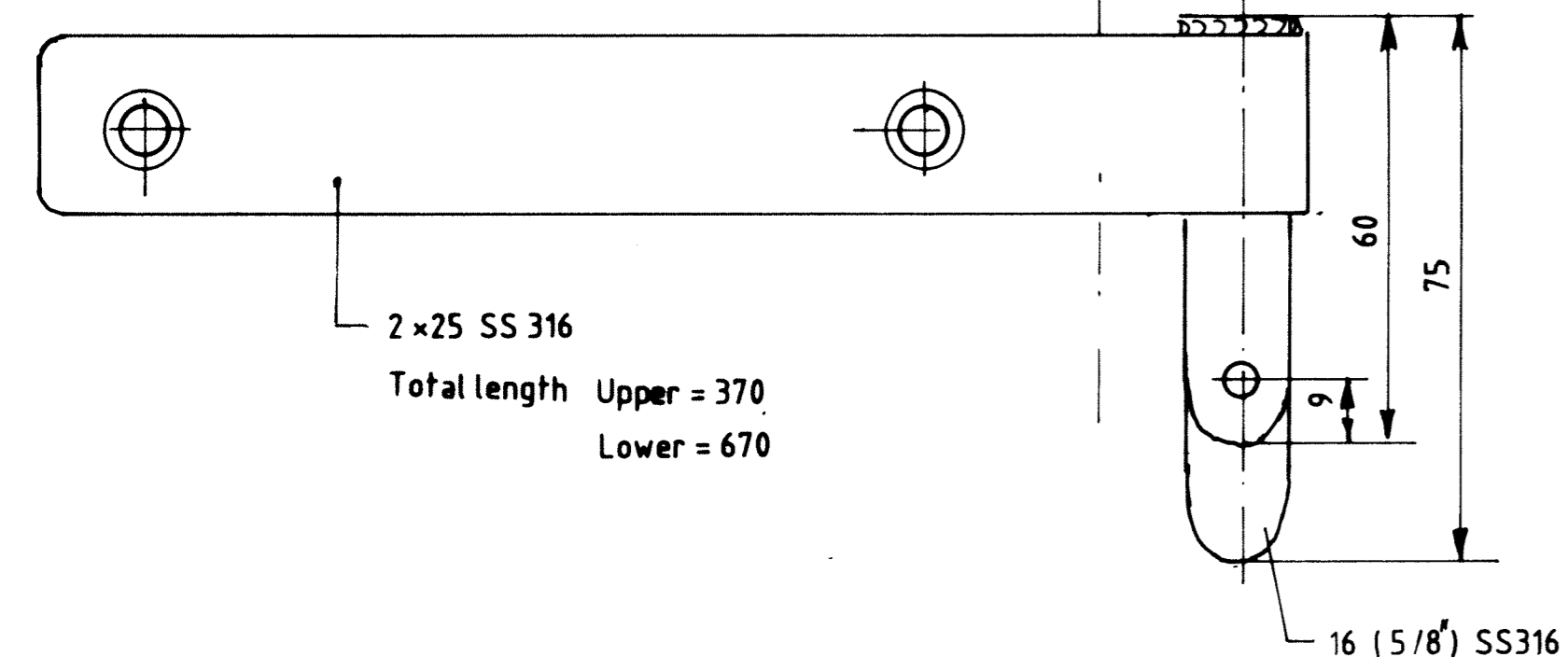
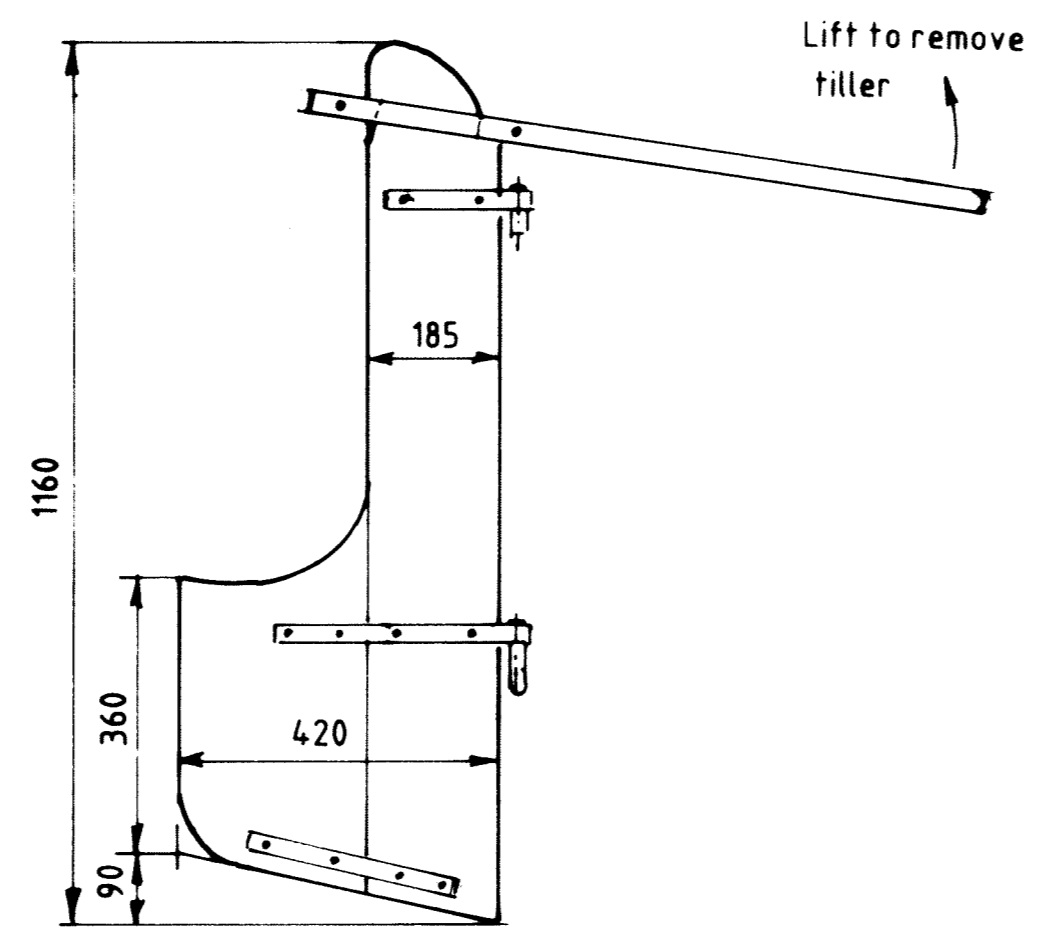
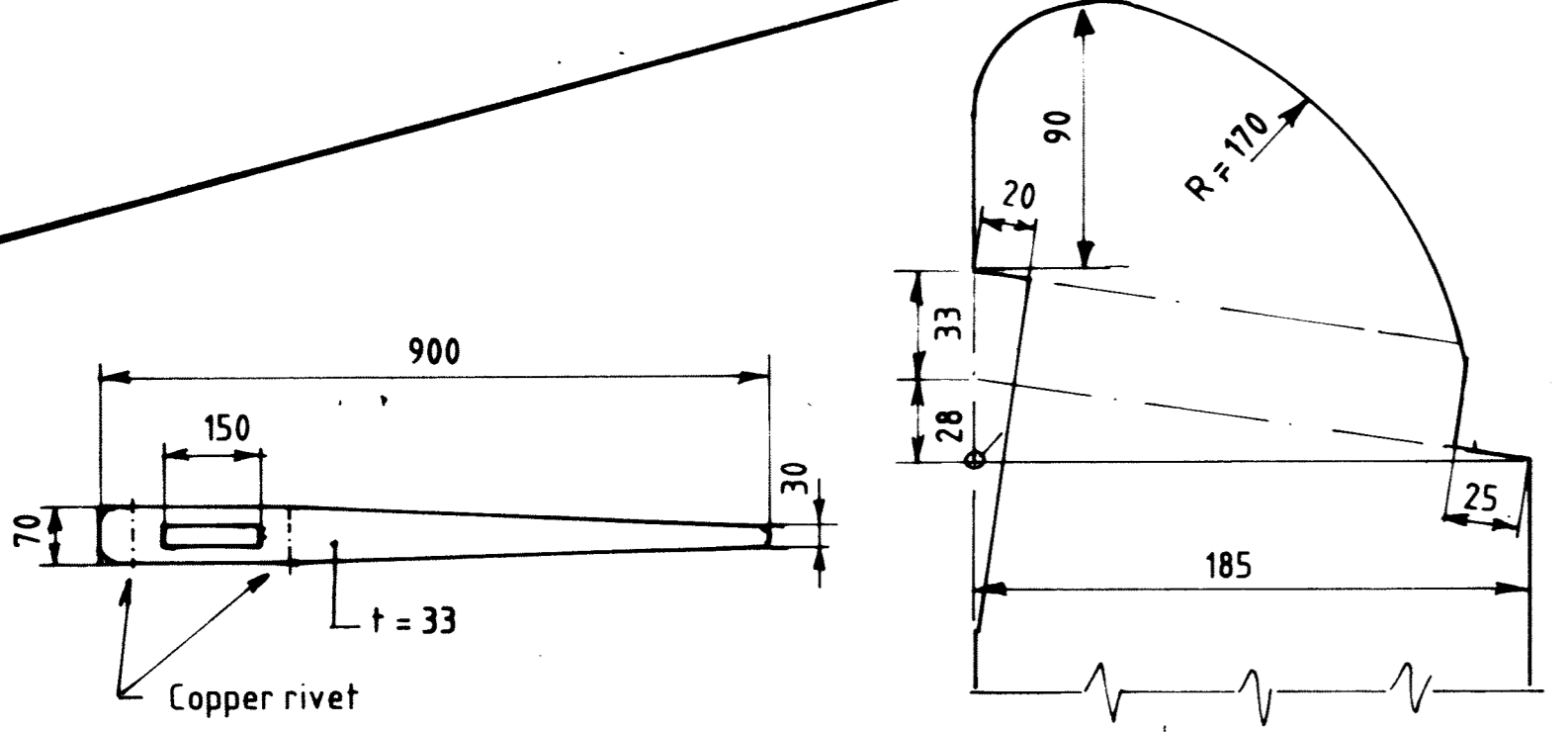
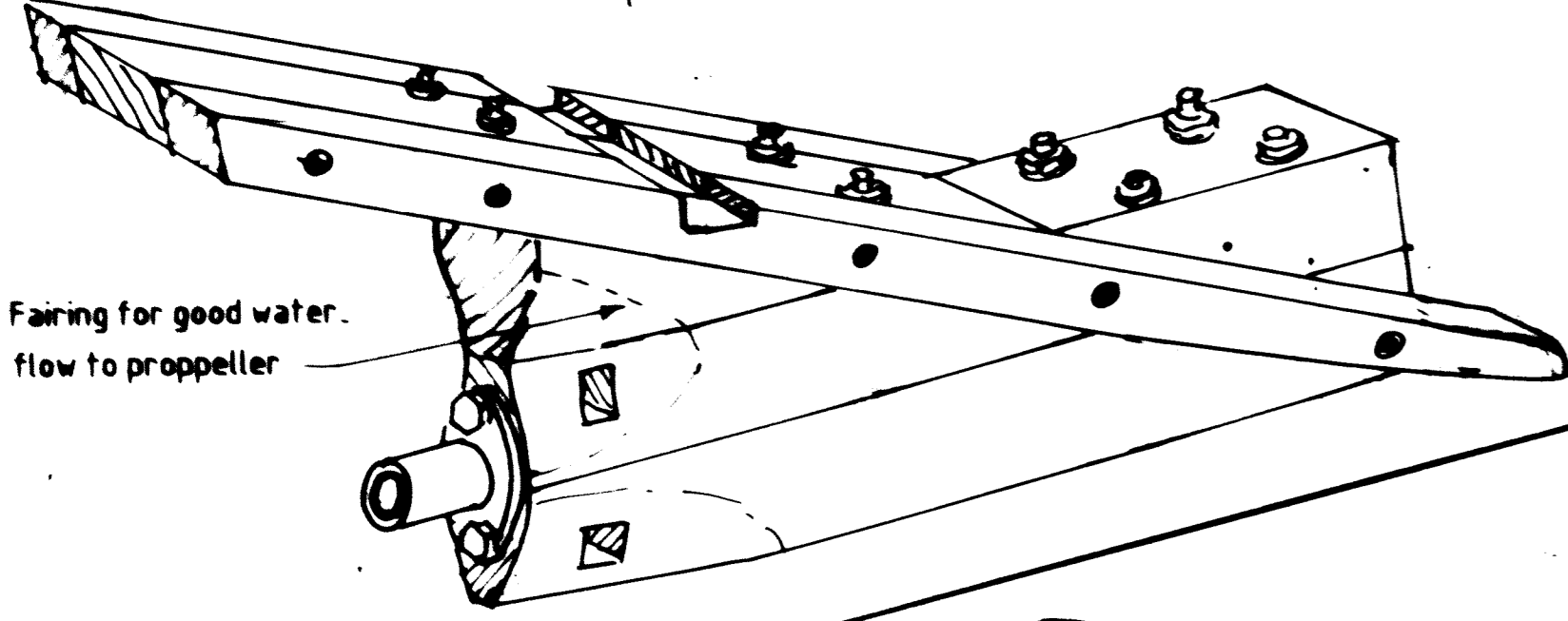


