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A project of Volunteers in Asia

Set of Construction Drawings for 12PU350 and
12PU500 Windmills

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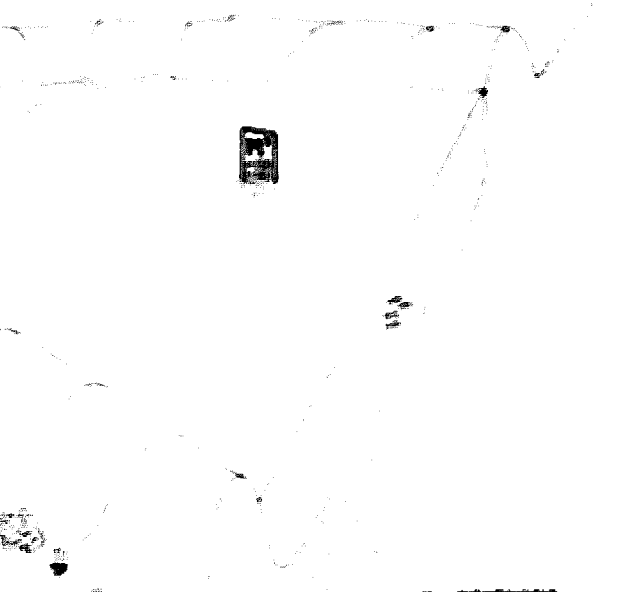
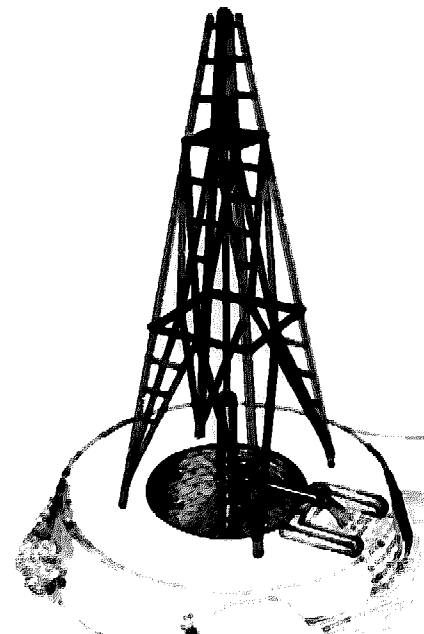
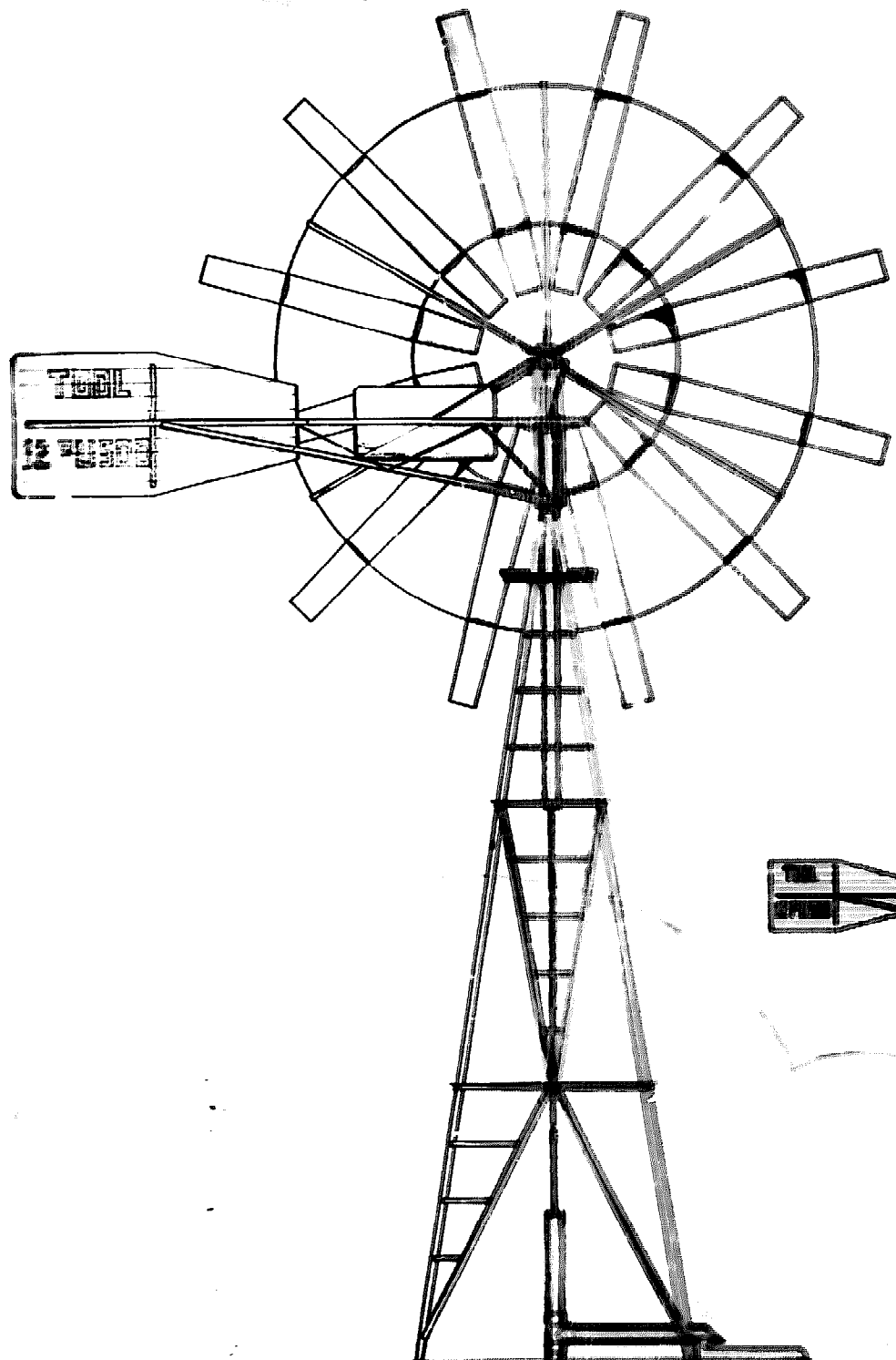
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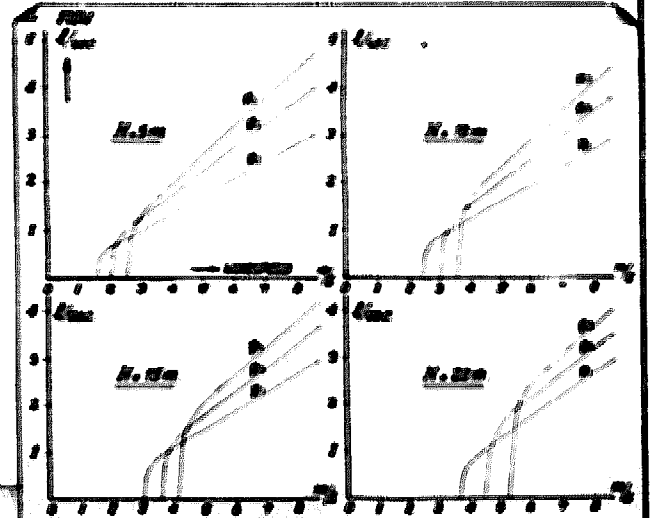
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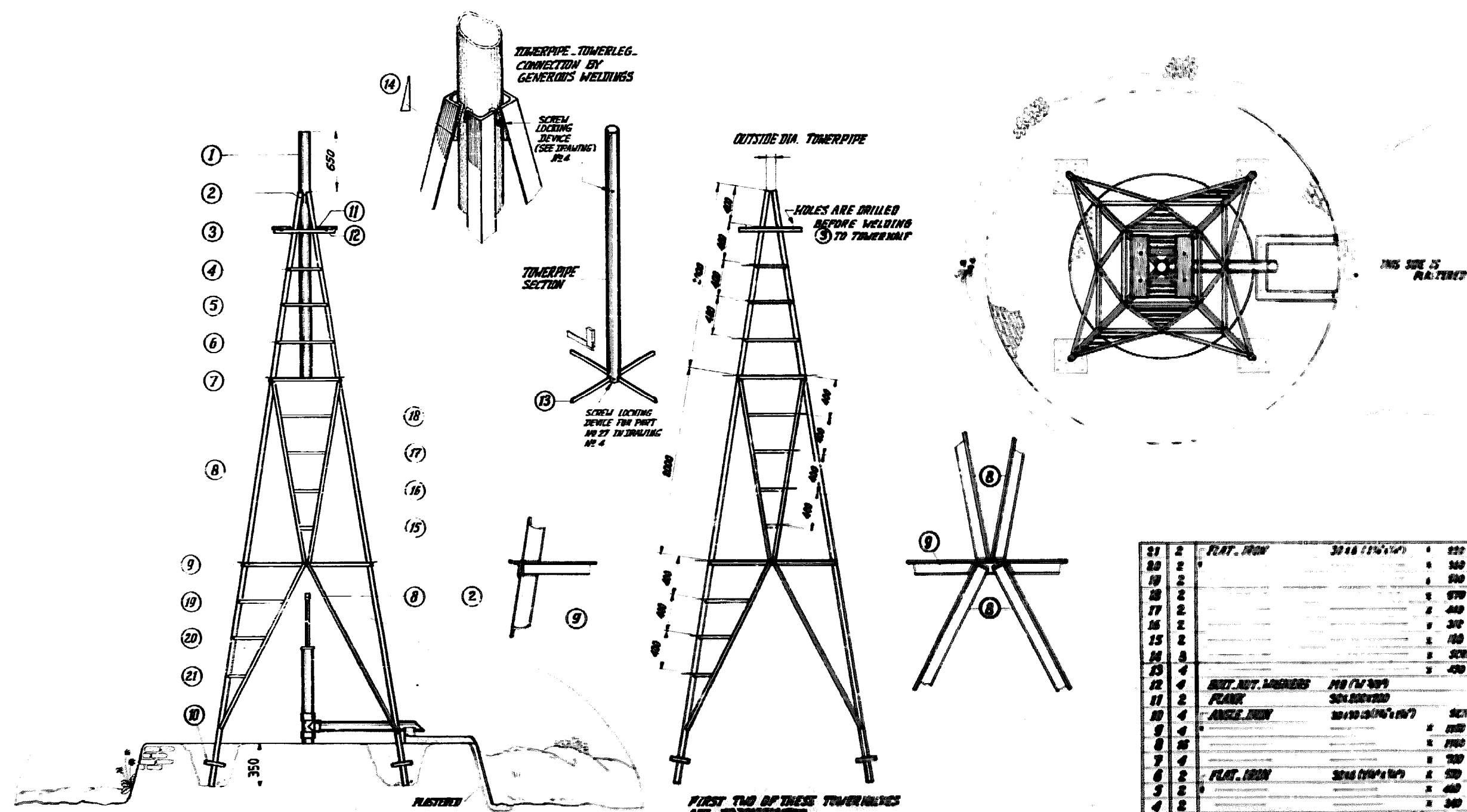
H. 1000000
 K. 10000
 L. 1000000000
 M. 1000000
 FOR 1000000000



12 PUSID WINDMILL FOR IRRIGATION

FOR INFORMATION:

WALL THICKNESS TOWERPIPE NOT LESS THAN 3.5 MM.



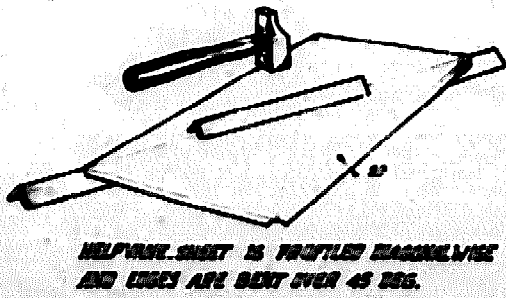
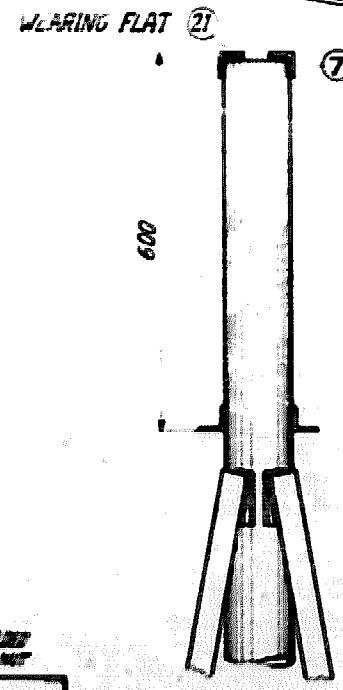
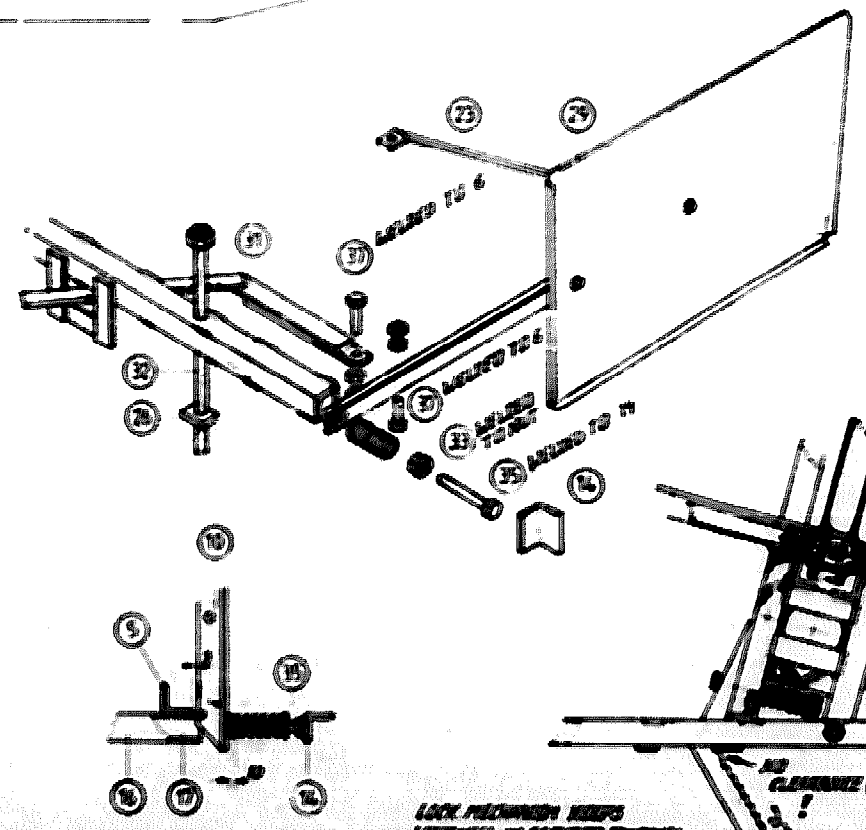
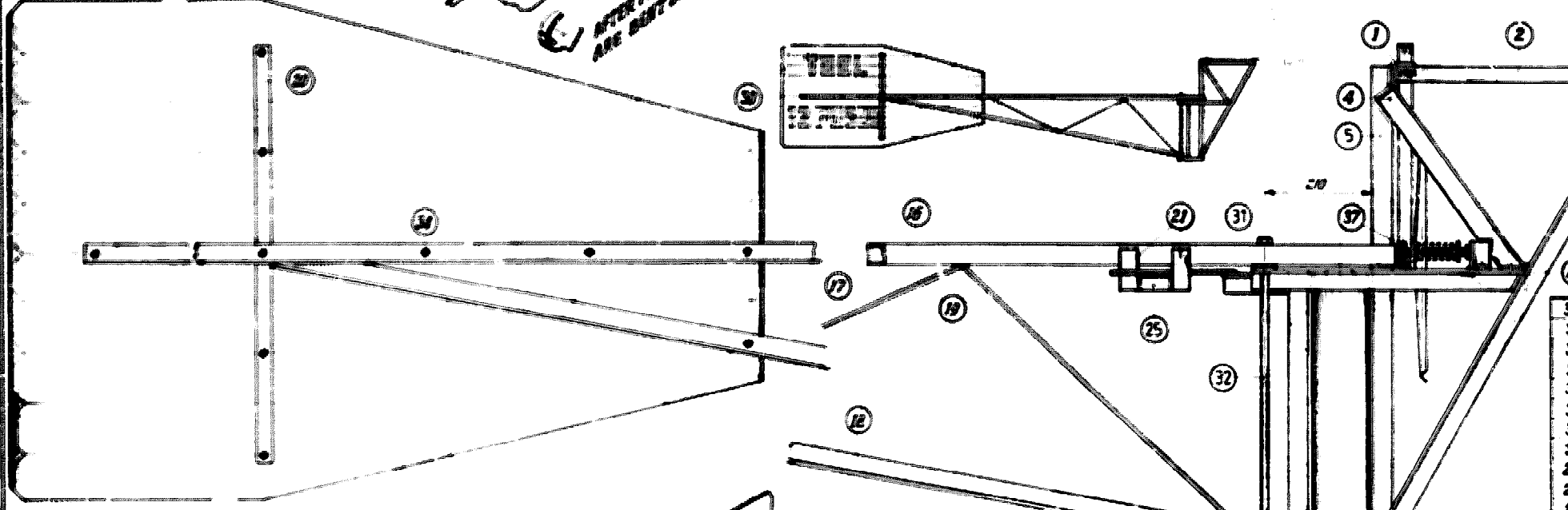
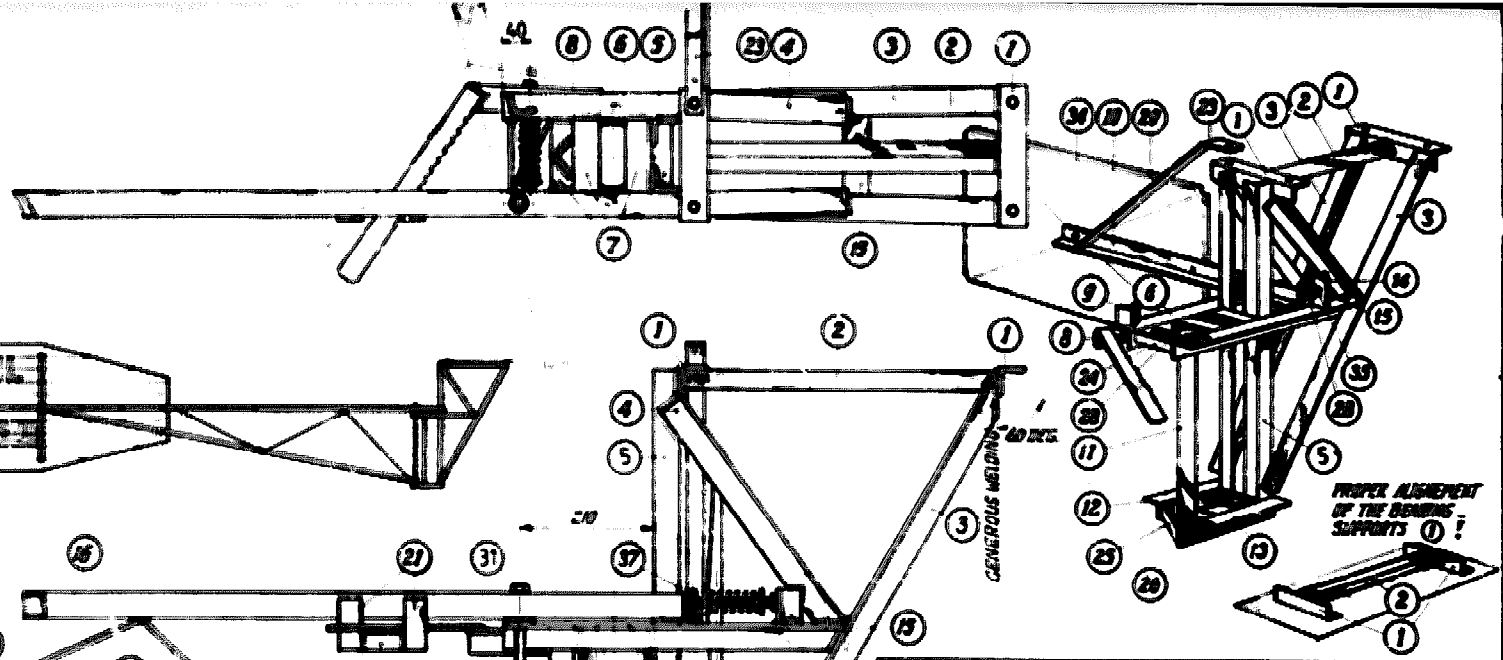
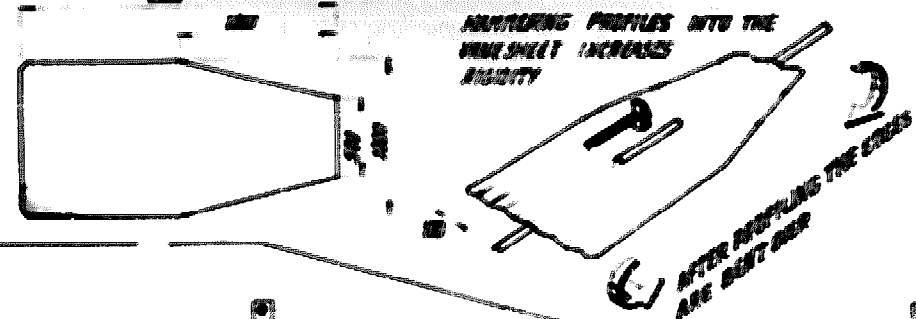
IF DESIRED THE LATTICE MEMBERS CAN BE PORTIONED AND WELDED INSIDE THE TOWER LEGS RESULTING IN A MORE ATTRACTIVE APPEARANCE OF THE TOWER. HOWEVER THE FLANGES AT THE ENDS OF THE ANGLE IRON MEMBERS NO 7 AND NO 9 SHOULD BE CUT AT ANGLES OF 45 DEGREES.

