# Detail of East/West Lines #1, #2, #3

North — South

N/S Line

Legend:
- 10 Poles A
- 6 Poles P
- 8 Anchor
- 15 Ground rods ÷
- 7 Transformers ÷ 300/600 ohms
- - - - - Future Construction
- X Future resource
- 4 counterweight assemblies □
- 5 Pair auger insulators O+
- 9 Pair spring anchors m
- 9 Pair strain insulators O
- 13 Pair strain insulators +pair ↑
- 16 Pair bell insulators +pair ↑
- 25 Pair line separators (one pair on each 220 ft span)
- 18 line terminations

Cross arms
- Positions 1 & 4 = Double offset
- Position 2 = Triple balanced
- Position 3 = Triple offset
- Position 5 = Quadruple Balanced
- Positions 6 & 7 = Quadruple offset
- Position 1 = Single for pair

25 span 220 ft line = 5500 ft line
8 antennas 440 + 120 = 8 × 560 = 4480 ft wire
2 ml dark antenna @ 220 = 440 ft wire
8 antennas 11000 ft wire
= 15920 ft wire

Trans. Pole.
2.1 ml
1.7 ml
2.3 ml
2.1 ml

# Detail of East/West Lines #4, #5, #6

8 May 61

North

South

2.1
2.3
1.9
2.1
Trans. Pole

7  6  5  4  3  2  1   N/S Line   1  2  3  4  5  6  7

8 Poles A
6 Posts P
8 Anchors ◄
15 Ground node ÷
7 Transformers φ
300/600 ohms

----- = Future Construction
X  Future removals

1 - cut/string
2  Terminal line 600-2 M
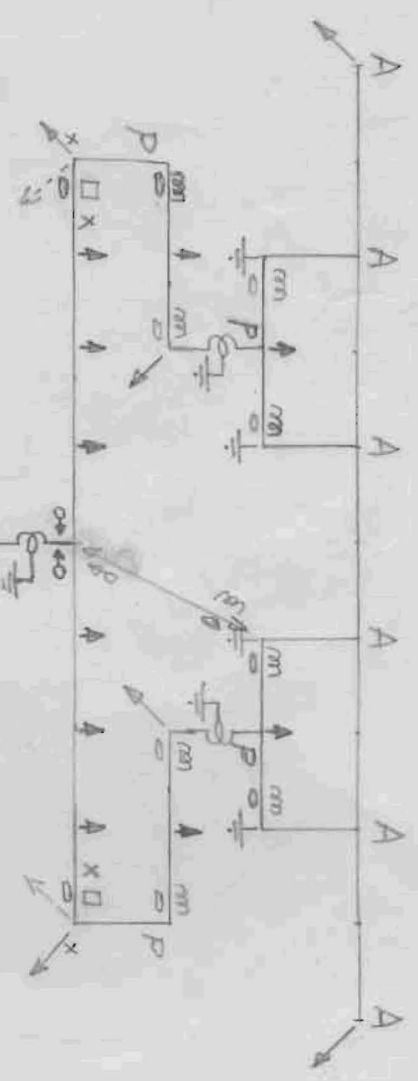4  Counterweight assemblies □
5  Pairs auger insulators o↓

Crossarms
Position 1+4 = Double offset
Position 2 = Triple balanced
Position 3 = Triple offset
Position 5 = Quadruple Balanced
Position 6+7 = Quadruple Offset
Position 1 = Single for pair

25 spans 220 ft line = 5500 ft line = 11000 ft wire
6 antennas 440+120 = 6×560 = 3360 ft wire
2 ant antennas @ 220 = 440 ft wire
_____
14800 ft wire

8 Poles A
6 Posts P
8 Anchors ◄
15 Ground node ÷
7 Transformers φ
300/600 ohms
9 Pairs spring angle
13 Pairs strain insulators ○
16 Pairs bell insulators → pins ▲
25 Pairs line

