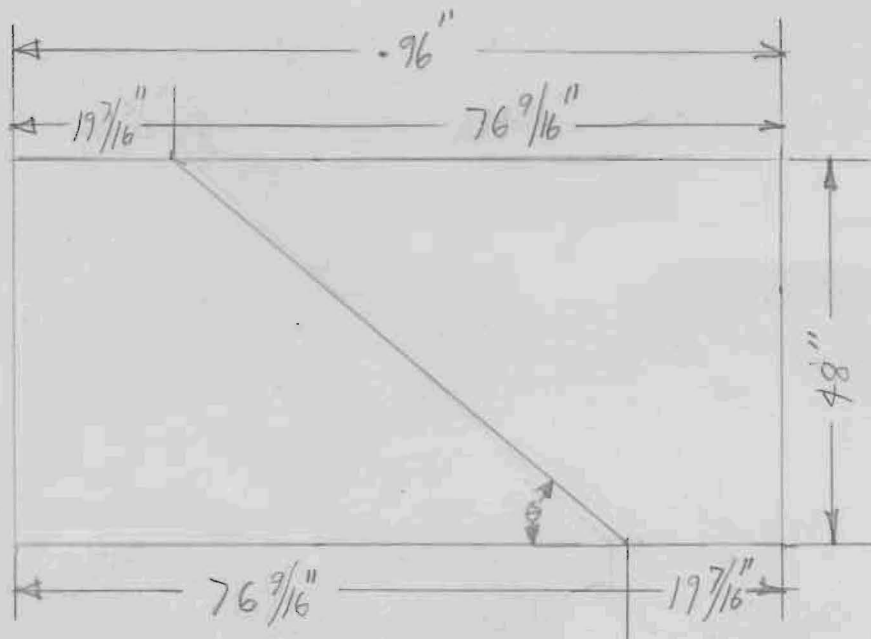
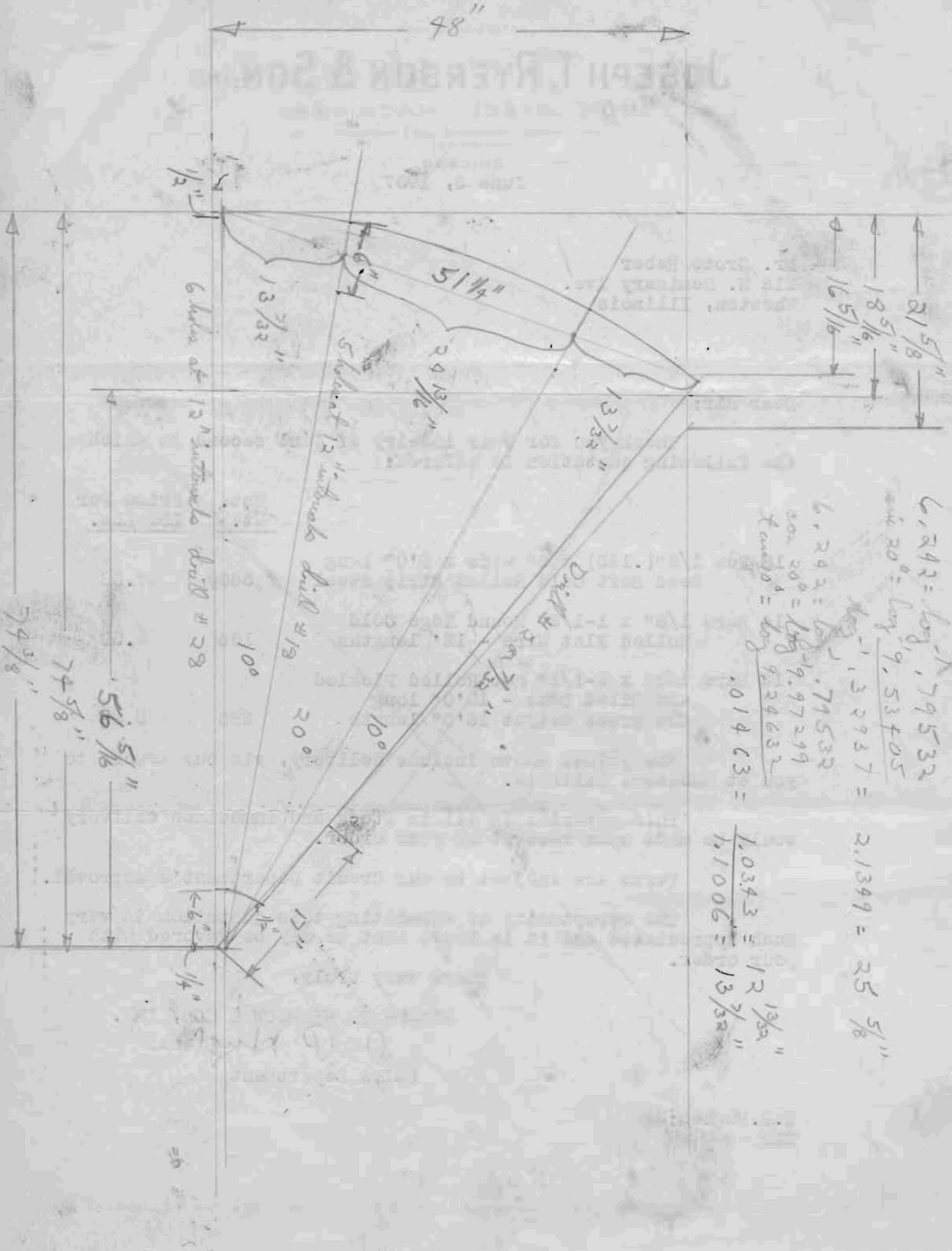