FIRST TWO OF THESE TOWERPILES ARE PREPARATED BOTH HALVES ARE COMPARED AND THE TOWERPIPE SECTION IS SHIPPED IN AND A COMPLETE TOWER BEGINS

21	2	FLAT. IRON	30x6 (1 1/2"x1 1/2")	4	220
20	2			4	360
19	2			4	600
18	2			4	670
17	2			4	440
16	2			4	310
15	2			4	180
14	3			4	SCRAP
13	4			4	450
12	4	HEAT. TREAT. MEMBERS	1 1/8" (1/4" x 1/4")		
11	2	PLATE	SCREWED		
10	4	ANGLE IRON	30x30x3 (1 1/4" x 1 1/4")		SCRAP
9	4			4	480
8	16			4	700
7	4			4	700
6	2	FLAT. IRON	30x6 (1 1/4" x 1 1/4")	4	500
5	2			4	460
4	2			4	340
3	2	ANGLE IRON	30x30x3 (1 1/4" x 1 1/4")	4	600
2	4		40x30x4 (1 1/2" x 1 1/4")	4	650
1	1	TOWERPIPE	4" GALV. PIPE	4	650
AV		PLATE/RAIL/ROPE / REPAIRS / MEASUREMENTS			

12 PUS30-TOWERCONSTRUCTION
FOR INFORMATION:

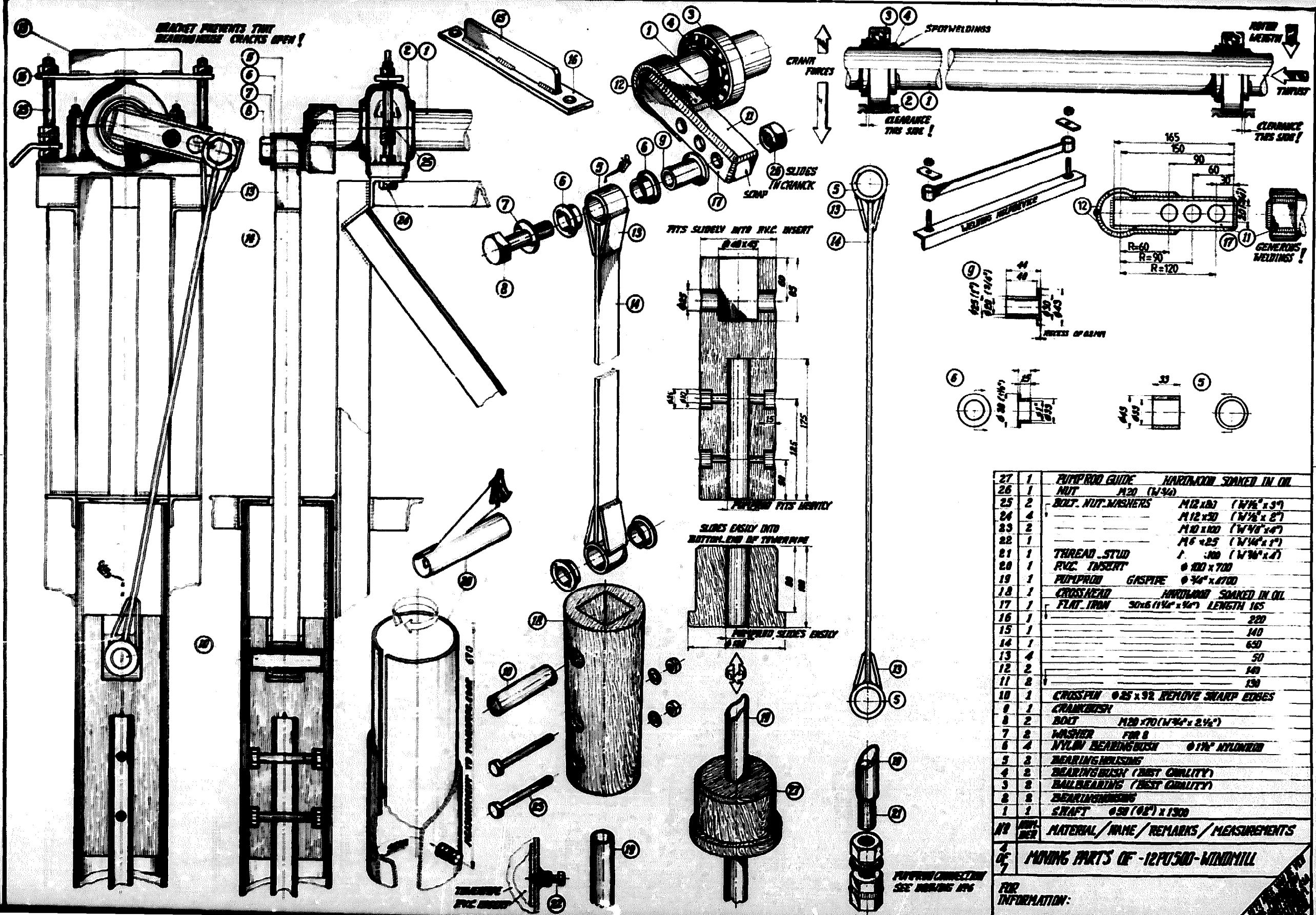
S.O.O. 0000000000000000



37	2	BOLT, NUT, WASHER	M12 x 40	(1 1/4" x 1 1/2")
36	1	---	M10 x 150	(3/8" x 6')
35	1	---	M12 x 100	(1/2" x 4')
34	13	---	M6 x 25	(1/4" x 1')
33	2	WASHER	ø 12	(ø 1/2")
32	1	ROD	ø 18 x 650	(ø 3/4" x 2')
31	1	NOT	M20	(3/4")
30	1	TRIVANE	1 mm SHEET	2000 x 1000
29	1	HELPPVANE	---	1000 x 500
28	2	SPRING	APPR. ø 30 x 100	x 64
27	1	FLAT IRON	30 x 6 (1 1/4" x 1/4")	LENGTH 100
26	2	---	---	50
25	2	---	---	130
24	1	---	---	115
23	1	---	---	90
22	1	---	---	360
21	4	---	---	90
20	1	---	---	830
19	3	---	---	750
18	1	ANGLE IRON	40 x 40 x 4 (1 1/2" x 1 1/2")	LENGTH 3000
17	1	---	---	400
16	1	---	---	1500
15	1	---	---	180
14	1	---	---	60
13	1	---	---	200
12	1	---	---	200
11	1	---	---	500
10	1	---	---	1000
9	1	---	---	45
8	1	---	---	100
7	4	---	---	TUBER PIPE DIA.
6	2	---	---	540
5	2	---	---	1000
4	2	---	---	400
3	2	---	---	1000
2	1	---	---	500
1	2	---	---	340