# Detail of East/West Lines #7    8 May 61



2.1
2.3

2.1
Trans. Rlo.

A   A   A   A   A   A   A   A

5   4   3   2   1   N/S Line   1   2   3   4   5

N/S Line

----- Future Construction
X  Future removals

Crossarms
{
Position 1 = Double offset
Position 2 = Triple balanced
Positions 3 = Triple offset
Positions 4 = Double balanced
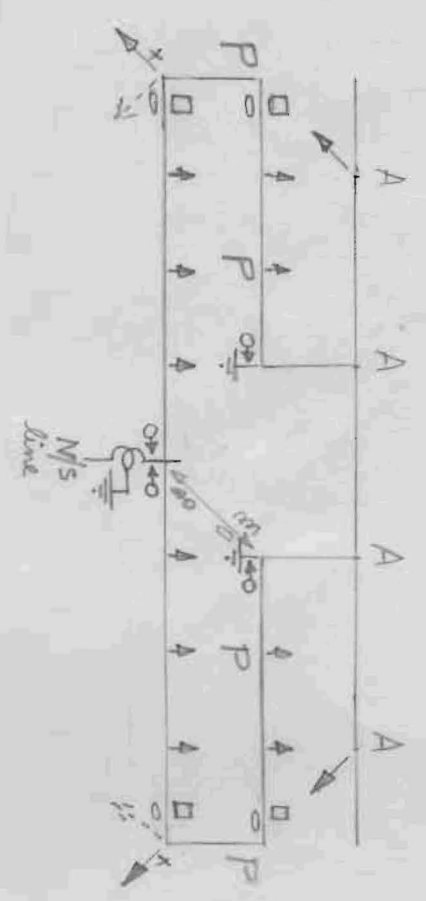Position 1 = Single for Face
}

6  Poles A
4  Poles P
6  Anchors
7  Ground rods ÷
3  Transformers 300/600 ohms
9  Pairs springs and eyes
11 Pairs strain insulators
10 Pairs bell insulators + pins
17 Pairs line insulators (one pair on each 220 ft span)

2  counterweight assemblies □
3  Pairs auger insulators

17 spans 220 ft = 3740 ft line = 7480 ft wire
4  Antennas 440+120 = 2240 ft wire
2  end black antennas @ 220 = 440 ft wire
                              = 10160 ft wire
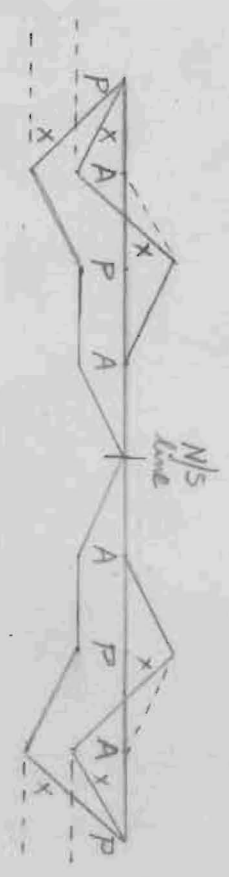
14 line Terminations

# Detail of East/West Line #8

8 May 61



4 Poles A
4 Posts P
4 Anchors ↘
3 Ground rods ÷
1 Transformer ∅
  30/60 ohms

1 Pair springs and eyes (∞)
5 Pair strain insulators ○
10 Pairs bell insulators + pins ↓
15 Pairs line apparatus (out pair on each 220 ft span)

