The Municipal World

Published Monthly in the Interests of Every Department of our Municipal System—the Best in the World

Vol. 3. No. 4. ST. THOMAS, APRIL, 1893. Whole No. 28

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CONTENTS.

CALENDAR FOR APRIL AND MAY, 1893

Legal, Educational, Municipal and Other Appointments.

APRIL.

1. Return by Clerks of counties, cities, etc., of population to Department, due.—P. S. Act, Section 129.
   Clerks of counties, cities and towns separated from counties to make return of population to Educational Department.—Public Schools Act, Section 129.
   Last day for Free Library Board to report estimates to the Council.—Free Library Act, Section 6.
   Last day for petitions for Tavern and Shop Licenses to be presented.—License Act, Sections 11 and 31.
   Last day for removal of snow fences erected by Councils of townships, cities, towns or villages.—Snow Fences Act, Section 3.
   From this date no person compelled to remain on markets to sell after 9 a. m.—Municipal Act, Section 497 (6).
   Last day for Boards of Park Management to report their estimates to the Council.—Public Parks Act, Section 17.
3. Easter Monday.
   Reports on Night Schools, due to Education Department (session 1892-3).
4. Annual Meeting of the Ontario Educational Association at Toronto.
   The Legislative Assembly of Ontario meets at Toronto.
7. Last day for Treasurers of Local Municipalities to furnish County Treasurer with statement of all unpaid taxes and school rates.—Assessment Act, Section 145.
8. Last day for Collector to return to Treasurer the names of persons in arrears for water rates in Municipalities.—Municipal Waterworks Act, Section 21.
10. High Schools open (third term).—High School Act, Section 42. Public and Separate Schools in cities, towns and incorporated villages open after Easter holidays.—P. S. Act, Section 173 (2).—S. S. Act, Section 79 (2).
20. Last day for non-resident land holders to give notice to clerk of ownership of lands to avoid assessment as lands of non-residents.—Assessment Act, Section 3.
25. Last day for Clerk to make up and deliver to assessor's list of persons requiring their names to be entered in the roll.—Assessment Act, Section 3.
30. Last day for completion of roll by assessor.
    Last day for non-residents to complain of assessment to proper Municipal Council—Assessment Act, Section 77.
    Last day for License Commissioners to pass regulations, etc.—Liquor License Act, Section 4.

MAY.

1. Last day for Treasurers to furnish Bureau of Industries, on form furnished by Department, statistics regarding finances of their municipalities.—Municipal Act, Sec. 252.
   Last day for passing by-laws to alter School Section boundaries.—Public Schools Act, Section 81.
   County Treasurers to complete and balance their books, charging lands with arrears of taxes.—Assessment Act, Section 152.
5. Arbor Day.

NOTICE

The publisher desires to ensure the regular and prompt delivery of THE WORLD to every subscriber, and requests that any cause of complaint in this particular be reported at once to the office of publication. Subscribers who may change their address should also give prompt notice of same, and in doing so, should give both the old and new address.

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$1.00 PER ANNUM. SINGLE COPY 10c

Six copies, $5.00. Additional copies, 75 cents each. All subscriptions to be paid in advance. The paper will be discontinued at expiration of term paid for, of which subscribers will receive notice. Prices for advertising on application.

Communications and advertisements for next issue should reach the office of publication on or before the 20th of this month.

Contributions of value to the persons in whose interests this journal is published, are cordially invited. Subscribers are also requested to forward items of interest from their respective localities.

Address all communications to

K. W. McKAY, EDITOR,
Box 749, - - St. Thomas, Ont.

ST. THOMAS, APRIL 1, 1893.

The Ontario department of agriculture will distribute 50,000 copies of the *Bulletin* on roadmaking prepared by J. A. Bell, P. L. S., C. E. These, together with the many newspapers that have given this excellent article space in their columns, will be the means of bringing important information on this question prominently before municipal officers, who from general results are not entitled to be called roadmakers.

* * *

Councils generally have to borrow money from banks to carry on their affairs each year. Some business men do the same, but not if they are wise and can help it. We think it would not be difficult to accumulate money enough to keep ahead of obligations and always have funds to meet expenses. A certain sum is raised every year. If a municipality could get a little ahead it would save the bank interest, which is generally a big item.

* * *

Township councils have now the power to abolish entirely the statute labor system under which, everybody will admit, roadmaking has been a huge farce. It is to be hoped that some of our advanced rural municipalities will break the ice in abolishing this fossil statute labor system and raise the money for building and repairing roads by the usual method of taxing.

* * *

The question of abolition of statute labor will soon form a subject for discussion in many municipalities. That such a reform is highly necessary is admitted by those interested in good roads and the economical expenditure of the public money. Councillors should make known their views on this subject, especially those representing municipalities in which statute labor has been abolished.

* * *

Alterations in school section boundaries should be brought before the council without delay. By-laws for this purpose must be passed on or before the first day of May. All parties whose property is affected by the proposed change must be notified before the by-law is passed, in such manner as the council directs.

The annual reports of the inspectors of houses of industry in the province should show details as to dietary, especially the number of pounds of meat used and the cost of same. This is one of the largest items of expenditure, and the cost for inmates per day, if shown, will, in some cases, be found to be excessive, and the cause of a high average rate. Bread and other supplies in general use should be treated in the same way.

* * *

The dominion government will not take any action on petitions sent in by a majority of the county councils in the province praying for an amendment to the Railway Act, making it compulsory for the railways to put in culverts on natural watercourses wherever required, the contention being that the Railway Act makes provision for matters of this kind, to be dealt with upon application to the railway committee of the privy council. This would appear to be a drawback to the ownership of property adjoining a railway under Dominion jurisdiction. If it required drainage, the railway committee of the privy council would have to decide disputes between the owners and the companies as to location of culverts. Applications of this kind cannot be made without expense and the services of a solicitor. The influence of railway corporations is very great and it is only by united action on the part of municipalities in Ontario, that this desired amendment will be considered.

* * *

Another petition presented to the Dominion government praying for an amendment to the Indian Act, so that the Indian agent or Indian council would be liable under the Ditches and Watercourses Act, to maintain their fair share of the ditches and drains, where the reserves adjoin the lands of white settlers, will not be granted. The reason given therefore being, that while it might sometimes be proper and in the interests of the Indians to agree to assume the liability with respect to ditches, etc., which the act referred to imposes. The department of Indian affairs should do nothing to impair the freedom which it now enjoys to deal with each case as it arises on its merits.

* * *

The keen contest that took place for the warden's chair in many counties, show that this honorable position is not losing its popularity. In Wentworth, the council did not succeed in filling the chair until the fourth day of the session.

* * *

The question of building a house of industry submitted to the ratepayers in the county of Huron, at the municipal elections, was carried, a large majority being in favor of building the institution. A similar vote taken in the county of Bruce resulted in the defeat of the proposition to adopt this progressive method of caring for the poor.

An eastern exchange, when stating that municipal taxes went to pay the following officers, appointed by the local government, the clerk of the peace, constable, coroner, county attorney, jailer, turn-keys, sheriff, etc., overlooked the fact that a large portion of the amounts paid in the first instance by the county to these officials is refused to the municipality by the government. The proportionate refund of the jail expenditure is determined by the number of prisoners committed for indictable offences, for the services of the sheriff, county attorney and clerk of the peace, the refund is determined by the tariff set forth in the revised statutes. Of the amount paid to constables, the government refund all the expenses for indictable offences.

* * *

Every member of a local board of health in a town in which the municipal officers fail to make the appointments as the law requires, should remember that his term of office terminates only with the appointment of his successor.

* * *

The county councillors of the united counties of Stormont, Dundas and Glengary passed the following resolution at the recent meeting of the council. That the dominion voters' list should be prepared by the officials of the local municipalities and that the Dominion Franchise Act should be repealed. This resolution expresses the views of a large majority of the residents of this province, irrespective of political inclinations.

The system of voters' lists prepared by municipal authorities is easily understood and has given the greatest satisfaction.