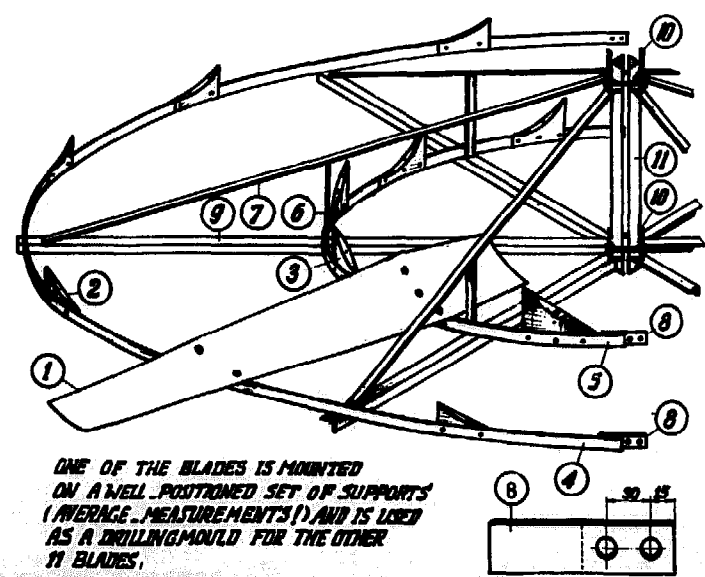
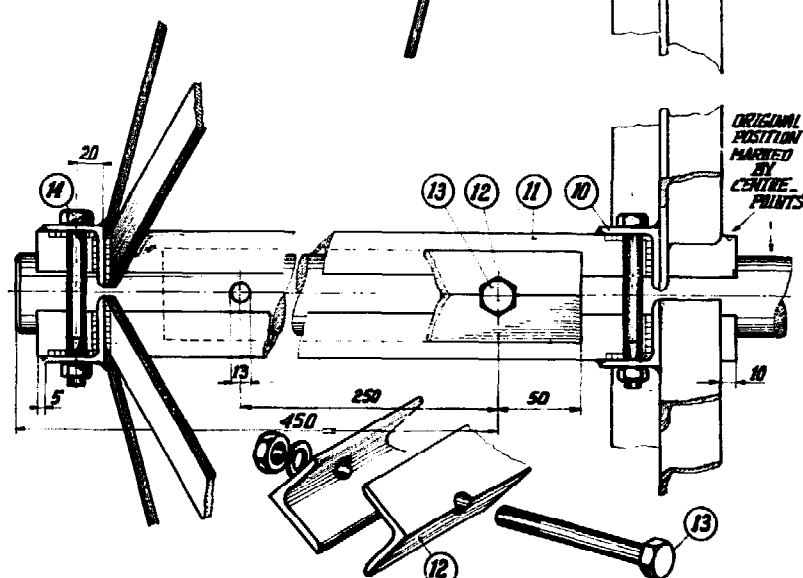
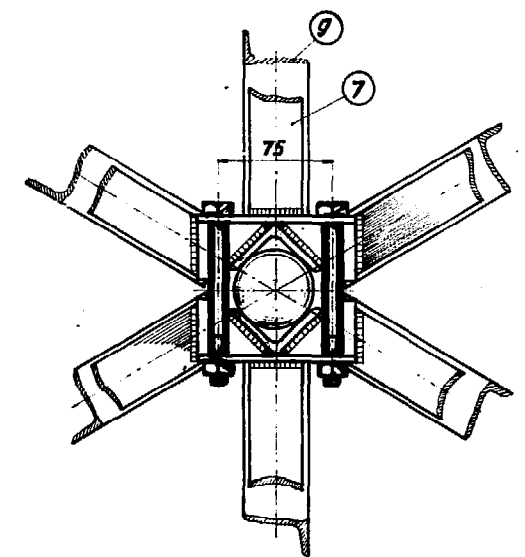
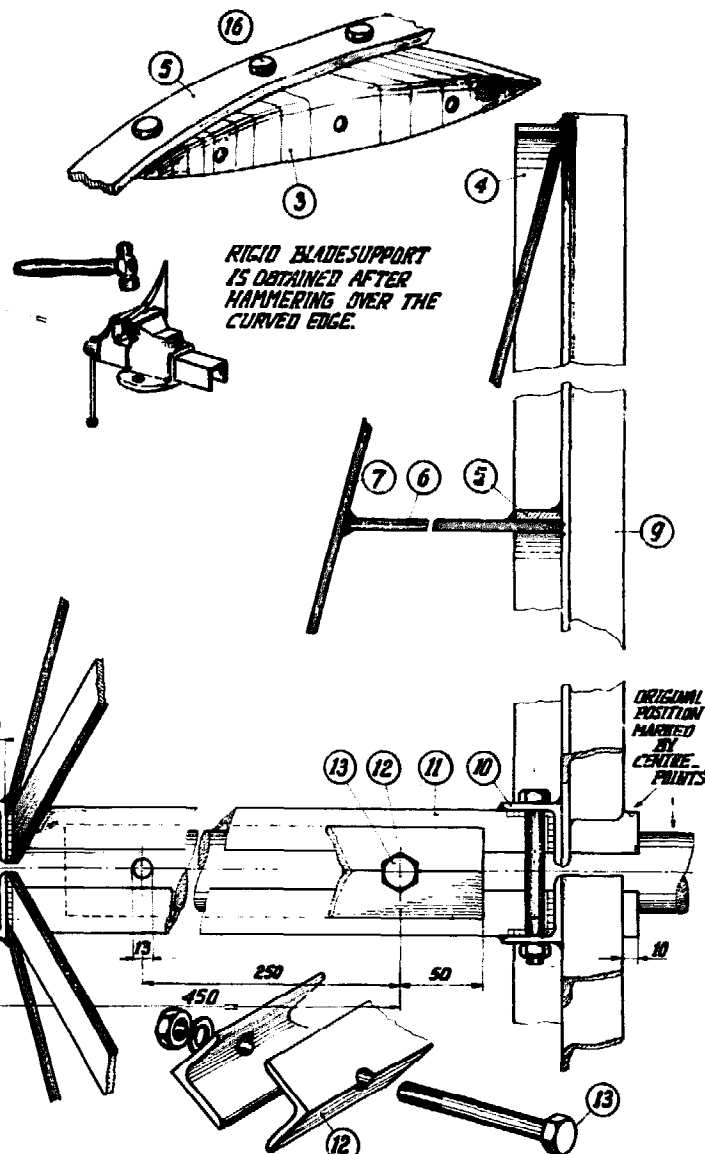
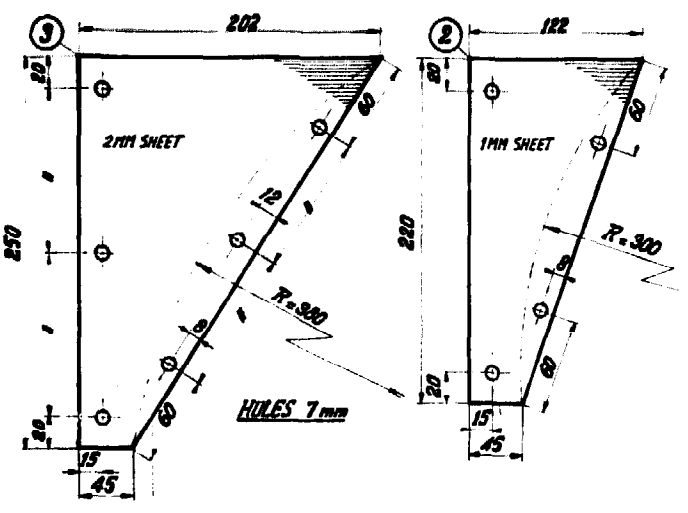
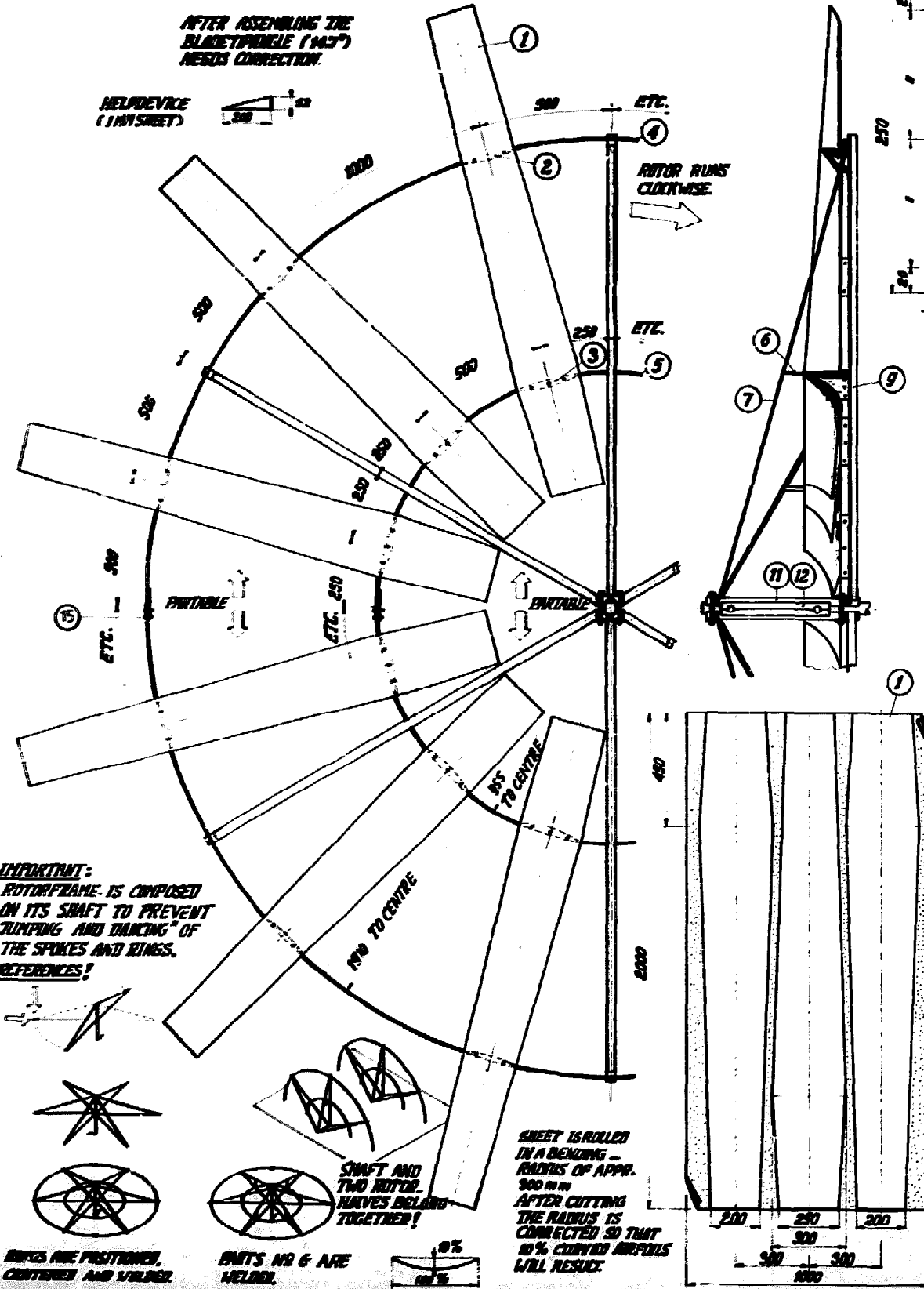
NO. 12 PVS 500 - WINDMILL

FOR INFORMATION:



27	1	PUPPIOD GUIDE	HARDWOOD SOAKED IN OIL
26	1	NUT	M20 (W40)
25	2	BOXT. NUT-WASHERS	M12x30 (W1/2" x 3")
24	4		M12x30 (W1/2" x 2")
23	2		M10x100 (W1/4" x 4")
22	1		M6x25 (W1/4" x 1")
21	1	THREAD STUD	1" .100 (W3/8" x 1")
20	1	RVC INSERT	Ø 100 x 700
19	1	PUPPIOD GASPIPE	Ø 3/4" x 1700
18	1	CROSSHEAD	HARDWOOD SOAKED IN OIL
17	1	FLAT IRON	30x6 (1 1/4" x 3/4") LENGTH 165
16	1		220
15	1		140
14	1		650
13	4		50
12	2		140
11	8		130
10	1	CROSSPIN	Ø 25 x 92 REMOVE SHARP EDGES
9	1	CRANKBUSH	
8	2	BOXT	M20 x 70 (W3/4" x 2 1/2")
7	2	WASHER	FOR 8
6	4	NYLON BEARINGBUSH	Ø 1 1/2" NYLONHD
5	2	BEARINGHOUSING	
4	2	BEARINGBUSH (BEST QUALITY)	
3	2	BALLBEARING (BEST QUALITY)	
2	2	BEARINGHOUSING	
1	1	SHAFT	Ø 50 (Ø 2") x 1300
NO	NO	MATERIAL/NAME/REMARKS/MEASUREMENTS	

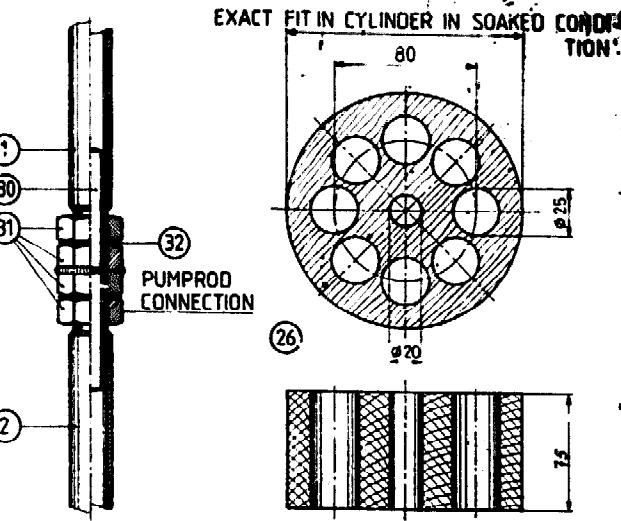
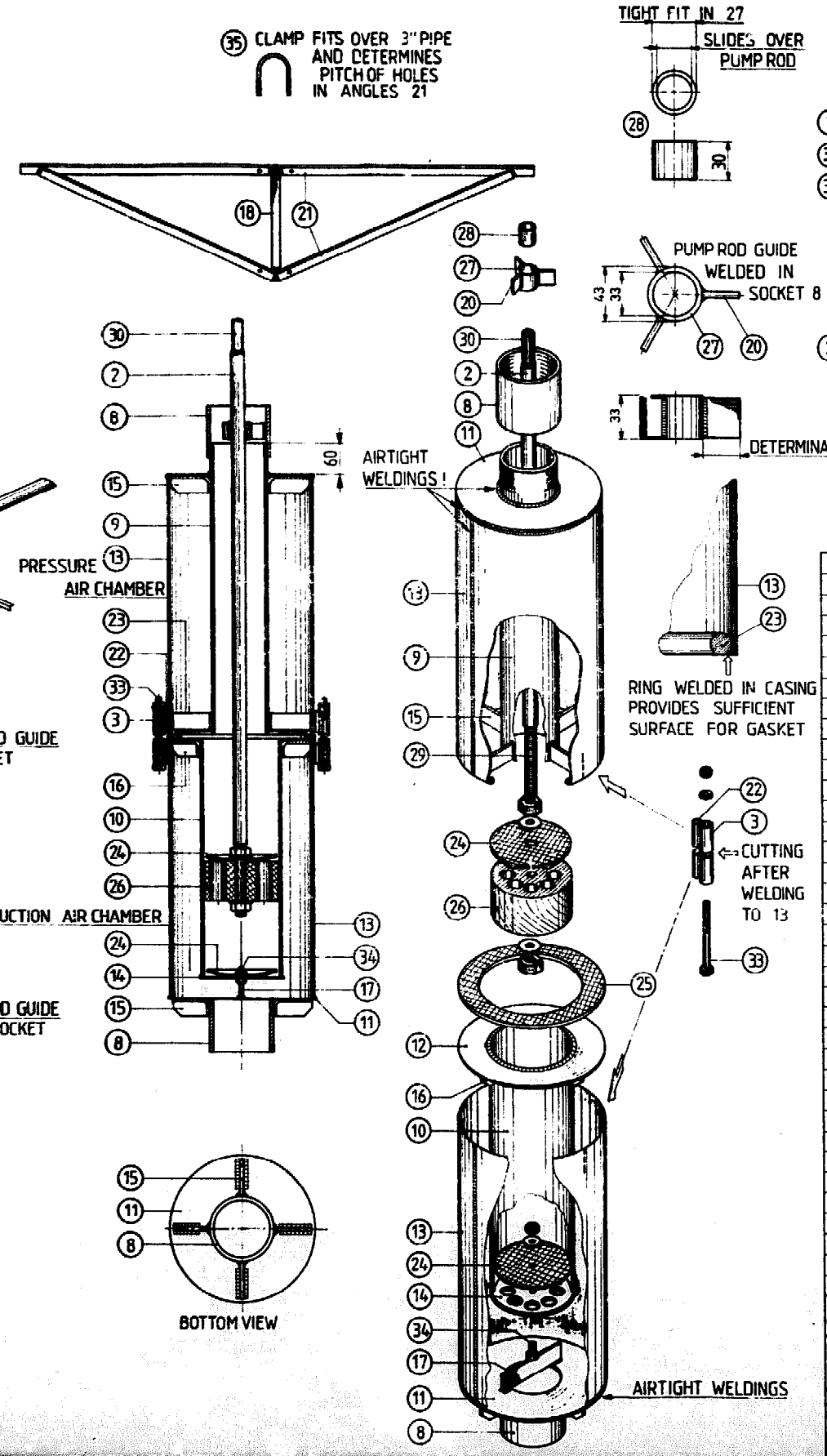
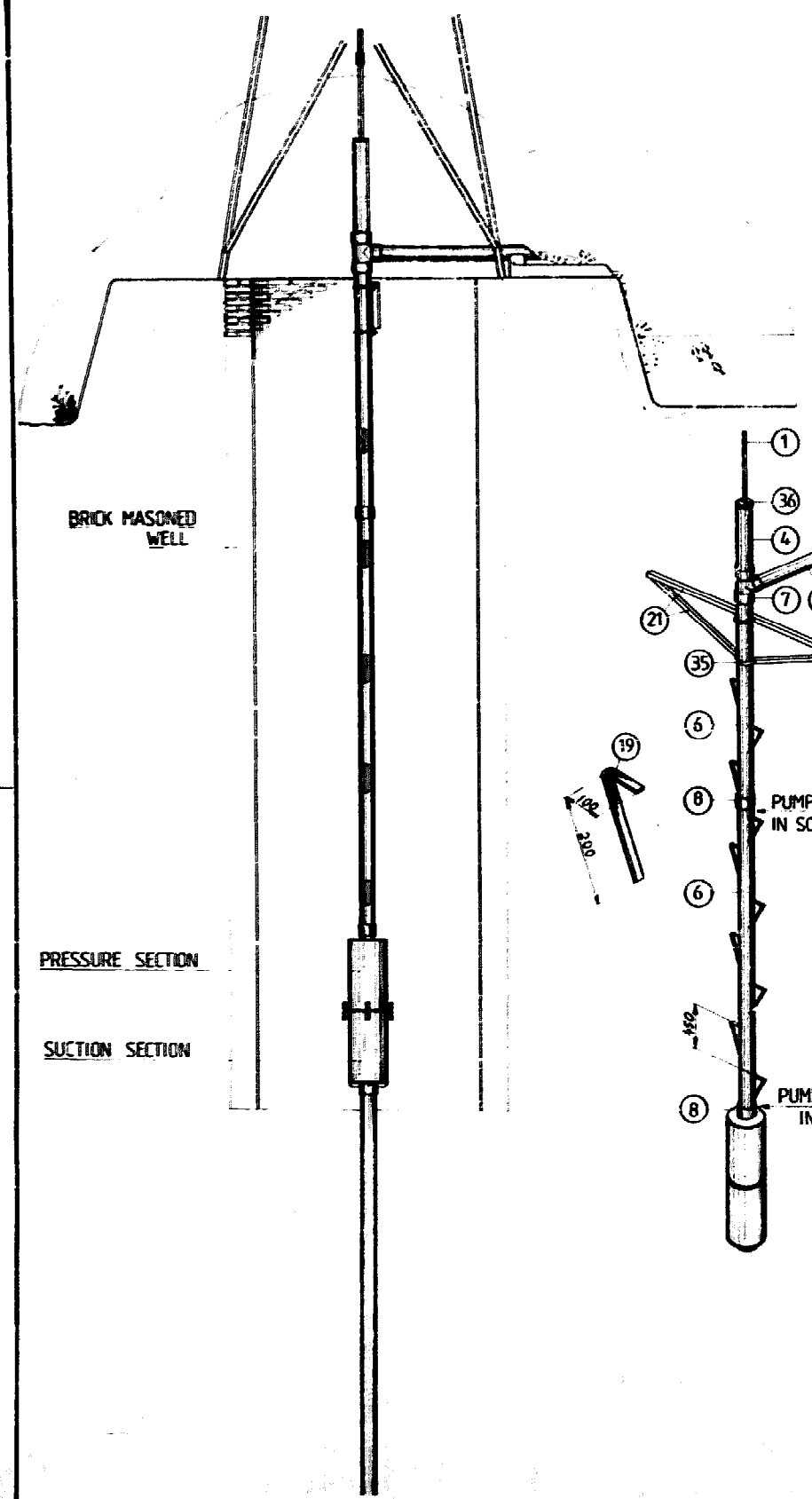
4 OF 7
 MOVING PARTS OF -12P0500-WINDMILL
 FOR INFORMATION:



16	120	BOLT, NUT, WASHER	M6x20 (1/4"x 3/4")
15	8		M10x25 (1/2"x 1")
14	4		M12x100 (1/2"x 4")
13	2		M12x125 (1/2"x 5")
12	2	ANGLE IRON	50x50x5 (2"x 2") x 350
11	2		40x40x4 (1 1/2"x 1 1/2") x 625
10	4		x100
9	6		x1500
8	4	FLAT IRON	30x6 (1 1/4" x 1/4") x 120
7	6		x1500
6	6		x 250
5	2		x 3000
4	2		x 6000
3	12	BLADE SUPPORT	2mm SHEET
2	12	BLADE	1mm
1	12		4 STANDARD SHEETS 1000x2000
NO.	AMP.	MATERIAL/NAME/REMARKS/MEASUREMENTS	
5	OF	ROTOR FOR - 12 FU500 - WINDMILL (A-2)	
7		FOR INFORMATION:	

ONE OF THE BLADES IS MOUNTED ON A WELL POSITIONED SET OF SUPPORTS (AVERAGE MEASUREMENTS!) AND IS USED AS A DRILLING MOULD FOR THE OTHER 11 BLADES.

