

CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF PUBLIC WORKS, TENDERS, ADVANCE INFORMATION AND MUNICIPAL PROGRESS

EVERY THURSDAY

This paper reaches every week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

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Notice to Contractors

CANADIAN CONTRACTOR'S HAND-BOOK

A new and thoroughly revised edition of the *Canadian Contractor's Hand-Book*, consisting of 150 pages of the most carefully selected material, is now ready, and will be sent post-paid to any address in Canada on receipt of price. This book should be in the hands of every architect, builder and contractor who desires to have readily accessible and properly authenticated information on a wide variety of subjects adapted to his daily requirements.

Price, \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00. Address

C. H. MORTIMER, Publisher,
Confederation Life Building, TORONTO.

TENDERS WANTED

Grand Trunk Railway—Union Station

TENDERS FOR UMBRELLA AND VERANDA ROOFING

Sealed Tenders, addressed to Edmund Wragge, Union Station, Toronto, will be received up to 5 p. m. on Thursday, the 21st day of February, for the under-mentioned work:—

STERL FRAMING
GALVANIZED IRON WORK
PAINTING, GLAZING

Plans, specification and form of contract can be seen and forms of tender obtained at the office of Messrs. Erickland and Symons, Aberdeen Chambers, Victoria Street, Toronto, on and after 7th inst.

The company does not bind itself to accept the lowest or any tender.

L. J. SERGEANT,
General Manager.

Montreal, February 5, 1895.

Send for a copy of the CANADIAN CONTRACTOR'S HAND-BOOK. Price, \$1.50; to subscribers, \$1.00.

TENDERS FOR O'BRIEN'S BRIDGE

Sealed Tenders, enclosing plans and specifications, addressed to me and marked "Tender" will be received up to two o'clock p. m. of

TUESDAY, THE 26TH DAY OF FEB., 1895,

for substructure and superstructure, separately, for a County Bridge in Hastings, about 8 miles north of Belleville.

The superstructure, steel high truss, in three spans, middle span 148 feet and each end span 100 feet long, with 16 foot roadway in the clear.

Each span must safely carry 100 lbs. to the square foot of roadway.

The substructure must be completed by the tenth day of September, and the superstructure by the first day of October next.

Further particulars may be had on application to

WM. R. AYLESWORTH,
County Clerk.

Belleville, Ont., February, 1895.



NOTICE TO CONTRACTORS

Tenders addressed to the undersigned will be received through registered post at the office of the City Clerk, City Hall, Toronto, up to 11 o'clock, a. m., on TUESDAY, THE 26TH FEBRUARY, 1895, for the construction of a superstructure of a

STEEL OR WOODEN BRIDGE

In the Island Park.

Specifications and plans may be seen at the office of the City Engineer, Toronto, on and after Thursday, February the 14th, instant. A marked cheque made payable to the order of the City Treasurer, Toronto, or cash deposit equal to 2½ per cent. of the amount of the tender, must accompany each and every tender, otherwise it shall be ruled out as informal.

The lowest or any tender not necessarily accepted

JOHN HALLAM,
Chairman Parks and Gardens Committee.
City Hall, Toronto, Feb. 7, 1895.

The low cost of iron and steel at the present time is strikingly pointed out in a statement by William Garrett, of Joliet, Ill., the inventor of the Garrett rod mill, who said that wire nails are sold so low that if a carpenter drops one it is cheaper to let it lie than to consume the carpenter's time in picking it up. The Iron Age has been induced by this remark to do some figuring on the subject. Assuming that it takes a carpenter 10 seconds to pick up a nail which he has dropped and that his time is worth 30 cents an hour, the recovery of the nail would cost 0.083 cent. There are 200 sixpenny nails in a pound, which is worth about 1.55 cents, so that the value of each separate nail is 0.0077 cent. Or in other words, it would not pay to pick up 10 nails if it took 10 seconds of time worth 30 cents an hour to do it in.

CALCULATING RADIATING SURFACE.

In figuring the amount of heat necessary to warm a room, says the Boston Journal of Commerce, many engineers include also in the calculation the amount of heat given off by the occupants. Such a calculation could not affect the radiating surface necessary to warm the room previous to its occupancy, but would be included in estimating the amount of heat necessary to maintain the temperature in a room. Such an estimate includes the assumption that each person gives off 400 heat units per hour, that each gas jet gives out 4,800 heat units per hour, and each incandescent light 1,600 heat units per hour. With steam at about atmospheric pressure each square foot of radiating surface will give out from a radiator about 400 heat units per hour, so that the presence of one person in the room is reckoned as worth one square foot of direct radiator. In a school room with fifty scholars, the heat they would give out would be equivalent in this assumption to a 50-foot radiator. One gas light would be the equivalent of twelve square feet of heating surface under this assumption, which is the one given by A. R. Wolff in a lecture before the Franklin Institute. This seems a rather large amount, and judging from what a gas jet will do in the way of heating, we hardly think a man would want to substitute two gas jets for his 20-foot steam radiator. We should figure rather upon a 4-foot burner, giving out about 2,000 heat units per hour instead of 4,800, and this would answer for but five square feet of heating surface. The presence of persons and lighted gas jets in a room will certainly require less heat from the heating surface, but we do not believe should be included in calculating the heating surface for a room, though it may be included in figuring the temperature at which air heated outside may be allowed to enter the room. Mr. Wolff gives the value of one square foot of bronzed cast-iron radiator at only 250 heat units per hour, and a gas jet at 4,800 heat units, making the gas jet worth a 19-foot radiator, supplied with steam at three pounds pressure. Our own experience is that the radiator, properly placed, is worth at least 400 heat units and a gas jet decidedly less than Mr. Wolff gives. Possibly the presence of many scholars in a school room will account for why a heating plant that apparently failed in the preliminary trials was found to be all right when the school was in session, though cold at the opening of the session.