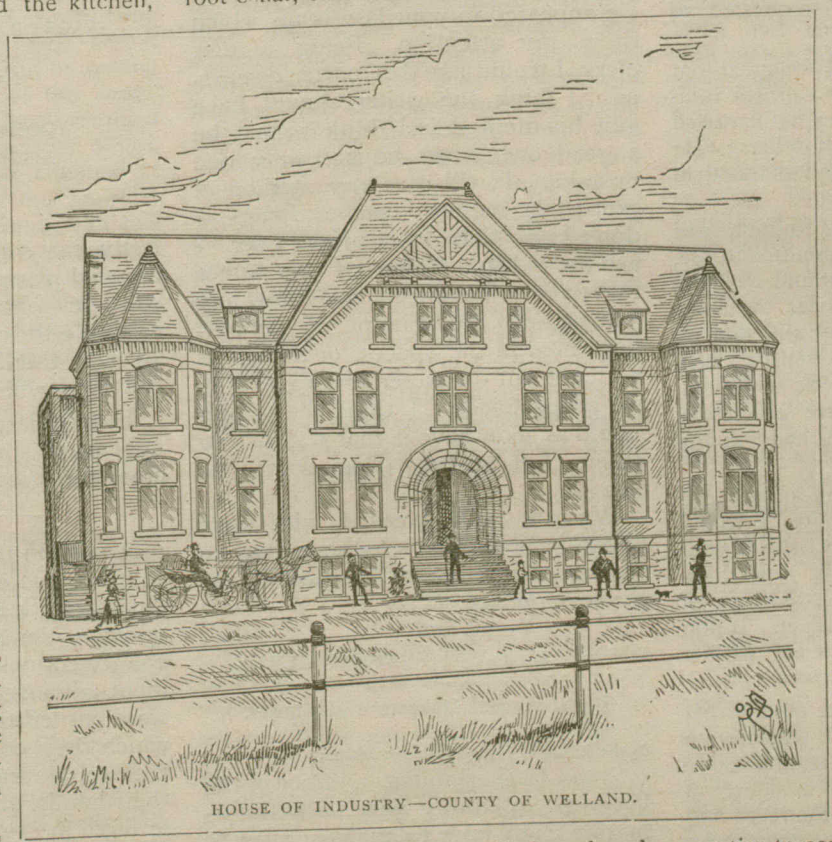
With a few amendments to the present Voters' List Act, and a reconstruction of the Dominion Franchise Act, a Voters' List Act could be framed that would meet the approval of all and be much less expensive.

* * *

We would again draw the attention of members of the county council who have subscribed, as a council, to the fact that the remaining members of councils of the local municipalities in the county are entitled to receive the paper at the same rate—seventy-five cents each. A number of the townships and villages so situated have already taken advantage of this offer. The new and inexperienced members are not those generally elected to go to the county council. It has been found to assist their more experienced brethren in the discharge of the duties of their office and, considering the small price of the subscription, no council can afford to withhold this publication from any of its members or officers, when the benefits to be derived therefrom are considered.

House of Industry—County of Welland.

This institution was established in 1888 and opened on the 11th day of June of that year. It is situated on a favorable site in the township of Thorold, immediately adjoining the town of Welland. The building is constructed of red brick, with stone foundation, two stories and a basement, and is of modern design. The size of the main building is about 75x45 feet. The basement is divided into two parts by a hall running lengthwise of the institution. The rooms along the front are seven in number, being the keeper's kitchen, bathroom, keeper's dining-room, lock-up (generally used as a store-room), women's dining-room, store-room and dairy. Opposite these are situated the kitchen, boiler and coal rooms and men's dining room. The first floor above the basement is divided in the same manner as the basement, and provides in the front for a parlor, sitting-room, two bedrooms and an office for the keeper, and a room in which a supply of reading matter for the inmates is kept. Opposite these are the physician's room, men's dayroom, women's dayroom and a small bedroom. In the centre, adjoining the women's dayroom, is located the laundry, washroom and drying-room. The second floor provides along the front for six bedrooms and a room in which clothing is stored, and opposite these, two large bedrooms, one occupied by men, containing fourteen beds, and the other by the women, containing eleven beds. Iron bedsteads are used.



HOUSE OF INDUSTRY—COUNTY OF WELLAND.

The building is heated by steam. The hot water system was at first introduced, but the boiler being too small, it was decided to put in steam, when the change was made. In the kitchen is a large cook stove—six holes—with hot water heater and wash sink. There is no special apparatus in the laundry, the water being heated in boilers on a stove; tubs and two washing machines complete the rest of the equipment in this department. There is only one bath room in the institution; for this, water is heated at the kitchen stove, and all the inmates are supposed to be bathed once a week.

In addition to the rooms mentioned above, on the second floor, there are two wash rooms, one for the men and one for the women, each fitted up with three ordinary kitchen sinks, in which tin basins are placed.

The water supply is good; the water works of the town of Welland having recently been extended to the institution, at a cost of $1,135. There are no water-closets, and all the sewage from it is conducted to a cesspool and distributed over the farm. The institution will accommodate, when full, sixty inmates.

In addition to the main building, a brick hospital building, two stories, 24x30, was erected during 1892, at a cost of about $1,800. This is heated by hot air, and will accommodate fifteen patients. The outbuildings consist of a corn crib, wood shed, pig pen, carpenter's shop, etc., and a nicely-painted barn 75x30, with stone basement. This provides accommodation for five horses, fourteen head of cattle, a root cellar, etc. The farm occupies sixty acres, which cost $3,600, all cleared and well fenced. The soil is clay loam, fifteen acres tile drained. A fine orchard, as well as small fruits, have been set out. The farm stock consists at present of three horses, twelve head of cattle and sixteen pigs.

The total amount expended by this county in connection with the industrial farm and permanent improvements thereon is $29,601. The full government grant of $4,000 has been received. The officers consist of the keeper and matron, whose joint salary is $450; physician, salary, $100; one hired girl, who receives $3 per week, and a hired man, who receives $175 per year. There is no permanent inspector, the chairman of a committee of three, appointed by the county council, performs this duty. The net cost for the year 1892 for maintenance was $4,097; the average number of inmates during the year was 43. The average expenses per week per inmate, keeper's family and hired help included, during the year 1892 was $1.45. The dietary of the inmates consists of, for breakfast, oat-meal, bread and butter and tea; for dinner, stewed beef, potatoes and vegetables in season; for supper, bread, butter, tea or johnny-cake and fruit in season.

Religious services, by the local ministers, are held in the institution weekly. The conveyance of inmates to the institution is paid by the municipalities from which they are sent. Other expenses are paid by general rate levied over the whole county, irrespective of the number of inmates sent in. By special agreement, the town of Niagara Falls, which is separated from the county for municipal purposes, pays $300 annually to the county for the use of the Industrial Home, and in addition thereto the sum of $2 per week for each inmate they send to the home.

Owing to the proximity of the town of Welland, in which is situated the county jail, the authorities have made arrangements whereby prisoners from the jail are employed on the county farm in cutting wood, ditching, draining, etc. The only expenses in connection therewith chargeable to the institution being the board of the prisoners. The experiments in this respect are reported to be entirely satistactory. In his last report the inspector urges upon the council the expediency of employing the prisoners in this way whenever it can possibly be done. This is a good idea for other counties to consider.

In a general way this institution presents a very fine appearance, is well kept, and every attention paid to the comfort of the other inmates. The arrangement of the rooms could have been improved.

When compared with other similar institutions the principal difference is in the reported cost per inmate which has been the highest in the province. Under the present management the rate is being reduced. The appointment of the chairman of committee as inspector is hardly to be recommended, although in this county it has been found to be an improvement. Under our present system, the life of a municipal officer is uncertain, and we would consider it to be in the interest of every county to have one permanent official to advise with the keeper and committee in the management.

CORRESPONDENCE.

This paper is not responsible for opinions expressed by correspondents.

Treasurer's Bonds.

To the Editor of THE MUNICIPAL WORLD:

DEAR SIR,—At the first meeting of our council in January, I was appointed a committee to inquire into the sufficiency of our treasurer's bond. I accordingly visited the office of the county registrar and there found that the property of both his bondsmen was heavily encumbered—in the one case, to what the property had cost, and both to far more than the present assessed value.

At our February meeting I presented a written report of the facts as stated, and recommended that he be requested to furnish additional bonds.

It was then moved and seconded that the treasurer be requested to furnish additional bonds, and that they be increased from five to eight thousand dollars; that being about two thousand dollars less than the annual receipts.

An amendment to the motion was carried, requesting the committee to see, in both cases, the mortgagor and also the mortgagee, and ascertain what payments had been made, and amount still due on their mortgages, and also setting forth that the amount of his bond, as at present, was quite sufficient, as there never was anything like that sum on hand at any one time.

Now, Mr. Editor, in view of our responsibility to the municipality, I would like you to say, in the April issue of your very valuable paper, whether you think we have gone beyond the strict line of duty in the course we have taken. If not, would you advise us as to any further action in the matter.

I may say that we take the ground that it is clearly the duty of the treasurer to furnish us with all the information possible in reference to the financial standing of his bondsmen. In the past, the reeve and deputy, who have been in the council for some years, have neglected this duty, and for that reason do not care to have the matter brought up.

By giving us some advice on this matter, you will confer a favor on a

NEW COUNCILLOR.

The difficulty, mentioned by our correspondent, is one that we believe is general throughout the province. It is difficult at all times to ascertain a man's true financial standing, and rather a delicate matter to approach a bondsman and ask him for a statement of his affairs. The resolutions mentioned are both in order. If the council think the bond should be increased, it is their duty to see that it is done without delay.

The bonds and bondsmen of each municipal treasurer are different and no one without knowing the peculiar circumstances connected with any special case can give advice in the matter. We would say, in due fairness to the treasurer, that the council should make *reasonable* inquiry into the sufficiency of the present bond before requesting him to give a new one. How this is to be done is for the council alone to decide. If the security is not sufficient, or, if after making reasonable inquiries the council are unable to ascertain the financial standing of the treasurer's sureties, he should be asked to give a new bond that will be acceptable to the council.—ED.