R O N R Y Z



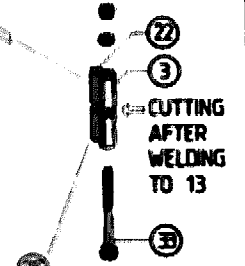
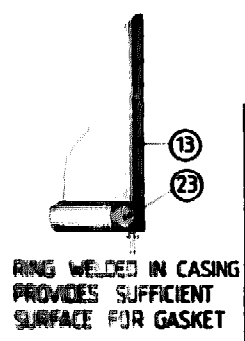
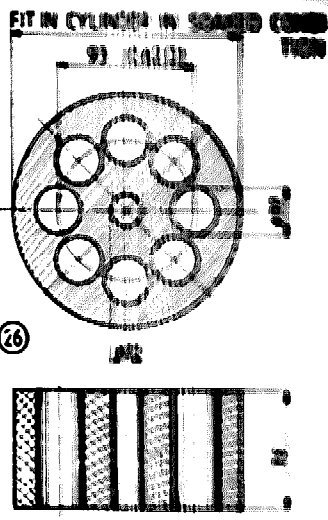
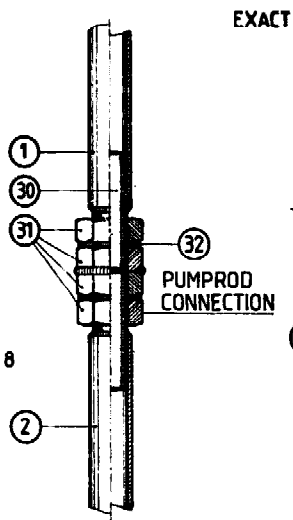
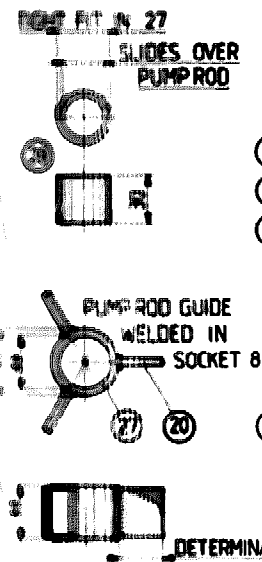
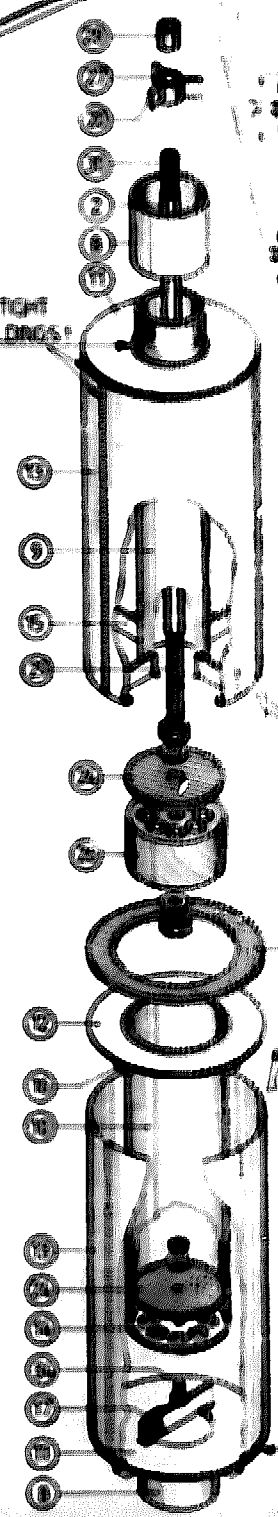
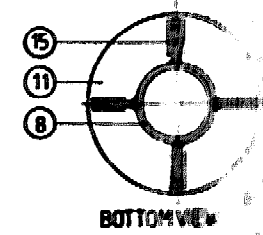
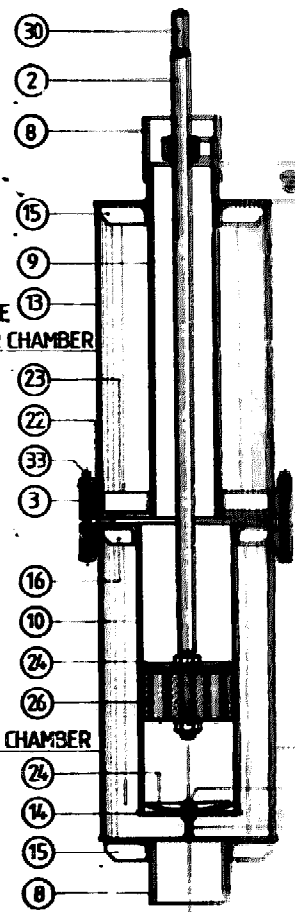
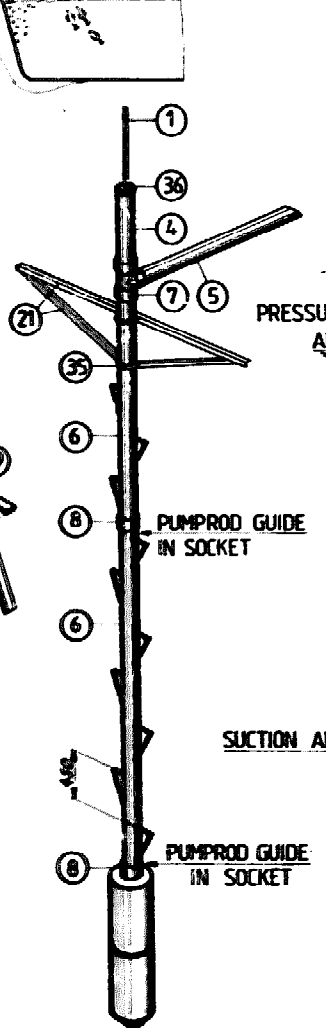
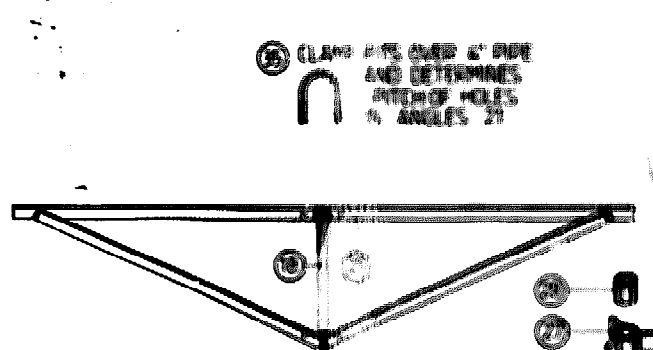
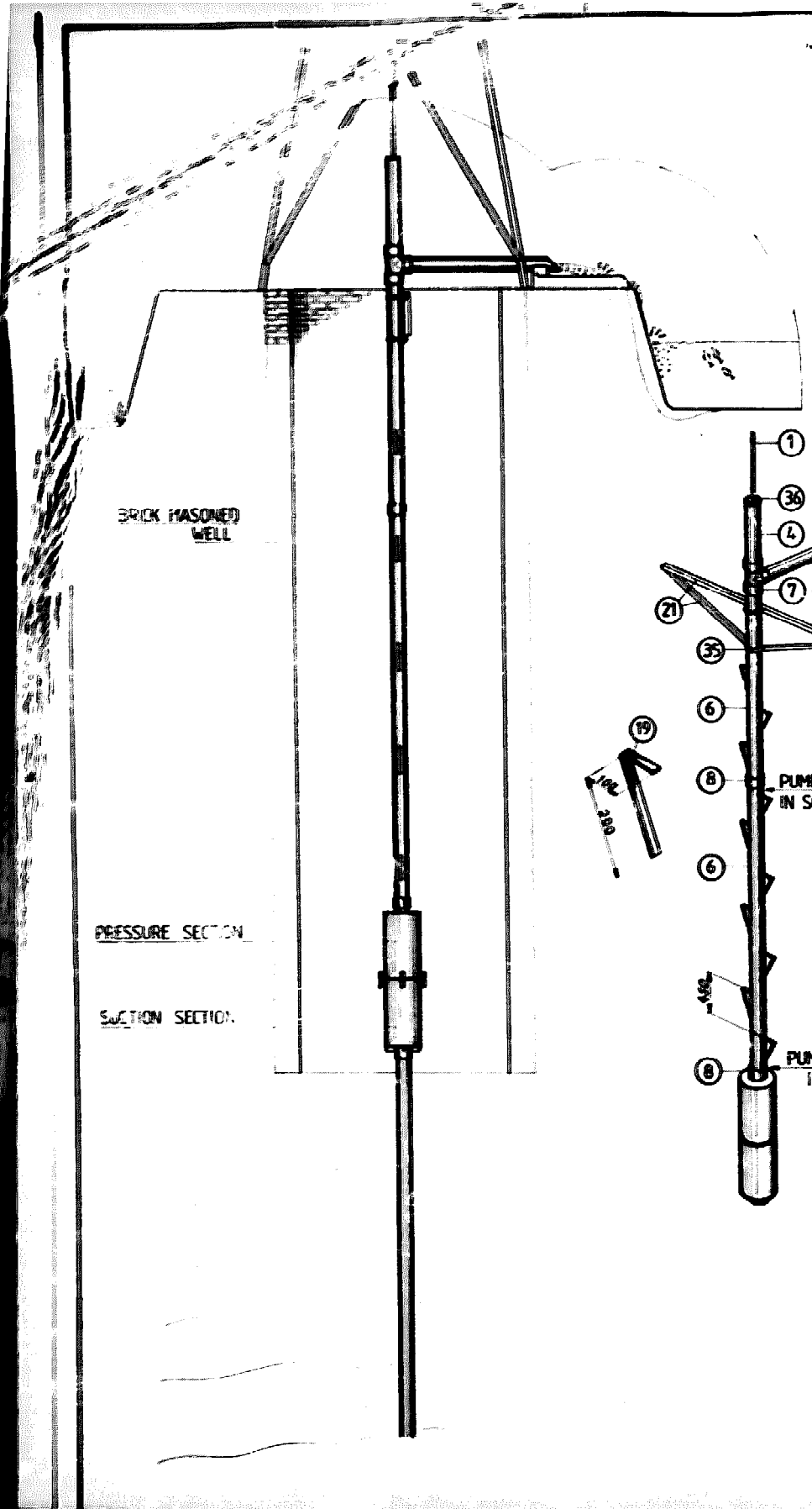
* AMOUNT OR SIZE DEPEND ON CIRCUMSTANCES

36	1	WOODEN PUMPROD GUIDE : 27 IN DRAWING NO 4
35	2	CLAMP ROD ϕ 12 (1/2") x 300
34	1	BOLT - NUT - WASHER M12 x 20 (W 1/2 x 3/4)
33	4	BOLT NUT WASHER M12 x 125 (W 1/2 x 5")
32	*	SPRING WASHERS M24 (W 7/8")
31	*	NUTS M24 (W 7/8")
30	*	THREAD STUD M24 x 100 (W 3/4 x 4")
29	1	THREAD STUD M24 x 150 (W 7/8 x 6")
28	*	GUN METAL BUSH ϕ 33 x 30
27	*	STEEL BUSH ϕ 43 x 33
26	1	PISTON TEAKWOOD
25	1	GASKET SOLE LEATHER ϕ 250 x 6
24	2	VALVE ϕ 125 x 6
23	1	RING ROD ϕ 8 (7/8") x 74.5
22	8	FILLING PIECE x 40
21	2	ANGLE IRON 40 x 40 x 4 (1 1/2 x 1 1/2) x *
20	3	FLAT IRON 30 x 6 (1 1/8 x 1/4) x *
19	*	x 300
18	1	x 450
17	1	x 155
16	4	x 50
15	12	x 75
14	1	FOOTVALVE 2 mm SHEET ϕ 145
13	2	CASING 500 x 775
12	1	CASING FLANGE ϕ 250
11	2	CASING FLANGE ϕ 250
10	1	CYLINDER SEAMLESS 5" GASPIPE x 460
9	1	DELIVERY PIPE 3" x 560
8	*	SOCKET FOR 3"
7	1	T - SOCKET 3"
6	*	DELIVERY PIPE (EXTENSION) 3" x *
5	1	EXHAUST PIPE 3" x *
4	1	TOPPIPE 3" x 750
3	4	PIPE 1/2" x 100
2	1	PUMPROD 3/4" x 950
1	1	PUMPROD EXTENSION 3/4" x *

NO	NUM BER	MATERIAL / NAME / REMARKS / MEASUREMENTS
6	OF	5" PISTON PUMP FOR 12 PU 500
7	7	

FOR INFORMATION :

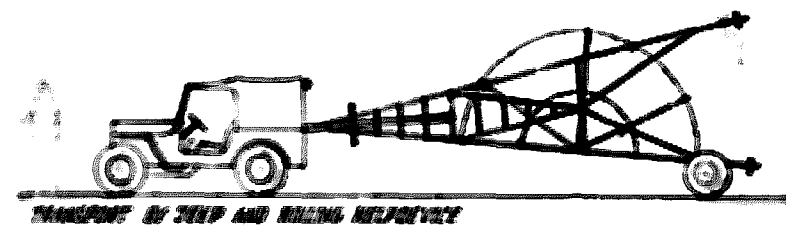
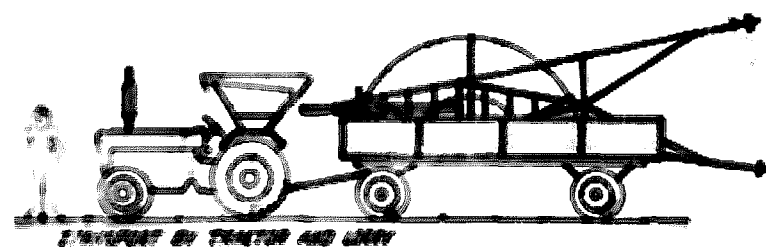
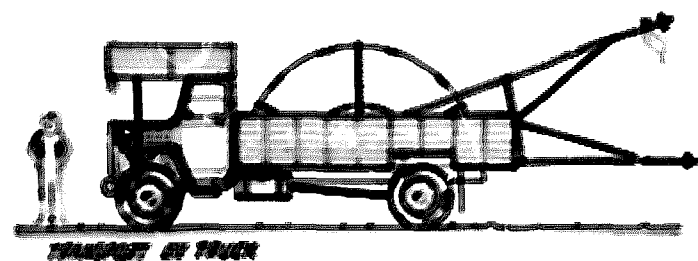
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* AMOUNT OR SIZE DEPEND ON CIRCUMSTANCES

