STRENGTH OF BRITISH COLUMBIA TIMBER.

Showing the weights, specific gravities, deflection, breaking and crushing loads of some of the British Columbia woods. The pieces tested for transverse strength were one inch square, with a span of one foot, supported at both ends and loaded at the centre. The pieces tested for crushing were rectangular, and twice as long as they were thick. All pieces were fair average specimens of timber, partly seasoned, but free from knots and flaws. The results obtained from exceptionally good or bad specimens are not included in this table.

Description of Timber.		Weight of a cubic foot in lbs.	Specific Gravity.	Mean Deflection of Inches. 200 lbs.	250 lbs.	300 lbs.	350 lbs.	400 lbs.	450 lbs.	500 lbs.	550 lbs.	600 lbs.	650 lbs.	Highest breaking load.	Lowest breaking load.	Mean breaking load.	Mean crushing load in lbs. per sq. in. End-wise.	Side-wise.
Alder	(Anus rubra)	Bongard ...	32.16	.5158	.092	....	.177	....	.158	.2	.25	....	....	....	600	530	567	6500	1500
Arbutus	(Arbutus Menziessii)	Pursh	53.29	.8547	....	....	....	....	....	....	....	....	....	....	....	....	....	5900	1600
Birch	(Betula papyrifera)	Marsh	37.57	.6025	.05	.087	.1	.117	.142	....	.2	.325	.25	....	660	630	650	7000	1750
Cedar	(Thuga gigantea)	Nutt	24.95	.4001	.1	.133	.158	.2	.25	....	....	....	....	....	460	450	453	5500	1500
Crab Apple	(Pirus rivularis)	Dougl	50.21	.8052	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cypress	(Chamæcyparis nutkaensis)	Spach	31.21	.5005	.05	....	.082	.147	....	.15	.2	....	.25	....	790	689	693	5900	1400
*Fir, Red	(Pseudotsuga Douglassi)	Carriere ..	34.	.5453	....	.075	.09	.114	.119	....	.181	.2	.25	.31	650	600	638	7000	1750
Hemlock	(Tusga Martensina)	Carriere ..	31.41	.5037	.09	.1	.14	.18	....	....	...	....	....	....	420	380	400	5000	1000
Maple	(Acer Marcrophyllium)	Pursh	37.41	.5999	.063	....	.113	.15	.2	....	.27	....	....	....	610	550	580	6500	1000
Oak	(Quercus Garryana)	Dougl	51.73	.8296	.06	.16	.228	.312	.344	.354	.458	....	....	....	550	550	550	7000	1500
Pine, White	(Pinus Monticola)	Dougl	27.79	.4457	.1	.125	.15	.2	.25	....	...	....	....	....	500	400	473	6500	1000
Spruce	(Picea Sitchensis)	Carriere ..	25.88	.4150	.1	....	.15	.2	.3	....	...	....	....	....	440	420	427	5000	1000
White Thorn	(Cratœgus Douglasii)	Lindi	51.04	.8185	....	....	....	....	....	....	...	....	....	....	...	...	...	5200	1600
Yew	(Taxus Brevitolia)	Nutt	49.05	.7865	....	....	....	....	....	....	...	....	....	....	...	...	...	5900	2400

*Now frequently known as Abies D.

(By the courtesy of Edward Mohun, C.E.)

PRECIPITATION FOR NOVEMBER.

During November an exceptionally heavy rainfall occurred over the southern coast districts of British Columbia, the total amount averaging nearly twice the normal quantity. From Ontario to the Maritime Provinces, with few exceptions, the fall exceeded the average, whereas it was almost generally deficient over the Prairie Provinces.

Snow fell occasionally in all the provinces, and on the last day of the month from 1 to 8 inches were reported to be on the ground in the West, and from 1 to 4 inches in Quebec.

The table shows for fifteen stations included in the report of the Meteorological Office, Toronto, the total precipitation of these stations for November.

Ten inches of snow is calculated as being the equivalent of one inch of rain.

Station	Depth in inches	Departure from the average of twenty years
Calgary, Alta.	0.20	— 0.52
Edmonton, Alta	1.20	+ 0.36
Swift Current, Sask.	0.40	— 0.25
Winnipeg, Man.	0.90	— 0.18
Port Stanley, Ont.	4.10	+ 1.09
Toronto, Ont.	3.37	+ 0.70
Parry Sound, Ont.	2.80	— 1.20
Ottawa, Ont.	3.70	+ 1.35
Kingston, Ont.	3.80	+ 1.21
Montreal, Que.	4.10	+ 0.66
Quebec, Que.	3.70	+ 0.63
Chatham, N.B.	4.20	+ 0.50
Halifax, N.S.	5.00	— 0.64
Victoria, B.C.	11.50	+ 5.43
Kamloops, B.C.	0.80	— 0.32

FACTORY POWER.

The English Textile Committee were appointed to make an investigation and report upon the adaptability of electric power for driving purposes in the factories of north England. The report states in part:—(1) In good installations there is practically no difference in cyclical variation between mechanical and electrical transmission when measured at the end nearest the main drive. (2) Any initial cyclical variation which may exist at the driving end is liable to be increased if transmitted through long shafts. (3) So far as any irregularity is concerned (excluding breakdowns) electrical transmission will maintain its condition better than mechanical transmission. (4) In modern textile factories of ordinary dimensions, and where the power is generated on the site, power is conveyed with less loss by mechanical than by electrical transmission, but where the plan of the buildings involves awkward angles of drives or irregular arrangement of machinery, the saving in power by electrical transmission begins to appear.

The question of the adoption of electrical or mechanical driving is largely one of cost. By adopting electric driving the following advantages can be obtained: (1) Ease of checking daily power required for running individual machines and departments. (2) Ability to run only a portion of the plant. With mechanical transmission the same object may be attained by the judicious application of clutches and similar devices. (3) Reduction in the number of belts, shafts, gears, etc. (4) Ease of regulating the speed and of introducing periodical speed variations if individual driving be adopted. (5) Ease of utilizing the available space to the best advantage. (6) Saving in the cost of the engine house and its foundations; or if an outside source of supply is available it should result in a reduction in the first cost of the installation and buildings due to the absence of the power-generating plant.

SETTING PLANIMETER.

Alex. C. Craig.

The usual method of using this instrument seems to be to set the measuring wheel more or less accurately to zero by turning it with the fingers, a method not in the best interests of the instrument.

Others more conscientious, or moved by a desire for greater accuracy, take readings at the beginning and end of the operation.

The following method is commended to their attention:—

Hold the tracing point at the starting point and keep it there throughout the operation of setting. Then run the measuring wheel over the paper towards the zero position by