9.7 m Canoe
MATERIALS

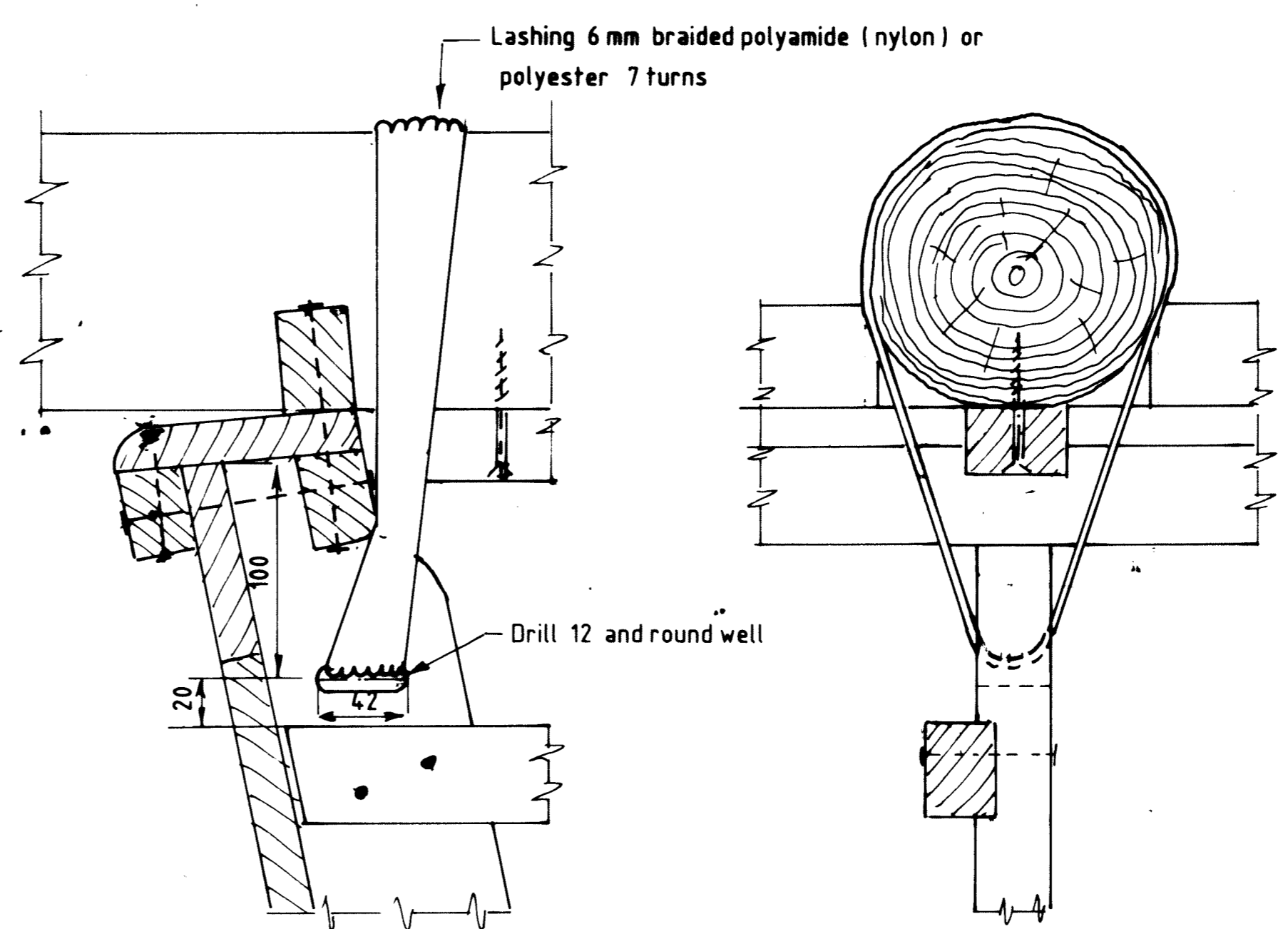
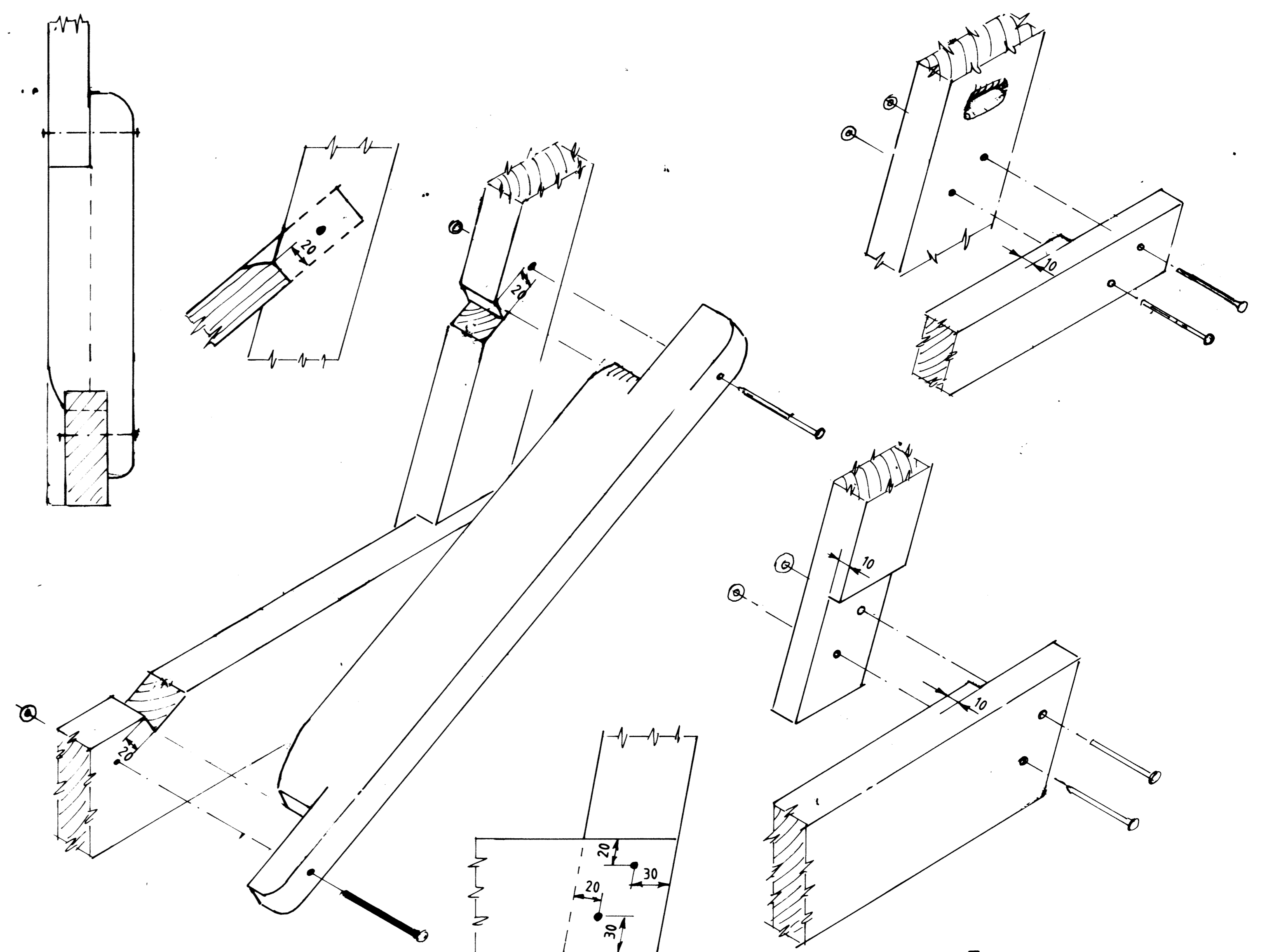
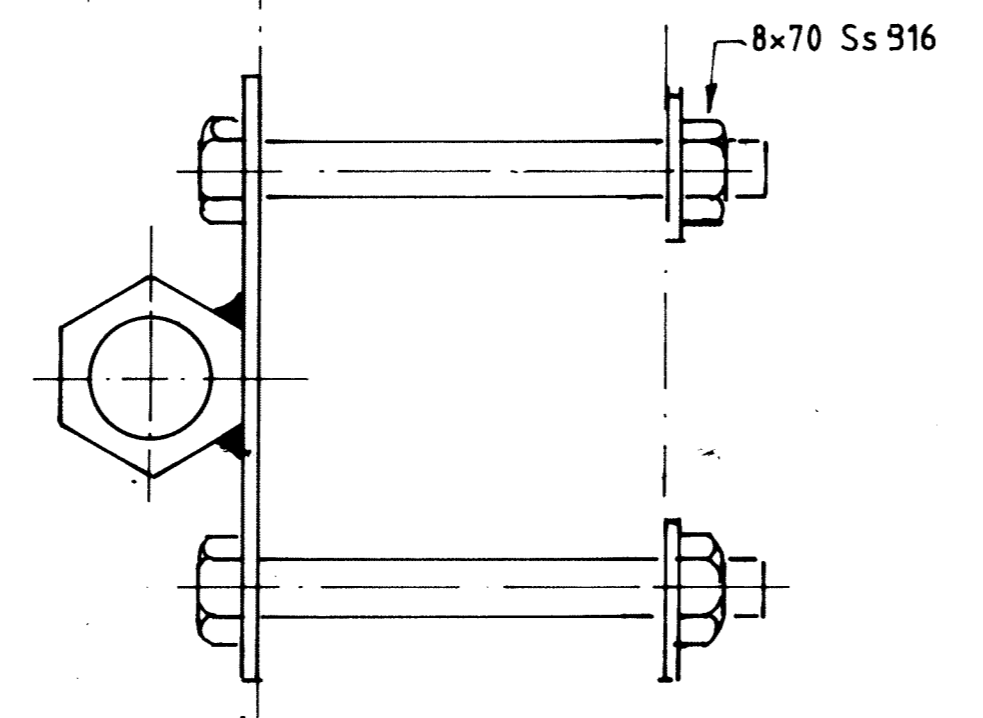
SCALE :	DESIGN NO.	DRAWING NO.
DESIGN: <i>Ø. Gulbrandsen</i>	PNG-12	4
Grimstad, March - 91		