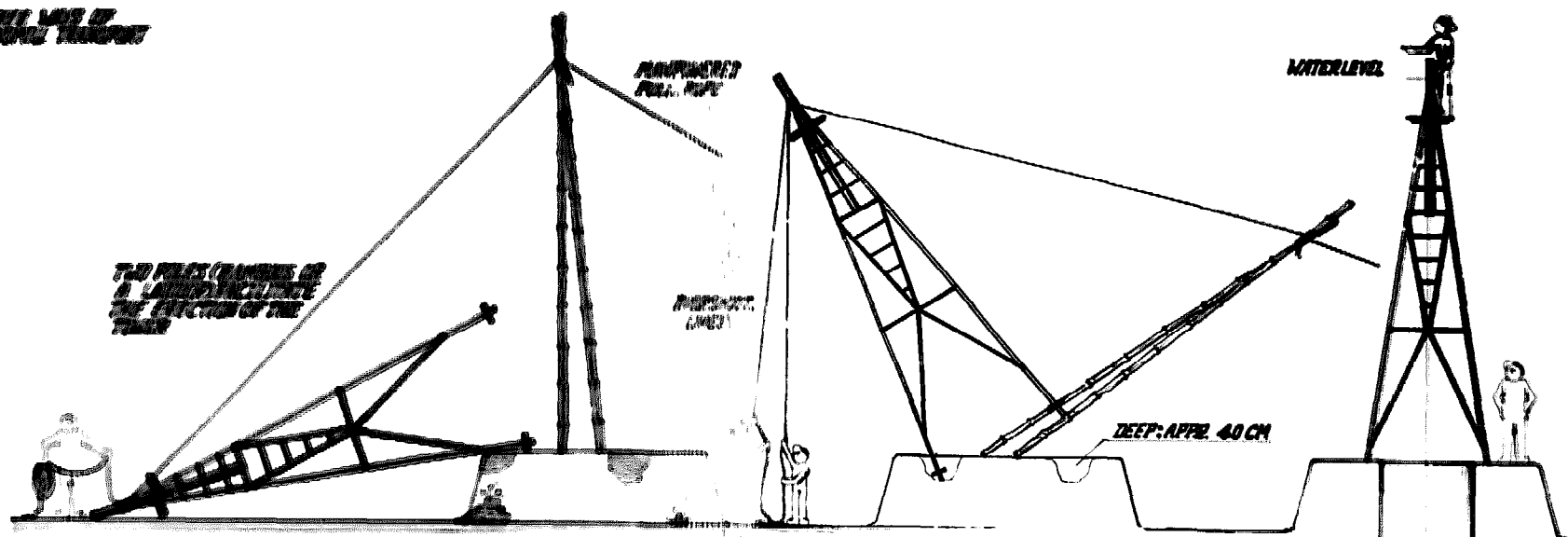
36	1	WOODEN PUMPROD GUIDE	27 IN SHAWING NO 4
35	2	CLAMP	ROD Ø 1 1/8" x 3/16"
34	1	BOLT - NUT - WASHER	M 12 x 20 (Ø 12 x 20)
33	4	BOLT NUT WASHER	M 12 x 20 (Ø 12 x 20)
32	*	SPRING WASHERS	M 24 (Ø 24)
31	*	NUTS	M 24 (Ø 24)
30	*	THREAD STUD	M 24 x 10 (Ø 24 x 10)
29	1	THREAD STUD	M 24 x 10 (Ø 24 x 10)
28	*	GUN METAL BUSH	Ø 1 1/8" x 3/16"
27	*	STEEL BUSH	Ø 1 1/8" x 3/16"
26	1	PISTON	TEAR Ø 1 1/8" x 6"
25	1	GASKET	SOLE LEATHER Ø 1 1/8" x 6"
24	2	VALVE	Ø 1 1/8" x 6"
23	1	RING	ROD Ø 1 1/8" x 3/16"
22	8	FILLING PIECE	Ø 1 1/8" x 6"
21	2	ANGLE IRON	40x40x6 (Ø 40 x 6)
20	3	FLAT IRON	30 x 6 (Ø 30 x 6)
19	*		Ø 300
18	1		Ø 450
17	1		Ø 600
16	4		Ø 60
15	12		Ø 85
14	1	FOOT VALVE	2 mm SHEET Ø 170
13	2	CASING	Ø 100
12	1	CASING FLANGE	Ø 200
11	2	CASING FLANGE	Ø 200
10	1	CYLINDER SEAMLESS	6" GAS PIPE Ø 450
9	1	DELIVERY PIPE	6" Ø 900
8	*	SOCKET	FOR 4"
7	1	T - SOCKET	4"
6	*	DELIVERY PIPE (EXTENSION)	4"
5	1	EXHAUST PIPE	4"
4	1	TOP PIPE	4" Ø 750
3	4	PIPE	4" Ø 100
2	1	PUMPROD	4" Ø 950
1	*	PUMPROD EXTENSION	4"

6 OF 7
PISTON PUMP FOR 12 PUSOH MONDYPOL
 FOR INFORMATION :
 Workshop on Development Methods
 T.H. Toren - Vijzel 132
 P.O. Box 217 - Groningen
 The Netherlands



THE WAY OF TOWER TRANSPORT

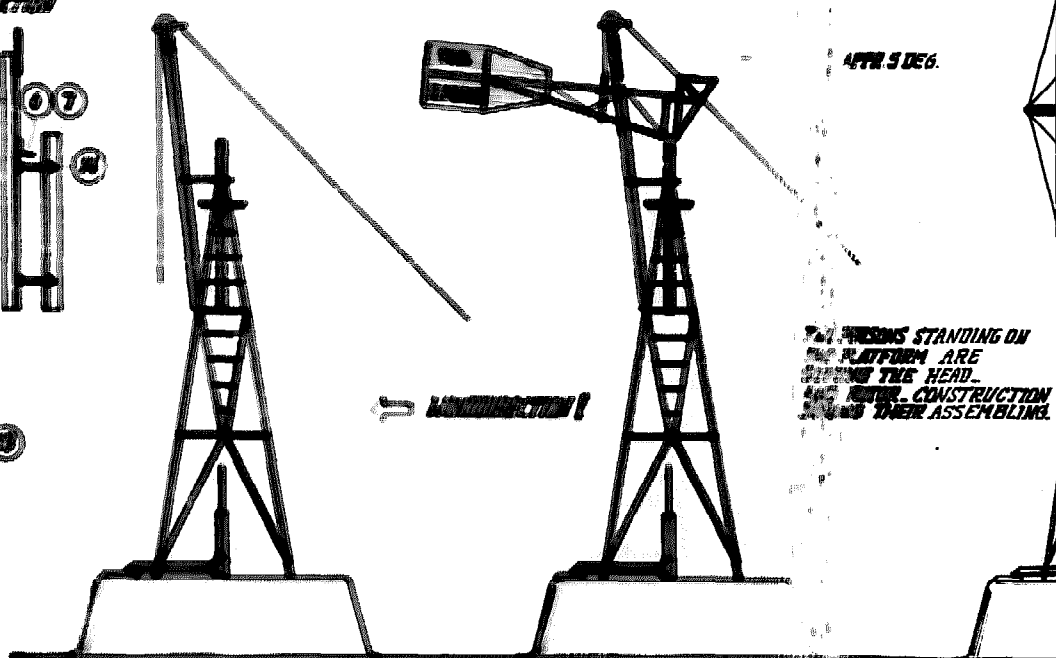
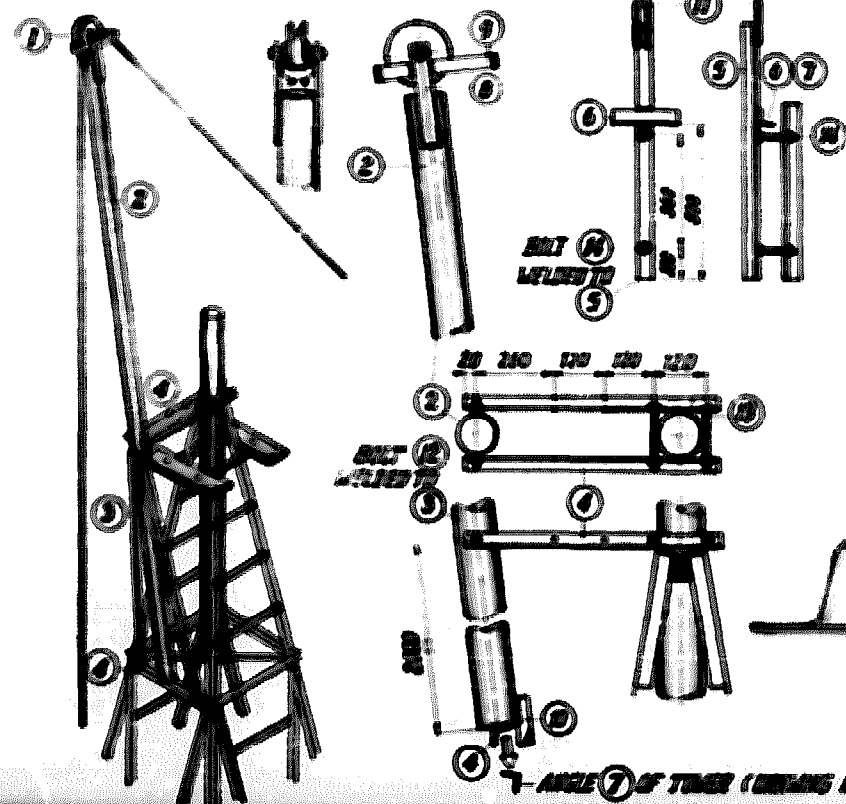
THE POINTS OF CONTACT OF A LORRY REFLECT THE LOCATION OF THE TOWER



REMARKS: AFTER PLACING THE TOWER THE TOWER IS POURED IN WITH CONCRETE AND AFTER APPROX. 5 DAYS THE HEAD AND ROTOR CONSTRUCTION CAN BE DESIGNED SAFE AND QUICK BY MEANS OF LIFTING DEVICES. DURING THE DEPENDENCY OF THE CONCRETE FOUNDATION THE PISTON PUMP IS FORCED INTO THE WELL ACCORDING TO THE SPECIFICATIONS!

TOWER LIFTING HELPDVICE

LIFTING DEVICE FOR HEAD CONSTRUCTION



THE PERSONS STANDING ON THE PLATFORM ARE DURING THE HEAD AND ROTOR CONSTRUCTION SECURING THEIR ASSEMBLING.

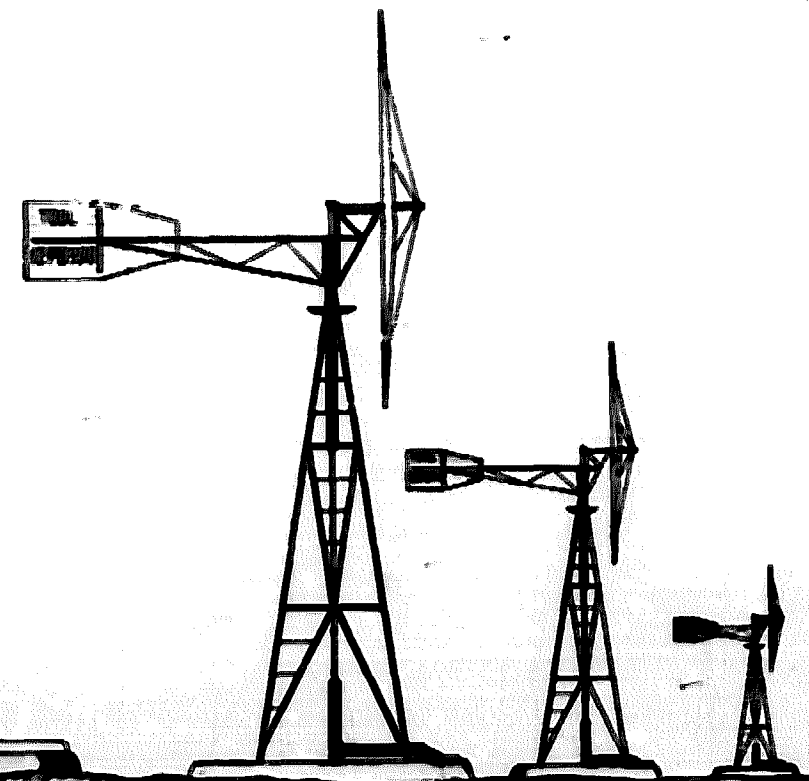
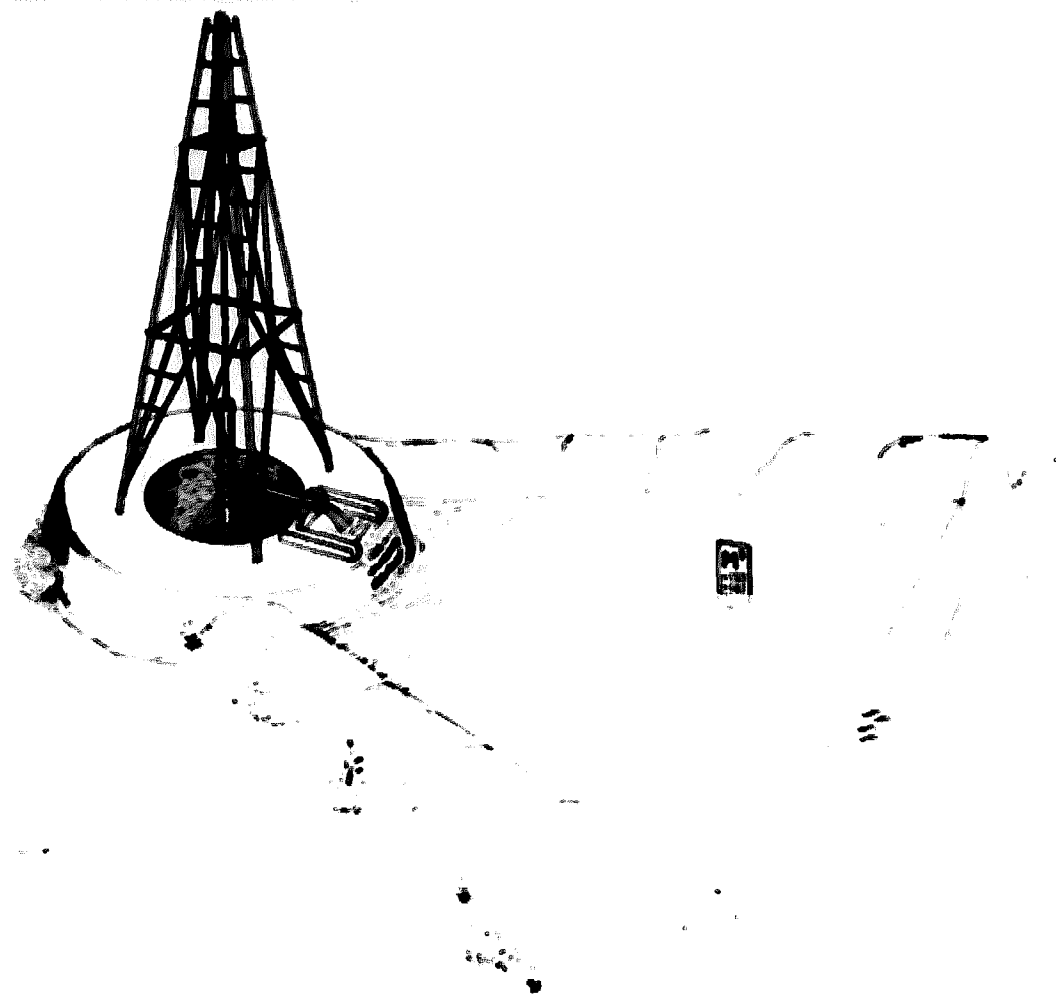
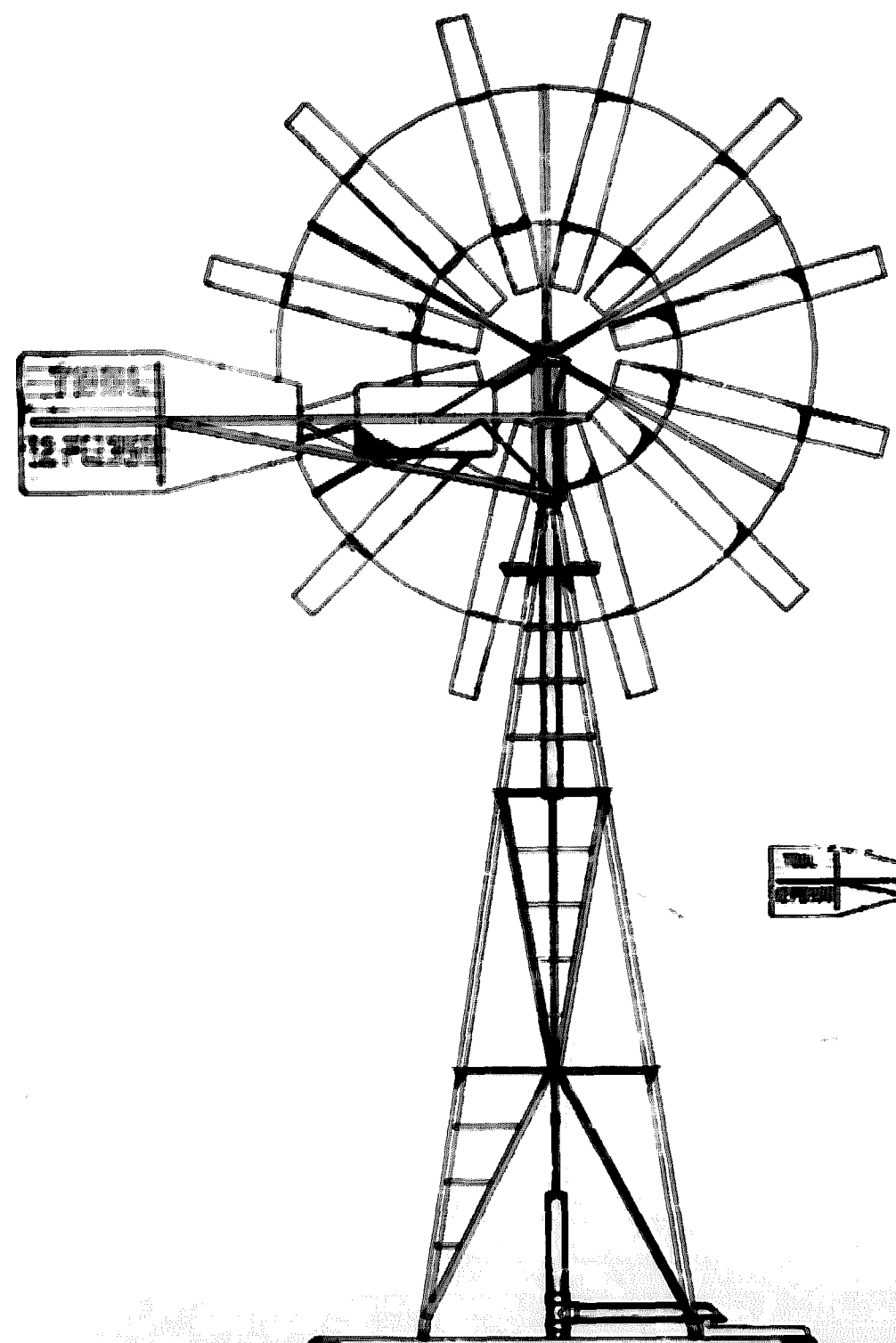
SINCE THE CENTRE OF GRAVITY OF THE HEAD CONSTRUCTION IS SITUATED ABOVE THE LOWER TOWER ANGLE A SPECIAL EXPERIMENT IS APPLIED. A WEIGHT SLIDING OVER THE TOWER IS ADJUSTED IF THE FRONT IS OUT OF BALANCE APPROX. 5 DEG.