Who has a Good Method?

To the Editor of THE MUNICIPAL WORLD:

SIR,—Under this heading, an article appeared in your last issue, which drew my attention. Being a new clerk, I would like this matter discussed. I think the writer should have give his method as I think it must be a good one when he had only one mistake. I will give my method of preparing voters' lists, although I don't know that it is a proper one. I use the old list, strike out any names that have to be left off, and insert any names that have to be put on, by putting them in the spaces, or if there is no room put on paper and paste it in the proper place. I think the printer would as soon have it that way as any other. Let us hear from some one else.

We are well pleased with your paper, it is well worth the money to any municipal council especially to green hands.

Yours truly,

TOWNSHIP CLERK.

Equal Annual Debenture Payments.

To the Editor of THE MUNICIPAL WORLD:

SIR,—In the January number of the WORLD you kindly gave useful information as to how to make returns to the Government of principal and interest, under the Tile Drainage Act. If not too much trouble might I request to know what is the general rule in making such statements for computing principle and interest so as to make the agregate amount payable for principal and interest each year as near equal as may be, of course the interest diminishes each year as the principal increases.

Municipal officers and others get much useful information through the MUNICIPAL WORLD.

Yours respectfully,

W. J

The sinking fund and instalment tables by W. Powis, F. C. A., advertised in these columns, give the amount of principal and interest required to pay off debentures in equal annual payments. To find equal annual payments required to pay of debentures issued for any number of years at any rate per cent. Try the following example:

$1000 WORTH OF DEBENTURES PAYABLE IN 5 YEARS AT 5%.

	PRIN.	INT.	
1.	$1000 00	$ 50.00	Add interest for first year to the principal of that year to give the principle for the next year, and then the interest of the second year to give the principal for the next year, etc.
2.	1050.00	52.50	
3.	1102.50	55.12	
4.	1157.62	57.88	
5.	1215.50	60.78	
	$5525.62	$276.28	

$5525.62 = $1000.00

$$I = \frac{1000.00}{5525.62}$$

1000 = 180.97 1st year's prin.

Interest 50.00 1 yr. $1000, 1st yr's interest.

$ 230.97 Equal ann'l pay't.

By carrying out the figuers to six decimal places a more correct amount can be obtained. In the above example the equal annual payment is $231.00, the difference is owing to the fractions, which we have omitted.

In next issue we will give form of debenture statement, showing principal and coupons payable each year.

A motion to petition the legislature to make one of the auditors in municipalities other than counties elective, was considered recently by one of the county councils. The principal argument advanced, being that the people were entiled to an independent audit, which they could not get, as long as the appointment was taken out of their hands, and that this system was in force in every school section in the Province. Independant audits can only be secured by paying competent auditors a salary sufficient to warrant them in making a thorough examination of assessment and collector's rolls. The minutes and by-laws of the municipality, this is not generally provided for and is very often overlooked by auditors.

* * *

Municipalities paying for a $10 audit generally get it, and in most instances $25 to $100 would not pay for the work if performed properly.

* * *

Clerks will kindly remember THE WORLD when mailing printed copies of council proceedings, auditors' reports, by-laws, etc.

ENGINEERING DEPARTMENT

A. W. CAMPBELL,
P.L.S., C.E., A.M.C.S., C.E.,
EDITOR.

Roads and Roadmaking.

Spring has once more put in an appearance—the beginning of the season when the majority of the people of rural districts are obliged to remain at home on account of the abominable condition of our country roads. And, while at this season there is universal complaint by the taxpayer at this condition of affairs, they do not for a moment consider that they are the parties responsible, on account of their determination to uphold the ancient and useless system of statute labor for constructing and maintaining the public roads, and it is now that the farmer, instead of nursing his wrath at the condition of the roads, when he is desirous of travelling over them to perform the various business duties, which usually demand their attention at this season of the year, should consider the advisability of doing away with this road tax system of personal services and commutation, which is nearly universal among us, and which is unsound in its principle, unjust in its operations, wasteful in its practice and unsatisfactory in its results, and adopt a system which will return him value for the money and time expended, by giving him a road which he may be able to travel over with ease and comfort at all seasons of the year.

In the first place, the condition of the roads, which is so important an element of the wealth and comfort of the whole community, should not be allowed to remain at the mercy of the indolence or false economy of the various small townships through which the roads pass. In one town its public spirit, wealth and pride may induce it to make a good road; in the adjoining town a short-sighted policy, looking only to private interest in its narrowest sense, may have led the inhabitants to work upon the roads barely enough to put them in such a condition as will allow a wagon to be slowly drawn over them.

In the next place, the "commissioners," who have the primitive direction of the improvements and repairs, should be liberally compensated for the time and attention they give to the work. Gratuitous services are seldom efficient. At best, they are temporary and local, and dependent on the whims, continued residence and life of the party, and, if the compensation be insufficient the same evils exist, only in a less degree. Skill, labor and time cannot be obtained and secured without being adequately paid for.

The third defect in the system is the annual appointment of commissioners or overseers. When men of suitable ability, knowledge and experience, have been once obtained, they should be permanently continued in office. By the present system of annual rotation, as soon as the overseer has learned something in his year's apprenticeship, his experience is lost, and another takes his place and begins in his turn to take lessons in repairing roads, at the expense of their condition. In other occupations an apprenticeship for some years is thought necessary before a person is considered as qualified to practice with his own capital, while a road overseer, the moment he is chosen, is thought fit to direct a work requiring much science, at the expense of the town's capital of time, labor and money. In the fourth place, the fundamental principle of the road tax is a false one. Its contemporary custom of requiring rents to be paid in kinds has long since been found to be less easy and equitable than money rents. Just so is work paid for by the piece preferable in many respects to compulsory labor by the day. Men are now taken from their peculiar occupations, in which they are skilful, and transferred to one of which they know nothing. A good ploughman does not think himself necessarily competent to forge the coulter of his plough or put together its woodwork. He knows that it is truer economy for him to pay a mechanic for his services. But the laws assume him to be a skilful roadmaker—a more difficult art than plough-making—and compel him to act as one, though his clumsiness in repairing his plough would injure only himself, while his road blunders are injurious to the whole community. Skill in any art is only acquired by practical and successful experience, aided by the instructions of those who already possess it. An artisan cannot be extemporized.

Fifthly, labor by the day is always less profitable than that done by the piece, in which each man's skill and industry receive proportionate rewards. Working on the roads is generally made a half-holiday by those who assemble at the summons of the overseer. Few of the men or horses do half a day's work, the remainder of their time being lost in idleness, and perhaps half of the even actual working time being wasted by its indirections.

Lastly, it follows from the preceding that the commutation system operates very unfairly and severely upon those who commute, for they pay the price of a full day's work, and their tax is, therefore, doubled.

Such are the principal defects of the present system of managing the labor expended on township roads.

The keen contest which took place for the warden's chair in many counties shows that that this honorable position is not loosing its popularity. In Wentworth, the council did not succeed in filling the chair until the fourth day of the session.

The Effect of Wheels on the Road Surface.

The effects of broad and narrow wheels upon roads have been much discussed, and many laws enacted to encourage the use of the former. Upon a hard and well made road, such as broken stone, there is little difference between them, but on a common road, narrow wheels, supporting heavy weights, exercise a very destructive cutting and ploughing action. This diminishes as the width of the felloe increases, which, in many cases, is done to such an extent that the wheel acts as a roller in improving, instead of injuring, the surface. For these reasons the New York turnpike law enacts that carriages, having wheels of which the tire or track is six inches wide, shall pay only half the usual tolls; those with wheels nine inches wide, only one-fourth; and that those with wheels twelve inches wide shall pay none at all.

The imperfect surface of an earth road makes it doubly important to take every precaution to lessen the friction of vehicles upon it. The resistance decreases as the breadth of the tire increases on compressible roads, as earth, sand, gravel, etc., while on paved and broken stone roads the resistance is nearly independent of the breadth of the tire. Cylindrical wheels also cause less friction than conical ones. The larger the wheels the less friction have they, and the greater power of leverage in overcoming obstacles. The fore wheels should be as large as the hind ones, were it not for the inconvenience of turning. The axles should be straight, and not bent downward at the end which increases the friction, though it has the advantage of throwing the mud away from the carriage. The load should be placed on the hind wheels rather than the fore ones.

The felloe should have a flat, bearing surface and not a rounded one. The benefits of broad wheels are sometimes destroyed by overloading them. To prevent this, when tolls are collected, they should be increased for each additional horse, more rapidly than the direct proportion; thus, if one horse paid five cents, two should pay eleven; three, seventeen, etc. Narrow wheels are particularly injurious when in rapid motion for having less resistance and greater velocity than others. They revolve less perfectly and drag more, thus producing the worst sort of effect. Conical wheels, of which the inner is greater than the outer circumference, tend to move in a curve, and being forced to proceed in a right line, exert a peculiarly destructive grinding action on the roads. On macadam roads, horses' feet exercise a more destructive effect than the wheels of vehicles. It has been calculated that a set of tires would run 2,700 miles in average weather, but that a set of horses' shoes would bear only 200 miles of travel.