cut 18 this way

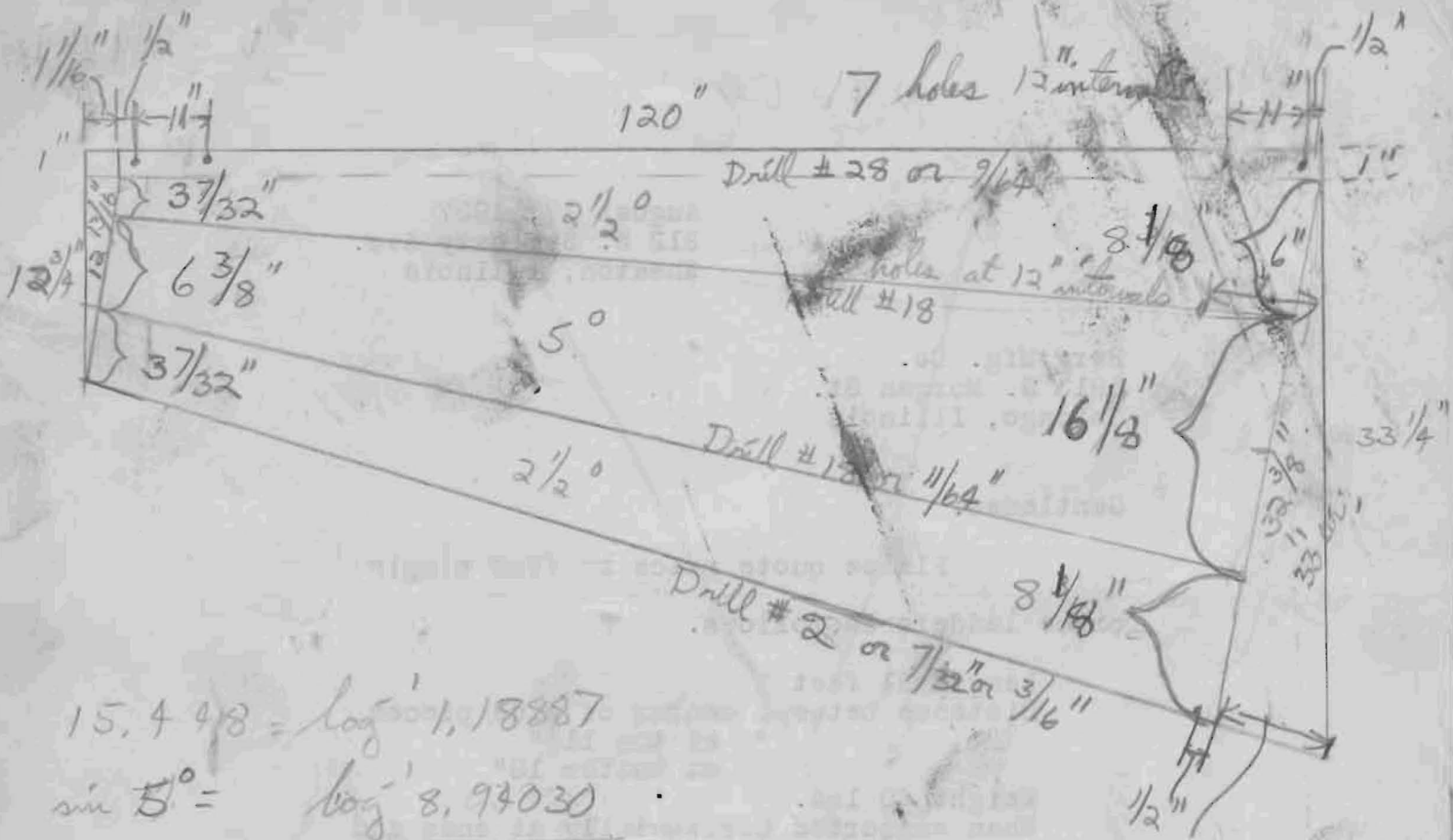


cut 5 this way





$\log 2.142 = \log 1.79532$   
 $\sin 20^\circ = \log 9.53405$   
 $\log 2.142 = \log 1.79532$   
 $\sin 20^\circ = \log 9.97299$   
 $\tan 20^\circ = \log 9.24432$   
 $.01403 = \frac{1.0343}{1.1006} = 12 \frac{13}{32}$   
 $2.1399 = 25 \frac{5}{8}$



$$15.448 = \log^{-1} 1.18887$$

$$\sin 5^\circ = \log^{-1} 8.94030$$

$$\log^{-1} .12917 = 1.3464$$

$$15.448 = \log^{-1} 1.18887$$

$$\cos 5^\circ = \log^{-1} 9.99834$$

$$\tan 2\frac{1}{2}^\circ = \frac{8.64009}{9.82730} = \frac{6719}{6745} = 8\frac{3}{32}''$$

$$\frac{15.824}{15.448} \times .6745 = .68826 = 8\frac{1}{4}''$$

$12 \overline{) 32.375}$ $\underline{24} \phantom{00}$ $8 \phantom{00}$ $\underline{26} \phantom{00}$ $6 \phantom{00}$ $\underline{6} \phantom{00}$ $0$	$32.375$ $\underline{3}$ $97125$ $\underline{628}$ $3432$ $\underline{3140}$ $2925$ $\underline{2500}$ $4250$ $\underline{3768}$ $4820$	$15.448$ $\underline{978}$ $019$ $\underline{13}$ $132$
