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A project of Volunteers in Asia

Treadle Operated Peanut Thresher  
ITDG Complete Technical Drawings #20

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Order of Assembling Peanut Thresher

A. Order lumber in accordance to the sizes called for in the plan.

B. Frame Assembly

1. Cut Pieces #1, #2, #3, #4, #5, #6, #7, #8A, #8B, #9, #10, #11, #12 as shown in the plan. Include notch on Pieces #6 and #7 and drill the holes as shown. On Piece #10 do not drill 7/8" hole yet.
2. Nail together Pieces #1, #2, #5, #6 and #8A. Then locate and drill holes.
  - (a) After each joint has been drilled place the size of bolts called for in accordance to the hole diameter.
  - (b) Prior to nailing each joint, check whether the assembled parts on step No. 2 are at right angles. It is suggested to use C-clamps to hold wood members in place before nailing them together.
  - (c) The same is true on the assembly of Pieces #1, #3, #4, #7 and #8B.
  - (d) Place the bolts for each joint.
3. Use temporary braces at top, back and front to place the above assembled pieces into vertical position.
  - (a) Be sure that the assembled pieces are at right angles and perpendicular.
  - (b) Nail Piece #12 and check whether the assembled parts on step No. 2 and No. 2C are at right angles.
4. Bolt Piece #9 to Pieces #8A and #8B.
5. Bolt Piece #10 to Piece #9.
6. Cut Pieces #13 and #14. Use expansion bit. First drill 1-3/16" hole. Then drill 5/8" hole. Nail Piece #14 to Piece #8A as shown in plan.
7. Project upward the centreline of the 7/8" hole of Pieces #8A and #8B to Pieces #6 and #7. Be sure that the centres of the holes of Pieces #6 and #7 and Pieces #8A and #8B are perpendicular.
8. Place Pieces #28, #36, #37, #38, #39, #47 and #48 to Pieces #14 and #8A. Apply grease inside Piece #36. Before placing Piece #47 (a bicycle foot lever), cut Piece #47 as shown in sketch and join the unshaded area by brazing.
9. Establish the centres of the 7/8" holes on Piece #10, apply grease to Piece #34 and insert through Piece #8B until it meets Piece #10. Drill 7/8" hole in Piece #10. Continue same procedure for drilling hole in second Piece #10. Piece #34 should be aligned with Piece #28.

C. Power Transfer Assembly

1. Cut Piece #43A and #43B into the desired length and mark centres of holes with a punch. Drill the holes by cutting torch or by drill press.
2. Fit in Pieces #44 and #46 to Pieces #43A and #43B respectively by brazing. Be sure the above pieces are at right angles and with the desired clearance.
3. Insert Piece #49 through Piece #8B, slip on Pieces #43B and #46 and continue pushing Piece #49 through Piece #10. Place Pieces #43A and #44 on end of Piece #49.
4. Check final locations of Pieces #43A, #43B and #46 with respect to Piece #49. When finally located, weld or braze the above pieces to Piece #49. To prevent Piece #10 from burning, remove the bolts temporarily and slide Piece #10 toward the centre.

D. Reel Assembly

1. Cut Piece #32 to the desired length and cut the points where it will be bent as shown in the detail. Use octagonal jig to form the reel and be sure that the two non-adjacent sides are at right angles. Bend it as shown.
2. Weld the joints.
3. Cut Piece #31. Weld Piece #31 to Piece #32. Mark centres of holes. Cut 7/8" holes on Piece #31 by cutting torch.
4. Cut Piece #34. Fit it in the 7/8" hole on Piece #31. Use jig to insure perfect alignment. When located, weld Piece #31 to Piece #34.
5. Cut Piece #29A and make 7/8" hole. Remove corners so that they will not interfere with the bicycle chain.
6. Weld Piece #29A to Piece #29. See detail.
7. Fit the above pieces to Piece #34 as shown in the plan. Weld Piece #29A to Piece #34. Be sure Piece #29 is perpendicular to Piece #34.
8. Cut Pieces #40, #41, and #30 as shown in plan.
9. Drill 1/4" holes in Pieces #30, #40 and #41.
10. Locate centre of the sides of Piece #32 that are adjacent to Piece #31. At this centre, weld Piece #41 perpendicular to Piece #32.
11. Fit Piece #30 and bolt it to Pieces #41 and #41.

12. Fit one end of Piece #28 (with fixed cone) to both ends of Piece #34.
13. Weld the contact surface of Pieces #28 and #34.
14. Cut Piece #13 and drill the holes as shown.
15. Place the steel balls (Piece #37) by using grease.
  - (a) Place the grease between frictional surfaces of Pieces #13 and #6, then Pieces #7 and #13.
  - (b) Place Piece #39 (lock nut).
  - (c) Bolt Piece #13 to Pieces #6 and #7.
  - (d) Fit chain.

E. Treadle Assembly

1. Cut Pieces #53, #54, #55, #56 and drill holes on Pieces #53 and #55.
2. Weld Piece #54 to Piece #53. Be sure these pieces are at right angles. Bolt Piece #53 to Piece #1.
3. Weld Piece #56 to Piece #53.
4. Cut Piece #51 (Pitman) as shown in the detail. Fit Pitman on Pieces #44 and #46.
5. Locate Piece #55 by aligning with Piece #51. When finally located, weld Piece #55 to Piece #54.
  - (a) Be sure Piece #55 and Piece #54 are at right angles.
  - (b) Check clearance of Piece #55.
  - (c) Before welding Piece #55 to Piece #54, fit Piece #58 to hold on Piece #55.