Shaftlog



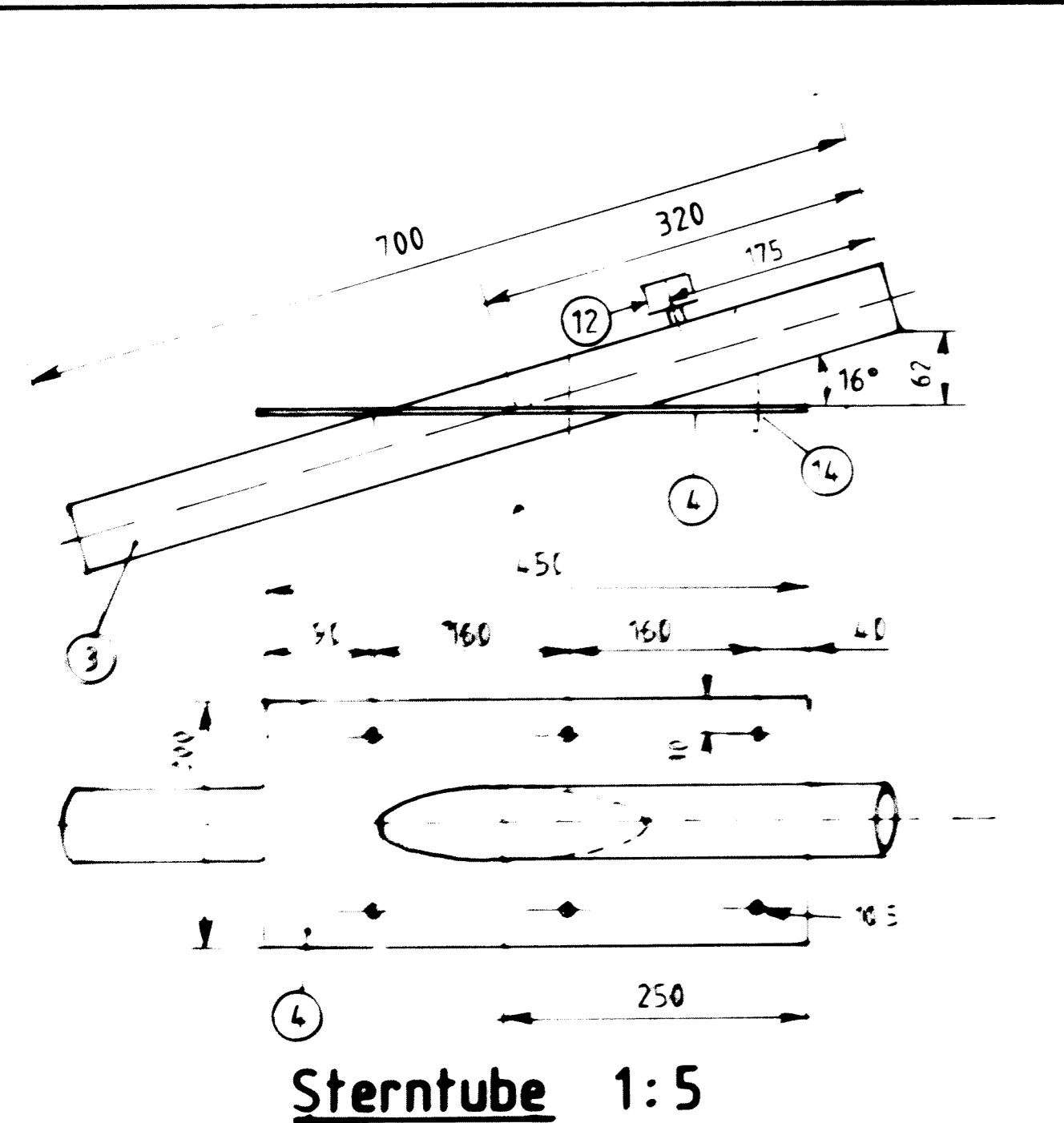
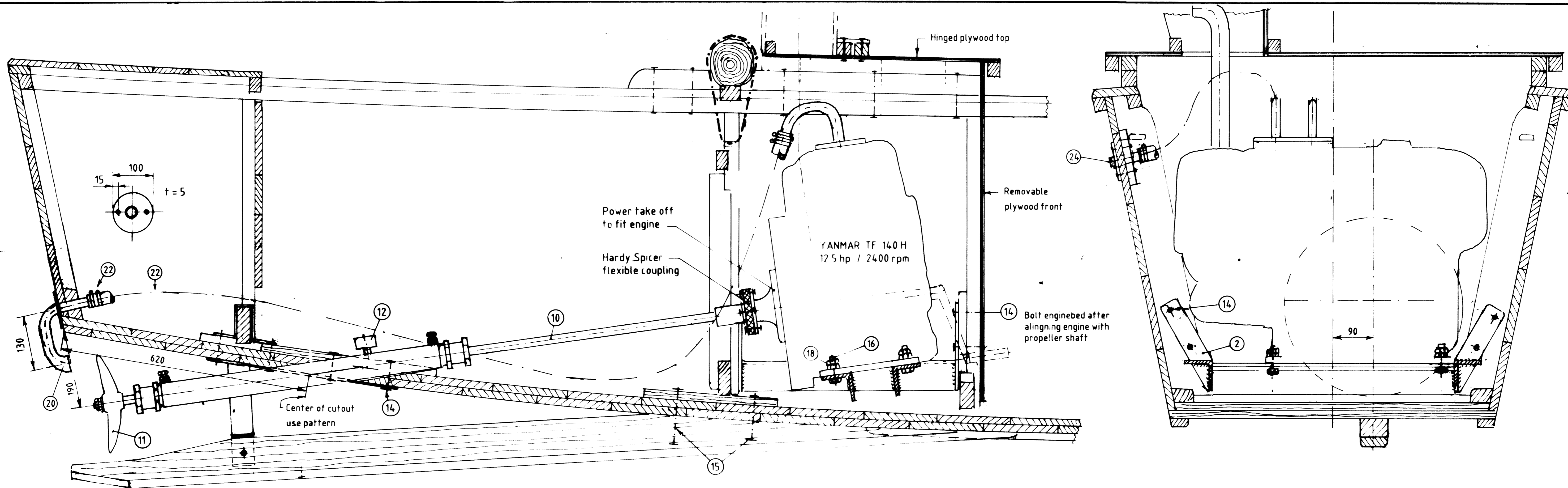
Rudder