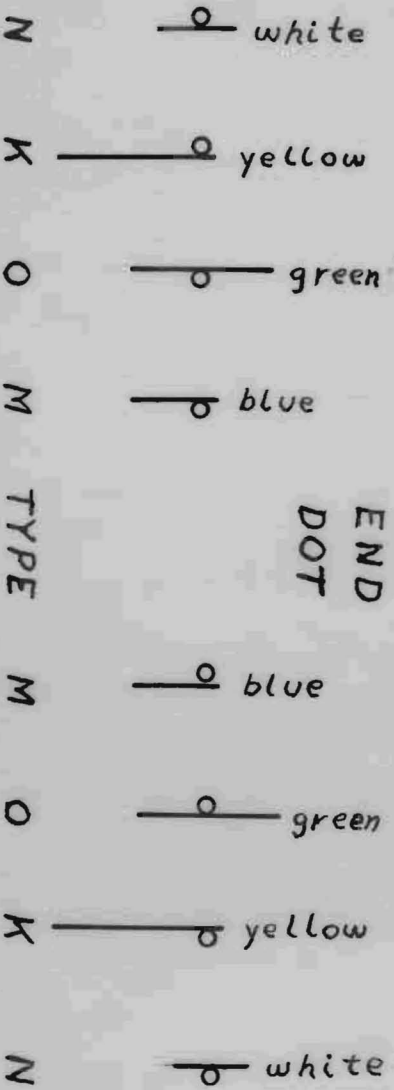----- : Future Construction
X : Future removals
  Future renewals

Crossarms

Position 1 = Double offset
Position 2 = Triple balanced
Position 3 = Triple offset
Position 4 = Double balanced
Position 1 = Single for pair

4 counterweight assemblies □
5 pair anger insulators ○→

15 spans 220 ft line = 6600 ft wire
2 antennas 220 ft = 1120 ft wire
2 antennas 440+120 = 2×560 = 1120 ft wire
2 end blank antennas @ 220 = 440 ft wire
                                 8160 ft wire
10 Line transmissions

# CROSSARM LAYOUT

COLUMN 1 2 3 4 5 6 7 8

J ——o—— red   1

J ——o—— red

Q ————o———— silver   2

N —o— white        M blue o——        3

K ——o— yellow      K ——o— yellow     

O —o— green        O —o— green       E/W LINES C THRU O

M —o— blue         M —o— blue        END DOT

E/W LINES A, B, P, Q

END DOT

TYPE              TYPE

M —o— blue        M —o— blue        5

O —o— green       O —o— green       

K ——o— yellow     K ——o— yellow     6

N —o— white       M blue o——        

Q ————o———— silver   7

J ——o—— red

J ——o—— red   8
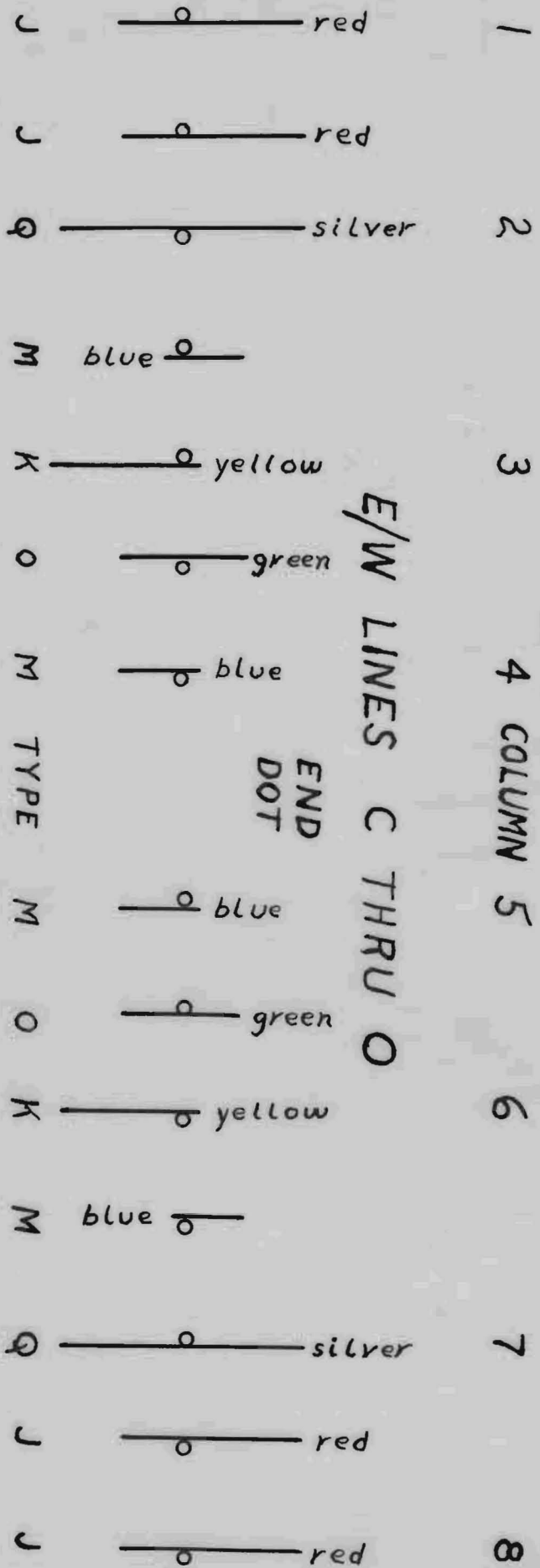
# Crossarms for E/W lines