F. Threshing Table Assembly

1. Drill holes on Piece #11.
2. Cut Piece #57 and nail it to Piece #11.
3. Cut Pieces #15 and #16 and nail at Pieces #8A and #8B. Drill holes on Piece #15.
4. Cut Piece #17 as shown.

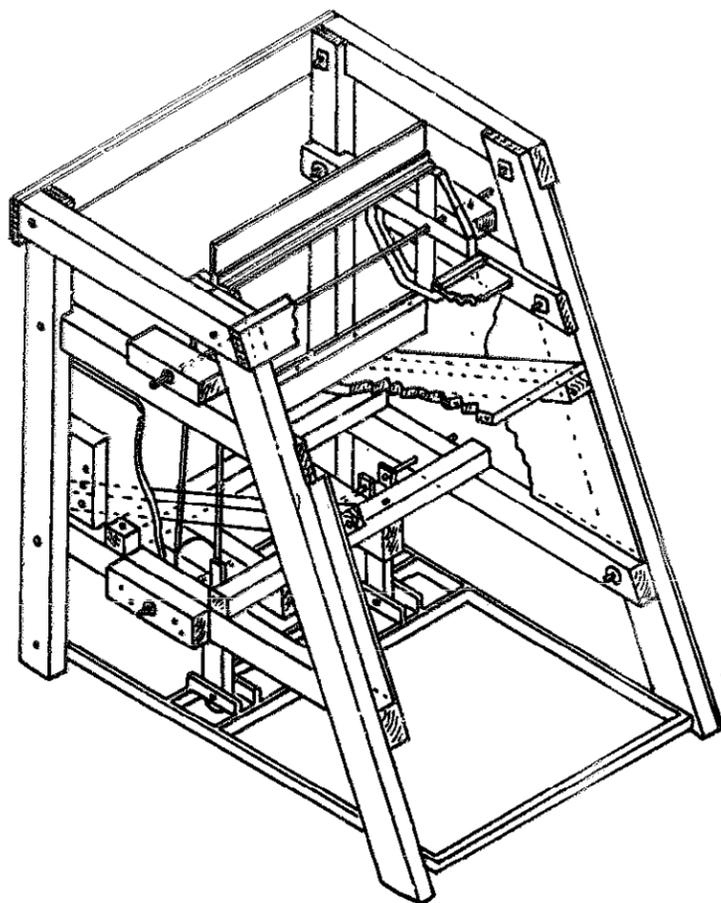
G. Sidings

1. Cut Pieces #18, #19, #20, #21, #22 and #23 as shown in the plan and drill holes where they are needed.

2. Paint the above pieces by using spray gun. Note: Paint the inside part of Piece #18 only. Paint outer sides when nailed to the frame.
3. Paint the frame assembly with green and all metals with silver-brite paint except the chain and the sprocket. Paint 4-ply boarding with silver-brite paint also.
4. Plane the edges of Pieces #18, #21, #22 and #23 after they have been nailed to the frame. Re-paint the edges immediately after.

College of Agriculture, Malaya,  
Serdang, Selangor,  
Malaysia.

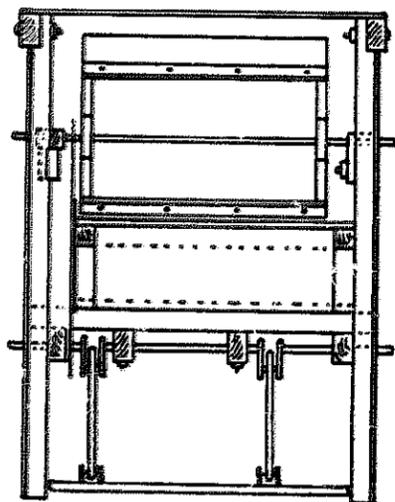
September, 1967



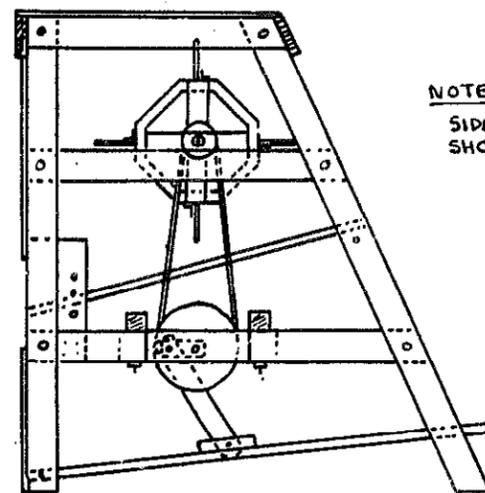
NOTE PARTS NOT SHOWN IN THIS VIEW  
 A REAR THRESHING FLAP  
 B TOP PLYBOARD COVER  
 C LEFT SIDE OUTER PLYBOARD COVER

PERSPECTIVE VIEW  
 SCALE 1:10 APPROX.

NOTE: FRONT AND REAR THRESHING  
 FLAPS NOT SHOWN IN  
 THIS VIEW.



FRONT VIEW



NOTE:  
 SIDE PLYBOARDS NOT  
 SHOWN IN THIS VIEW.

