

BRITISH COLUMBIA DOUGLAS FIR.

CORRESPONDENCE being carried on in the columns of the Timber Trades Journal, of London, Eng., brings out some strong points favorable to the Douglas fir of British Columbia. A writer from Virginia would give a larger meed of praise to the pine of his state, but an answer comes from A. C. McDonald, of Victoria, B. C., pointing out that the largest ship building firms on the Clyde give their preference to the "suitability of the Douglas fir lumber for ship building purposes." Strength is given to this communication when it is remembered that the United States Navy at Wilmington, Del., have used lumber from Burrard Inlet for supply purposes in preference to that from their own country. Considerable quantities of British Columbia timber have also been used by the Montreal Harbor Board in their operations of deepening the canals of the St. Lawrence. W. J. Stevens, another ship builder, confirms all that is said by these others as to the superiority of Douglas fir, where durability is desired.

WHY PULLEYS RUN UNSTEADY.

CENTRIFUGAL force has less to do with making a pulley run unsteady than the mere tendency it has of trying to get where it can rotate about its own centre of gravity. A wheel is generally looked upon as so much weight, and, if held off its centre, must go switching about like a heavy stone in a short arm sling, tending to pull the machinery to pieces. This may be well enough for a start, while the wheel is getting up to

speed, but the time soon comes when the wheel will turn to its own centre and let the shaft swing for a while. Just notice how the juggler can seize a dish of any kind, as a dinner plate, for instance, and throw it up with a whirling motion, and while in the air, catch it on the end of a stick and cause it to rotate with ease. At first the plate is switched about by holding it off to one side of centre, but as the speed increases, it gradually brings the point of support near the centre, till at last it is allowed to spin on its own centre of gravity. In this case all the driving power, supporting force and the resistance of the load were brought to one single point, with nothing to react upon but the inertia of the plate.

THE POWER OF FLOWING STREAMS.

COMMON opinion respecting the energy or power of flowing streams is nearly always exaggerated, and greatly so. A current of large area conveys an idea of an almost irresistible force, when in fact it represents

| Velocity of Stream. | | Equivalent Head. | | Pressure. | Total Energy. |
|---------------------|------------------|------------------|---------|-------------------------|---------------------------------|
| Miles per Hour. | Feet per Second. | Feet. | Inches. | Pounds per Square Inch. | H. P. per Square ft. Sec. Area. |
| 1 | 1.467 | 0.033 | 0.43 | 2.1 | 0.0055 |
| 2 | 2.933 | 0.134 | 1.62 | 8.4 | 0.0445 |
| 3 | 4.4 | 0.300 | 3.69 | 18.0 | 0.15 |
| 4 | 5.867 | 0.534 | 6.42 | 33.0 | 0.355 |
| 5 | 7.333 | 0.834 | 10.07 | 54.5 | 0.694 |
| 6 | 8.8 | 1.200 | 14.36 | 75.6 | 1.2 |

but a trifling power. The following table, taken from the Mechanical World, will serve to show how little

work is represented by the current of streams. The force that may be utilized, or the head seen in the third and fourth columns, is very slight, and is the height to which the water will rise when obstructed. This depends, in a measure, on the shape of the obstructing faces. A plain radial current wheel will give not more than two-thirds the work that a well made Poncelet wheel will, because the water will rise higher on the curved floats of the latter named wheel.

POWER OF MILL STREAMS AND FLUMES.

THE following table shows the number of pounds of water that will pass through an orifice an inch square under various heads from one to ten feet; also the foot pounds of work there are in those quantities of water, the net foot pounds per minute utilized by a wheel with a rating of 80 per cent., and the horse-power developed by the wheel:

| Head feet | Cubic feet per minute (actual) | Lbs. per min. (62½ lbs. = 1 cubic foot) | Foot lbs. per minute (gross.) | Net foot lbs. per min. (80 per cent. realized). | Horse-power (80 per cent. duty.) |
|-----------|--------------------------------|---|-------------------------------|---|----------------------------------|
| 1 | 2.1376 | 133.2437 | 133.2437 | 106.592 | .0034120 |
| 2 | 3.0272 | 188.6955 | 377.3910 | 301.913 | .009149 |
| 3 | 3.6092 | 223.5835 | 691.7505 | 553.400 | .016770 |
| 4 | 4.2752 | 266.2935 | 1066.1740 | 852.139 | .025822 |
| 5 | 4.7808 | 298.0032 | 1450.0160 | 1160.013 | .035152 |
| 6 | 5.2352 | 326.3275 | 1957.9650 | 1566.372 | .047466 |
| 7 | 5.6576 | 352.5571 | 2468.5997 | 1974.880 | .059845 |
| 8 | 6.0480 | 376.992 | 3015.936 | 2412.749 | .073114 |
| 9 | 6.428 | 399.7312 | 3597.588 | 2878.065 | .087214 |
| 10 | 6.7648 | 421.6725 | 4216.725 | 3373.380 | .102257 |

