THE CANADIAN ARCHITECT AND BUILDER.



(Correspondence of the CANADIAN ARCHITECT AND BUILDER.)

The Building Inspector has condemned the new St. Johns church in course of erection at the corner of St. Catehrine and Cadieux streets. The exterior wall, built of stone and faced with brick, are said to have been found to be so defective in workmanship, that for the safety of pedestrians, the architect, Mr. Geo. Mann, has been compelled by the Inspector to have them torn down. This is proving a difficult task for the workmen, as an effort is to be made to preserve the roof, which was already in position when the order to reconstruct the walls was issued.

PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS. At a general special meeting of the members of the Association held on Thursday, the 6th inst., to consider the proposed amendments to the by-laws, the following members amongst others were present :-- Messrs. A. C. Hutchison, A. T. Taylor, J. Nelson, A. Raza, H. C. Nelson, J. Perrault, J. Venne, M. Perrault, J. Wright, J. Z. Resther, A. H. Lapierre, Geo. W. Wood and J. R. Gardiner. It was proposed, first : by Mr. A. C. Hutchison, seconded by Mr. J. Wright, that the following words in the third, fourth and fifth lines of section XI of the By-Laws, viz: "collect all funds and hand them to the Treasurer, taking his receipt for the same," be struck off and in line 8th of the same section to omit the words "receipt for them to the Secretary;" to add to section XI the words "the Treasurer shall also furnish to the Secretary at the close of each year, a list of the members whose subscriptions have been paid." To strike out the words "to" at the beginning of the 8th line and to substitute "to collect and." Carried.

Second-Proposed by Mr. W. E. Doran, seconded by Mr. Jas. Nelson, that section V of the By-laws be amended by inserting after the word "separately" of the fifth line of said section "the retiring president shall be the premier member of the Council", then after the word "the" actually following "separately," to add the words "other five to read as follows : "The other five members of Council may be balloted for on one paper." Carried.

Third-Proposed by Mr. A. T. Taylor, seconded by Mr. J. Z. Resther, to change section VIII of the By-laws to make it read as fol-"The Council shall appoint each year a board of six examiners lows: who shall," etc. Carried.

Lastly-It was proposed by Mr. J. Z. Resther, seconded by Mr. A. T. Taylor that the following be elected as honorary members of the Association: The Lieutenant Governor of the province, the Prime Minister and the Minister of Public Works of the province, the Mayors of Montreal and Quebec, the Honorable Sir Donald Smith, the Honor-

able J. A. Drummond and Mr. R. B. Angus. Carried. It was resolved that the President of the Association be instructed to issue a circular to the members giving them notice of the above adopted amendments.

amendments.
It was also proposed by Mr. A. T. Taylor, seconded by Mr. A. Raza, that the Association propose to the City Council to have a special committee formed for the embellishment of the city. Carried.
The first of the monthly dinners, for the winter, of the Association was held on Tuesday, the 11th inst., at the City Club. After the dinner the members met in their rooms, New York Life Building, when the following paper, prepared by the President, Mr. Charles Baillairgé, F. R. S. C., was read:

A QUICK AND EASY WAY OF GETTING AT THE WEIGHT OF IRON SCANTLINGS, GIRDERS, COLUMNS, ETC.

SCANTLINGS, GIRDERS, COLUMNS, ETC. Bear in mind that a cubic foot of iron weighs 480 lbs, therefore an inch thick and foot square is 40 lbs., or one twelfth of the cube foot. Therefore also half an inch=20 lbs., $\frac{1}{2}$ in. =10 lbs., $\frac{1}{2}$ in.=5 lbs., $1-16in.=2\frac{1}{2}$ lbs., $1-32in.=1\frac{1}{4}$ lbs. You need not try to remember these; as by a quick mental process you can start with the foot or inch and in less time than it requires to write this, halve the inch, then halve the half inch, then the quarter and so on. Now if your scantling be $3in.\times1in$ and as 1in. a foot square is 40 lbs., the 3in bar will be 1-4 of 40 lbs. or 10 lbs. If your bar is 4in. wide or $\frac{1}{3}$ of a foot, you will have $\frac{1}{3}$ of 40 lbs. or $13\frac{1}{3}$ lbs. For 1-2in.

bar or 1-4in. or $\frac{1}{8}$ in., etc., the same process holds good. For instance, a bar 1-4in. thick and zin. wide will be the 6th part of a square foot or the 6th part of 5 lbs., or 5-6 of a pound, since 5 lbs. x 6-30 sixths and 30 sixths divided by 6 gives 5 or 5-6 lbs., as just stated. Three inches by 1-4in. will be 1-4 of 5 lbs. or 1-4 lbs. and so on. Now, take a bar 1 in. square, and since a foot inch is 40 lbs., the 1in. bar will be 1-12 of 40 lbs. or $3\frac{1}{3}$ lbs., to the lineal foot. If the bar be 1 in.x1 1-2 in., and as 1 1-2 is $\frac{1}{8}$ of a foot, the bar will weight -8 of 40 lbs., or 5 lbs., since 8 into 40 gives 5 times. And if the bar be 1-2 in. x 1 1-2 in., it will be $\frac{1}{4}$ of 10 lbs. or 2 1-2 lbs., and if 1-8 in. x 3 in., 1 1-4 lbs. or the quarter of 5 lbs.

