SCHOOL HOUSES.

The number of new school-houses erected during the year was 70; the number in course of erection on 1st November was 116. The estimated value of school property held by Trustees was $677,013.00. At the close of the year to which the report refers, the total school-house accommodation was considered sufficient for 80,005 pupils.

BOOKS.

Additional Text books have, during the year, been added to the prescribed list for use in Schools. It was found that in point of act some of these were already in use under Teachers of known udgment, and long experience, and as they were found to be not only unobjectionable, but commendable works of their class, they were, with a few others, added to the list. There is now an ardent demand that this addition should be extended.

The supplying of Books and Apparatus has been thrown open to competition among those in the trade generally, instead of being retained in the hands of one establishment as in previous years. The old system had caused some dissatisfaction, which there is every reason to hope the change will have removed. At the same time, schools will be as well supplied, and possibly at a still cheaper rate.

The Superintendent remarks, in conclusion:

"I will only observe in general but emphatic terms that the Education of the Province has made immense strides in advance since the present system came into operation; and that the system continues the progression with highly satisfactory results; but that under it, a vast amount of work and a great degree of care are still required, to bring up our Public Schools to the high standing which they are capable of attaining, and which it is so very desirable that they should hold."

INTRODUCTION TO CHISHOLM'S SCALE—STEP BY STEP.

FOR Proportion, by this Scale, the two following rules must be observed in all cases:—

RULE 1st.—When the first term in a proportion is greater than either of the other two terms, it must be taken on F or index, and its quantity thereon brought in contact with the perpendicular of one or the other terms on A. Then the third term taken on index will be in contact with the perpendicular of the fourth proportional, or answer on side A.

RULE 2nd.—When the first term is less than either of the other two terms, it must be taken on side A, and one of the given terms —no matter which—taken on F or index and brought in contact with the perpendicular of the first term as taken on A. Then the third term taken on A—as the first term was on it—its perpendicular traced to index, will thereon cut the fourth proportional or answer on side A.

Illustration of Rule 1st.

EXAMPLES.

$$
\begin{array}{l}
\text{F, A,} \quad \text{F, A,} \\
\text{As } 50:40 = 75:60 \\
\text{" } 40:32 = 75:60 \\
\text{" } 25:20 = 75:60 \\
\text{" } 90:72 = 75:60 \\
\text{" } 100:80 = 75:60 \\
\text{" } 110:88 = 120:96
\end{array}
$$

Perhaps the operator should be reminded that the 100 on F or index should be kept on the perpendicular of 80 on side A and be kept there till notice is given.

Illustration of Rule 2nd.

$$
\begin{array}{l}
\text{A, F,} \quad \text{A, F,} \\
\text{As } 40:50 = 60:75 \\
\text{" } 20:25 = 60:75 \\
\text{" } 48:60 = 60:75
\end{array}
$$

NOTE.—If the 100 on index be placed on the parallel of 80 on side B, all the above results will be equally clear and correct thereon.

$$
\begin{array}{l}
\text{A, F,} \quad \text{A, F,} \\
50:70 = 60:75 \\
88:110 = 60:75
\end{array}
$$

It is hoped that it is not necessary to remark to the operator that these results are obtained by multiplying the first and second terms together and dividing by the first term.

NOTE.—The operator will observe that the 100 on index is equal to 100 on side A or B, and being movable will, wherever placed on the plane of the scale, cut the side A or B proportionally, or any perpendicular or parallel thereon. Hence its power for computation in Arithmetic, Geometry, and Trigonometry, Plane and Spherical. The 10th division on side A or B, also the 10th division on index may be used for many purposes as the whole sides are, and often more conveniently. See Key to Scale, sec. 11 and 12.

To find the value of any number of articles, when the price is given in cents:

NOTE.—100 on index still kept on 80 on A. Examples—

Sold 90 yds. of cotton, at 8 cents per yd.; required the value in dollars and cents.