SIDE VIEW

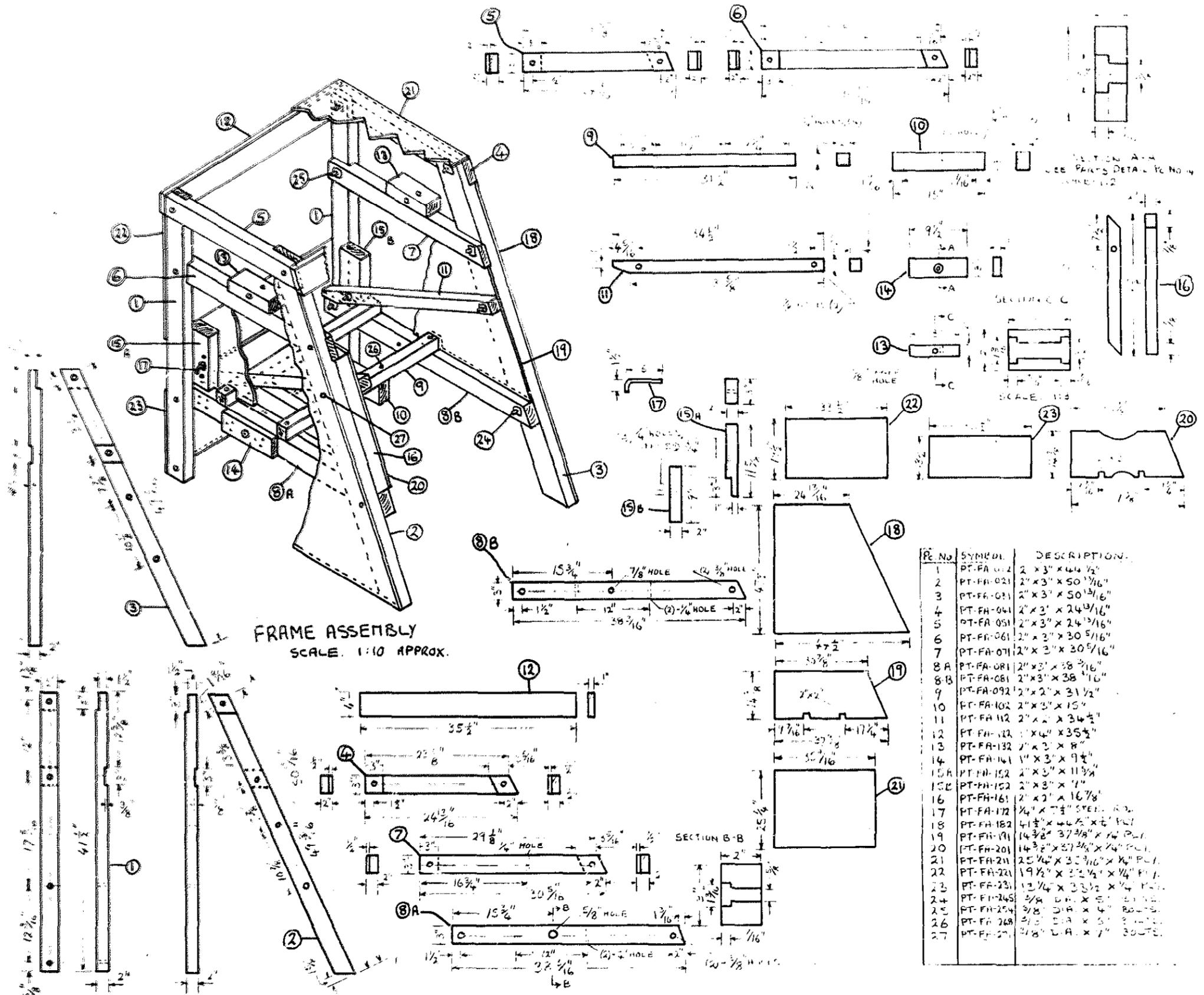
PEANUT THRESHER

DEVELOPED AT COLLEGE OF AGRICULTURE - MALAYA.