I th. x1 i-2 in., and as i 1-2 is $\frac{1}{2}$ of a foot, the bar will weigh i -8 of a Ds, or 51bs, since 8 into 40 gives 5 times. And if the bar be 1-2 in. x 1 1-2 in., it will be $\frac{1}{2}$ of 20 lbs. or 21-2 lbs. If the bar be 1-2 in. x 1 incert will be 1-4 of 10 lbs. or 21-2 lbs., and if 1-8 in. x 3 in., 1 1-4 lbs. or the quarter of 5 lbs. Say now your bar is $\frac{7}{2}$ in. square, and as an attempt to divide 12 inches or a foot by $\frac{7}{2}$ in. would lead to a more difficult or lengthy pro-cess, do it this way:—spread it over mentally into eighths of an inch. Thus seven times seven eighths=49 eighths or $\frac{6}{2}$ inches in width of $\frac{1}{2}$ inches or a foot by $\frac{7}{2}$ in. Now take for 6 in, (half a foot) the half of 5 lbs., or 21-2 lbs., but there is still $\frac{1}{2}$ in . x $\frac{7}{2}$ in . unaccounted for, which being only 1-48 of the 21-2 lbs may either be disregarded as a very small fraction of about 2 per cent., or if we wish to be more exact, and as it is mentally difficult, or even with pen or pencil to get at the 48th part of 21-2 lbs., reduce your 21-2 lbs. to ounces, giving 40 oz., and now you see that to the 21-2 lbs arrived at as above, you have to add 0.83 of an ounce, or say 4-5 of an ounce, or even a whole ounce as, except for hundreds or thousands of lineal feet, the neglected fraction of an ounce would hardly cover the trouble of exact computation. Apply now the process to iron 11-4 in. square: reduce the bar in imagi-nation to 1-4 in. iron, when it will be 5-4 in. x 5 times, or 25 quarters of an inchin width, or 61-4 inches, or half a foot, the 6 in. in width will give 5 lbs., and as 5 lbs. $\approx 50 \, c_2$, over), therefore to the aforesaid 5 lbs. add 3½ oz., and the exact weight of the 11-4 in square bar per lineal foot is 5 lbs. $3\frac{1}{3}$ oz. Again if the square bar be 1 1-8 in. or 9-8 in. and as 9 times 9-8-81 eights or 10 1-8 in., and as 10 in is the 5-6 of 12, therefore the bar will weigh per lin. ft. the 5-6 or 5 lbs. or of 80 oz. or 66 2·3 oz., but there forming together 67 1-2 oz. or 4 correctly $3_{1 o}^{54}$ per cent., being multiplied by 7, we get (354×7) 2478, correctly $3\frac{37}{10}$ per cent., being multiplied by 7, we get (354×7) 2478, or very nearly 25; therefore the remaining figures 354 of the .7854 are almost exactly equal to 1-7 (one-seventh) of 25; therefore, by dividing the weight set opposite to the 25 per cent. or one-quarter of the weight of the square bar or scantling, we get the fraction to be added to the 75 per cent. already obtained to arrive at the comparative weight of the round scantling. Thus then we make unto ourselves the rule: to compute weight of round iron, calculate it as square, and then take one-half, plus one-quarter, plus one-seventh of one-quarter (1-2+1-4+1-7 of 1-4) of weight of square bar; this process being far shorter or more concise than that of multiplying by .7854, which would further require a reduc-tion of the ounces or fractional portions of the weight to a decimal to allow of such multiplication. EXAMPLE.

EXAMPLE.

Suppose the weight of one lineal foot of a bar of square iron to be 5 I-2 lbs. Thereby the rule, the corresponding weight of the round bar, or weight of a round bar of same size, will be the half of 5 I-2 plus the 1-7 of this last or $1-8 \times 1-16$ or 3-16 lbs., together 4 5-10 lbs., lbs., or 2.34 lbs., plus the half of this, or quarter of the whole, = I 3-8 lbs. or 4 lbs. 5 oz.

Otherwise, reducing the 1-2 lbs, to a decimal

we get I-2 of which I-2 of this I-7 of this	5. 5 lbs. 2. 75 '' 1. 375 '' 0. 1964 ''	or reducing again the fraction of a 1b. to decimals 5. 5 lbs., and multiplying by 7854
	4. 3214	39270 39270
		431970

or 432 very nearly. which shows that the fraction 1-7 for the remaining decimal 354 of the

.7854 differs from it by little more than one-thousand $\frac{1}{1000}$ of a pound.

Now, for cast iron, it is true the weight of a cubic foot is only 450 lbs. instead of 480 lbs. for wrought iron; but as it is always safe in estimating in advance to be on the safe side, to make up for any omitted trifling items, I generally use same figures as for wrought iron; also because when contracted for by weight, the tendency is to give the casting as great a weight as possible, and even when the thickness asked for is not exceeded there is generally a slight allowance to be made for so much of the sand or core adhering forcibly to the casting and hard of removal.

Therefore for any straight work or rectangular, as for a girder, column