25/7/61

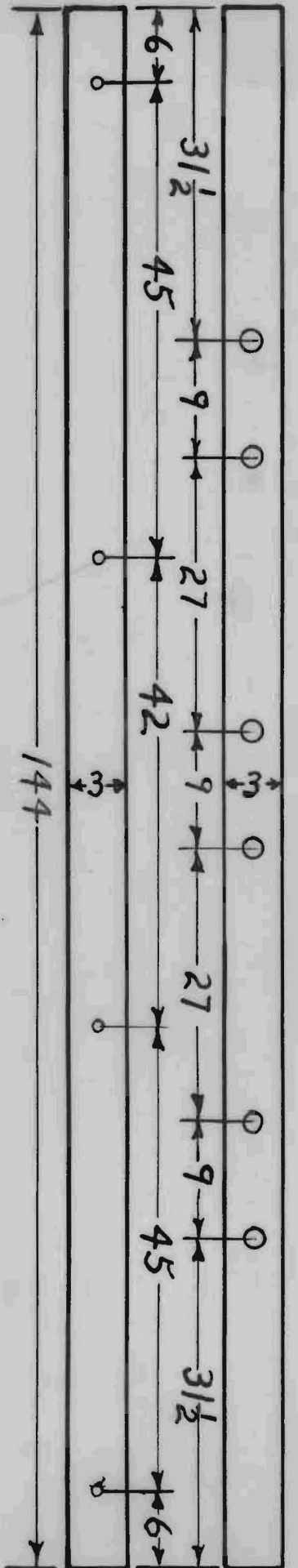| | Crossarms | Wood Brace | Metal Braces | ½×5 Sq. Hd. Sq. | ½×4 Coach Screws | ½ Washers | ¼×2 Coach Screws | ¼ Washers |
|---|---|---|---|---|---|---|---|---|
| **Quadruple Offset — J** | | | | | | | | |
| Lines 1,2,3 = Positions 6,7 = 6×4 | 24 | | | | | | | |
| " 4,5,6 = " 6,7 = 6×4 | 24 | 48 | | 48 | 48 | 144 | | |
| Spares | 2 | | | | | | | |
| Total | 50 | | | | | | | |
| **Triple Offset — K** | | | | | | | | |
| Lines 1,2,3 = Positions 3, = 6×2 | 12 | | | | | | | |
| " 4,5,6 = " 3, = 6×2 | 12 | | | | | | | |
| " 7 = " 3, = 2×2 | 4 | 32 | | 32 | 32 | 96 | | |
| " 8 = " 3, = 2×2 | 4 | | | | | | | |
| Spares | 2 | | | | | | | |
| Total | 34 | | | | | | | |
| **Triple Balanced — O** | | | | | | | | |
| Lines 1,2,3 = Positions 2, = 6×2 | 12 | | | | | | | |
| " 4,5,6 = " 2, = 6×2 | 12 | | | | | | | |
| " 7 = " 2 = 2×2 | 4 | | 64 | | | | 96 | |
| " 8 = " 2 = 2×2 | 4 | | | | | | | |
| Spares | 2 | | | | | | | |
| Total | 34 | | | | | | | |
| **Double Offset — M** | | | | | | | | |
| Lines 1,2,3 = Positions 1,4 = 6×4 | 24 | | | | | | | |
| " 4,5,6 = " 1,4 = 6×4 | 24 | | | | | | | |
| " 7 = " 1 = 2×2 | 4 | | 56 | | | | 112 | |
| " 8 = " 1 = 2×2 | 4 | | | | | | | |
| Spares | 4 | | | | | | | |
| Total | 60 | | | | | | | |
| **Double Balanced — N** | | | | | | | | |
| Lines 7 = Positions 4 = 2×2 | 4 | | 16 | | | | 24 | 16 |
| " 8 = " 4 = 2×2 | 4 | | | | | | | |
| Spares | 2 | | | | | | | |
| Total | 10 | | | | | | | |

