

OLD DOUGLAS FIR.

Beam.	Tangential.		Radial.		Oblique.		Av. wght in lbs Per cub. ft.
	Total.	Per sq. in.	Total.	Per sq. in.	Total.	Per sq. in.	
XXII..... (Fig. 141)	14,220 (1) 13,370 (5) Average = 302.00	314. 287.0 333.0 Average = 310.00	12,175 (7) 14,630 (8) Average = 310.00	287.0 333.0 Average = 310.00	17,150 (9) Average = 371.	371. Average = 371.	31.33
XXXI.....	20,780 20,850 18,740 18,400 Average = 392.77	430.22 (1) 431.67 (1) 389.0 392.9 Average = 392.77	13,020 (H) 18,600 18,680 19,270 Average = 353.85	379.59 314.4 347.4 354.2 Average = 353.85	20,680 (H) 21,900 (H) 18,620 (H) 18,690 (H) Average = 313.5	331. 344. 293. 286. Average = 313.5	33.71
From 2 ins. x 4 ins. plank.....	22,440 (1) 20,565 (2) 16,160 (1) 16,045 (2) Average = 382.37	408.69 371.97 430.67 317.96 Average = 382.37	12,120 (7) 11,630 (7) Average = 272.99	270.69 275.30 Average = 272.99	14,300 (3) 14,220 (5) 18,505 (6) Average = 363.68	364.80 373.89 352.35 Average = 363.68	31.53
XVIII..... (Fig. 145 and 145a.)	12,100 (6)	386.87	12,975 (3) 11,390 (8)	148.96 108.88	8,140 (4) 9,280 (7) 13,460 (7) 16,075 (2) 13,200 (9) 12,480 (5) Average = 292.33	403.05 117.85 404.64 457.84 456.59 322.00 Average = 292.33	28.37
LX..... (Fig. 142)	16,650 (4) 14,200 (6) 16,400 (6) Average = 315.16	368.87 302.7 297.4 Average = 315.16	14,800 (12) 14,840 (10) 12,470 (9) Average = 329.1	460.73 314.6 312 Average = 329.1	17,130 (1) 16,830 (3) Average = 287.5	287.5 287.5 Average = 287.5	28.6
LXI..... (Fig. 144)	13,100 (3)	329.1	14,800 (12) 14,840 (10) 12,470 (9) Average = 329.1	460.73 314.6 312 Average = 329.1	14,000 (12) 13,450 (2) Average = 380.17	436.78 299.1 404.64 Average = 380.17	28.6

N. B.—I wish to express my acknowledgment of the help given to me by Mr. C. B. Smith, M.A., in carrying on many of the experiments and in checking the calculations. I have also been ably assisted by Mr. Withycombe, the foreman of the Laboratories, who has devised many mechanical devices which have greatly facilitated the work.