RE-DRAWN BY R. MANN - N.C.A.E. SILSOE - 25.8.71

SHEET 1 OF 5

DRAWING NO.  
 PT

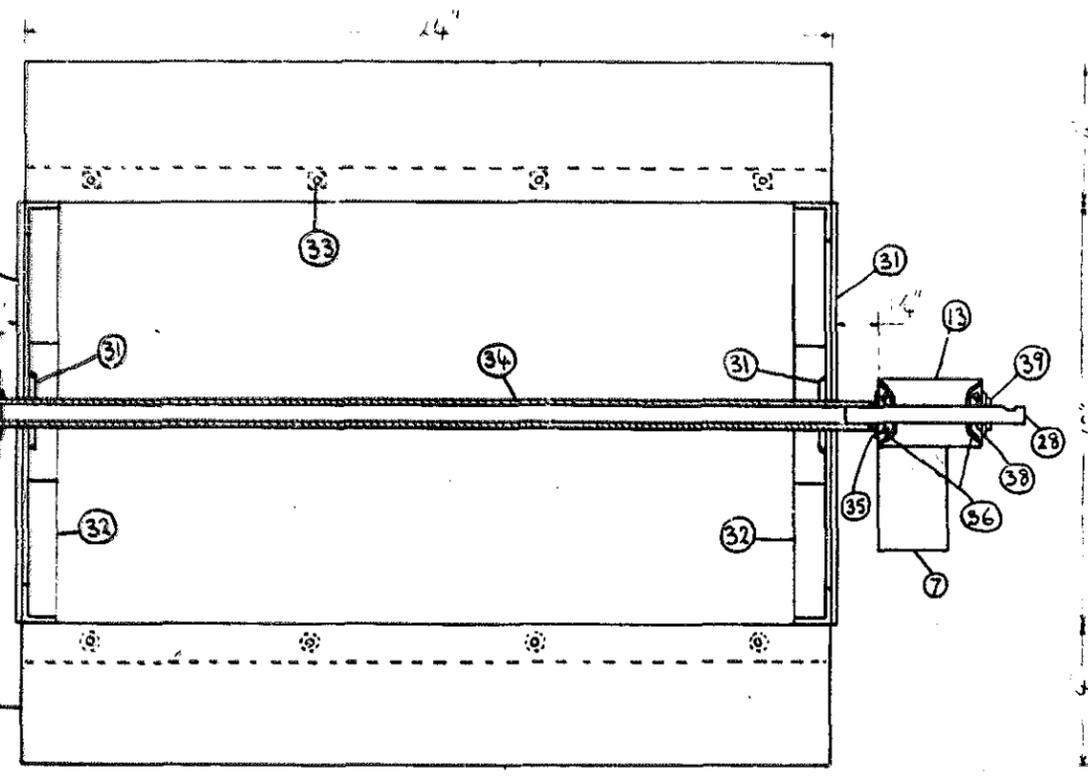
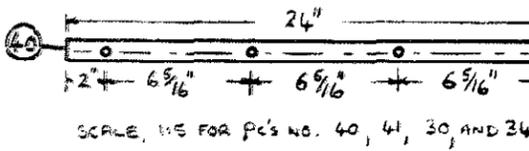
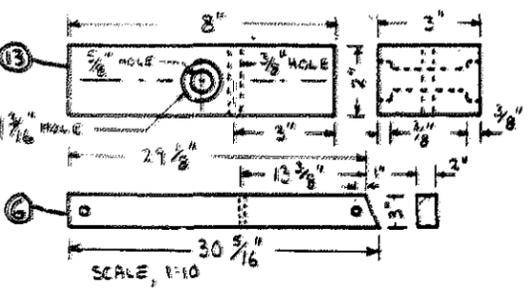
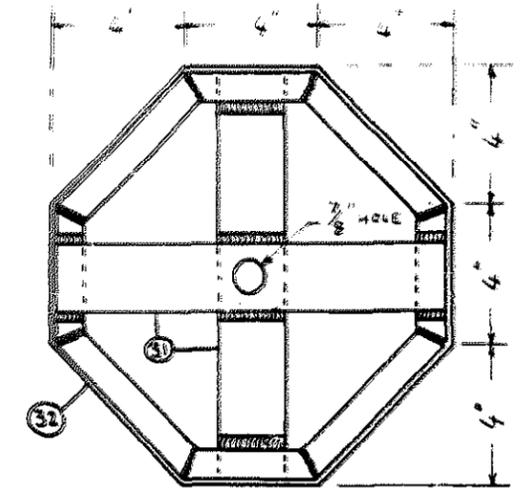
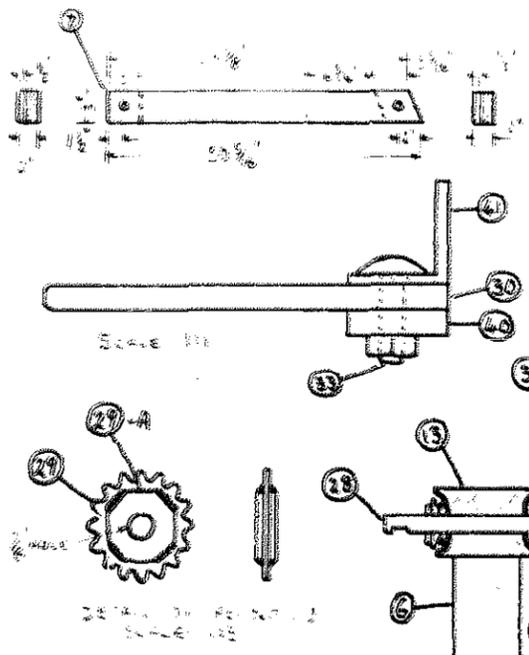


FRAME ASSEMBLY  
SCALE: 1:10 APPROX.

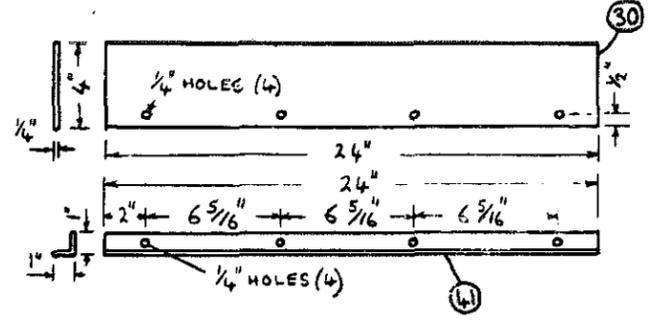
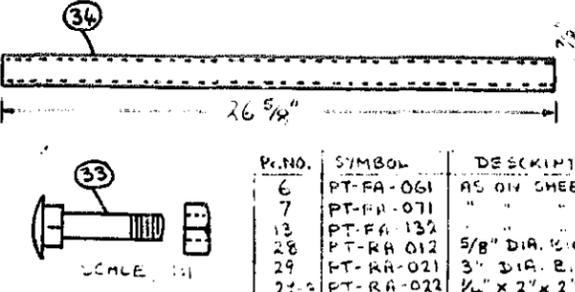
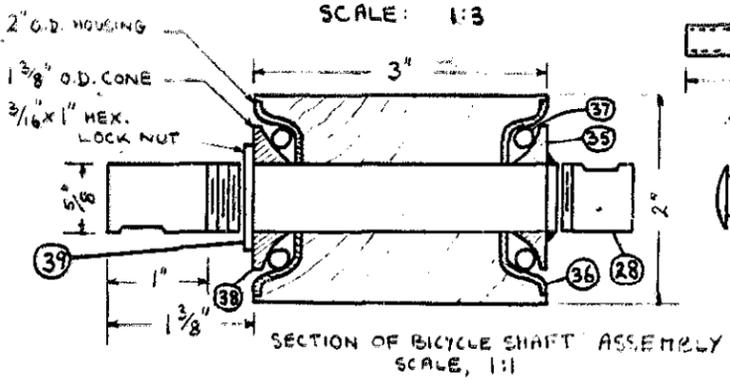
INDIVIDUAL PARTS DETAIL  
SCALE: 1:10 \*

