

PECULIAR BEHAVIOUR OF AN AUSTRALIAN BRIDGE.

A somewhat novel question has arisen in connection with the piers of the Hawkesbury Bridge, the largest in Australia, but chiefly remarkable for the fact that the foundations are the deepest in the world, the deepest pier being down 160 ft. below high water line. As the bridge is 40 ft. above the water, the greatest height of the piers reaches 200 ft. The depth of water is not great, nor is the tidal current or range excessive, but the bed of the river is composed of a great depth of soft mud. The prevailing rock of the district is sandstone, little disturbed, but very generally deeply eroded, forming narrow valleys, often with precipitous sides of considerable depth. Some anxiety appears to have been felt as to the stability of the foundations, which were excavated by Anderson & Barr, the Union Bridge Company. Observations show some irregular and frequent lateral motion of the piers, the greatest being about $2\frac{1}{2}$ in. The motion is singularly irregular, being up stream one day, down stream the next, and altogether absent the following day. It appears doubtful whether any irregularity in the working of the expansion rollers has any influence on this motion, and engineers are much divided in opinion as to its cause and importance. Some consider that a small amount of motion is inevitable on the summit of a pier over 200 ft. high, while others contend that it shows that the piers have an irregular bearing at their base, and on a ledge of rock at one corner. Owing to the winding form of the narrow, deep valley through which the stream flows, the bridge is somewhat sheltered from the wind, and the changes of temperature are moderate, the extreme range being about 70 degrees. The bridge is double track, and the maximum speed of passenger trains over it is about 30 miles per hour. As it is situated near the foot of a long grade of 132 ft. to the mile, some of the trains are double-headers. It is, of course, obvious that on a double-track bridge the load is not exactly above the centre line of the pier, and it is possible that the vibration of a heavy train may cause a slight rock in a tall pier resting on a soft and uncertain foundation. There is no vertical movement.—*Railroad Gazette.*

SHADING OAK.

To render new oak wainscoting and oak furniture dark and give it an antique appearance, says one of our scientists in that line, ammonia is the cleanest, best and cheapest material that can be used. The liquid stains commonly used are apt

to raise the grain of the wood, make it rough, and it is with difficulty evenly applied, whereas in the use of ammonia it is simply the fumes that color the wood, and do it so completely that it is difficult to tell whether the wood is really new or old. A correspondent gives the following process of treatment, which he considers the best after trying the various other processes used by builders and cabinet makers to darken woods: "Oak is fumigated by liquid ammonia, strength 880 degrees, which may be bought of any wholesale chemist at 5s. a gallon. The wood should be placed in a dark and air-tight room (in a big packing case), and half a pint or so of ammonia poured into a soup plate and placed upon the ground in the centre of the compartment. This done, shut the entrance, and secure any cracks, if any, by pasted slips of paper. Remember that the ammonia does not touch the oak, but the gas that comes from it acts in a wondrous manner upon the tannic acid in the wood and browns it so deeply that a shaving or two may be taken off without removing the color. The depth of shade will entirely depend upon the quantity of ammonia used and the time the wood is exposed. Try an odd bit first experimentally and then use your own judgment."

The Canadian Contractors' Hand-Book, 50 cents to RECORD subscribers.

178 1/2 Notre Dame Street,
Montreal, October 14th 1890

C. H. Mortimer Esq.

Public Canadian Architect & Builder,
and Contract Record.

Dear Sir,

I have to inform you, that, the following resolution was unanimously adopted, at the First Annual Meeting of the Province of Quebec Association of Architects held in Montreal on 10th & 11th inst.:-

Moved by
Mr. F. A. Gault.
Seconded by:
A. J. Dumlop.

We the Architects of the Province of Quebec now assembled in convention being satisfied that the "Canadian Contract Record" affords us a direct communication with the contractors. Resolved: That we pledge our support to it by using its columns when calling for tenders.

Yours truly
C. H. Mortimer
Secretary.

Prices of Building Materials.

LUMBER.	
CAR OR CARGO LOTS.	
1 1/2 and thicker clear picks, Am. ins.	\$30 00 @ 32 00
1 1/2 and thicker, three uppers, Am. ins.	37 00
1 1/2 and thicker, pickings, Am. ins.	27 00
1 x 10 and 12 dressing and better.	18 00 20 00
1 x 10 and 12 mill run.	13 00 14 00
1 x 10 and 12 dressing.	14 00 16 00
1 x 10 and 12 common.	12 00 13 00
1 x 10 and 12 spruce culls.	10 00, 11 00
1 x 10 and 12 maple culls.	9 00
1 inch clear and picks.	28 00 30 00
1 inch dressing and better.	18 00 20 00
1 inch siding, mill run.	14 00 16 00
1 inch siding, common.	11 00 12 00
1 inch siding, ship culls.	\$10 00 @ 12 00
1 inch siding, mill culls.	8 00 9 00
Cull scantling.	8 00 9 00
1 1/2 and thicker cutting up plank.	22 00 25 00
1 inch strips, 4 in. to 8 in. mill run.	12 00 15 00
1 inch strips, common.	12 00 12 00
1 1/2 inch flooring.	14 00 15 00
1 1/2 inch flooring.	14 00 16 00
XXX shingles, sawn.	2 30 @ 2 35
XXX shingles, sawn.	1 30 1 35
Eastlake galvanized steel shingles, 24 W. G., per square.	6 00
Eastlake galvanized steel shingles, 26 W. G., per square.	5 00
Eastlake painted steel shingles, per sq.	4 00
Round pointed galvanized steel shingles, per sq.	6 00
Round pointed painted steel shingles.	4 25
Round pointed, unpainted, Terra tin shingles.	4 00
Manitoba galvanized, steel siding, per square.	5 00
Manitoba painted steel siding, per sq.	3 50
Painted sheet steel pressed brick.	3 50
Painted crested steel sheeting.	3 40
Price of Copper shingles according to weight.	