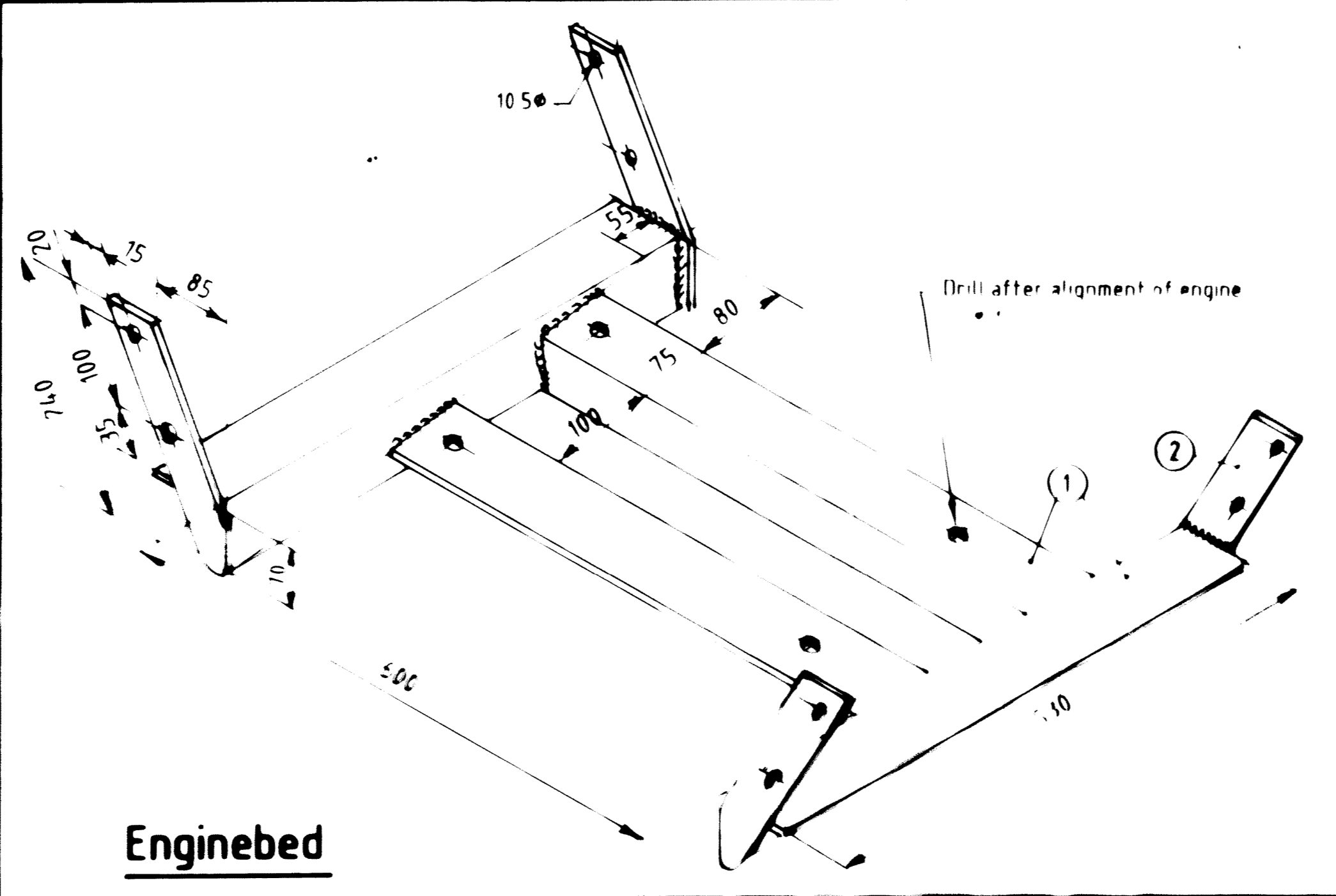
Beam lashing

	9.7 m Canoe		
	DETAILS		
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	DESIGN : <i>G. Grimstad</i>	PNG-12	5