WHEN IS LIFTED WITH THE SHAFT COMPLETE WITH BEARING TIED IN THE ROTORHUB IN ITS ORIGINAL POSITION (CENTRE POINTS!) AND PLACED IN THE HEAD CONSTRUCTION. NOW THE TOWER CAN BE REMOVED AND THE BLADES, SAFETY DEVICE AND MOVING PARTS ARE ASSEMBLED.

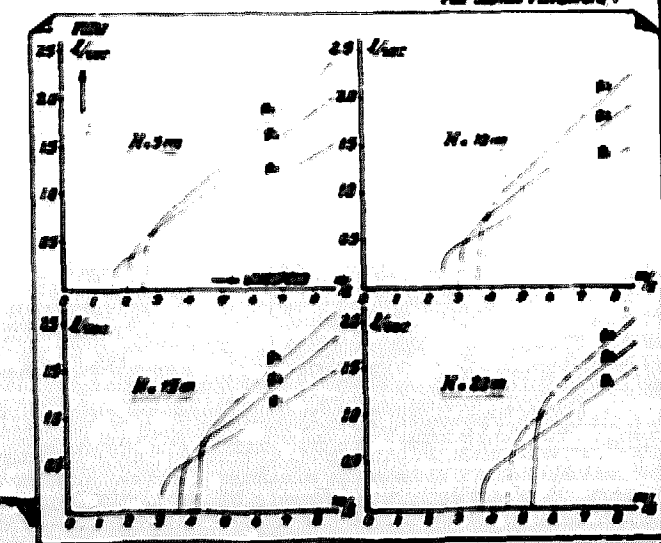
14	2	BOLT NUT WASHER	M12 x 75 (M12 x 5")
13	2		M12 x 100 (M12 x 6")
12	2		M12 x 50 (M12 x 2")
11	1	ROD	Ø 20 (Ø 3/4") x 200
10	1	FLAT	30 x 60 x 10 x 100
9	1		x 600
8	2		x 800
7	1	ANGLE IRON	40 x 40 x 4 (1 1/2") x 550
6	1		x 200
5	1		x 800
4	3		x 600
3	2		x 800
2	1	GASPIPE	Ø 3" x 400
1	1	PULLEY SHAFT AND ROPE OR STEELCABLE (Ø 10 MM)	
NO	NO	MATERIAL NAME / REMARKS / MEASUREMENTS	

INSTALLING THE WINDMILL - 12 PUS 50 -

FOR INFORMATION:

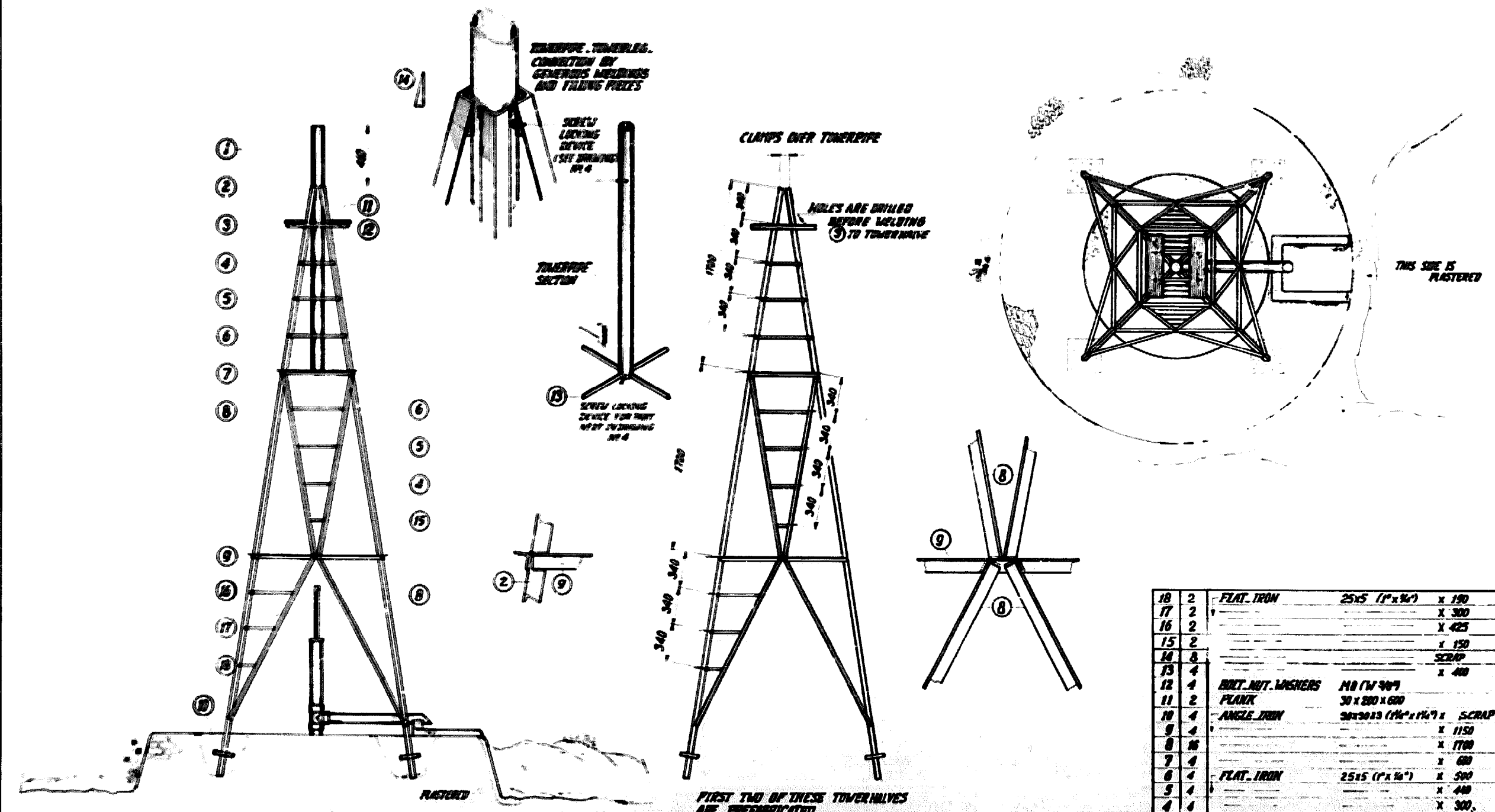


H. 45 FT DIAMETER
 H. 40 FT
 H. 35 FT
 H. 30 FT
 FOR 12 FT DIAMETER:



12 FT DIAMETER WINDMILL FOR IRRIGATION

FOR INFORMATION:



TOWERPIPE - TOWERLES.
CONNECTION BY
GENEROUS WELDINGS
AND FILLING PIECES

SEWEL'S
LOCKING
DEVICE
(SEE DRAWING
NO. 4)

CLAMPS OVER TOWERPIPE

HOLES ARE DRILLED
BEFORE WELDING
TO TOWERPIPE

TOWERPIPE
SECTION

SEWEL'S
LOCKING
DEVICE FOR TOWER
NO. 4

THIS SIDE IS
PLASTERED

PLASTERED

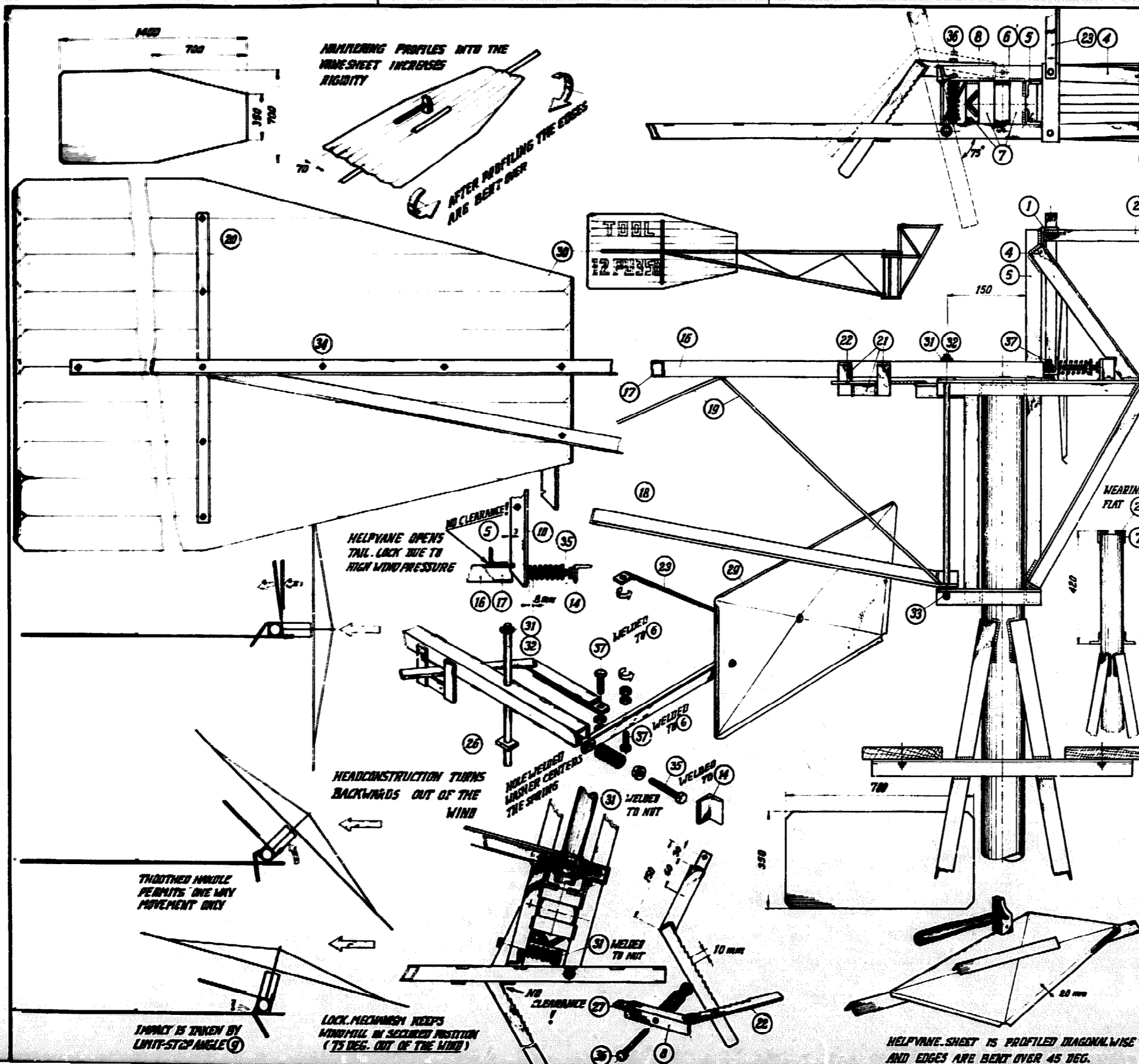
FIRST TWO OF THESE TOWERHALVES
ARE PREFABRICATED
BOTH HALVES ARE COMPOSED AND
THE TOWERPIPE SECTION IS SHIFTED
IN AND A COMPLETE TOWER RESULTS

IF DESIRED THE LATTICE MEMBERS CAN BE PATTERNED
AND WELDED INSIDE THE TOWERHALVES RESULTING IN
A MORE ATTRACTIVE APPEARANCE OF THE TOWER.
HOWEVER THE FLANGES AT THE ENDS OF THE ANGLE-
IRON MEMBERS NO. 7 AND NO. 8 SHOULD BE CUT AT
ANGLES OF 45 DEGREES.

18	2	FLAT. IRON	25x5 (1"x1/2")	x 190
17	2			x 300
16	2			x 425
15	2			x 150
14	8			SCRAP
13	4			x 400
12	4	BOLT. NUT. WASHERS	M8 (1/4")	
11	2	PLANK	30 x 200 x 600	
10	4	ANGLE IRON	30x30x3 (1 1/4" x 1 1/4")	SCRAP
9	4			x 1150
8	16			x 1700
7	4			x 600
6	4	FLAT. IRON	25x5 (1"x1/2")	x 500
5	4			x 400
4	4			x 300
3	8	ANGLE IRON	30x30x3 (1 1/4" x 1 1/4")	550
2	4			5500
1	1	TOWERPIPE	5" GASPIPE	8150
NO.	QTY.	MATERIAL / NAME / REMARKS / MEASUREMENTS		

2 OF 7 -12 PU 350 - TOWER CONSTRUCTION

FOR INFORMATION:

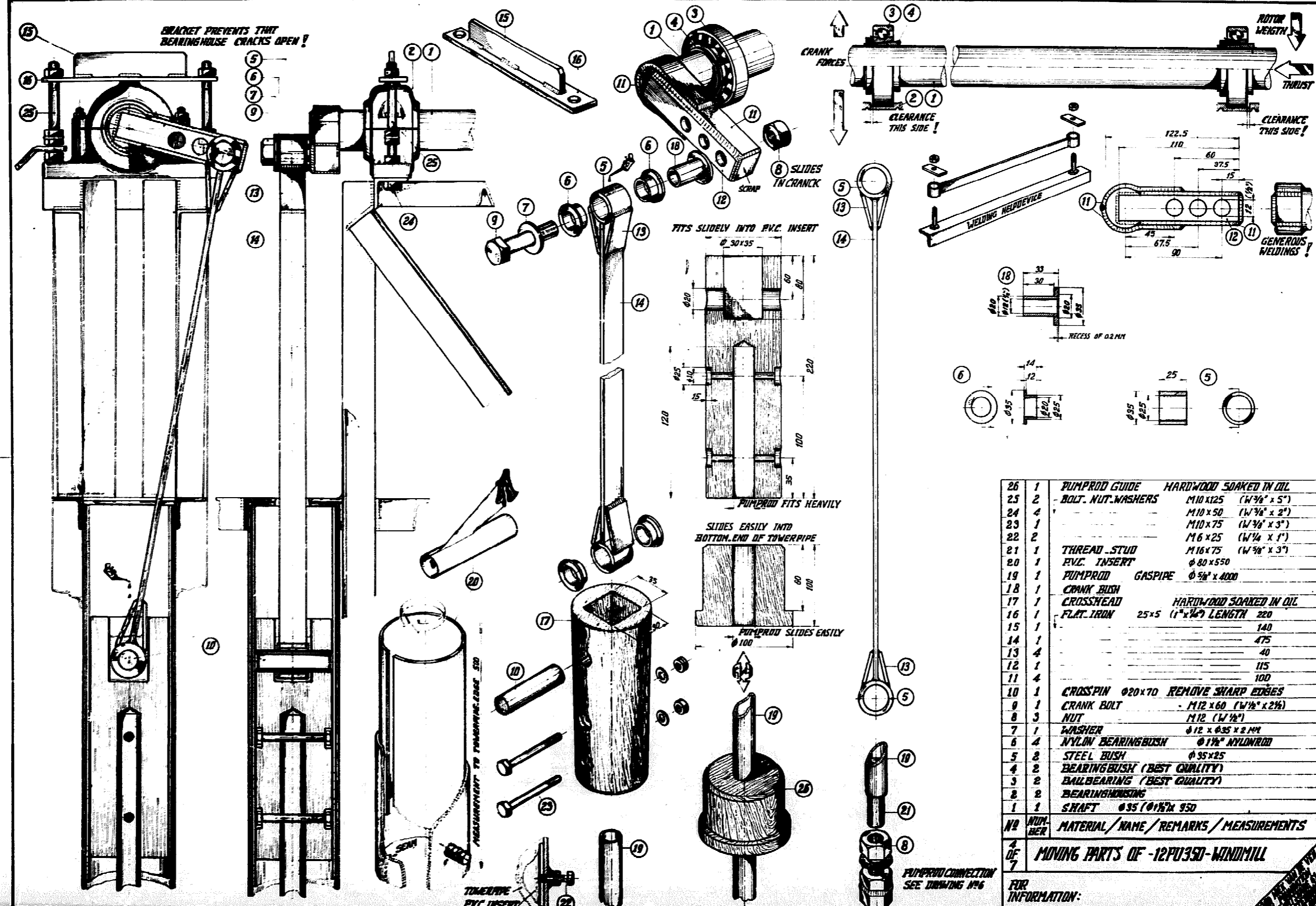


37	2	BOLT NUT WASHER	M10 x 30	(1 1/8" x 1 1/4")
36	1	---	M10 x 120	(1 1/4" x 5")
35	1	---	M10 x 100	(1 1/4" x 4")
34	12	---	M6 x 15	(1/4" x 1/2")
33	1	SPLIT PIN	φ 6	(φ 1/4")
32	1	ROD	φ 12 x 470	(φ 1/2" x 17')
31	3	WASHER	INSIDE φ 12 (1/2")	
30	1	TAILVANE	1mm SHEET	1400 x 700
29	1	HELVA	---	700 x 350
28	2	SPRING	APPR. φ 30 x 100 x φ 4	
27	1	FLAT IRON	25 x 5 (1" x 1/4")	LENGTH 70
26	2	---	---	30
25	1	---	---	100
24	1	---	---	90+95
23	1	---	---	630
22	1	---	---	300
21	5	---	---	70
20	1	---	---	600
19	3	---	---	525
18	1	ANGLE IRON	30 x 30 x 3 (1 1/4" x 1 1/4")	LENGTH 2800
17	1	---	---	2800
16	1	---	---	1100
15	1	---	---	95
14	1	---	---	60
13	1	---	---	190
12	1	---	---	150
11	1	---	---	415
10	1	---	---	700
9	1	---	---	35
8	1	---	---	100
7	4	---	---	TOWER PIPE DIA.
6	2	---	---	380
5	2	---	---	700
4	2	---	---	320
3	2	---	---	760
2	1	---	---	350
1	2	---	---	220