\* EXCEPT Pt. NO's 18, 19, 20, 21, 22, & 23, 1:20  
OR AS OTHERWISE SPECIFIED.

Pt. No.	SYMBOL	DESCRIPTION
1	PT-FA-011	2" x 3" x 46 1/2"
2	PT-FA-021	2" x 3" x 50 13/16"
3	PT-FA-031	2" x 3" x 50 13/16"
4	PT-FA-041	2" x 2" x 24 13/16"
5	PT-FA-051	2" x 3" x 24 13/16"
6	PT-FA-061	2" x 3" x 30 5/16"
7	PT-FA-071	2" x 3" x 30 5/16"
8A	PT-FA-081	2" x 3" x 38 3/16"
8B	PT-FA-081	2" x 3" x 38 3/16"
9	PT-FA-092	2" x 2" x 31 1/2"
10	PT-FA-102	2" x 3" x 15"
11	PT-FA-112	2" x 2" x 34 1/2"
12	PT-FA-112	1" x 4" x 35 1/2"
13	PT-FA-132	2" x 3" x 8"
14	PT-FA-141	1" x 3" x 9 1/2"
15A	PT-FA-152	2" x 3" x 11 3/4"
15B	PT-FA-152	2" x 3" x 7"
16	PT-FA-161	2" x 2" x 16 7/8"
17	PT-FA-172	1/4" x 7 1/2" STEEL R.I.
18	PT-FA-182	4 1/2" x 4 1/2" x 1/4" PL.
19	PT-FA-191	14 3/8" x 37 3/8" x 1/4" PL.
20	PT-FA-201	14 3/8" x 27 3/8" x 1/4" PL.
21	PT-FA-211	25 1/4" x 30 3/16" x 1/4" PL.
22	PT-FA-221	19 1/2" x 22 1/2" x 1/4" PL.
23	PT-FA-231	12 1/4" x 33 1/2" x 1/4" PL.
24	PT-FI-245	5/8" DIA. x 5" L.
25	PT-FI-254	5/8" DIA. x 4" L.
26	PT-FI-268	5/8" DIA. x 3" L.
27	PT-FI-271	3/8" L.A. x 7" SCUTE.



REEL ASSEMBLY  
SCALE: 1:3



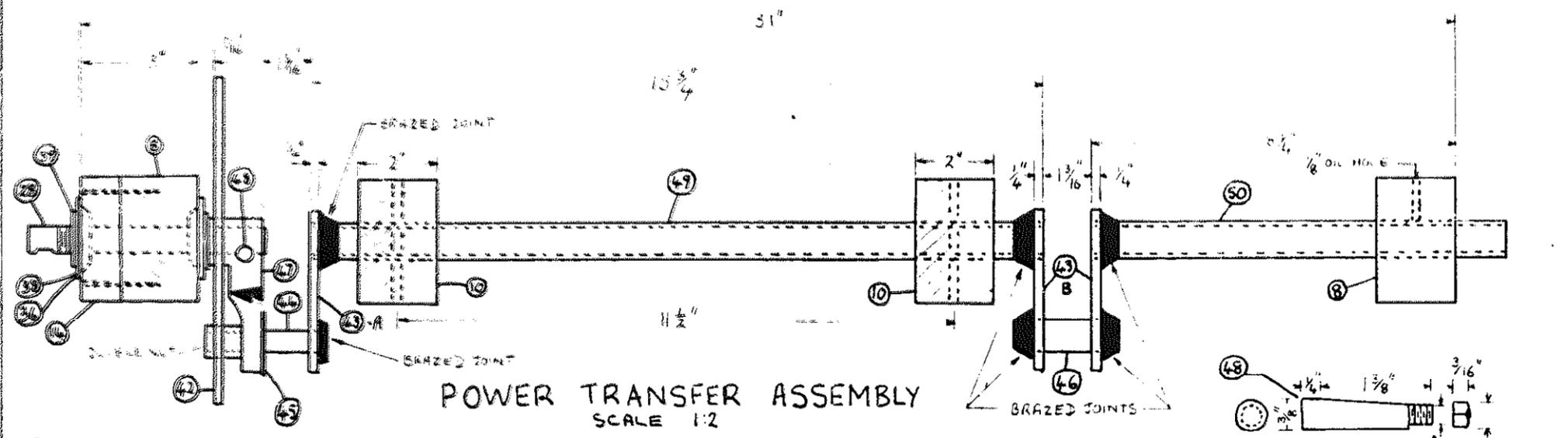
INDIVIDUAL PARTS DETAIL  
SCALE: 1:3, EXCEPT WHERE OTHERWISE SPECIFIED.