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$$a = 20, r = 15.448' = \log^{-1} 1.18887$$

$$\text{Surface of the Parabola} = \frac{\pi}{3a} \left[ (x^2 + 4a^2)^{3/2} \right]_0^r$$

$$A = \frac{\pi}{3 \cdot 20} \left[ (15.448^2 + 4 \cdot 20^2)^{3/2} - (4 \cdot 20^2)^{3/2} \right]$$

$$= \frac{\pi}{60} [78840 - 64000] = \frac{14840 \cdot \pi}{60} = \underline{777.0 \text{ sq ft}}$$

$$\text{Centroid} = \frac{\pi}{40a^2} \left[ \left( \frac{1}{5}x^2 - \frac{8}{15}a^2 \right) (x^2 + 4a^2)^{3/2} \right]_0^r$$

$$d = \frac{\pi}{1600 \cdot 777} \left[ (47.73 - 213.33)(238.64 + 1600)^{3/2} - (-213.33)(1600)^{3/2} \right]$$

$$= \frac{\pi}{1600 \cdot 777} [-13056000 + 13652120]$$

$$= \frac{\pi \cdot 596,120}{1600 \cdot 777} = \underline{1.5064'}$$



$3/4 \times 1/2 \times 18'$  w/pt  
 $1/4 \times 10'$  w/pt  
 200  $2 \times 1/2 \times 1/4$  18' w/pt  
 200  $1/2 \times 1/4$  14' w/pt  
 400  $1/4 \times \#6$  partial length  
 600  $1/4 \times \#6$  full length  
 578 w/pt

60  
 $1 \times 6 \times 8$

side tie  
 plate

20  
 $1 \times 4 \times 6$