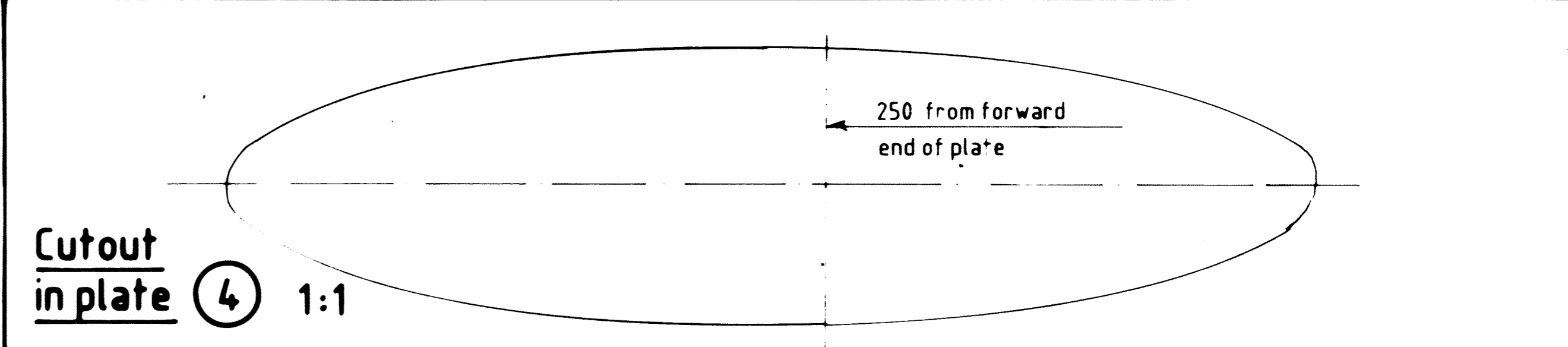
GRIMSTAD, FEB, 91



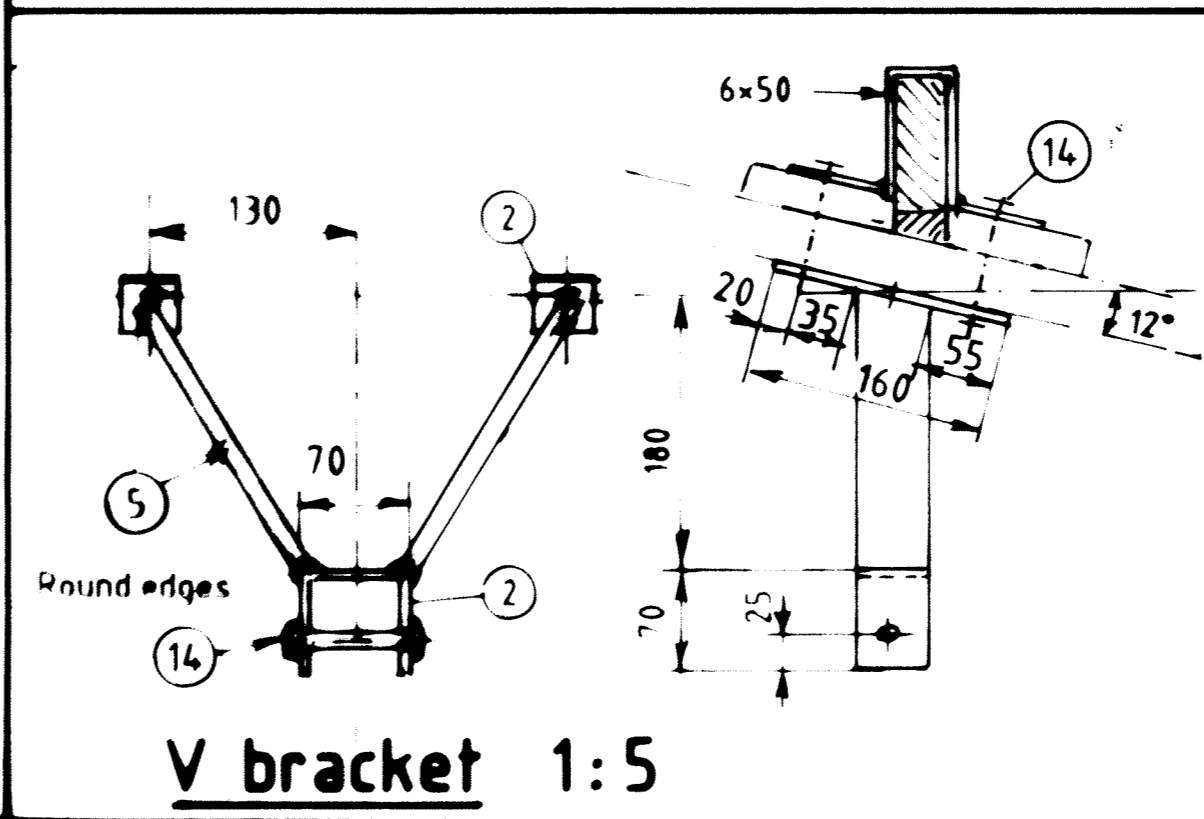
Stern tube 1:5



Enginebed

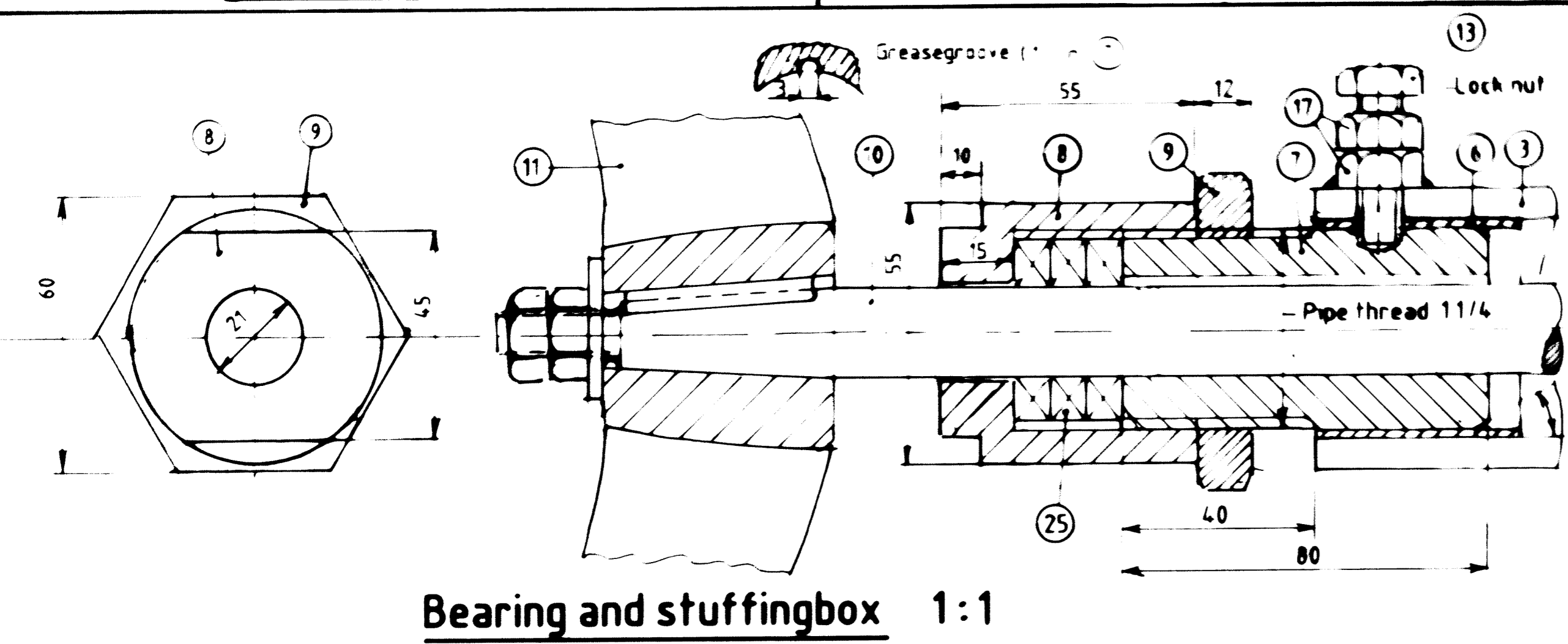


Cutout in plate 4 1:1

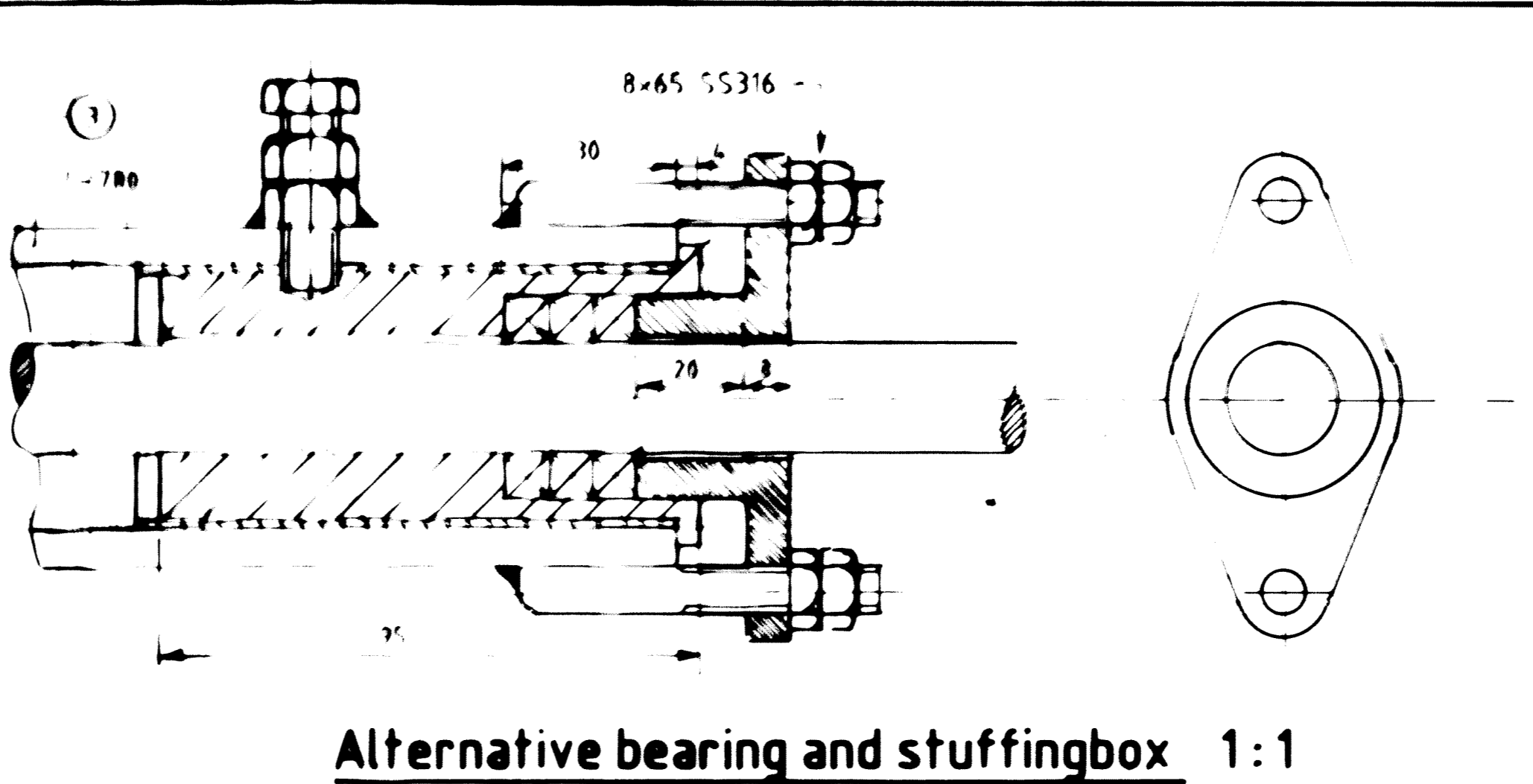


V bracket 1:5

POS	QTY	DESCRIPTION	MAT.	TOTAL LENGTH mm	NOTES
1	1	Angle iron 8x75x75	St	2300	
2	1	Flat iron 6x50	St	1600	
3	1	Tube 60.3x6.3	St	700	Alt. 2, l=780
4	1	Plate 5x200x450	St		
5	1	Flat iron 16x50	St	420	
6	2	Tube 48.2x2.77 l=45	SS 316	90	Fit inside 3
7	2	Bearing 42.5/19 l=80	Bronze	160	Fit inside 6
8	2	Stuffing box 70x50	Bronze	100	
9	2	Locknut 70x12	Bronze	27	
10	1	Propeller shaft 19x1640	SS 316	1640	Alt. 20φ
11	1	Propeller D=10 in, P=6 in	Bronze		Left hand
12	1	Grease cup	Bronze		
13	2	Hex bolt 10x30	SS 316		
14	19	— 10x80	SS 316		
15	2	— 10x140	SS 316		
16	4	— 12x60	SS 316		
17	25	Hex nut 10	SS 316		
18	8	— 12	SS 316		
19	25	Washer 10	SS 316		
20	1	Scoop pipe 20/27(3/4")	St		Pipe fittings
21	1	hose 25/33(1") Armed	PVC		
22	4	Circlips 00 = 33	SS 316		
23	1	Exhaust pipe	SS 316		Fit engine
24	1	Skirt fitting for hose 25/33			
25	2	Gland packing 8x8		800	