DETAIL OF  
PC NO. 32  
SCALE 1:3

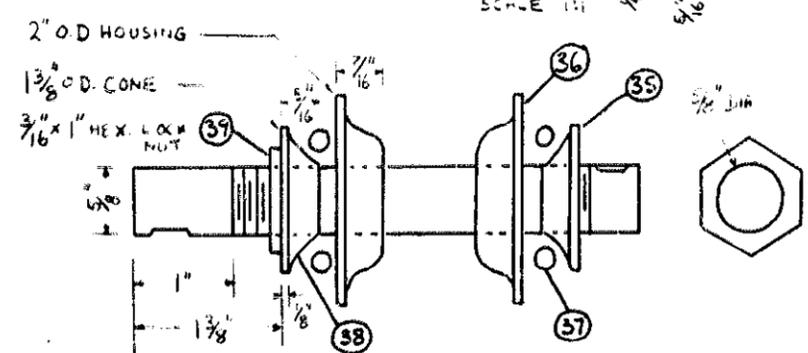
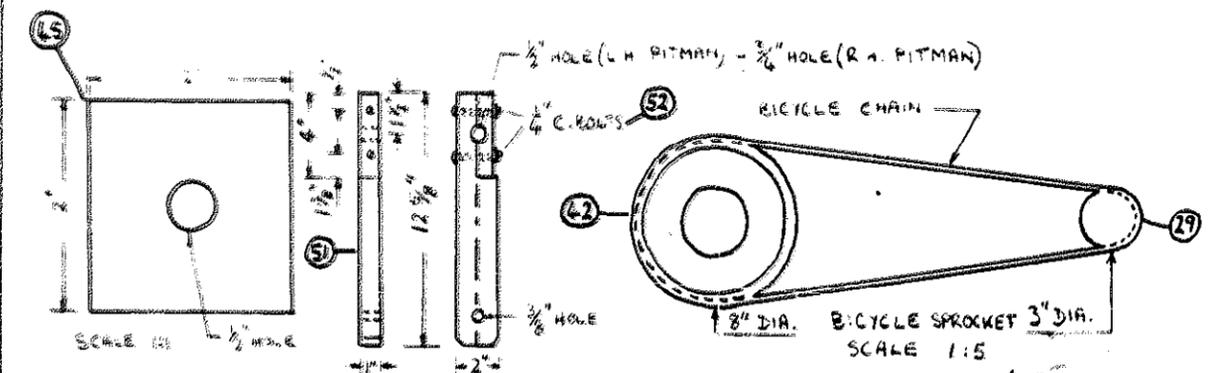
PC. NO.	SYMBOL	DESCRIPTION
6	PT-FA-061	AS ON SHEET 2
7	PT-FA-071	"
13	PT-FA-132	"
28	PT-RA-012	5/8" DIA. BICYCLE BEARING SHAFT
29	PT-RA-021	3" DIA. BICYCLE SPROCKET
27	PT-RA-022	1/4" X 2" X 2" FLAT SHEET
20	PT-RA-034	1/4" X 1/4" X 24" "
31	PT-RA-044	1/4" X 2" X 11 3/8" "
32	PT-RA-052	1/8" X 1" X 1" X 38" ANGLE IRON
33	PT-RA-0616	1/4" X 1" CARTRIDGE BOLT
34	PT-RA-071	5/8" BORE PIPE, 26 5/16" LONG
35	PT-RA-082	1 3/8" O.D. BEARING CONE (FIXED)
36	PT-RA-094	2" O.D. BEARING RACE
37	PT-RA-10	BALL BEARINGS
38	PT-RA-112	1 3/8" O.D. BEARING CONE
39	PT-RA-122	3/16" X 1" LOCK NUT
40	PT-RA-134	1/4" X 1" X 24" FLAT BAR
41	PT-RA-144	1/8" X 1" X 1" X 24" ANGLE IRON

PEANUT THRESHER

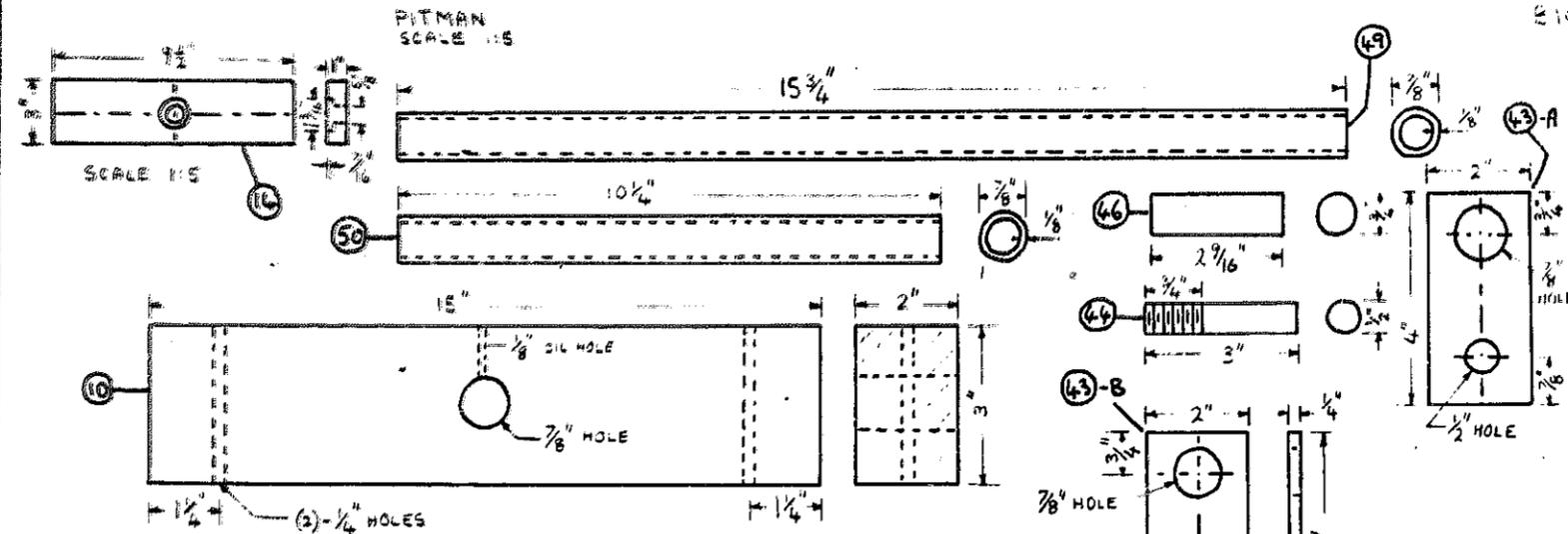
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POWER TRANSFER ASSEMBLY  
SCALE 1:2