A $10,000 high school building is to be erected at Prescott, Ontario.

Highway Bridges.

There are certain requirements which all works should fulfill, whatever be their material or style of construction. Strength and stability, are two essential features which every structure should possess at the expense of everything else. It is also necessary that they be maintained, a thing not always easy to accomplish. The best metalic bridges of to-day are merely modifications of the simplest and best designs which have long been known and used, and it is believed that the wooden Howe truss, with a few departures from the usual practice, can be made to fulfill the present heavy requirements. One serious objection to the Howe truss of the past and one which has contributed largely to its disuse was its extreme sensitiveness under a medium load. This was largely a fault of design, the ratio of the depth and span of the truss being generally to small.

For a span of 150 feet the theoretical depth would be about 35 feet, while ordinary trusses of this length are given a depth of about 20 feet, a difference of 15 feet. From the proceeding conclusions the importance of making the depth of wooden trusses somewhat greater than those of steel is very evident. Since it is advisable to have deeper trusses, it naturally follows that there should be fewer panels. It is customary to have the panel length at least half the depth of the truss, hence the panels should be longer. Again, the fewer the panels the more directly the strains are transmitted to the abutments, a point well worth consideration. As the length of the panel increases the bending in the loaded chord will likewise increase. To obviate this, as far as practicable, the floor beams should be few in number, as deep as the timber will permit, and as close to the panel point as the web members will allow. Unless the panels are exceptionally long, from four to six ordinary floor beams per panel will suffice. The wide spacing of stringers is a means of relief to the floor beams, and may be adopted in the Howe truss with impunity.

In the re-calculation of the old Howe truss bridges the rods are almost invariably found to be the weakest members. In many instances the calculated unit strains in the rods have been found to be very near this elastic limit. Occasionally, the chords are somewhat weak, but the diagonals are seldom so. The truss rods from an economical point of view always have upset screw ends, as a saving of 1000 pounds to 9000 pounds per span, depending on the length. For the sake of convenience in adjustment, the rods should be provided with turn buckles placed at such a height as to be easily operated. All cast or wrought iron and steel in the structure should be thoroughly painted before and after erection, a thing which is almost invarably neglected.

Perhaps one of the most common ways of strengthing a Howe truss bridge is by the introduction of timber arches, which thrust against the masonry. This method of reinforcement, although considerably better than none at all, is not so efficient as some have supposed it to be. A comparison between the actual strength of these arches and the strength which they are supposed to have is not so favorable as might be desired. If the load was always stationary and uniformily distributed it is beyond question that the arch would be a satisfactory means of support. Ordinarly, the curve of the arch does not vary much from that of a parabola, hence, under these conditions, the bending strains will be comparatively insignificant. The only strains of any consequence are the shear and direct thrust which are of little account in the arch itself, but the thrust against the masonry is frequently more than it can resist not having been originally constructed for that purpose. The conditions of an arch under the action of a moving load are radically different. Thus, for an arch with a train load upon only one-half the span, the bending moment is several times greater than when fully loaded. Timber arches, as usually constructed, are poorly adapted to resistance of the strains which they are called upon to bear. They are built up with a few courses, varying in thickness, and insufficiently bolted together, and have frequently been made with only two courses of timber. Such construction is not commendable, on account of the lack of strength at the joints. Another example of faulty design in the arch, is leaving an open space between the courses. Arches should be made of several very deep, thin courses thoroughly bolted and keyed together, aside from having solid and reliable skew-backs. To derive the greater benefit from an arch its bending strains must be reduced to a minimum. To realize this, in arches which re-inforce a bridge the ends of the trusses should be tied to the feet of the arches to prevent the unloaded half from lifting the end of the bridge. The trusses having been sufficiently strengthened to prevent this distortion, the result of the above will be more satisfactory than the usual way.

THE PROJECTED ST. CLAIR-ERIE CANAL.—There is active agitation at Ottawa for the construction of a canal through Canadian territory, to connect Lake St. Clair with Lake Erie. Colonel Tisdale, M. P., strongly endorses the project, and is supported by a considerable number of the members of parliament from Western Ontario. This canal will enable Canadian shipping to pass from the Atlantic to the head of Lake Superior through Canadian territory. The proposed route offers no engineering difficulties, as the entire line is nearly level.

* * *

King council subscribes for seven copies of the MUNICIPAL WORLD. It is money well spent and Tottenham should follow suit.—*Cardwell Sentinel.*

Gravel Sidewalks.

T. W. S. asks, "In constructing gravel sidewalks, what plan would you adopt?"

Very little can be said upon the subject. Such sidewalks are only suitable for suburban districts or opposite vacant land, they are very uncomfortable to the pedestrian, and are either covered with loose stones and dust in dry weather or with slippery mud in wet weather.

In building gravel sidewalks, after the grade of the walk has been determined a trench five inches in depth should be made to receive the gravel and the surface of the ground along the edge of the trench should be made to conform with the grade of the walk. Where this trench is excavated, no curbing is necessary, but where the grade of the sidewalk comes above the surface of the ground, curbing or filling and sodding should be used in order to keep the gravel in its place. This curbing should be two-inch cedar plank, securely fastened to the curbing posts of cedar, sunk about two inches below the bottom of the trench and about eight feet apart. The bottom of the trench should be thoroughly rolled or pounded in order to secure a firm foundation and preserve uniformity of the grade and prevent dislocation of the material after becoming thoroughly set. The bottom of the trench should be thoroughly drained by placing a common field tile, three inches in diameter, along the centre of the bottom of the trench and discharging into watercourses wherever a proper outlet can be had. The surface of the sidewalk should always be at least one foot above the bottom of the gutter of a properly improved roadbed, but, if the roadbed is not properly improved, the grade of the sidewalk should be of sufficient height above the roadbed to prevent the water flowing on the sidewalk. The grade of the sidewalk, when finished, should have an inclination of an inch to 100 feet, towards a watercourse. and the finished surface of the walk should be oval, with a raise of one-half an inch to the foot. In laying the gravel in the trench four inches in depth should first be placed in the bottom and thoroughly rolled or pounded (this should be of well screened gravel), then the remainder of the five inches and the amount allowed for curvature of the surface should be put on and this also thoroughly rolled or pounded to conform to the required curve.

The use of concrete as a monolith and also in slabs, as paving material for sidewalks, has made great progress during the last few years, and in nearly every town, more or less concrete may now be seen, with the use of this, gravel sidewalks are very seldom used.

The County Road Association, of Texas, composed of county judges and commissioners, met in Austin, February 6. State Representative J. A. Breeding, of Houston, read a bill which provides for the creation of a system of public roads, and the measure was discussed at length.

Waterworks.

THE "DUTY" OF PUMPING ENGINES.

As now understood, the duty of a pumping engine is the number of pounds lifted one foot high by the consumption of one hundred pounds of coal. The accuracy with which work of this kind can be ascertained makes a comparison of results obtained from different engines at once simple and easy. They are reduced to a common standard by multiplying the number of pounds of water pumped with one hundred of coal, by the height in feet through which is is raised. The product expresses the duty in millions. A modification of this expression, more recently introduced, is called "one foot pound duty." In this form one pound of coal is taken, instead of one hundred, as the basis of calculation, the result being one one-hundredth of the first expression. So that a fifty million duty by Watt's standard would be called a five hundred foot pound duty.

The following formula should be adopted :

$$\frac{P \times V \times H \times 100}{F}$$ Equals duty.

Wherein P. represents pounds of water, delivered per stroke, as ascertained by measurement of the plungers and calculation of their displacement; V., the number of strokes made during the trial; H., the head pressure in feet, including friction through the main, as ascertained by gauges placed on the ascending main, just beyond the air chamber; F., the number of pounds of coal actually consumed during the trial, not deducting ashes or clinkers, neither reckoning the coal used in getting up steam or banking fires.

A duty test of this character does not, however, fully express the working characteristics or merits of an engine. It is confined to an experiment of a few hours duration, under the most careful handling, and with everything in the best possible condition. To be entitled to a substantial reputation, an engine should exhibit satisfactory annual results in addition to those of a short duty trial. Obviously, no engine can make a high continuous record that cannot show a high duty under a special trial. But it is also true that an engine which can show this high duty may be of comparatively small value for waterworks purposes, by reason of excessive cost, liability to derangement, necessity for frequent repairs, or inordinate cost of attendance. Therefore, it is that prudent hydraulic engineers attach but little value to isolated duty tests, unless corroborated by a record of good current performances. It has, however, happened that some discredit has been thrown upon the special trials by sudden or arbitrary changes made in the way of estimating the work done or usual allowances in the coal account. It is necessary that duty trials should conform, as far as may be possible, to a common standard, if the results are to be relied upon for purposes of comparison. For a long time a reasonable uniformity was maintained, but within the last few years departures from precedent have been made, almost, it would seem, at the caprice of the operator. Waterworks managers should, therefore, be on their guard when they see an isolated quotation of high duties. The records should be searched to see whether it was based upon combustible only, or upon ordinary coal, that is to say, whether rejecting ashes and cinders or including the same? Whether upon coal used in pumping only, or upon total coal consumed? It should also be ascertained whether unusual allowance has been made for resistance due to the passage of the water through bends and turns in the pump and pipes? Whether a deduction for pump leakage has been insisted upon, or whether the calculated displacement of the pump has been allowed? Whether the coal was of good quality and in proper mercantile condition, or whether for the purpose of improving the result, the parties in interest had been allowed to cull and pick the fuel used?