Bearing and stuffing box 1:1



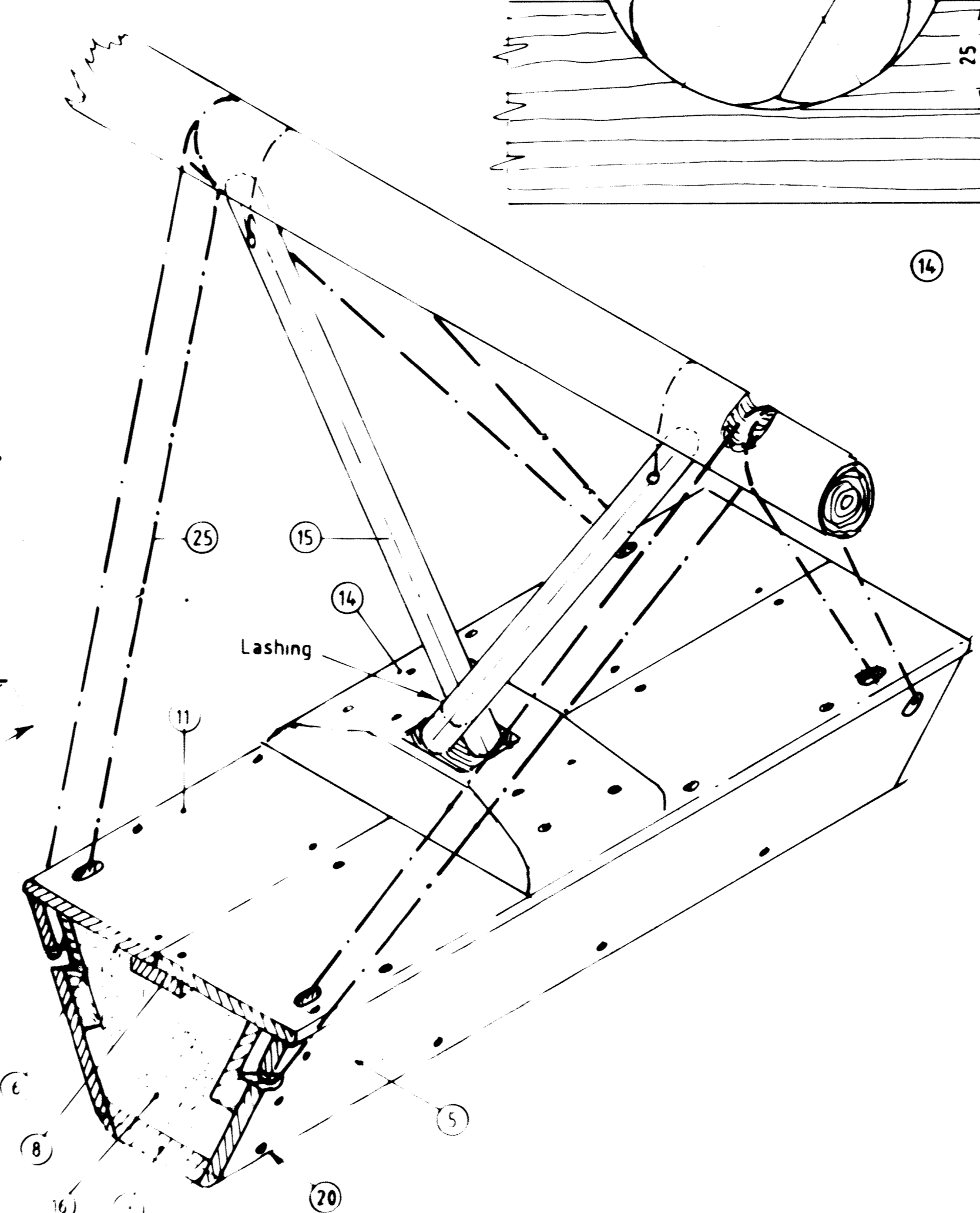
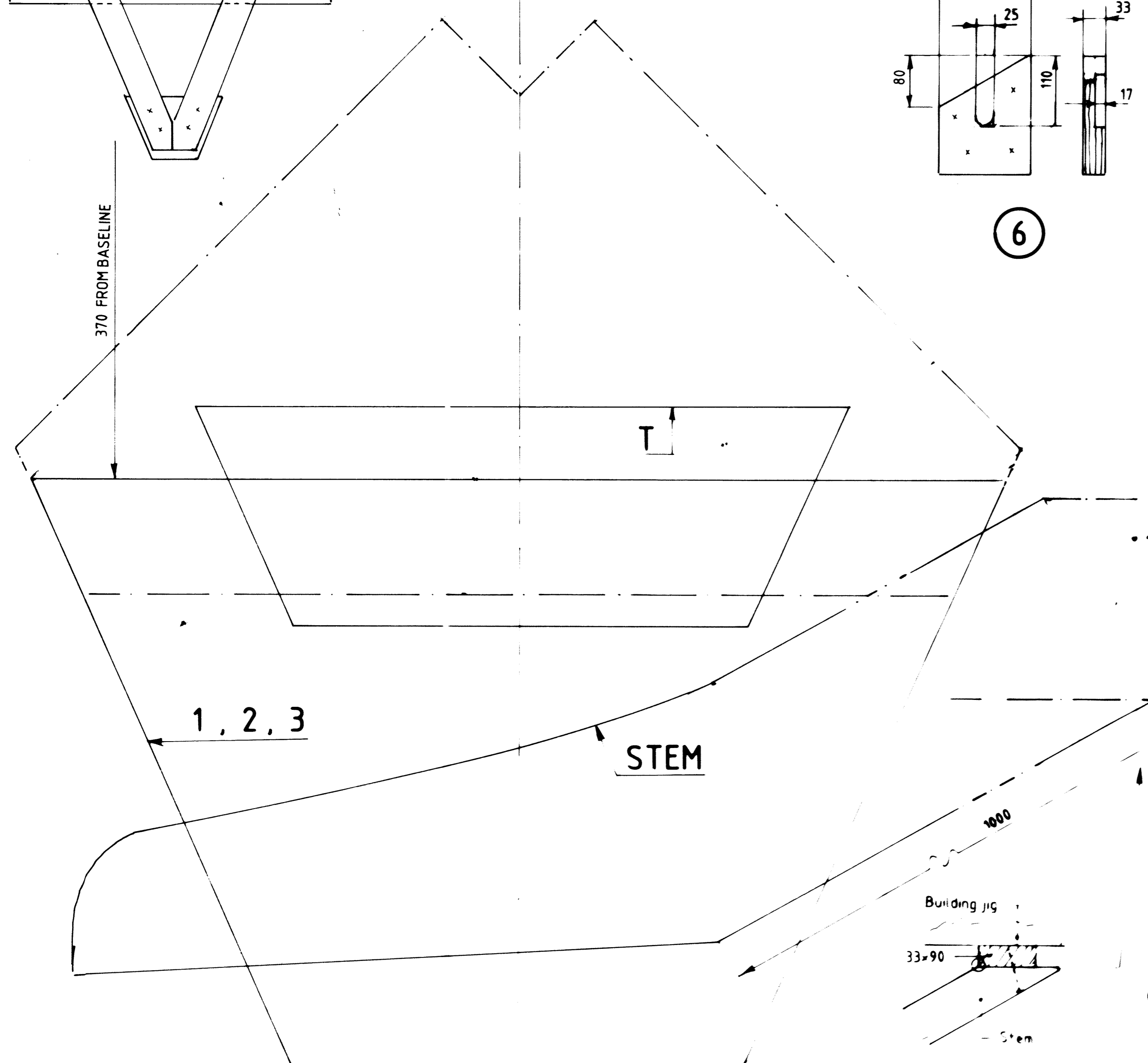
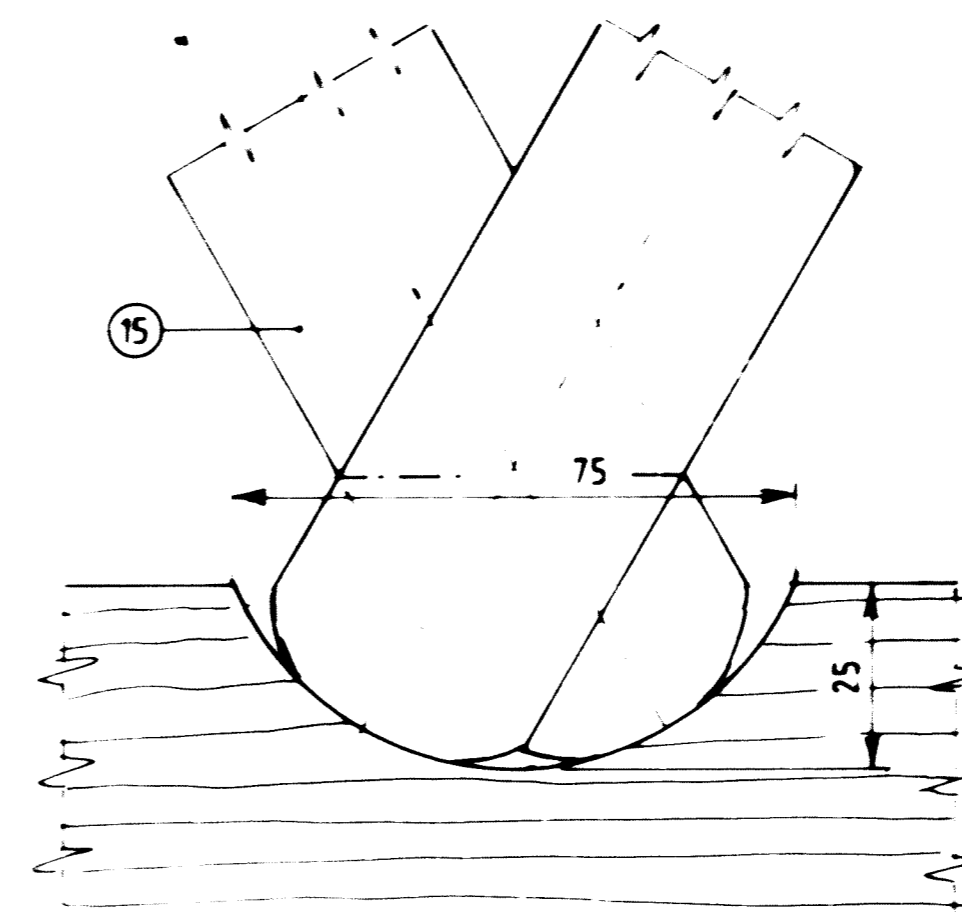
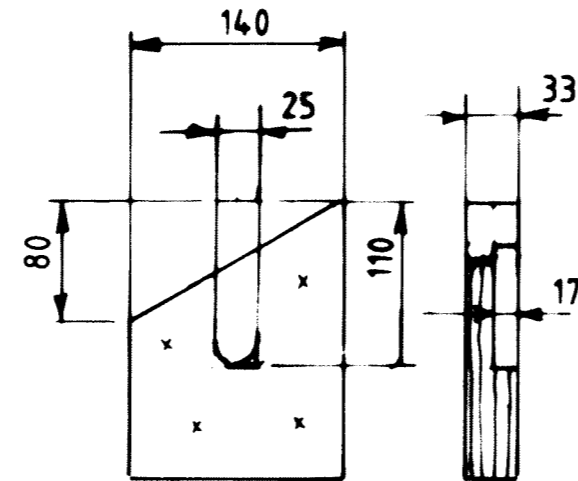