## Single - L

| | | Crossarms | Wood Brace | Metal Brace | $\frac{1}{2} \times 5$ sq. Rd. 15g. | $\frac{1}{2} \times 4$ Coach Screws | $\frac{1}{2}$ Washers | $\frac{1}{4} \times 2$ Coach Screws | $\frac{1}{4}$ Washers |
|---|---|---|---|---|---|---|---|---|---|
| Bottom of Fixed downleads. | | 48 | | | 48 | | 96 | | |
| Center E/W lines | 2×16 | 32 | | | | | | | |
| Ends of lines for Fan | 2×16 | 32 | | | | | | | |
| Spares. | | 8 | | | | | | | |
| Total | | 120 | | | | | | | |
| Spares | | | 7 | 8 | | | | | |
| Totals including part Q below. | | 135 | 144 | 176 | 80 | 456 | 232 | 16 | |

(P)

Wood Brace ∧ attaches 42" from center of pole or post
     Center hole spacing = $42 / \sin 45° = 59\frac{1}{2}$ "

Metal Brace attaches $15\frac{1}{2}$" from center of pole or post
     Center hole spacing = $15\frac{1}{2} / \sin 45° = 22$ "

## Quadruple Balanced Q

| | | Crossarms | Wood Brace | Metal Brace | $\frac{1}{2} \times 5$ sq. Rd. 15g. | $\frac{1}{2} \times 5$ Coach | $\frac{1}{2}$ Washers | $\frac{1}{4} \times 2$ Coach Screws | $\frac{1}{4}$ Washers |
|---|---|---|---|---|---|---|---|---|---|
| Lines 1,2,3 = Positions 5 = 6×2 | | 12 | | | | | | | |
| " 4,5,6 = " 5 = 6×2 | | 12 | 48 | | 48 | 24 | 120 | | |
| Spares | | 3 | | | | | | | |
| Total | | 27 | | | | | | | |

30-A

$31\frac{1}{2}$  45  9  27  42  27  9  45  $31\frac{1}{2}$

6  3  144  3  6

15-B

$13\frac{1}{2}$  9  30  27  9  72  9  27  30  9  $13\frac{1}{2}$

6  6

3  144  3

15-C

$49\frac{1}{2}$  9  27  72  27  9  $13\frac{1}{2}$

$14\frac{1}{2}$  7  $8\frac{1}{2}$  6

6

3  144  3

O = 1" DIA.

o = $\frac{1}{2}$ DIA.