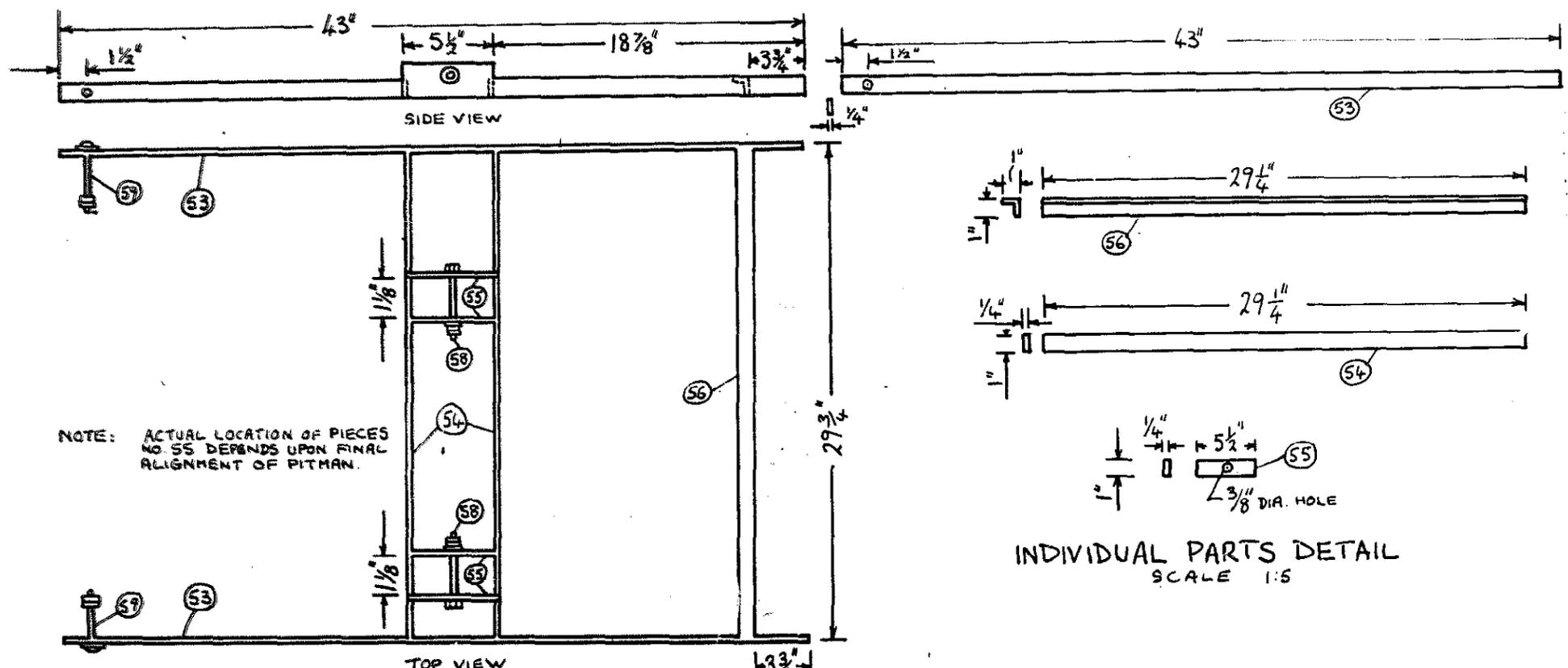
BICYCLE SHAFT ASSEMBLY  
SCALE 1:1



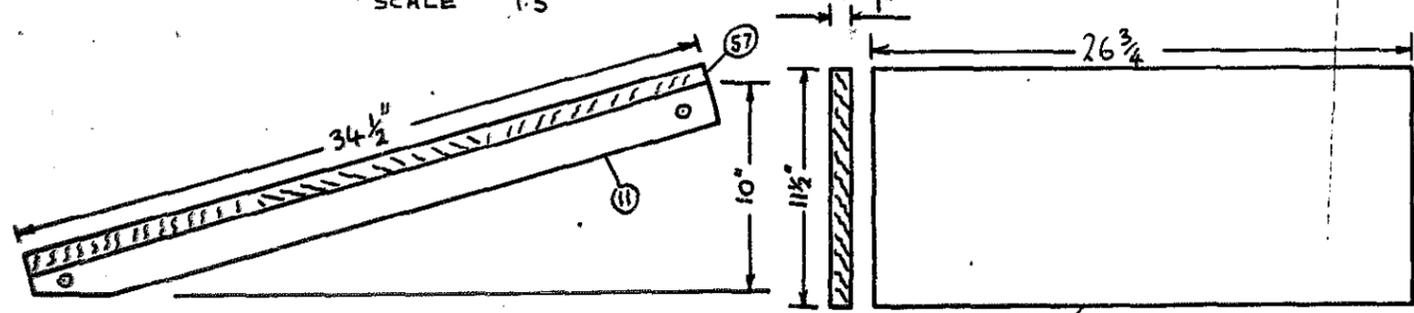
INDIVIDUAL PARTS DETAIL  
SCALE 1:2

NOTE:  
TOTAL LENGTH OF PC. NOS. 49 AND 50 IS 28 3/4" - CUTTING SHOULD BE DONE ONLY AFTER PC. NOS. 46 AND 47 HAVE BEEN BRAZED TO PC. NOS. 43-A AND 43-B, AND THE LATER FINALLY JOINED BY BRAZING.

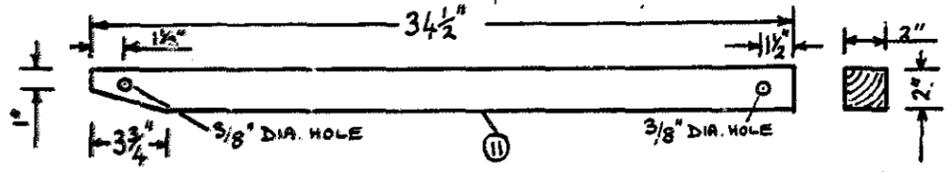
PC. NO.	SYMBOL	DESCRIPTION
8	PT-PA-012	NO. ON SHEET 2.
10	PT-PA-102	" " " " " "
14	PT-PA-141	" " " " " "
28	PT-PA-011	5/8" BICYCLE BEARING SHAFT
35	PT-PA-021	1 3/8" O.D. BEARING CONE
36	PT-PA-032	2" O.D. BEARING RACE
37	PT-PA-04	BALL BEARINGS
38	PT-PA-051	1 3/8" O.D. BEARING CONE
39	PT-PA-061	3/16" x 1" LOCK NUT
42	PT-PA-071	8" DIA. BICYCLE SPROCKET
43	PT-PA-083	1/4" x 2" x 1/2" FLAT SHEET
44	PT-PA-081	1/2" DIA. x 2" STEEL SHAFT
45	PT-PA-101	3/32" x 2" x 2" WASHER