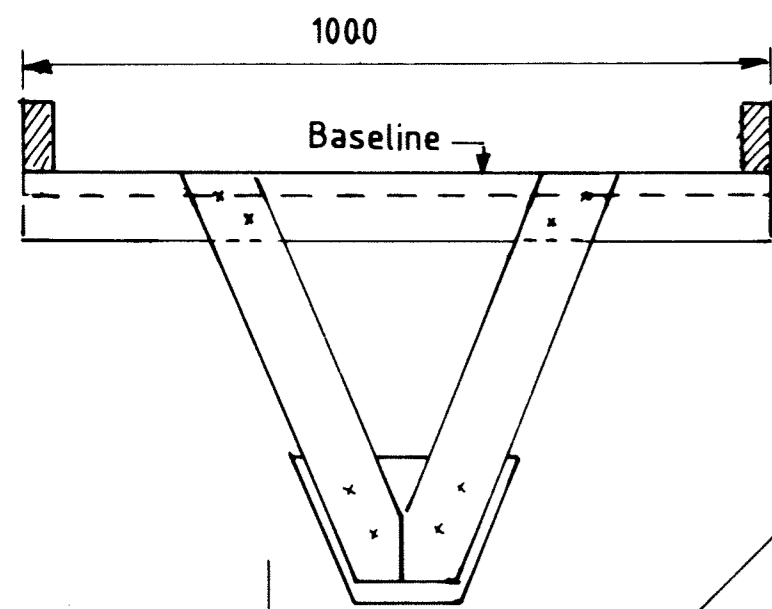
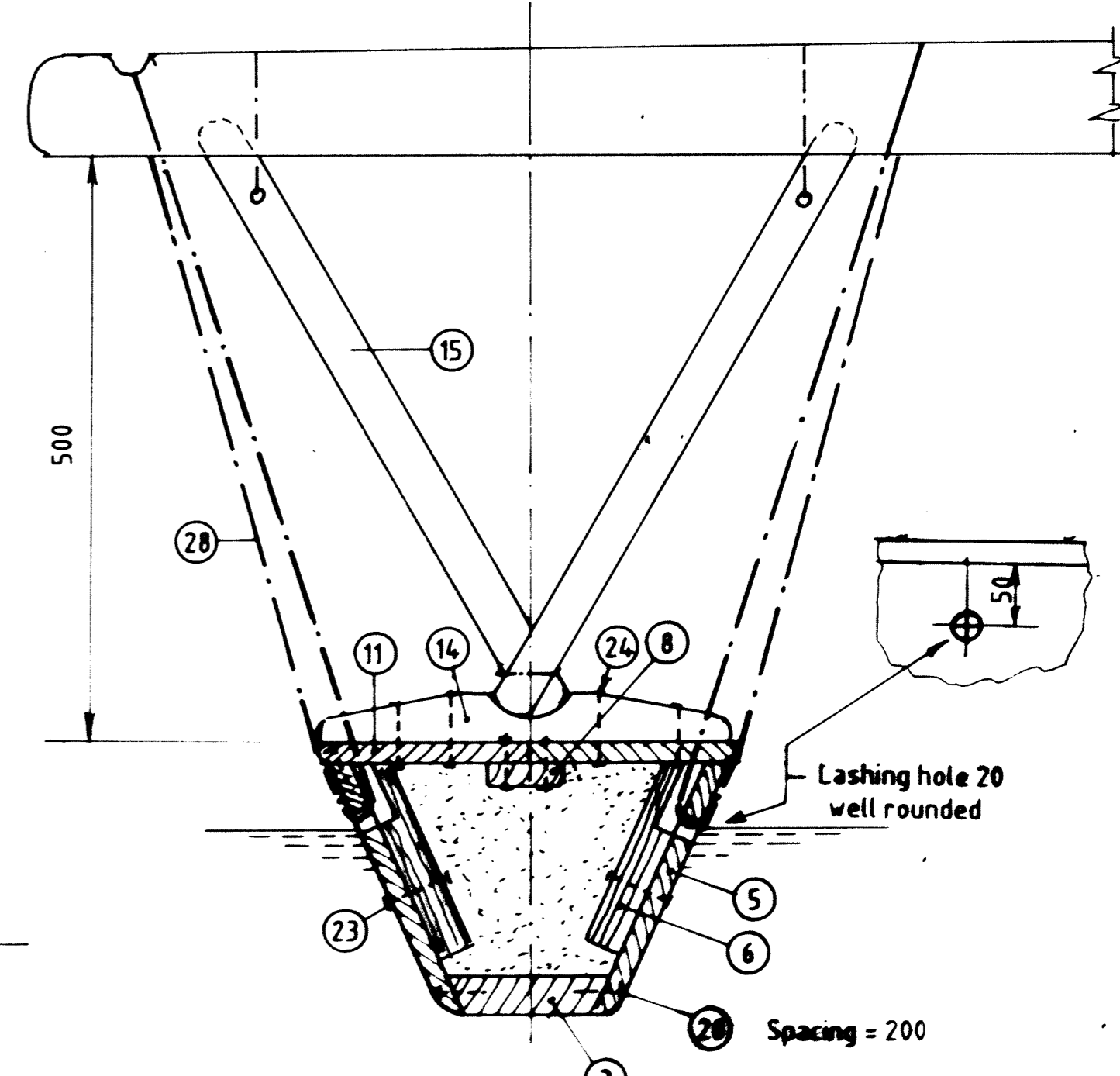
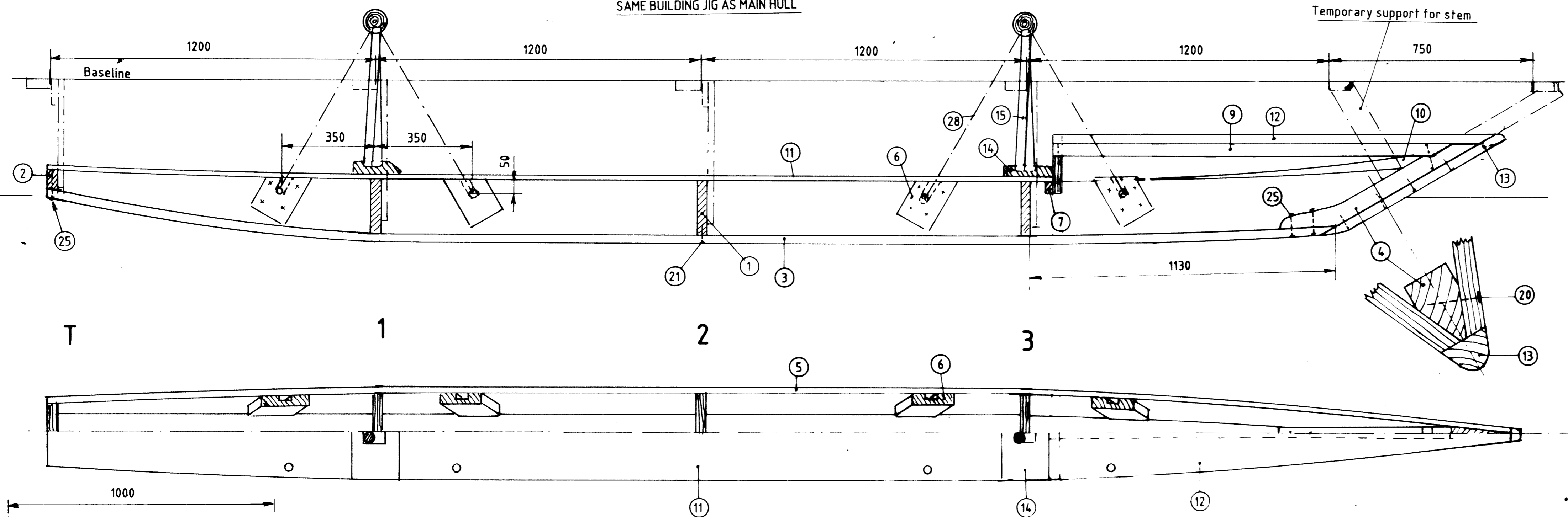
Alternative bearing and stuffing box 1:1