Representative Lumber Manufacturers and Dealers

| TOWN | Railway, Express, or nearest Shipping Point | NAME | BUSINESS | Power, Style and Daily Capacity |
|-----------------------|---|---|---|--|
| Ottawa, Ont. | Ottawa. | Booth, J. R. | Lumber, Wholesale and Retail. | Steam, Circular and Band Mill |
| Ottawa, Ont. | Ottawa. | Bronson & Weston Lumber Co. | 2 Sawmills, White and Red Pine, Wholesale | Water, Gang and Band, 450m |
| Parry Sound, Ont. | Utterson | Conger Lumber Co. | Lumber, Wholesale and Retail. | |
| Parry Sound, Ont. | Parry Sound | Parry Sound Lumber Co. | Saw, Shingle and Lath Mills, Pine, Wholesale | Water, Gang, Circular, Saw 90m, Shingles 70m, Lath 30m |
| Muskoka Mills, Ont. | Midland | Muskoka Mill and Lumber Co., Head Office, Arcade, 24 King st. w., Toronto | W. Pine Lumber, Lath and Bill Stuff, all lengths. | 2 Mills, Water, 1 Band, 2 Gangs and 3 Circulars. |
| Alexandria, Ont. | Alexandria | McPherson, Schell & Co. | Cheese Box Factory, Pine, Spruce, Cedar | Circular, 3m |
| Almonte, Ont. | Almonte | Caldwell, A. & Son | Sawmill, Pine, Lumber, Hemlock, Hardwoods. | Steam, Circular, 40m |
| Barrie, Ont. | Barrie | Dymont & Mickle | Sawmill, Pine, Spruce, Cedar, Hardwoods. | |
| Barrow Bay, Ont. | Warton | Barrow Bay Lumber Co., Limited | Saw, Shingle and Heading Mill, Pine, Cedar | |
| Blind River, Ont. | Blind River | Blind River Lumber Co. | Oak, Oak Railway Ties, Paving Blocks | Steam, Circular, 16m |
| Bobcaygeon, Ont. | Fenelon Falls | Boyd, Mossom & Co. | 2 Saw, Sh. and Lath Mls., Pine, Hem., Bl. Birch | Stm., Band, Cir., S. 75m, Sh. 60m |
| Barrie, Ont. | Barrie | Burton Bros. | Lumber, Wholesale and Retail. | |
| Waubashene, Ont. | Waubashene | Georgian Bay Consol. Lumber Co. Hd. office arcade 24 King st. w., Toronto | Lumber, Wholesale and Retail. | Waubashene mill, stm., 200m; Pt. Severn mill, water, 120m |
| Calabogie, Ont. | Calabogie | Carswell, Thistle & McKay | Lumber, Wholesale and Retail. | |
| Callander, Ont. | Callander, G.T.R. | John B. Smith & Sons | White and Red Pine Lumber, Bill Stuff, Lath and Shingles | Steam, 2 Circular, 80m |
| Collins Inlet, Ont. | Collins Inlet | Collins Inlet Lumber Co. | Lumber, Pine, Oak, Ash, Birch, Whol. and Ret. | Steam, Cir., Saw 14m, Sh. 20m |
| Glamis, Ont. | Pinkerton | McIntyre, N. & A. | Saw, Shingle and Lath Mill, Timber Lands, Hemlock, Pine, Lumber, Hardwoods. | |
| Hamilton, Ont. | Hamilton | BRADLEY, MORRIS & REID CO. | Lum., Tim., Pine, Hem., Hwds., Whol. and Ret. | Steam, Circular, 25m |
| Huntsville, Ont. | Huntsville | Heath, Taft and Turnbull | Sawmill, Pine, Spruce, Hemlock, Hardwoods. | Steam, Circular, 4m |
| Huntsville, Ont. | Huntsville and Katrine | Thomson, Robert & Co. | Sawmill, Pine, Spruce, Hardwoods. | Water, Band and Circular, 100m |
| Keewatin, Ont. | Keewatin | Dick, Banning & Co. | Sawmill, Pine, Hardwoods, Wholesale | |