46	PT-PA-111	3/4" DIA. x 2 1/16" STEEL SHAFT
47	PT-PA-121	BICYCLE CRANK ARM
48	PT-PA-131	1/4" x 1 3/8" COPPER PIN
49	PT-PA-141	5/8" BICYCLE PIPE, 15 3/4" LONG
50	PT-PA-151	5/8" BICYCLE PIPE, 10 1/4" LONG
51	PT-PA-162	1" x 2" x 12 5/8" PITMAN
52	PT-PA-174	1/4" x 2" CARRIAGE BOLTS



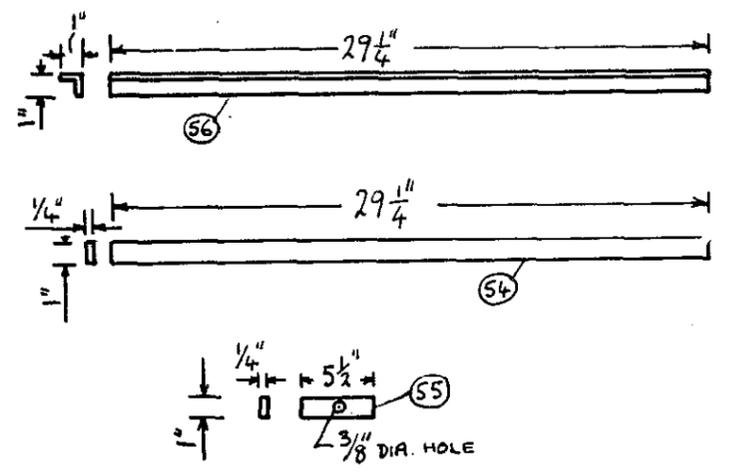
TREDDLE ASSEMBLY  
SCALE 1:5



THRESHING TABLE ASSEMBLY  
SCALE 1:5



INDIVIDUAL PARTS DETAIL  
SCALE 1:5



INDIVIDUAL PARTS DETAIL  
SCALE 1:5

PC. NO.	SYMBOL	DESCRIPTION
11	PT-FA-112	AS ON SHEET 2
53	PT-TA-012	1/4" X 1" X 43" FLAT BAR
54	PT-TA-022	1/4" X 1" X 29 1/4" "
55	PT-TA-034	1/4" X 1" X 5 1/2" "
56	PT-TA-041	1/2" X 1" X 29 1/4" ANGLE IRON
57	PT-TA-053	1" X 11 1/2" X 26 3/4" BOARD
58	PT-TA-062	3/8" DIA. X 2 1/2" M. BOLTS WITH 2 NUTS & 2 WASHERS.
59	PT-TA-072	3/8" DIA. X 3" M. BOLTS WITH 2 NUTS AND 2 WASHERS.