X = $\frac{3}{16}$" DIA, 2" DEEP

72-D

3 46 75 23 3
3 1

6-E

6 45 42 144 45 6
3

18 36 36 36 18
1½
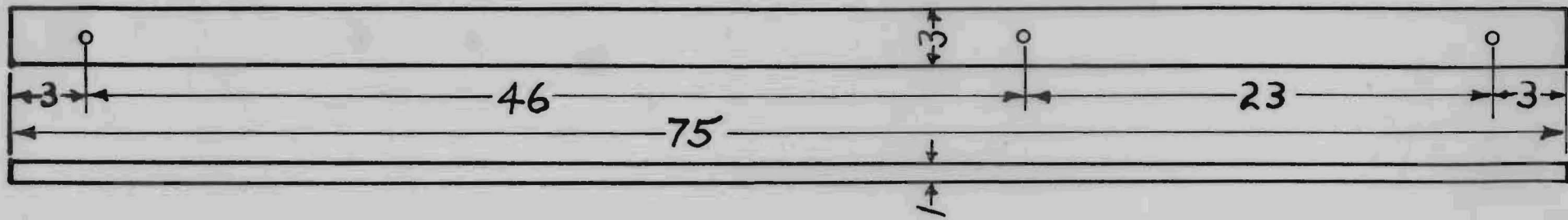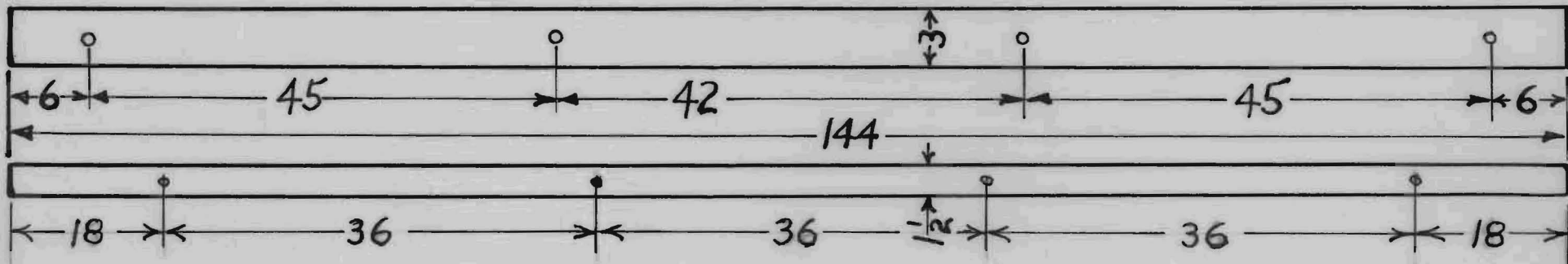
6-F LIKE E, CHANGE: 45 TO 30, 42 TO 72

2-G LIKE A, CHANGE: 144 TO 192, 31½ TO 55½, 45 TO 69

2-H LIKE C, CHANGE: 144 TO 192, 49½ TO 73½, 13½ TO 37½, 8½ TO 32½, 30 TO 54

2-I LIKE D, CHANGE: 75 TO 112, 46 TO 83     ACCURACY ±$\frac{1}{16}$"

50-J

30-K

60-M

10-N

100-L

3 9 19 2½
3 9 2½
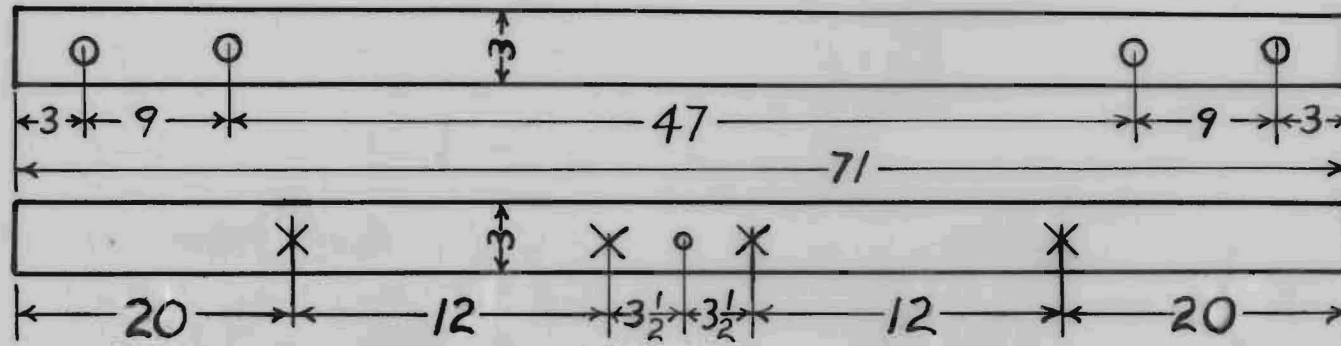3 9 19 99
3 3½ 3½ 47 32
3 9 3
3 3½ 3½ 13
3 9 19 3 38½
3 9 3 70 30
3 3½ 3½ 30 38½
20 42 12
3 9 3 3½ 3½ 3
30
3 7 10½ 10½ 7 3 3 41
5 15½ 15½ 5
3