| Keewatin, Ont. | Keewatin | Keewatin Lumber & Mfg. Co. | Saw, Lath, Sh. and Pl. Mill, Moving Posts, Pine | Lumber, Wholesale and Retail |
| Lakefield, Ont. | Lakefield | Howry, J. W. & Sons | Lumber, Wholesale and Retail | |
| Little Current, Ont. | Sudbury | Gordon, James | Exp. and dir. in Am. Hwds. made to specification | Steam, Band and Circular, 100m |
| London, Ont. | London | Longford Lumber Co. | Saw and Plan. Mill, Tim. Lands and Logs, Pine | Steam, Circular, 20m. |
| Longford Mills, Ont. | Longford | Minnesota & Ontario Lumber Co. | Lumber, Wholesale and Retail. | 80 M. per day, Stm., 2 Cir. Saws |
| Norman, Ont. | Norman | S. B. Wilson & Son | Hardwoods, Shingles, Lath, Handles. | Stm., 2 Band, Cir. & Gang, 140m |
| Louise, Ont. | Elmwood, G.T.R. | The Imperial Lumber Co., Limited | Pine | Steam, Circular, 15m. |
| Toronto, Ont. | Warren, C.P.R. | Davidson, Hay & Co. | W. Pine, Lath, Shingles, Dim. Timber, Car Sills | |
| Toronto, Ont. | Cache Bay, Ont. | S. J. Wilson & Co. | Pine and Hardwood, Wholesale | |
| Toronto, Ont. (Mill) | Lakefield | F. N. Tennant | Lumber, Wholesale | |
| Toronto, Ont. | Toronto | Donogh & Oliver | Lumber, Wholesale | |
| Toronto, Ont. | Toronto | Victoria Harbor Lumber Co. | Saw, Shingle and Lath Mills, White Pine, Whol. | Com. |
| Toronto, Ont. | Toronto | W. N. McEachren & Co. | Lumber, Wholesale | Stm., Cir., Gang and Band, 140m |
| Toronto, Ont. | Toronto | James Tennant & Co. | Lumber, Lath, Shingles, etc., Wholesale | Com. |
| Toronto, Ont. | Toronto | DeLapante & Bowden | Pine and Hardwood Lumber, Whol. and Retail. | |
| Toronto, Ont. | Toronto | James McBain Reid | Ry. and Ship Timber, any required dimensions. | |
| Warton, Ont. | Warton | Miller, B. B. | 3 Sawmills, Lumber, Barrel Heads | Stm., Wr., Cir., Port. & Sta., 10m |
| Montreal, Que. | Montreal | Dufresne, O. Jr. & Frere | Sawmill, Pine, Spruce, Hemlock, Hwds., Whol. | Steam, Circular and Band, 50m |
| Montreal, Que. | Montreal | SHEARER & BROWN | 4 Sawmills, Oak, Ash, Elm, Pine, Hem., Dim. | 2 Stm., 2 Wat., Band, Cir., 40m |
| Moodyville, B.C. | New Westminster | MOODYVILLE SAWMILL CO. | Sawmills, P. Fir, Spruce, Cedar, Hardwoods | Steam, Circular, 20m |
| New Westminster, B.C. | New Westminster | Brunette Sawmill Co. | Saw and Planing Mills, Sash, Doors and Blinds. | Steam, Gang and Circular |
| Canterbury, N.B. | Canterbury Stn. | James Morrison & Son | Fir, Cedar, Spruce, Hardwoods | |
| Bridgewater, N.S. | Bridgewater | DAVIDSON, E. D. & SONS | Sawmill, Pine, Hardwoods | Steam, Circular, 38m |
| South River, Ont. | South River, G.T.R. | South River Lumber Co., Ltd. | Saw, Shgle. and Lath Mills, Pine, Spr., Hwds. Pine, Spruce, Birch, Hemlock, Shingles. | Water, Circular and Gang, 200m Stm., Cir., 40m, Shingles, 35m, Lath, 15m |

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