Application has been made to the township council for permission to construct and operate an electric railway along certain roads and highways in the township of Grantham.

* * *

The Michigan Engineering Society is reported by the *Adrian Times* to have formulated a plan for the improvement of the highways of that state, which will be presented to the legislature.

* * *

In the West Virginia legislature a bill has been introduced, providing for the appointment of five state commissioners of highways, and authorizing the employment of convicts on the roads.

* * *

In the Wisconsin legislature bills have been introduced, providing a system of permanent road constructions and maintenance in rural districts. The work must be done by three county commissioners, appointed by the circuit judge. Property-holders, for one mile on each side of the road, are to pay twenty per cent. of the cost, and the county the balance.

* * *

In the legislature of Washington, a bill has been introduced for the creation of a state board of public highways, to have control over all state roads and supervision over country roads, sufficient to secure uniformity of system. The bill provides means for opening new roads, and contemplates the creation of two public state turnpike roads.

The Local Improvement System.

An understanding of the Single Tax principle clears up many difficulties connected with the Local Improvement system. That system has been severely attacked. This is because it has been wrongly worked. Rightly arranged, it has been found of great benefit in many American cities. The underlying principle is that when an improvement, such as sewering or roadmaking, is constructed, it should be charged upon the property benefited. But the way of doing it makes all the difference. At present, it is charged upon the foot frontage of property benefited, taking a fixed rate per foot front over the whole of such property, without relation to its market value. This places an unjust and undue proportion on the least valuable property, and raises also the troublesome question of "flankages," that is to say, when you come to a corner, as you have already charged the foot frontage right up to the corner, you cannot turn the corner and go on charging the foot frontage, otherwise you will be making the corner man pay double. Therefore, that part of the improvement which abutts on flankages has hitherto been added to the burden of general taxation. There is also the square at the intersection of streets which the city pays for, as well as the flankages Now, all this difficulty could be swept away by the simple principle of charging the whole improvement on the whole of the land benefited in proportion to land value.

Speculation has also been aided by spreading the payments over too long a period; for instance, ten years for a block pavement. In American cities five years is the more usual time.

OBJECTION ANSWERED.

The usual objection to taxing local improvements in proportion to land value is that each property of equal frontage receives an equal benefit, and should pay equally. But, as a fact, the benefit to each is not the mere strip of improvement right in front of it. Every lot abutting on the improvement is benefited by the whole improvement If you have a street in front of a hundred lots, EACH lot has its market value raised by the WHOLE of the paving; and the more valuable the lot the greater is the increase of its market value, and the more it should pay. Therefore, if each lot pays in proportion to its value, strict justice is done. The improvement of flankages and street intersections add to the market value of the land benefited, and should be charged upon it.

The Deputy Minister of Education in answer to the question submitted by the school board as to whether interest on debentures should enter into the calculation of average cost per pupil, stated, the aver-cost per pupil should be based on the full amount expended each year by the board. —*Galt Reporter*

Boards of Health.

THE MILK SUPPLY PROBLEM.

The following practical conclusions were arrived at by Dr. Bryce, in a pamphlet issued by the Provincial Board of Health in reference to an improvement in our public milk supplies.

1. After intelligent dairymen have selected their cows, it is especially desirable that a system of periodic veterinary inspection, in addition to the dairymen's inspection be exercised, under the municipal health department, of all milch cows supplying milk to the municipality.

2. From what has already been said it is manifest that strong views should be held and taught regarding the nature and quality of the food of milch cows, whose milk is intended for public supplies. Not only has it a direct influence on the general health of the cow, but the condition of the milk at the time of taking, and also its keeping qualities, are undoubtedly in no small degree dependent on the character of the food supply. All decomposed foods, as those which are liable to undergo fermentation, should be wholly avoided. As already mentioned, the best foods are the well ripened grains and grasses, well cured and free from weeds, fed in such a manner as to supply the various milk constituents in proper amounts, and in such a way as to promote easy digestion and proper assimilation.

3. The stables of the cows are manifestly a point of great importance. Too often, dark, damp, ill-ventilated, and crowded pens have been the home of this chief of our food supplies. It is quite possible, as hundreds of dairymen and farmers have shown on this continent as on the old, to keep, even on a large scale, a dairy stable free from the ordinary disagreeable stable odors, to give the cows abundant ventilation, and to so conduct the feeding, that cows, taken from the ordinary barn-yard feeding of the farmers, will readily improve in general appearance and increase greatly in milk and in flesh. The water supply to the cows is of equal importance. Too often, the barn-yard pool, or sewer-tainted creek, or cheese factory drainage, are the sources from which the dairy cattle drink, and not even to mention the more delicate physiological effects of such water, cheese makers tell us that they can distinctly note the gross effects of cows drinking filthy waters by the degraded quality of the milk which at times comes to their factories.

4. The care of the milk at the time of, and subsequent to, taking, is, however, of all points at once the most difficult of control and the most necessary to supplying a wholesome milk. "Cleanliness everywhere is the *sine qua non*." That it means almost a revolution amongst farmers and dairymen, as regards their methods, is apparent. Producers will quickly find the means (of cleanliness and a reform in their methods) if consumers wish strongly. When people demand clean milk, they will have it, but the question will not the less have taken a great step in advance when milkmen and milkmaids know all that is implied in cleanliness."

Section 65 of the Public Health Act, and sections 9 and 10 of the By-law Schedule "A," refer to the inspection of dairies, etc., within the jurisdiction of the local board.

The dairy business is a valuable one, and boards in rural municipalities should see that the premises of those who sell milk are kept in a cleanly condition.

Section 54, of the Health Act, extends the jurisdiction of local health officers beyond their own municipality to all slaughter houses of butchers selling meat in the municipality, and we consider that some such provision should be made in reference to the premises of parties supplying milk for sale.

* * *

W. J. F.—"Please give me the nearest distance to a well which you would allow an open sinkspout to discharge without danger to the health of the persons using water from the well?"

The greater number of authorities who have laid down rules upon this subject state that the nearest distance between the discharge of a sinkspout or a privy and a well should never be less than one hundred feet, but the character of strata through which wells are sunk is so different in different places that it is not possible to make any rules of universal application. I am sure that sometimes wells have been polluted from privies, sinkspouts, or other sources, at more than twice this distance, while, in other cases, in which samples of water have been analyzed in this office, there has been no evidence of pollution, when the sinkspout, or privy, or both, have been much less than one hundred feet distant. There is much more danger or trouble where the well passes into or through a stratum of rock or clay beneath the surface of the ground than where the soil is of a somewhat uniform and permeable character all the way down.

* * *

The sanitary inspector should discharge the multifarious duties appertaining to his office in a trustworthy manner. He should examine slaughter houses, daires, byres, house drains, etc. He should be particular in ordering foul privy pits to be emptied and disinfected, and in seeing that garbage from streets, yards, lanes, and thoroughfares is removed or burned. Those that fail to comply with the inspector's orders should be summarily dealt with.

* * *

Great care should be exercised by health officers and others in observing that no unsound articles of food are exposed for sale. Beef, mutton, pork and fish, are often exposed for sale in an impoverished or unsound condition.

Loose Municipal Financing — Councilmen will have to make good nearly $3,000 misspent.

VANCOUVER, B. C., March 1.—The report of Government Auditor Pierson on the affairs of Richmond municipality has been handed in. He charges upwards of $2,000 to the various councilmen for 1891-92, being money expended above the amount they were authorized to spend, and disallows $900 in bills that have been paid. He finds that while the council had overdrawn at the bank, Clerk O D. Sweet had municipal money in his possession. He charges ex-Reeve Sexsmith $63 for interest accruing during the time he refused to sign cheques passed by the council. The report shows the finances of the municipality to have been very loosely managed, if, in fact, not criminally so

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The question of abolition of statute labor will soon form a subject for discussion in many municipalities. That such a reform is highly necessary is admitted by those interested in good roads and the economical expenditure of the public money. Councillors should make known their views on this subject, especially those representing municipalities where statute labor has been abolished.

* * *

The keeping of swine should not be tolerated in thickly settled towns or villages. They are not only a nuisance to the neighborhood in which they are located but they often prove dangerous to the public health. Town councils should pass stringent laws to prohibit the keeping of swine in towns and villages.

* * *

Every member of a local board of health in a town in which the municipal officers fail to make the appointments as the law requires, should remember that his term of office terminates only with the appointment of his successor.