YARD QUOTATIONS.

Mill cull boards and scantling.	10 00
Shipping cull boards, promiscuous widths.	13 00
Shipping cull boards, stocks.	14 00
Hemlock cantling and joist up to 16 ft.	11 00 12 00
" " " 18 "	12 00 13 00
" " " 20 "	13 00 14 00
Scantling and joist, up to 16 ft.	14 00
" " " 18 ft.	15 00
" " " 20 ft.	17 00
" " " 22 ft.	19 00
" " " 24 ft.	21 00
" " " 26 ft.	23 00
" " " 28 ft.	25 00
" " " 30 ft.	27 00
" " " 32 ft.	29 50
" " " 34 ft.	31 00
" " " 36 ft.	33 00
" " " 38 ft.	35 00
" " " 40 to 44 ft.	36 00
Cutting up planks, 1 1/2 and thicker, dry	25 00 26 00
" " " board.	18 00 22 00
Cedar for block paving, per cord.	5 00
Cedar for Kerbing, 4 x 14, per M	14 00
B. M.	
1 1/2 inch flooring, dressed, F. M.	28 00 31 00
1 1/2 inch flooring rough, B. M.	18 00 22 00
1 1/2 " " dressed, F. M.	25 00 28 00
1 1/2 " " undressed, B. M.	18 00 19 00
" " " dressed.	18 00 22 00
" " " undressed.	12 00 15 00
Beaded sheeting, dressed.	22 00 35 00
Clapboarding, dressed.	12 00
XXX sawn shingles, per M, 16 in	2 65 2 75
Sawn lath.	2 00 2 20
Red oak.	30 00 40 00
White.	15 00 45 00
Basswood, No. 1 and 2.	18 00 20 00
Cherry, No. 1 and 2.	70 00 70 00
White ash, No. 1 and 2.	25 00 25 00
Black ash, No. 1 and 2.	20 00 30 00
Dressing stocks.	16 00 22 00
Picks, American inspection.	40 00
Three uppers, American inspection.	50 00
BRICK—M	
Common Walling.	\$7 50
Good Facing.	9 00
Sewer.	8 50 9 00

Pressed Brick:

Plain brick, f. o. b. at Milton, per M.	\$18 00
" " 2nd quality, per M.	14 00
" " 3rd " "	10 00
Hard Building.	8 00
Moulded and Ornamental, per 100.	\$3 to 10 00
First quality, f. o. b. at Campbellville, per M	18 00
2nd " " "	13 00
3rd " " "	10 00
Hard Building.	8 00
Ornamental, per 100.	\$3 to 10 00
Tiles.	24 00

Stone.

Common Rubble, Per Toise, delivered	14 00
Large flat " " Cubic Foot.	18 00
Foundation Blocks, " "	" "
Slate: Roofing (per square).	
" red.	16 00
" purple.	9 00
" untinting green.	9 00
" black slate.	7 50
Terra Cotta Tile, per sq.	2 50
Ornamental Black Slate Roofing.	8 00

Sand:

Per Load of 1 1/2 Cubic Yards.	1 5
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PAINTS. (1n oil, @ lb.)

White lead, Can.	6 25 6 50
" zinc, Can.	6 25 7 50
Red lead, Eng.	5 25 6 25
" venetian.	1 60 1 75
" vermilion.	90 1 00
" Indian, Eng.	10 12
Yellow ochre.	5 10
Yellow chrome.	15 20
Green, chrome.	7 12
" Paris.	25 12
Black, lamp.	15 25
Blue, ultramarine.	15 25
Oil, linseed, raw (per Imp. gallon).	68 70
" " boiled.	72 75
" " refined.	78 80
Putty.	2 1/2 2 1/2
Whiting, dry.	75 1 00
Paris white Eng., dry.	90 1 25
Litharge, Am.	6 1/2 8
Sienna, burnt.	15 70
Umber.	8 1/2 12

CEMENT, LIME, etc.

Lime, Per Barrel of 2 bushels, Grey.	40
" " White.	55
Plaster, Calcined, New Brunswick.	2 00
" " Nova Scotia.	2 00
Hair, Plasterers', per bag.	1 00
Cement, Portland, per bbl.	2 80 3 00
" Thorold.	1 50
" Queenston.	1 50
" Napanee.	1 50
" Hull.	1 50

HARDWARE.

Cut Nails:	
American Pattern, 1 1/2 inch, per keg.	4 15
" " 1 1/2 to 1 3/4 inch, per keg	3 40
Canadian Pattern, 1 1/2 inch, per keg.	3 65
" " 1 1/2 to 1 3/4 inch, per keg	3 15
" " 2 to 2 1/4 inch, "	3 15
" " 2 1/4 to 2 3/4 inch, "	2 90
" " 3 inch and larger.	2 65
Steel nails 10c. per keg extra.	
Finishing nails, 1 inch, per keg.	5 75
" " 1 1/2 inch, "	5 05
" " 1 3/4 " "	4 50
" " 1 1/2 " and larger.	4 20
" " 1 1/2 " "	3 15