NO. 3 OF 7 MATERIAL/NAME/REMARKS/MEASUREMENTS

3 OF 7 HEADCONSTRUCTION - 12P1350-WINDMILL

FOR INFORMATION:



26	1	PUMP ROD GUIDE	HARDWOOD SOAKED IN OIL
25	2	BOLT, NUT, WASHERS	M10 x125 (W 3/8" x 5")
24	4		M10 x 50 (W 3/8" x 2")
23	1		M10 x 75 (W 3/8" x 3")
22	2		M6 x 25 (W 1/4" x 1")
21	1	THREAD STUD	M16 x 75 (W 3/8" x 3")
20	1	P.V.C. INSERT	φ 80 x 550
19	1	PUMP ROD	GASPIPE φ 3/4" x 4000
18	1	CRANK BUSH	
17	1	CROSSHEAD	HARDWOOD SOAKED IN OIL
16	1	FLAT IRON	25x5 (1" x 1/4") LENGTH 220
15	1		140
14	1		475
13	4		40
12	1		115
11	4		100
10	1	CROSS PIN φ 20 x 70	REMOVE SHARP EDGES
9	1	CRANK BOLT	M12 x 60 (W 1/2" x 2 1/4")
8	3	NUT	M12 (W 1/2")
7	1	WASHER	φ 12 x φ 35 x 2 MM
6	4	NYLON BEARING BUSH	φ 1 1/8" NYLON ROD
5	2	STEEL BUSH	φ 35 x 25
4	2	BEARING BUSH (BEST QUALITY)	
3	2	BALL BEARING (BEST QUALITY)	
2	2	BEARING HOUSING	
1	1	SHAFT	φ 35 (φ 1 1/8" x 950)

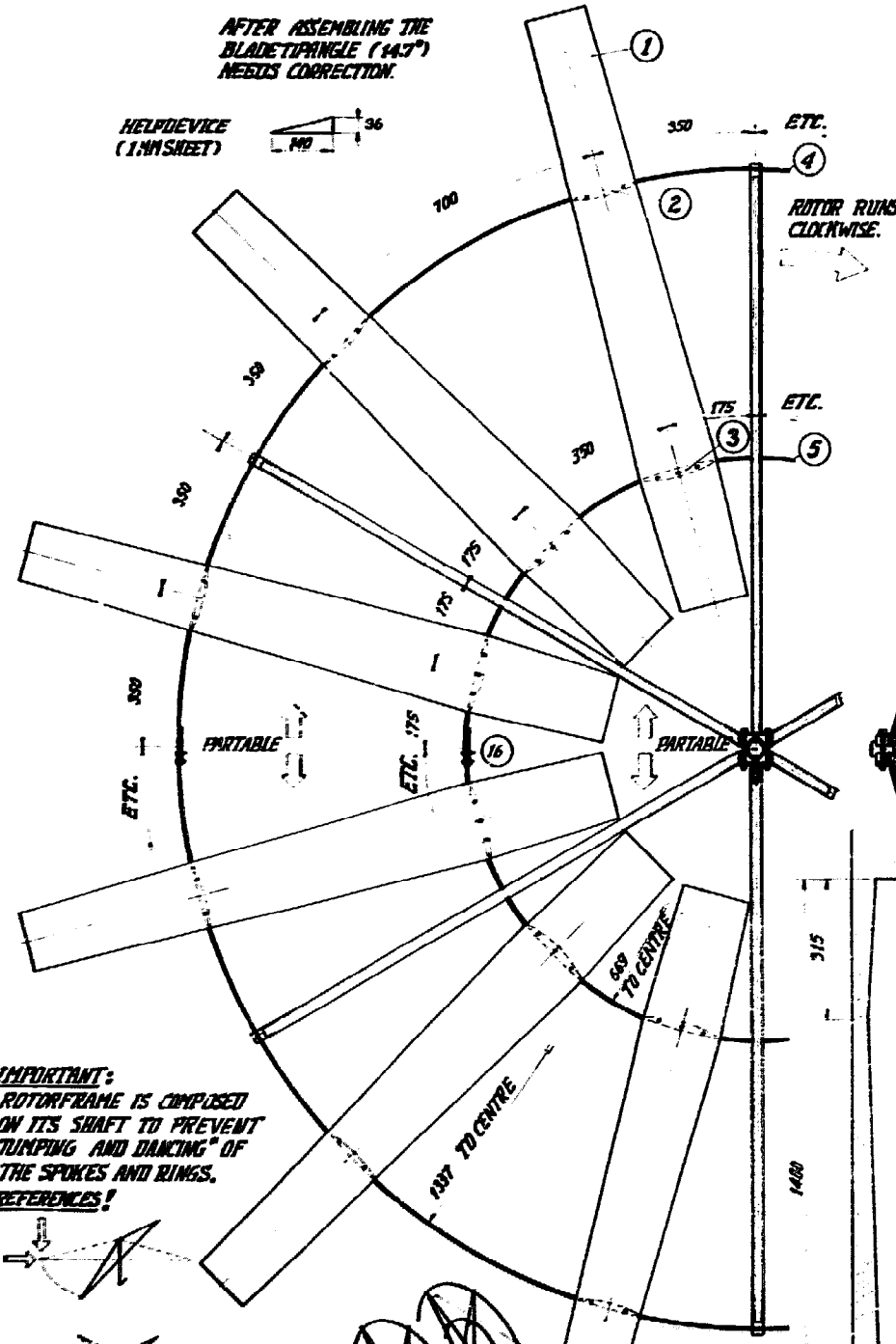
NO. 4 OF 7 MATERIAL / NAME / REMARKS / MEASUREMENTS

MOVING PARTS OF -12PU350-WINDMILL

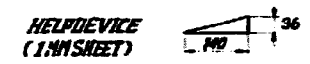
FOR INFORMATION:

TOWER PIPE P.V.C. INSERT

PUMP ROD CONNECTION SEE DRAWING NO 6

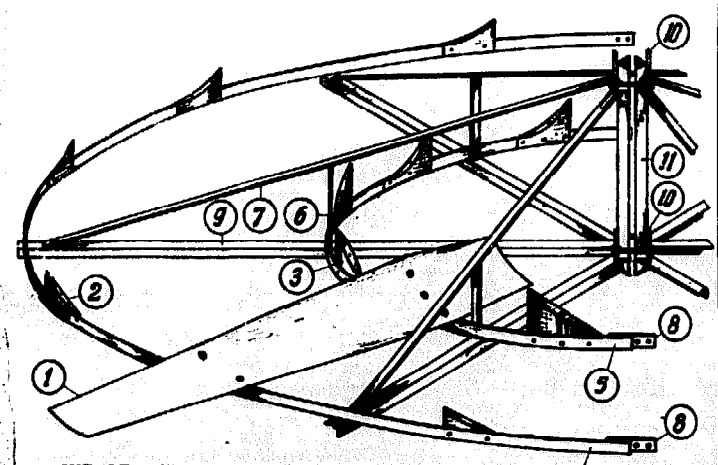
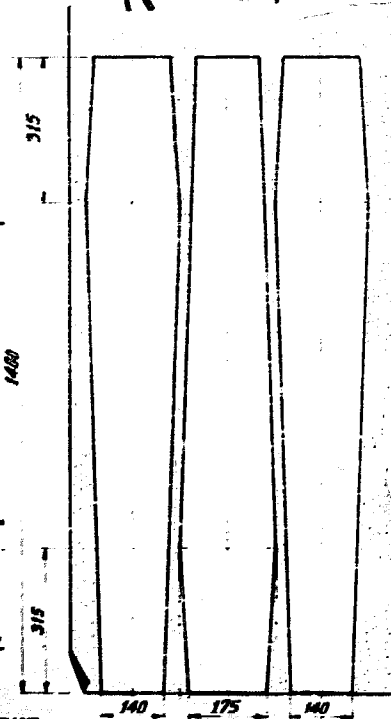
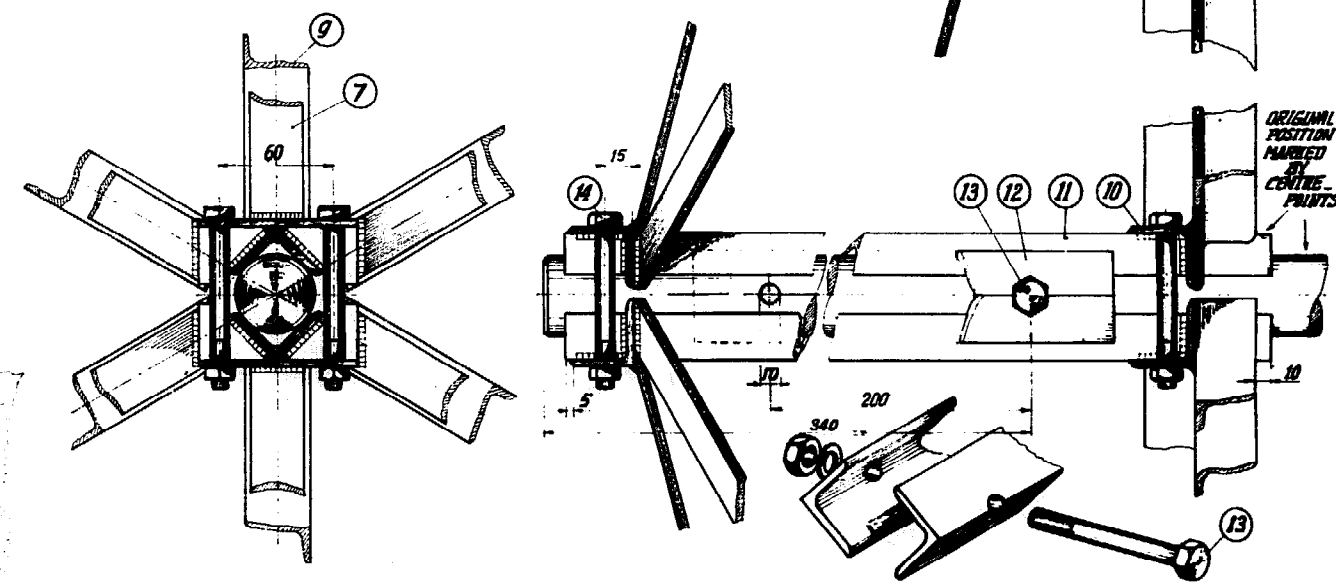
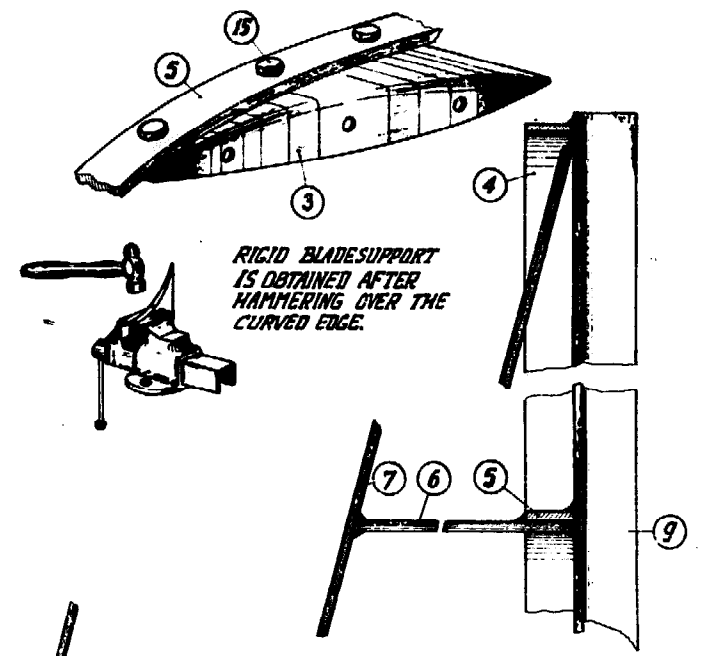
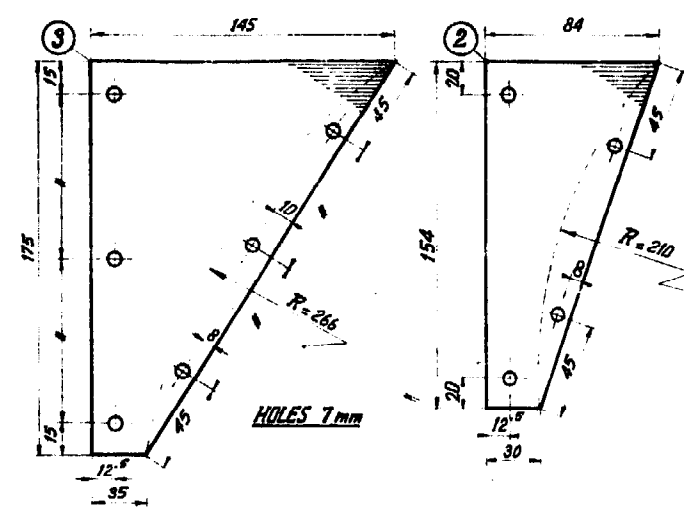
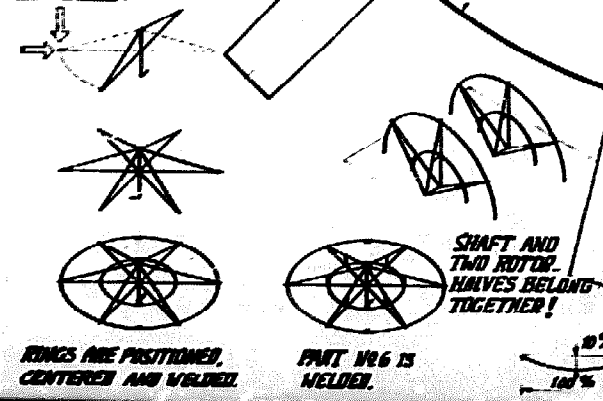


AFTER ASSEMBLING THE BLADE TIP ANGLE (14.3°) NEEDS CORRECTION.



ROTOR RUNS CLOCKWISE.

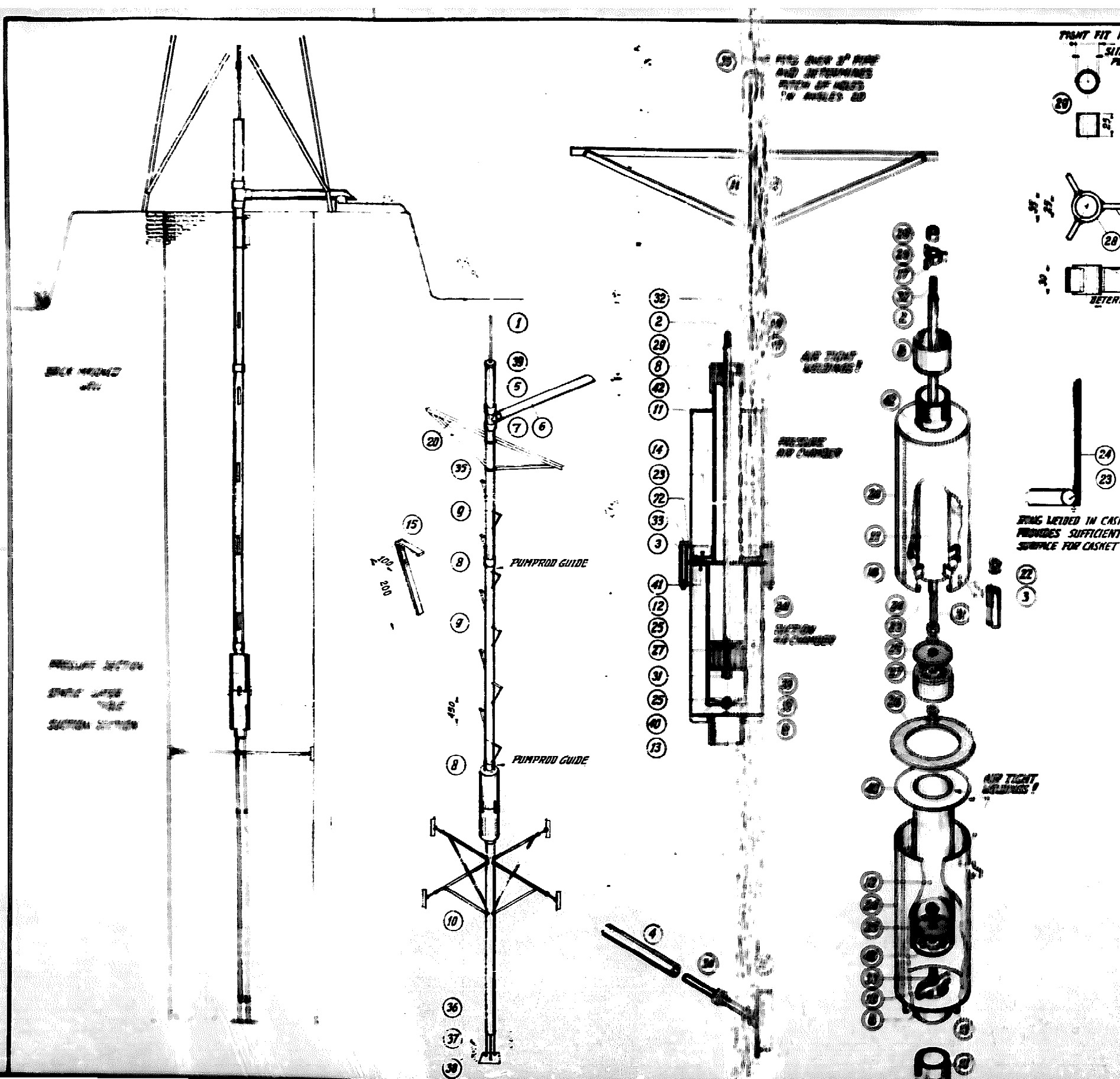
IMPORTANT:
ROTOR FRAME IS COMPOSED ON ITS SHAFT TO PREVENT "JUMPING AND DANCING" OF THE SPOKES AND RINGS. REFERENCES!