* * *

Samples of water should be examined from time to time, and where condemmed, as being unpotable, the well should be filled in.

* * *

Boards of Health should order all householders to thoroughly cleanse their premises, and see that the order is observed.

* * *

West Nissouri township claims the youngest man in the municipal couucil of any township or town in the province, in the person of Mr. Richard Fitzgerald, his age being twenty-three years.

LEGAL DEPARTMENT

H. F. JELL, SOLICITOR,
EDITOR.

Municipal Councils.

THEIR POWERS AND JURISDICTION—BY-LAWS.

Continuing our review of the law, as to drainage by-laws, on the receipt of the report of the engineer, if the council are of opinion that the carrying out of the proposed drainage work is desirable, a by-law necessary for the purpose should be carefully prepared, in accordance with the form laid down in section 570 of Consolidated Municipal Act, 1892 (with such changes as the circumstances of this particular case may require). By-laws of this kind are necessary, whether the drainage works are the deepening or straightening of any stream, creek or watercourse, or the draining of some particular locality. The next essential is the provisional adoption of the by-law by council. The by-law must then be published, as provided in section 571 of the Consolidated Municipal Act, chapter 2, with the notice mentioned in the said section. It has been held, however, that the non-publication of the notice referred to is not fatal to the validity of the by-law. In sub-section 2 of said section the council is authorized to direct, by resolution, that, instead of such publication in a newspaper, a copy of the by-law and notice may be served on all parties interested, in the manner mentioned in the said sub-section. We think the latter mode of promulgation of the by-law is preferable, especially where the number of the owners of lands to be benefited is small. In any case, notice is by this means brought home to them directly, whereas, when the course prescribed by sub-section 1 of said section is pursued, particularly where the publication is in a country or rural newspaper, many persons receive no actual notice of the assessment of their lands or of the amount thereof. In fact, instances have come under the observation of the writer of parties who were not aware of the liability of their land for the construction of drainage works until served with a statement of their taxes. With the by-law, should also be published or served, a notice of the time of holding a court of revision for the hearing of complaints against the assessment schedule. Notices of appeal should be served on the clerk of the municipality at least eight days prior to date of the holding of said court. But, if such notices of appeal be not served within the time limited, the court of revision may, nevertheless, permit the appeal to be heard, on such conditions as to giving notice to all persons interested, and otherwise, as may seem just. This court shall be constituted in the same way and have the same power as courts of revision under the Assessment Act. The appeal from such court shall be to the judge, or junior judge, or acting judge of the county court of the county within which the municipality is situate. Such judge and the clerk of the municipality shall have the same power and duties, as nearly as may be, as they have respectively upon appeals from the court of revision, under the Assessment Act. By sub-section 15 of section 569, Consolidated Municipal Act, 1892, it is provided, that, if on any such complaint or appeal, the assessment, in respect of the property which is the subject of complaint or appeal, ought to be varied, the court or judge shall adjourn the hearing of such appeal for a sufficient time to enable the clerk of the municipality to notify all persons to be effected, personally or by letter, registered, of the date to which such adjournment has been made, and, if duly notified, unless the parties interested appear and show cause, the court or judge may, in its or his discretion, vary the assessment of the said property, and of the other lands and roads benefited, without further notice to the parties interested, so that the aggregate amount assessed shall be the same as if there was no appeal. The assessor shall then prepare and attest a roll, in accordance with their original assessment, as altered by the court of revision or judge, when appeal has been made to him, and the by-law may be finally passed as amended by the court of revision or judge. It may be observed that a by-law passed in accordance with the provisions of the drainage clauses of the Municipal Act, in case no application to quash the same is served within the time limited, or, in case an application be made and is unsuccessful, shall, notwithstanding any want of substance or form, either in the by-law itself or in the time and manner of passing the same, be a valid by law.

Legal Decisions.

TOWNSHIP OF SOMBRA VS. TOWNSHIP OF CHATHAM.

These townships lie adjacent to each other, and the action was brought by Sombra for a mandamus to compel the defendant township to properly complete and keep in repair a certain drain known as the Whitebread drain running along the dividing line between the two townships, the construction of which had been undertaken by the plaintiffs under a by-law passed for the purpose. One Murphy was also a plaintiff, and claimed damages for injuries to his lands by waters penned back upon them, in consequence, as he alleged, of the negligent construction of the drain in question. At the trial the presiding judge found that the drain had been negligently and unskilfully constructed and not in accordance with the plan and specifications, and that Murphy had personally suffered dumages to the amount of $150. He directed the drain to be properly completed by the defendants charging the expenses and costs upon them but directing that they were not to levy these expenses, damages and costs or any part of them upon the lands originally assessed for the construction of the drain, because, as he held, the amount of the original assessment would have been sufficient to complete the work if it had been done properly, this was an appeal from the judgment of the trial judge. It was held that the burden of extra or unforseen expense in connection with drainage works constructed under the Municipal Act, sec. 569, *et seq.*, such as, for example, damages recovered because of negligent construction, must be borne by the ratepayers originally assessed for the cost of the works, and not by the general funds of the municipality.

ATTORNEY-GENERAL OF CANADA VS. CITY OF TORONTO.

The facts of the case (recently decided in the Ontario Court of Appeal), were as follows: By the Ontario Statutes, 35 Vic., chap. 79, as amended by Ontario Statutes, 41 Vic., chap. 41, the corporation of the City of Toronto was empowered in regard to the city waterworks, to fix the price, rate or rent, which any owner or occupant of any house, lot, etc., in, through or past which the water-pipes should run, should pay as water rate or rent, whether the owner or occupant should use water or not, having due regard to the assessment and to any special benefit or advantage derived by such owner or occupant or conferred upon him or his property by the waterworks. The corporation was also empowered to fix the rate to be paid for the use of the water by public buildings. Pursuant to these powers a by-law of the corporation was passed providing that the half-yearly rates, "paid within the first two months of the half year for which they are due, shall be subject to a reduction of fifty per cent. save and except in the case of government and other institutions which are exempt from city taxes in which cases the said provisions as to discount shall not apply." It was held that "government institutions" in the by-law meant government buildings in which some public business is carried and were "public buildings," within the meaning of the act, also, that the price, rate or rent paid out for water was not a tax but merely the price paid for the water supplied to the consumer and that the corporation were not obliged to allow for water supplied to public buildings the discount allowed to taxpayers.

IN *re* FLATT AND THE UNITED COUNTIES OF PRESCOTT AND RUSSELL.

This was a motion to quash a by-law of the council of the united counties of Prescott and Russell, which was passed for the purpose of incorporating the village of Casselman. The by-law was objected to, on the ground that a sufficient number of freeholders had not petitioned therefor, as required by R. S. O., 1887, chapter 184, section 9. The total number of

petitioners was 113. It was admitted that forty of these were freeholders, but it was contended that a number of others, who were treated as freeholders, were not freeholders, within the meaning of the section. Several of the persons objected to, were in possession of land under written agreements to purchase, and some others were in possession under oral agreements to purchase only. In some instances the persons in possession had paid all the purchase money and fulfilled all the conditions. In other instances the purchase money was still unpaid. The council, however, treated these persons as freeholders, and passed the by-law. Treating these persons as freeholders, there were more than fifty freeholders in all, but even then not as many as one-half of the whole number of petitioners were freeholders. On the hearing of the application to quash the by-law, the presiding judge, after expressing the opinion that a person having an equitable estate of freehold was a freeholder under the meaning of the section, directed the application to stand over, and evidence to be put in as to the acts done under the agreements referred to. On this evidence he came to the conclusion that these persons were in a position to compel specific performance by the vendors, and that they were, therefore, equitable freeholders, and dismissed the motion. The applicants appealed from this decision to the court of appeal, and this court held that by the term "freeholder," as used in R. S. O., 1887, chapter 184, section 9, which enables a county council to pass a by-law constituting a village corporation, upon the petition of a certain number of freeholders, is meant a person actually seized of an estate of freehold, legal or equitable, and it does not include persons in possession of land under contract for the acquisition of the freehold thereof, upon the fulfillment of certain conditions.

IN RE CROFT AND THE TOWN OF PETERBOROUGH.

The question at issue in this action was the validity of a by-law of the town of Peterborough, fixing the fees to be paid for licenses to sell intoxicating liquors in that town, the by-law being attacked on the ground that it had not been submitted to those entitled under the provisions of sec. 42 of the Liquor License Act, R. S. O. chap. 194, to vote thereon. When the by-law was submitted the deputy returning officers were instructed not to accept the votes of any leaseholders whose leases did not extend to at least the period within which the first license fees should be paid, and the votes of several lease holders were rejected. It was held that the electors entitled to vote upon this by-law were those entitled to vote at municipal elections.

DEROCHIE VS. CORNWALL.