## Crossarm O

Top piece dimensions: 3, 9, 47, 9, 3 — overall 71; height 3

Bottom piece dimensions: 20, 12, $3\frac{1}{2}$, $3\frac{1}{2}$, 12, 20; height 3

## Brace P

3, $59\frac{1}{2}$, 3 — overall $65\frac{1}{2}$; height 3; thickness 1
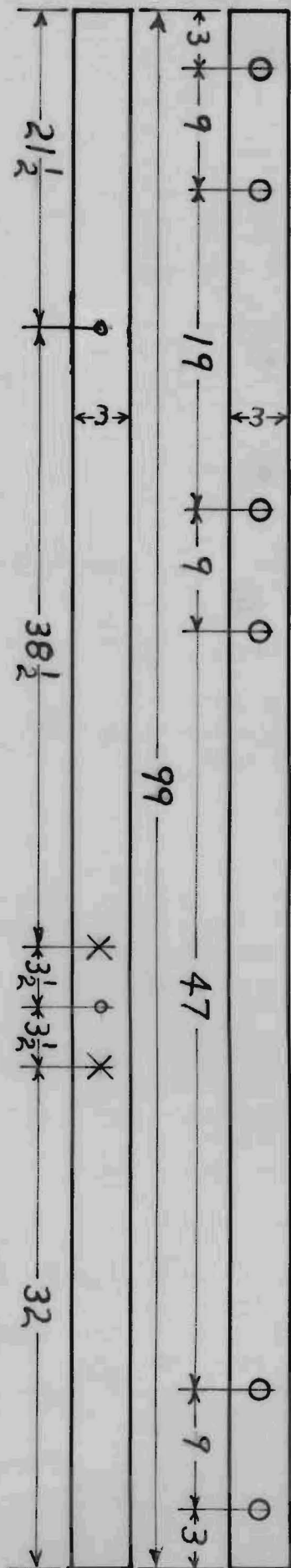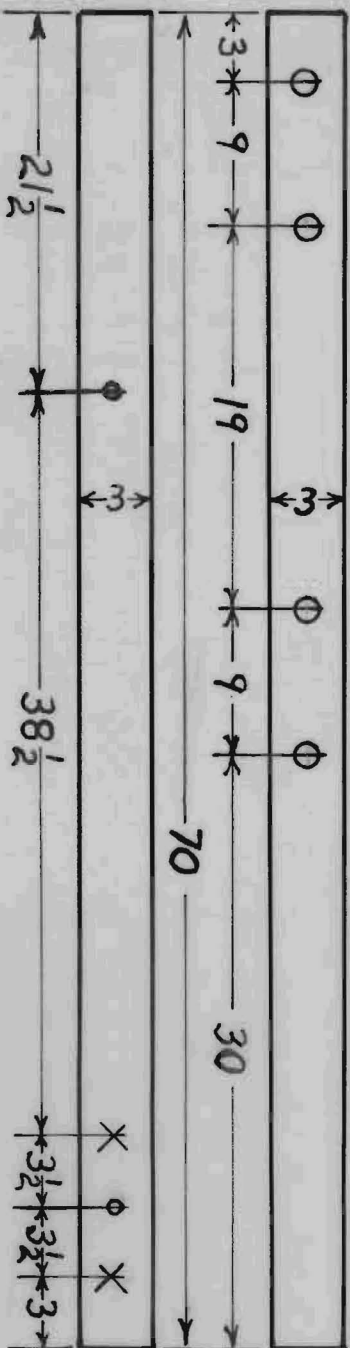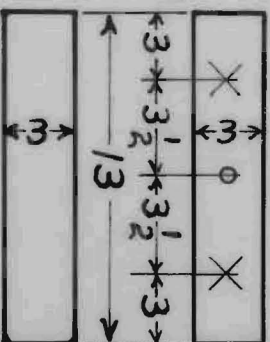