ONE OF THE BLADES IS MOUNTED ON A WELL POSITIONED SET OF SUPPORTS (AVERAGE MEASUREMENTS!) AND IS USED AS A DRILLING MOULD FOR THE OTHER 11 BLADES.

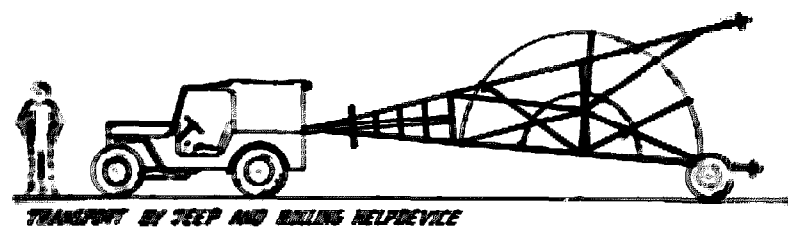
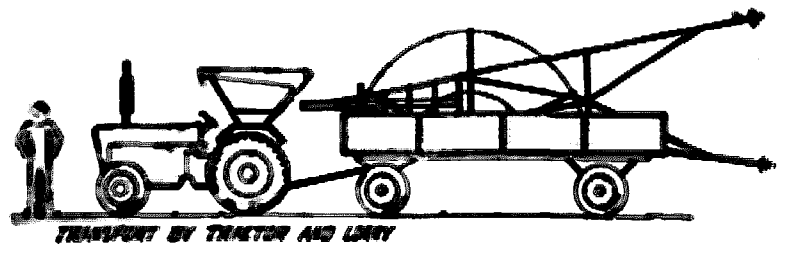
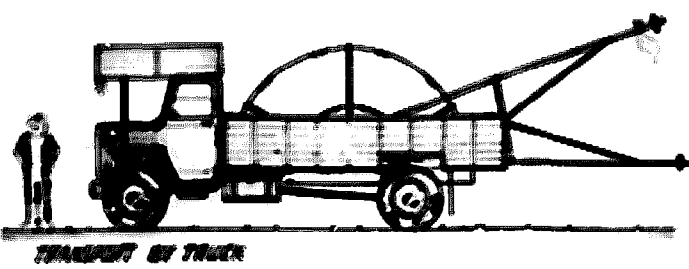
16	8	BOLT NUT WASHER	M10x25 (W 3/8" x 1")
15	120		M6x15 (W 1/8" x 1/2")
14	4		M10x100 (W 3/8" x 4")
13	2		M10x100 (W 3/8" x 4")
12	2	ANGLE IRON	30x30x3 (1 1/4" x 1 1/4") x 300
11	2		x465
10	4		x100
9	6		x1330
8	4	FLAT IRON	25x5 (1" x 1/4") x 120
7	6		x1330
6	6		x190
5	1		2 x 2100
4	1		2 x 4200
3	12	BLADE SUPPORT	1mm SHEET
2	12		
1	12	BLADE	1mm SHEET
NO	NO	MATERIAL/NAME/REMARKS/MEASUREMENTS	

5 OF 7
ROTOR FOR - 12 PU 350 - WINDMILL (A-2)
 FOR INFORMATION:

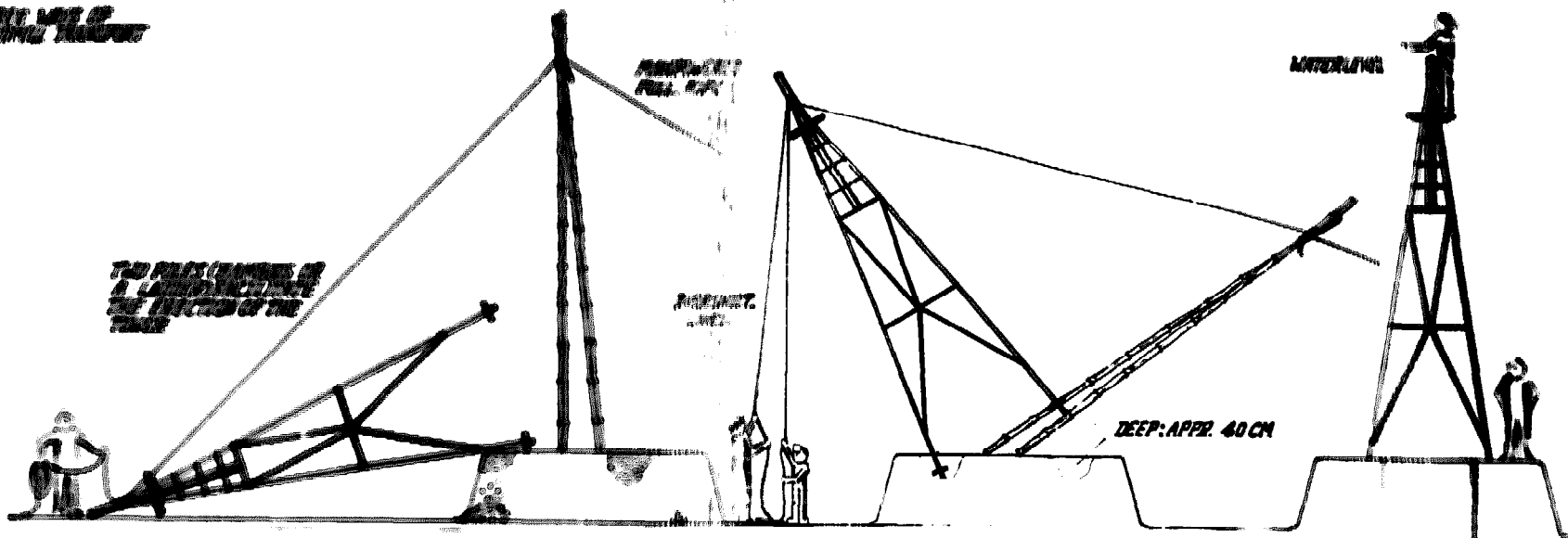


42	2	CASING - FLANGE	2mm SHEET 300
41	1	FOOT VALVE	(SHAP FROM NO. 41)
40	1	WOODEN PUMP ROD GUIDE: 24 IN DRILLING NO. 8	
39	1	BOTTOM SHEET	2mm SHEET 300
38	1	MESH	3/8
37	1	FOOT BAR	1/2" (1 1/2")
36	3	CLAMP	1/2" (1 1/2")
35	2	BOLT - NUT	M10x25 (1/2" x 2")
34	4	BOLT - NUT, WASHER	M10x25 (1/2" x 2")
33	5	THREAD STUD	M10x25 (1/2" x 2")
32	*	NUTS	M16 (1 1/2")
31	1	BRONZE BUSH	3/8 x 25
29	1	STEEL BUSH	3/8 x 25
28	1	PISTON / FOOTVALVE	TEARWOOD
27	2	GASKET	SOLE LEATHER 6 1/2" x 6 mm
26	1	VALVE	6 1/2" x 6 mm
25	2	CASING	2mm SHEET 300 x 400
24	2	RING	1/2" (1 1/2")
23	1	FILLING PIECE	1/2" (1 1/2")
22	4	ANGLE IRON	3/4 x 3/4 x 7/8 x 10
21	4		1 1/2
20	2		1 1/2
19	4		1 1/2
18	1	FLAT IRON	2 1/2" (1 1/2") x 1 1/2
17	3		1 1/2
16	1		1 1/2
15	*		1 1/2
14	4		1 1/2
13	4		1 1/2
12	1	CYLINDER SEAMLESS	4" OD PIPE 1 1/2
11	1	DELIVERY PIPE	3" 1 1/2
10	1	SUCTION PIPE	3" 1 1/2
9	1	DELIVERY PIPE (EXTENSION)	3" 1 1/2
8	*	SOCKET	FOR 3"
7	1	T-SOCKET	3"
6	1	EXHAUST PIPE	3" 1 1/2
5	1	TOP PIPE	3" 1 1/2
4	4	POSITIONING PIPE	1" 1 1/2
3	4	PIPE	3/4" 1 1/2
2	1	PUMP ROD	1/2" 1 1/2
1	*	PUMP ROD EXTENSION	1/2" 1 1/2
NO	NUM BER	MATERIAL / NAME / DIMENSIONS / MEASUREMENTS	

6 OF 7
4" PISTON PUMP FOR 12 PUSSED WINDMILL
 FOR INFORMATION:



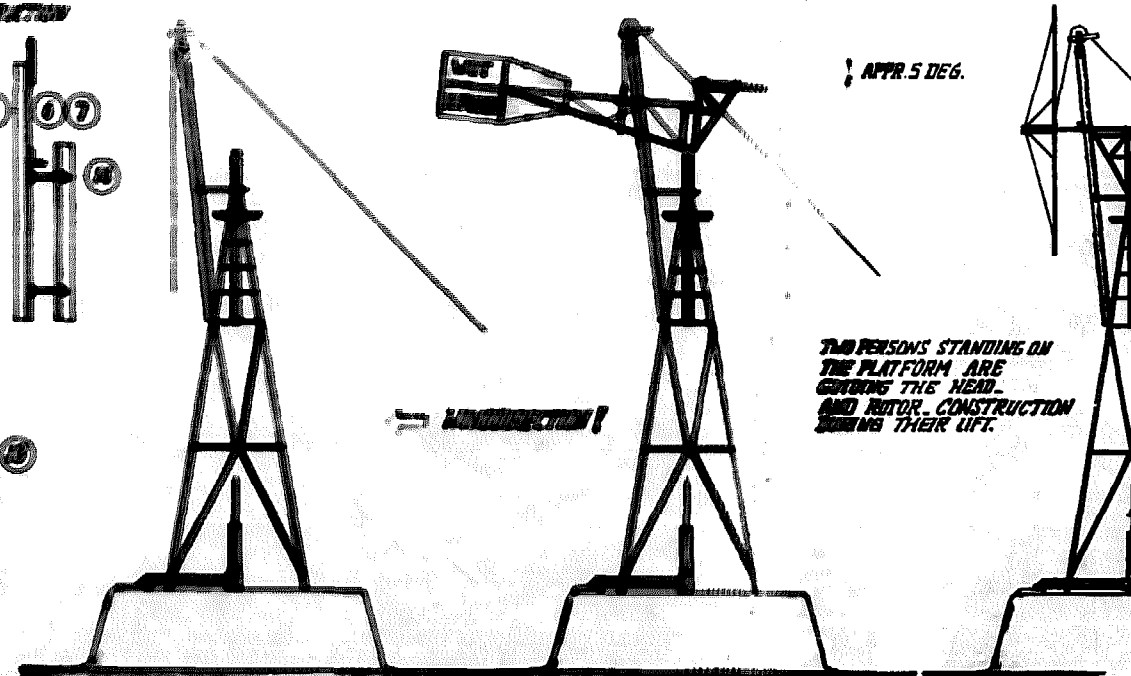
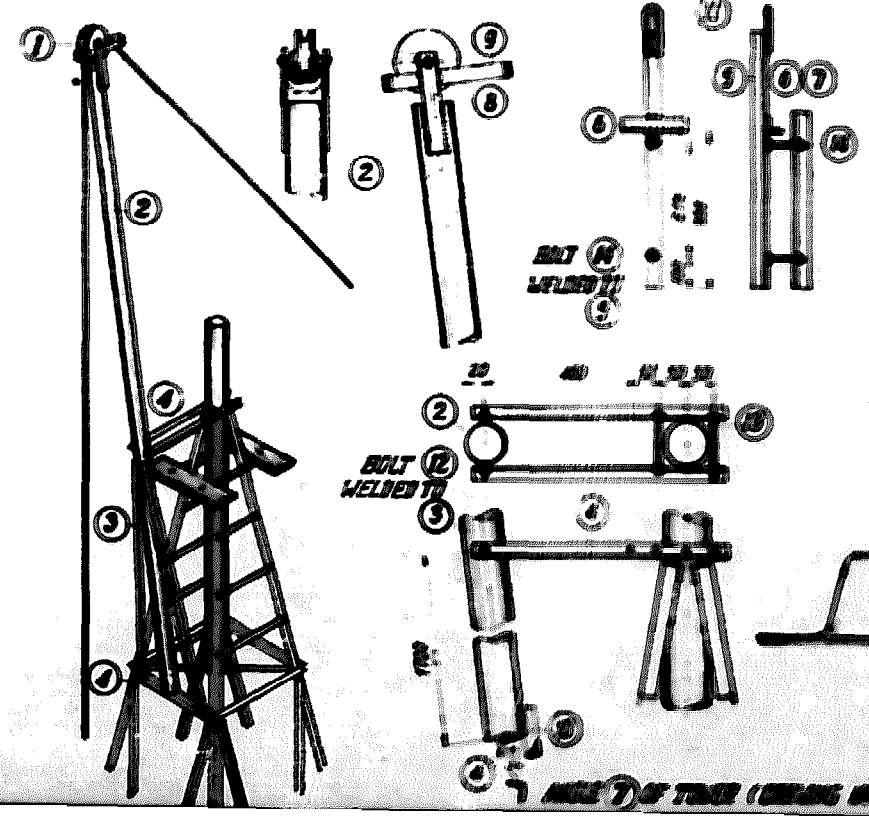
THIS WAY OF LIFTING TRUCKS



THE FIRST PART OF A LIFTING DEVICE IS THE PISTON OF THE TRUCK

IMPORTANT: AFTER PLACING THE TOWER THE TOWERLESS ARE FILLED IN WITH CONCRETE AND AFTER APPROX 5 DAYS THE HEAD AND ROTOR CONSTRUCTION CAN BE INCREASED SAFE AND QUICK BY MEANS OF LIFTING DEVICES. DURING THE DRYING PERIOD OF THE CONCRETE FOUNDATION THE PISTON PUMP IS FORCED INTO THE WELL ACCORDING TO THE SPECIFICATIONS!

TOWER LIFTING HELPDEVICE



SINCE THE CENTRE OF GRAVITY OF THE HEAD CONSTRUCTION IS SITUATED ABOVE THE UPPER TOWER ANGLE A SPECIAL EXPANSION IS APPLIED A SLIGHT SLIDING OVER THE TOWERPIPE IS ADVISED IF THE FRONT IS OUT OF BALANCE APPROX 5 DEGR.

HEAD IS TEMPORARILY TIED TO "JOB" (WIND)

WGT 12 PU 350

APPR. 5 DEG.

TWO PERSONS STANDING ON THE PLATFORM ARE GUIDING THE HEAD AND ROTOR CONSTRUCTION DURING THEIR LIFT.

14	2	BOLT NUT WASHER	M 10 x 25 (M 10 x 5")
13	1		M 10 x 25 (M 10 x 5")
12	2		M 10 x 50 (M 10 x 2")
11	1	ROD	Ø 20 (Ø 3/4") x 200
10	1	FLAT	12 x 3 (1 1/2" x 3") x 100
9	1		x 500
8	2		x 200
7	1	ANGLE IRON	30 x 30 (1 1/4" x 1 1/4") x 200
6	1		x 200
5	1		x 500
4	3		x 1000
3	2		x 1000
2	1	GASPIPE	Ø 3" x 400
1	1	PULLEY SHANT AND ROPE OR STEEL CABLE (Ø 10)	
Nº		MATERIAL / NAME / REMARKS / MEASUREMENTS	
7		INSTALLING THE WINDMILL - 12 PU 350 -	
7		FOR INFORMATION:	