At a particular point in the sidewalk in a travelled street in the town of Cornwall, the sidewalk having settled through age and decay, formed a depression where water lodged and ice gathered so as to impair the safety of persons passing to and fro on the sidewalk throughout the winter. On March 7th, 1891, ice, seven inches in thickness, had formed at the place referred to, and the plaintiff met with the accident complained of in this action. No outlet had been provided by the municipality for the water thus gathered upon the place of passage. Frequent complaints had been made to the corporation about the state of affairs at this point and the place had been in as bad a condition as at the time of the accident for over a week. On these facts, the jury found the plaintiff entitled to damages, and this decision was affirmed by the Chancery Divisional Court, one of the judges remarking that "this is not the case of a sudden thaw and an equally change of temperature to freezing, where the whole sidewalk in the municipality would be slippery and dangerous to walk upon, in which case no reasonable attention and care on the part of the authorities could avert the state of things, and it would be unreasonable to hold the municipality liable; but it was the case of disrepair and decay of the sidewalk which it was in its power to prevent by ordinary care and watchfulness."

CHAMBERLAIN VS. CITY OF GUELPH.

Judgment on motion by the defendants to set aside the verdict and judgment for the plaintiff, ordered to be entered by Street J., who tried the action at Guelph. The action was for damages for injuries to the plaintiff by a fall alleged to have been caused by negligent construction and non-repair of a sidewalk. The defence set up contributory negligence. By a clerical error one of the questions submitted to the jury read, "Could the defendant by, using reasonable care, have avoided the accident?" the word "defendant" having apparently been inadvertently used for "plaintiff." This question the jury answered in the affirmative. On this finding the trial judge directed judgment to be entered for the defendants; but, subsequently, on having his attention called to the error, he gave judgment for the plaintiff with costs. The defendants moved before the divisional court for judgment on the evidence; and also contended, first, that the real meaning of the verdict was that there had been contributory negligence, as the question quoted was repeatedly referred to in the course of the trial in that sense, and was so understood by the jury; and second, that, supposing the plaintiff's contention as to the jury's understanding of the question to be correct, the question of contributory negligence had not been submitted to the jury at all. The divisional court gives effect to the latter contention and directs a new trial of the action without costs.

REG. EX REL. PERCY VS. WORTH.

Judgment on appeal by the defendant from an order of the master in chambers in a quo warranto proceeding under the Municipal Act, unseating the defendant as deputy-reeve of the town of Bowmanville, vacating the office and ordering a new election. The first ground of appeal was that the relator did not show any interest to entitle him to be heard complaining of the election. By section 187 of the Municipal Act, 55 Vic., chapter 42, the relator must be a person who has voted or tendered his vote for a candidate at the election. The relator here merely described himself in his relation as "a voter," but did not say that he had voted, tendered his vote or been a candidate at the election. It appeared, however, by affidavit, that the relator was a candidate at the election. The defendant contended that there was no jurisdiction unless the relator's status were shown by his relation, and that there was no power to amend, citing Rex. ex rel., Chauncey vs. Billings, 12 P. R., 404. The second ground of appeal was that there was no reason for unseating the respondent. There were three candidates at the election: Percy, Boyle and Worth (the defendant). Percy received the largest number of votes, Boyle was next and Worth last. Percy disclaimed under section 203, and Boyle then became entitled to the seat. Boyle also disclaimed before the day for taking office came round, and Worth took the seat and declaration of office. The master held that Boyle could not disclaim, not having been elected. The defendant contended that he was entitled to hold the seat upon the true construction of section 203 of the act. As to the first point, the learned judge holds that the relator should be allowed to amend his relation under rule 444. As to the second point, the learned judge remarks that the question turns upon the meaning to be placed upon the words, "person elected," in section 203, and "election," in section 200, and is of opinion that every person becoming entitled to the office of reeve, deputy reeve, etc, otherwise than under section 186, is to be regarded as "elected" to the office, and the process by which he becomes entitled to it as an election. As soon as it is conceded that the person becoming entitled to a seat by the resignation of the candidate who received the largest number of votes, may be attacked under section 187, and may disclaim under section 200, then it follows from the words of section 204 that upon his disclaimer the candidate next to him becomes entitled to the seat, because section 204 applies not only to disclaimers under section 203, but also to those under section 200. The relator, in this dilemma: If the respondent holds or claims the seat by virtue of an election, and is a person elected to it, then the construction of sections 203 and 204 necessarily entitles him to the seat, and, if he does not hold the seat by election, then the act does not authorize an attack upon him by notice of motion at all. Appeal allowed and motion of relator dismissed with costs.

QUESTION DRAWER

SUBSCRIBERS only are entitled to opinions through the paper on all questions subimtted if they pertain to municipal matters. Write each question on a separate paper on one side only. When submitting questions state as briefly as possible all the facts, as many received do not contain sufficient information to enable us to give a satisfactory answer.—ED.

A. M.—A municipal council in December sitting passed a by-law, forming a new school section, and at first sitting in January repealed said by-law. Was it legal for them to pass said by-law at that time of year, and was it legal to repeal said by-law?

Sub-sec. 3 of sec. 81 of the Public Schools Act, 1891, enacts that any such by-laws as are mentioned in sub-secs. 1 and 2 of said section, "shall not be passed later than the first day of May in any year and shall not take effect before the 25th day of December next thereafter." The by-law mentioned by our correspondent passed in December was therefore illegally passed, and it having been repealed by the council, the school section intended to be affected thereby remains as formerly.

C.—Would you be good enough to give your views on the meaning of clause 265, Consolidated Municipal Act, 1892, as to whether the publishing of the abstract means in a newspaper, or can the council take it out of the hands of the clerk and print it as they please? Is not the council clearly overstepping the laws by interfering in the matter?

Our opinion of sec. 265 is, that the clerk is required to publish the auditors' abstract and report and detailed statement in such form as the council direct. It is a duty imposed on the clerk to have the above printed. The only voice the council seem to have in the matter is to direct in what form the printing shall be done. As far as we are aware, it is not usual to publish these reports in a newspaper. The practice is to have them printed on separate sheets, and in most cases the detailed statement is published with the abstract and report.

A.R.—1. In your January number you say that the council can sell the timber on the road allowance. Now, if a road allowance is not used as a public highway, the owners of the adjoining lots can clear the road allowance, fence it in, and hold it against any private individual. They can consequently cut the timber and burn it or I presume do with it what they like.

2. How can the council sell it—the timber—when the adjoining property holders are at liberty to cut it down at any time?

3. Has not the municipal council only the right to take possesssion of the road allowances if they open them up for public highways?

4. If the owner of an adjoining lot has cut the timber on a road allowance, and subsequently the council opens it for a highway, can they compel him to replace the cut timber, or make him pay for it?

1. Sec. 552 Con. Mun. Act, 1892, seems to apply only to the case of a person who is in possession of any part of a government allowance for road laid out adjoining his lot and enclosed by a lawful fence, *and which has not been opened for public use by reason af another road being used in lieu thereof*, or is in possession of any government allowance for roads *parallel or near to which a road has been established by law in lieu thereof.* The freehold in the highway is vested in the crown or the municipality by sec. 525 and 527 of said act. Sec. 526 gives municipal councils jurisdiction over original allowances for roads or highways—therefore, unless the case comes within sec. 552 of said act, we do not think a private individual has a right to cut and take timber on and from an original road allowance—nor can he fence it in—this will also answer question No. 2.

3. Sec. 526 gives the municipal council jurisdiction over the road allowance, and if the case does not come within sec. 552 the council may sell or otherwise dispose of the timber thereon, whether their object in so doing is to open up and render the road allowance in a fit condition as a public highway or not.

4. We are of opinion that the council can claim compensation for the timber cut on and removed from the original road allowance, unless, possibly, the case be one within sec. 552 of said act.

C. G.—Sub-division 10 of part lot 8 was used for about fourteen years for a public highway and public money expended thereon, in fact a good turnpiked street made of it, and no objection ever made to the town's use of it. But the assessors or any one else apparently did not know that they were assessing the street, and it was sold for taxes, and the treasurer issued the tax title and the person holding the title has made claims on the corporation for a speculative sum over and above what was collected at time of sale.

1. Does the fact of the town occupying the property and expending public money thereon make it by permission statute a highway and place the holder of the deed in the same position as a person holding a tax title of unpatented lands?

2. Will the corporation be liable for more than the amount collected by treasurer, or are they egally bound for anything?

3. Does this come under the head of lands not assessable and exempt from taxes?

1. So far as we can gather from our correspondent's statement of the facts the land referred to should be *presumed* to be a public highway. We would like to know, however, whether the land was being used as a highway by permission of the owner originally, or not, and also if taxes had been paid thereon by any person during the fourteen years used, and for what length of time the taxes had been in arrear when the land was sold?

2. On the presumption that the land referred to is a public highway, we are of opinion that the purchaser at the tax sale could only recover such a sum of money trom the corporation as had been paid by the purchaser for the land, and

3. That this would come under the head of land not assessable and exempt from taxation.

F. J. C.—1. Our town solicitor has given a written opinion to our assessor as follows: "Under section 31, Assessment Act, 1892, the word 'income,' as defined by the court, in the corporation of the city of Kingston vs. the Canadian Life Insurance Company, 19, Ontario report, page 456, and by Lawless vs. Sullivan, six appeal cases, 373, decided by the privy council, should include the net interest or income of residents from any source whatever, not actually exempt, and on all investments of capital where the capital itself is not taxed, thus mortgages on land are not taxed but the interest thereon is income and is taxable, whether the money is invested in Canada or the United States." This opinion is in direct opposition to the one given in your March number, page 46. As this question is of very great importance to many municipalities, would you again confirm your previously expressed opinion as to investments in the United States?