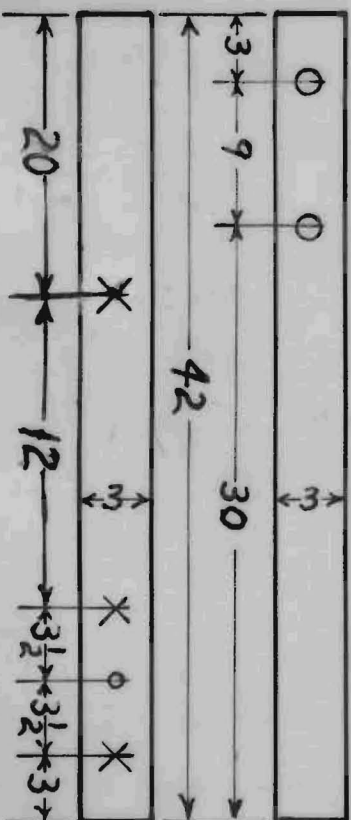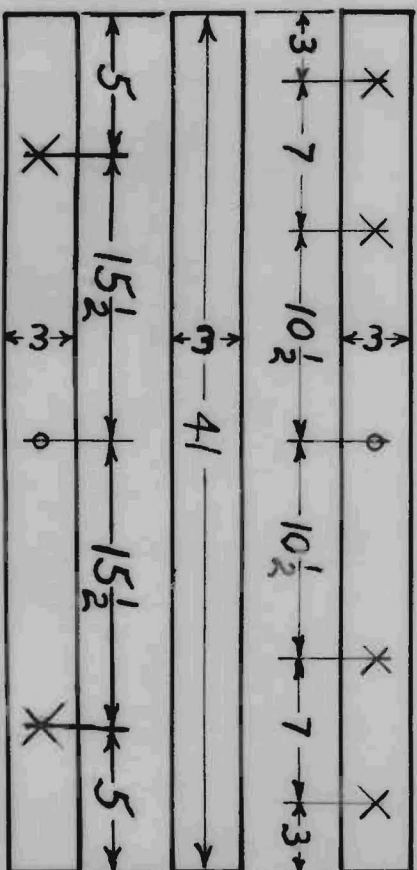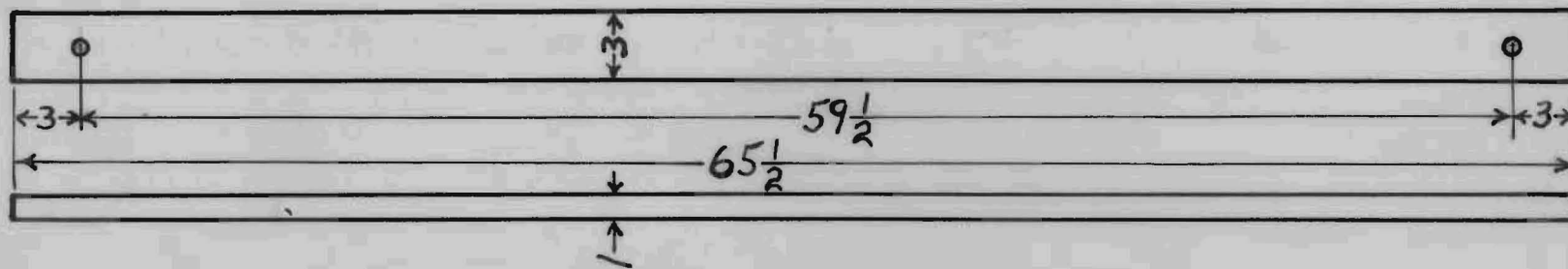
Q LIKE J, CHANGE: 32 TO 60, 47 TO 75, 99 TO 127
ADD $\frac{1}{2}$" HOLE $21\frac{1}{2}$" FROM OTHER END

O = 1" DIA.   o = $\frac{1}{2}$" DIA.   X = $\frac{3}{16}$" DIA., 2" DEEP   ACCURACY $\pm\frac{1}{16}$"