

CORRESPONDENCE.

I have read each number of THE MUNICIPAL MISCELLANY with interest, and I trust your undertaking will meet with an unprecedented success. As THE MISCELLANY supplies a want that has been much felt by municipal officers. None should be without it. I see in your last number that you are advocating the formation of a Provincial Association for Municipal Clerks. The move is a good one, and I trust that your efforts in this direction will be successful, as the meeting and exchange of views by the municipal officers would not only be an individual benefit, but would also of necessity be of great service to the several corporations represented, as it would no doubt tend to improve and perfect their mode of transacting the public business entrusted to them.

J. H., Collingwood.

I have regularly received your little welcome visitor THE MUNICIPAL MISCELLANY. Every number seems to be filled with a budget of general municipal information. The statutes imposes so many and varied duties for municipal clerks that it requires considerable time to investigate and keep posted, but the Calendar in THE MISCELLANY fills this bill, and saves time to the often worried and ill paid servant of a municipality. A municipal clerk to properly fill the various requirements must now be an encyclopedia of municipal lore. The statutes being interpreted under so many various ways by the legal profession, that it is no wonder the poor clerk is worried over filling such an important position with any credit to the municipality and himself. THE MISCELLANY is a boon to aid him in his duties and may it continue and prosper. I have one of Lytie's Tables and I find it simplifies and aids me very much in compiling collectors' roll, especially for school rates, and I would not be without it for four times its price. I can nearly equal Mr. Hughes of Tottenham. H. W., Clearville.

Please accept my thanks for the favorable notice of my little work and through your columns to thank Messrs. W. M., of Rockton, and T. R., of South March, for their letters in your last issue. I desire to explain why the price was raised from \$1 to \$2. The circulars at the former price were put out before the book was printed and it was found that the cost of printing, binding, etc., was greater than at first anticipated and the purchasers being necessarily very limited that to give the compiler anything for his labor the price would have to be doubled. Hart & Co. are not to blame. I can assure my friends that I have not grown wealthy from the proceeds of the sale of the book or from the salary I receive as township clerk.—H. J. Lytle, Cambay, compiler of Lytle's Rate Tables.

You are supplying a much felt want in publishing THE MUNICIPAL MISCELLANY. There is no doubt of the good you will accomplish but I am somewhat apprehensive of the results for it is notorious that municipal officers whom you are unquestionably serving are like the proverbial printer "out at elbows" on account of the inadequate salaries the poor fellows are in possession of. Be that as it may, I herewith bank a dollar in your enterprise for which send me all the back numbers except those of June and August and enter me on your "list of friends" until further notice. I learned something from the August number as to how to compile voters' lists worth more than a dollar to me, and I apprehend worth a dollar to every municipal officer into whose hands your excellent journal for August fell. I refer to your reply to G. P. H., of Tottenham. The calculations of G. S., of Bosanquet, interested me. At first glance I thought your readers were invited to examine an original method, but closer investigation led me to recognize an old friend, and if you procure one of Sangster's Arithmetics and turn to page 361 you will see the following formula which is G. S.'s method in more formal

style. This is the orem to which I refer :

$$A = vr(1+r)^t$$

$$(1+r)^t - 1$$

Herein A stands for yearly payment; V for present value, or \$1,000 in question cited; R for rate per unit or .05, and T for number of terms or years or 5. By subtraction :

$$A = 1,000 \times .05(1.05)^5 = \frac{50 \times 1.2772815}{(1.05)^5 - 1} = \frac{50 \times 1.2772815}{.2762815}$$

\$230.90 or annual payment (not annual interest) observe VR is interest on \$1,000 (1.05)⁵ is amount of \$1 for 5 years at C. Int. and (1.05)⁵ - 1 or .2762815 is C. interest of \$1 for 5 years. However formulas are not of much account unless we understand the first principles underlying them, and I propose to show your readers (always provided I have your consent) how Sangster and others reach this formula. The amount of an annuity consists of a geometrical series, the last payment in which being paid when due, is without interest, and is say A the last but one (1+r)a (r being rate per unit) the last but two a(1+r)². Now the rates here is 1+r, 1st term a and No. of terms say n, now the sum of a geometrical series a is

$$(1+r)^n - 1 \quad \left\{ \begin{array}{l} a \\ (1+r)a \\ \dots \\ (1+r)^{n-1}a \end{array} \right\} = \frac{a \{ (1+r)^n - 1 \}}{r}$$

in which t stands for the number of terms. Now the present value of an annuity is that sum which put out at c interest for the given term, will equal the amount put at v for present value $v(1+r)^t = a = a \frac{\{ (1+r)^t - 1 \}}{r}$

clearing of fractions

$$vr(1+r)^t = a \frac{\{ (1+r)^t - 1 \}}{r} + a = \frac{vr(1+r)^t r + a \{ (1+r)^t - 1 \}}{r}$$

$$(1+r)^t - 1$$

the formula I give for the solution and what G. S. properly interprets. As to finding the annual payment at compound interest at say five per cent. per annum for a given sum when the interest is payable yearly, the simple fact is, it can't be done. If the interest were say 2% every four months you would have 16 terms, and the payment at the end of every term would be found to be \$124.87. But as G. S. put it this problem is a *prima facie* absurdity for if it is as he says annual payments they are to be made in either 5 or 6 years. If in 5 years there is no interest and no principal for the four months; if in 6 years, we must add the complement (8 months) to four to complete the sixth year. I am afraid G. S., Bosanquet, is inclined to be facetious.

J. C. H., Alliston.

SINCE last issue we have received remittances from the following: J. H., Collingwood, \$1; D. H., Calabogie, \$1; W. H., Seaforth, \$1; P. C., Kinmount, \$1; J. C. H., Alliston, \$1; T. H., Whitby, \$1; R. C., Merritton, \$1; W. B. H., Perth, \$1; J. McG., Burnstown, \$1; W. J. P., Streetsville, \$1.

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WHEN roads or streets are opened upon private property under authority of a by-law, the by-law must be in duplicate and duly registered in the registry office.

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THE proper corporate name of a municipal corporation should be used in by-laws, documents or accounts, as "The Corporation of the County, City, Town, Village or Township of (giving the name as the case may be). This is the proper method, as it is the name given by Section 5 of the Municipal Act.