**9.7 m Canoe
ENGINE INSTALLATION**

SCALE = 1:5, 1:1 DESIGN NO DRAWING NO
 DESIGN: P. Grimstad GRIMSTAD, FEB 91 PNG-12 6

SAME BUILDING JIG AS MAIN HULL

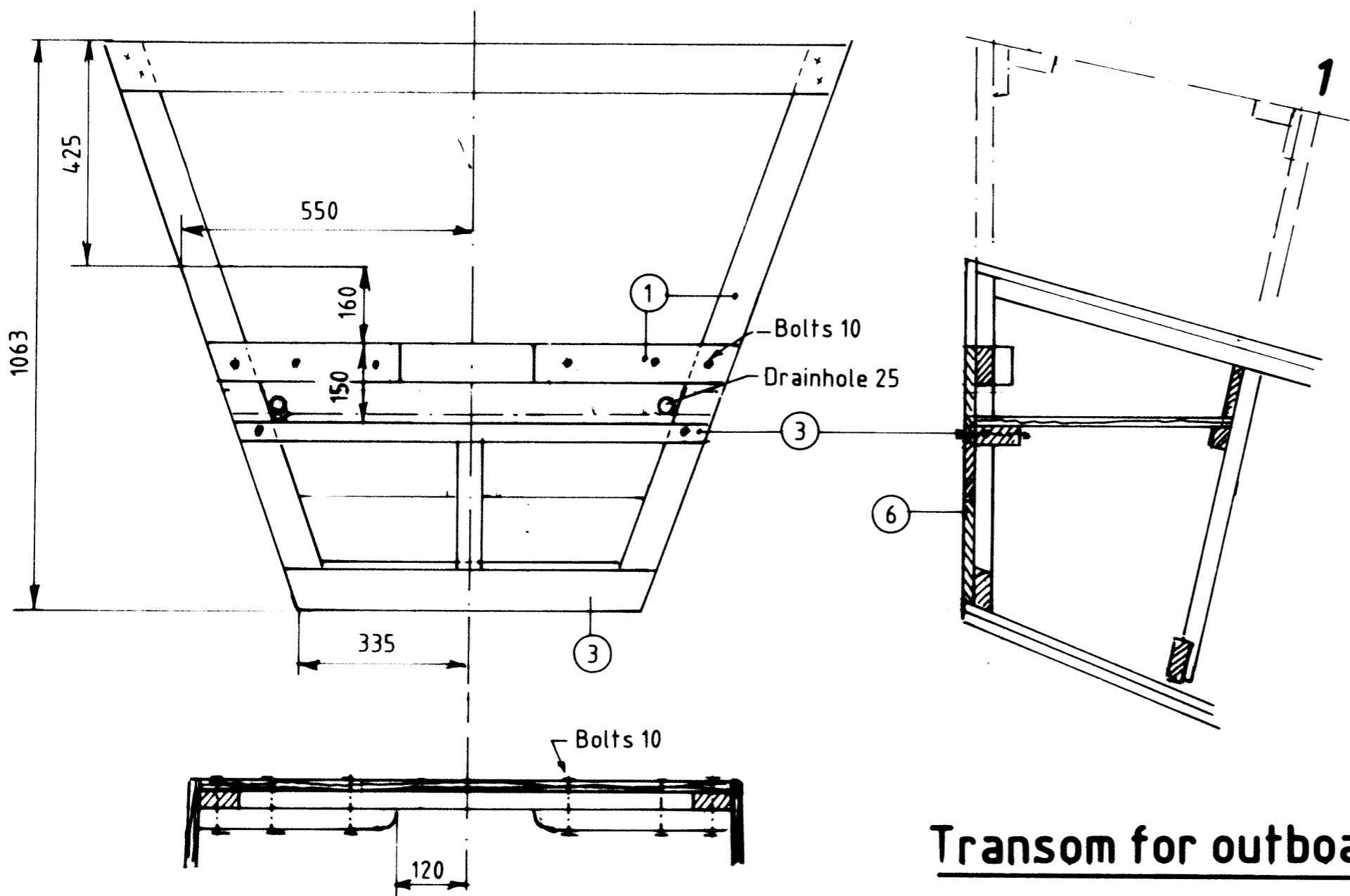


POS	QTY	DESCRIPTION	TOTAL LENGTH	NOTES
1	3	Frames 33x105	1.3	
2	1	Transom 45x70x200	0.2	
3	1	Keel 33x140x4.8000	4.8	
4	1	Stem 45x140x1200	1.2	
5	2	Sideplanks 20x250x5300	10.6	
TURN OVER				
6	8	Blocks 33x140x180	1.5	
7	1	Cleat 33x45x300	0.3	
8	1	Batten 20x70x3800	3.8	
9	1	Batten 33x33x1700	1.7	
10	2	Wedge 20x70x1600	3.2	
11	2	Deck aft 20x185x3800	7.6	
12	2	Deck forward 20x250x1600	3.2	
13	1	Outer stem 33x45x800	0.8	
14	2	Strut block 45x185x340	0.7	
15	4	Struts 40x580	2.4	
16		Polystyrene buoyancy blocks 0.15 m ³		
20	150	Brass woodscrews 45x4.9 (1 1/2" x10g)		
21	12	63x5.6 (2 1/2" x12g)		
22	60	Copper rivets 50x3.35 (2" x10g)		
23	20	63x3.35 (2 1/2" x10g)		
24	20	75x4.0 (3" x8g)		
25	5	100x4.0 (4" x8g)		
26	80	Copper roves 12 (1/2")		
27	25	16 (1/8")		
28		Lashing rope, braided 6φ	40	Polyester, nylon



9.7 m Canoe
5.4 m OUTRIGGER

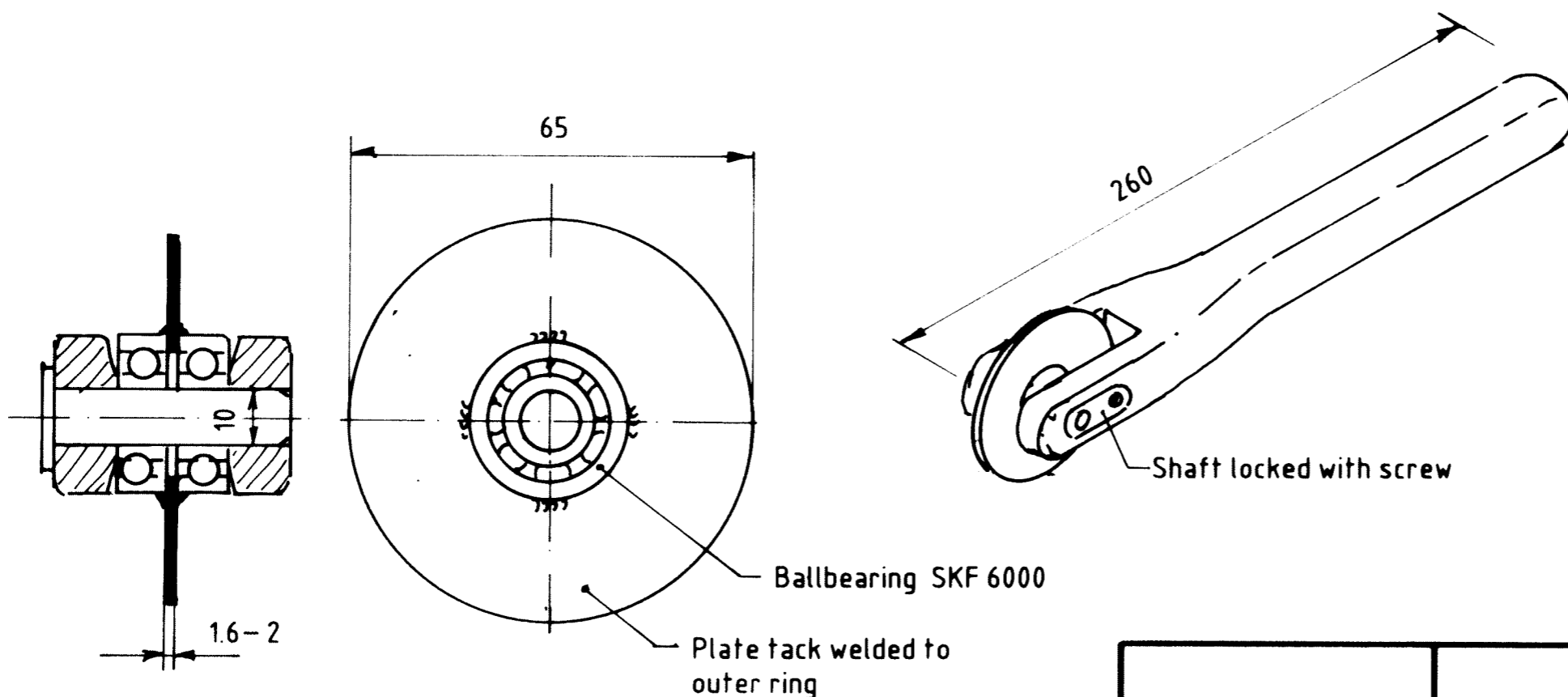
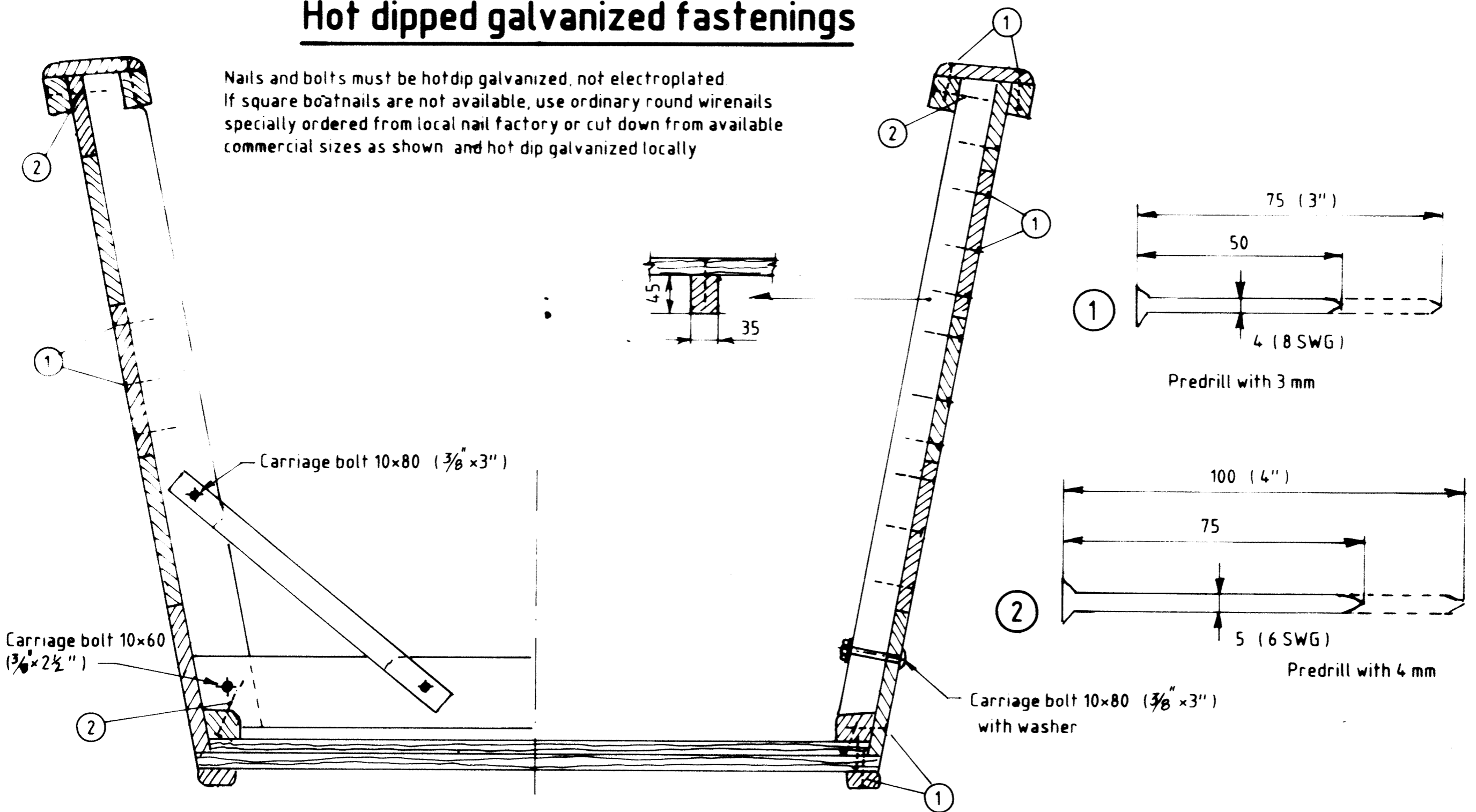
SCALE: 1:1, 1:5, 1:10	DESIGN NO.	DRAWING NO.
DESIGN: Ø Carl Braathen	PNG-12	7
Grimstad, March-91		



Transom for outboardmotor

Hot dipped galvanized fastenings

Nails and bolts must be hot dip galvanized, not electroplated
 If square boatnails are not available, use ordinary round wirenails
 specially ordered from local nail factory or cut down from available
 commercial sizes as shown and hot dip galvanized locally



Caulking wheel.

	9.7 m Canoe	
	ALTERNATIVES	
	SCALE :	DESIGN NO.
DESIGN: <i>Ø. Gulbrandsen</i>	PNG - 12	8
Grimstad, March - 91		