As 100 cents on F is to 8 cents on A, so is 90 yds. on F to $7.20 on A; and so is 100 yds. on F to $8 on A, and so is any number of yds. on F to dollars and cents on A. Every less division on A = 10 cents. If the price were 80 cents, every division on A would be dollars. Thus 55 yds. on F = $44 on A; but 56 yds. on F = $44.80 on A. For this, see what 100 on index, or 10 on index cuts on A—: this will shew the fraction. When the price is more than 10 cents,

RULE.—Set the number of cents taken on F upon the perpendicular of 10 on A; then any number on A will cut dollars and cents on F.

In the present position of F, we find the perpendicular of 10 on A cuts 12½ cents on F. The 10 on A assumed as 100, then the case stands thus:—As 100 cents on A is to 12½ cent' on F to 24 articles on A to $3 on F: and so is 36 articles on A to $4.50 on F, &c. If the price were one dollar and twenty-five cents, the setting of the index would be the same as now. The numbered divisions on F would represent $10, the others 1 dollar each. Example:

(10 on A assumed as 100). As 100 cents on A is to 125 cents, the price on F, so are 20 articles on A to $25, the value on F; and so are 30 articles on A to $37.50 on F, &c., &c.

The operator may now observe, that when the perpendicular of 10 on A cuts 125 on F—: the perpendicular of a 100 on A will without any assuming cut 125 on F. And the 10th parallel on side B will cut the less divisions on F in the proportion that the 100th parallel on side B would cut the index in whole divisions. And results obtained by using these perpendiculars and parallels will be equally correct and more convenient at times than by the larger divisions. Lest there be any doubt of the accuracy of setting so near the pivot, prove it thus: If 10 on A cut 125 on F, then 20 on A cuts 25—40 on A cuts 50 on F or index. This may be extended and accuracy obtained whether by whole numbers or fractions, or both.

Bought at 8 cents and would sell at 50 per cent. profit. Require the selling price.

RULE.—When the buying price is less than 10, set the 10 on F to its perpendicular on A. Then the 10 on F and the profit per cent. added will cut the setting price on A.

EXAMPLES.

As 10 assumed as a 100 cents on F is to 8 cents on A, so 15 assumed 150 cents on F to 12 cents, the selling price on A, and so is any per centage on F to selling price on A.

RULE 4.—When the selling price is more than 10, set the 10 as a 100 on F, with the profit per cent. added on the 10 on A as a 100. Note.—In this position of F, we find that 10 on A cuts 122 on F, the buying price.

Then as 10 on A assumed as a 100 on A : 122 F = 150 : 18 F or 19 cents, nearest selling price.

To compute Interest at any rate per cent.

RULE.—Set the 100 on F to the perpendicular of the rate on side A. Then the principal on F will cut the perpendicular of the interest on A. In this position of F, the rate of interest is found 8 per cent. on A.

Then as a 100 dollars on F is to the rate 8 dollars or 800 cents on A, so is principal 80 dollars on F to 6 dollars and 40 cents on A, and so is any other principal on F to interest on A. Note.— But if we use the side B, it will be as 100 on F is to 6 dollars on B, so is any principal on F to interest on B, at 6 per cent. or any other rate.

To find the interest for months, the amount per annum being given—say 6 dollars and 40 cents amount per annum.

RULE.—Assume 120 on F or index as 12 months and bring it to the perpendicular of 64—as 6 dollars and 40 cents. They will not come in contact, but 60 will cut 32 on A and be equally correct. Then the numbered divisions on F will cut their respective proportions of the interest on A. Thus as 12 months on F: is to $6.40 on A, so is 3 months on F to $1.60 on A, and so is 6 months on F to $3.20 on A, &c., &c.

To find the interest for days:

RULE.—Set the amount per annum on F to 86½ for 365 days on A, then each of the less divisions is 10 days on A, and will cut their respective quotas of interest on F.