2. Again. The opinion is expressed that residents having money deposited in the bank, either in the municipality in which they reside or in an adjoining municipality, such deposits are liable to taxation, but not liable to taxation if deposited in a bank in any municipality which does not join the municipality in which the depositor lives, but in the latter case the interest or income only on such deposits would be liable to taxation. For instance, a resident in Caradoc having money deposited in a bank in Strathroy would be liable to be assessed in Caradoc on the whole amount, but if deposited in London would be liable to assessment only on the interest on such deposit, on the ground that Caradoc does not join the city of London. Is this opinion good?

1. Sullivan vs. Lawless does not define the word income as applicable to investments in the United States. The decision in Kingston vs. Canada Life is based on this case and decides that income as commercially used means the balance of gain over loss in the fiscal year or other period of commutation; that the income of the Canada Life Assurance company could only be ascertained at the head office and that Kingston was not a branch at which any sum arbitrary or otherwise, could be assessed as income. See sec. 7 and subsection 20, Consolidated Assessment Act, 1892. In Nickle vs. Douglas, 35 and 37, Queen's Bench Reports, it is decided that the right to tax extends only to property in the province. Our answer is that income derived from investments outside the province (United States) is not liable to assessment as such.

2. If the owners of personal property, being within a particular municipality, be not themselves resident within that municipality and have not a place of business in it, they cannot be properly assessed in respect of such personal property, unless they reside out of the province, but income derived therefrom is assessable, subject to exemptions. See secs. 31 and 33, Assessment Act.

A. H.—Can a municipal council accept the treasurer's bond of last year, or does he have to give a new bond every year?

The answer to this question will depend upon the wording of the bond. In most cases the bonds are drawn up so that they will answer the purpose as long as the treasurer is in office. If the bond is drawn up in this way it will only be necessary for the Council to ascertain that the security is sufficient and pass a resolution accepting it each year.

JUSTICE.—1. Are members of the Senate and House of Commons, members of the legislative assembly, mayors, wardens, members of the county council, justices of the peace, etc., qualified to be selected as grand jurors for the high courts, if possessed of property qualification?

2. A. and B. bought lot 4 in the 10th concession, unoccupied. A. became an occupant, cleared

his half, and built the line fence of his own timber. Then B. also occupied his part and built his fences in the line fence which A built. Now, can A. claim pay from B. for half the line fence built by him, or is B. only liable for keeping and repairing half the line fence built by A. ?

1. A careful perusal of sec. 7 of the Jurors' Act, R. S. O., 1887, chap. 52, would lead to the inference that the officials named, if possessed of the necessary property qualification, are liable to be selected as grand jurors for the high courts, as by said section they seem to be exempted from service in the inferior courts only.

2. Sec. 3 of the Act respecting line fences, enacts that "owners of unoccupied lands which adjoin occupied lands shall, upon their being occupied, be liable to the duty of *keeping up* and *repairing* such proportion," etc. No mention is made of the payment of the cost of a just proportion of the fence already constructed, and we are therefore of the opinion that the duty of the owner of the unoccupied lands when they become occupied by him extends only to the *keeping up* and *repairing* of a just proportion of the line fence.

J. A. X —1. Can the board of health force a butcher to remove his slaughter house outside of the village limits?

2. The same being kept in a clean shape?

3. If so, would the council have to compensate the butcher for moving the same?

Section 8 of the by-law, shedule "A." to the Public Health Act, prohibits the use of a slaughter house which is less than 200 yards from a dwelling house or less than 70 yards from a public street. This applies to every municipality.

Section 9 provides that no person shall keep any slaughter house, unless they receive permission from the local board of health. This permission may be revoked at any time, if the health of persons residing in the vicinity is liable to be endangered thereby.

If the slaughter house referred to is within the limits mentioned in said section 8, it should not be used.

If the board of health refuse to give a butcher permission to slaughter in the municipality, he cannot do so, and even if the refusal to grant permission causes him to remove his slaughter house, he is not entitled to compensation.

J. M. M.—I would like you to explain through your colums whether householders assessed as such, but without being assessed for any amount, so having no taxes to pay, have a vote at municipal elections?

Sec. 80 of the Consolidated Municipal Act, 1892, provides that in order to entitle a person to vote at a municipal election in respect of real property, such property, whether freehold or household or partly each, must be *rated* at an actual value of not less than $100 in townships, $200 in towns with a population of 3000 and under, $300 in towns with a population of over $3000, and $400 in cities. Unless the householder you refer to comes within this section he cannot have a vote at municipal elections.

J. B.—Would you kindly answer through your question drawer if the Bell Telephone Company is liable to be assessed for their posts and wire running through the whole length of the township?

No.

T. C.—What action should be taken to form a public school into a separate school? Does the notifying of the township clerk that they are supporters of the Roman Catholic separate school make it legal without any other proceedings, or should the section be dissolved by by-law, and the separate school formed by by-law of the township?

2. Could a public school supporter in such section compel the sale of the school property?

3. A party bought the property of a separate school supporter and wishes to be put into a public school. What action should he take in the matter, or what action should the council take?

1. Sec. 21 *et seq.* of chap. 227, R. S. O. 1887, provide the means of forming a separate school in a school section. If such separate school be formed we do not think it necessarily follows that every ratepayer in the school section by the formation of the separate school becomes a supporter. See sec. 40 *et seq.* of said Act.

2. We do not think so.

3. Although the Act is not very clear as to this, we think the purchaser should give notice to the clerk of his withdrawal as a separate school supporter, and also see that he is not assessed as such by the assessor. If he is agrieved in this particular he has the right of appeal mentioned in sub-sec 13 of sec. 48 of said Act.

A. B.—At our meeting yesterday a motion was brought forward naming two persons as collectors of rates for the current year, which motion was read by the reeve and declared by him "carried." Again a motion in amendment was proposed which was read by the reeve and declared "carried"; of course the reeve is understood to vote for the original motion and also for the amendment. Are both resolutions operative? If not, which one.

We are of opinion that the first named motion stands and has due effect. As we understand the last named motion was not an amendment to the first named, but an original motion inconsistant and at variance with the former one and should not have been put or voted on without the reconsideration or recession of the former. Officers as important as the collector are generally appointed by a resolution confirmed by by-law.

M. B.—1. Will possession hold in given road less than fourty feet. The road was laid out by the council, it probably was forty feet at the time but it is not over thirty feet at present, and the parties through whose land it runs have had possession for twelve years or more. The road is recorded but no width stated.

2. When the council of a township believes that a majority of the owners interested in the construction of a drain, petition the council to take the necessary steps to have the drain constructed, and procure an engineer to make the necessary examination, and the engineer finds it necessary to take in a larger scope and there is not a majority and they cannot be got to sign the petition and the proposed drain is not made, are the petitioners liable for all costs?

1. This question is very indefinite. Before answering same we would like to know all the circumstances under which the road was given to the municipality, whether it was ever defined, established and assumed as a public highway by the council, and also whether public surveys were ever expended or statute labor performed on it. Let us hear from our correspondent again as to this.

2. We do not think the petitioners are liable for the costs mentioned. It is discretionary with the council to entertain the prayer of the petition, and having done so, it must be assumed that they considered the petition sufficient, and they should pay the costs, at least in the absence of any agreement of the petitioners to do so.

The question of municipal treasurers' security will possibly occupy the attention of the provincial legislature for a short time when return, ordered at last session, to show amounts municipalities have lost during the last twenty years, is brought down. The average salary of a township or village auditor is from $10 to $15, and of a town, city and county auditor, from $50 to $75. Under the present system each county pays $300 for the supervision of financial transactions, involving over a million and a half dollars yearly. In this we are generous in leaving out the cities for to include their financial business, etc., raising the amount which is checked over by the auditors yearly to $3,100,000 for the average county, or, in other words, it costs the municipalities $1 to check over each $10,000 of their receipts, expenditures, assets and liabilities. To this cost must be added the amount each municipality has lost through defalcations, etc.

During 1892 we published a series of articles descriptive of the county houses of industry in the province, and referred to the more important matters to be considered when houses of industry are about to be established, and to the Elgin, Middlesex and Brant institutions in particular. All of these contain information, valuable to those who may have to deal with this question and who have been unable to give the matter special consideration.

We have on hand a limited number of copies of the four monthly issues of THE WORLD, containing these articles which we will send to subscribers for twenty-five cents. The other back numbers also contain valuable articles, legal decisions, and answers to questions. These will never be republished. In view of the increasing interest in municipal management, no councillor should be without them. We have back copies of all of the months for 1892 except February and March, and will supply to subscribers for fifty cents.