

# The Municipal World

PUBLISHED MONTHLY IN THE INTERESTS OF THE MUNICIPAL INSTITUTIONS OF ONTARIO

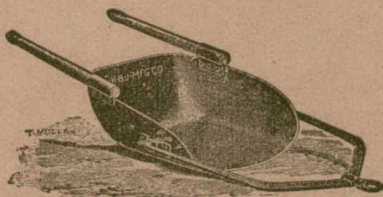
Vol. 5. No. 6

ST. THOMAS, ONTARIO, JUNE, 1895.

Whole No. 54

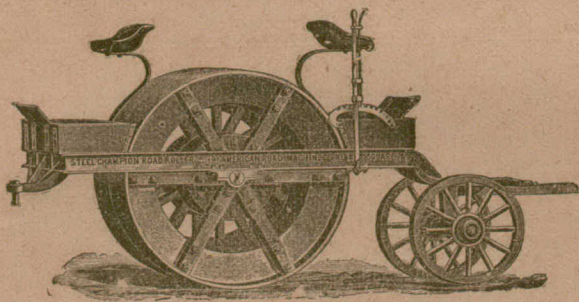
## COPP'S ROADMAKING MACHINES

COPP'S DRAG SCRAPERS



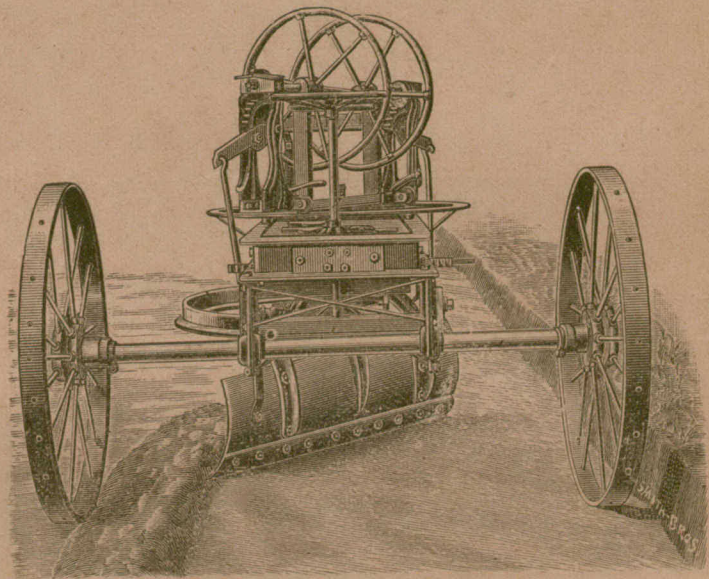
3 sizes solid steel bowl.

COPP'S STEEL CHAMPION ROAD ROLLER



Furnished from 2½ to 7½ tons weight.

COPP'S STEEL CHAMPION



Carrying earth from the ditch onto the roadbed.

We are the only manufacturers in Canada of full lines of roadmaking machinery in Road Graders, Rock Crushers, Road Rollers, etc. Catalogues sent free.

# Copp Bros. Co., Ltd., Hamilton, Ont.

## THE GUTTA PERCHA & RUBBER MFG. CO., OF TORONTO, LTD.

"MALTESE CROSS" Carbolized Rubber

STANDARD EXTINGUISHERS

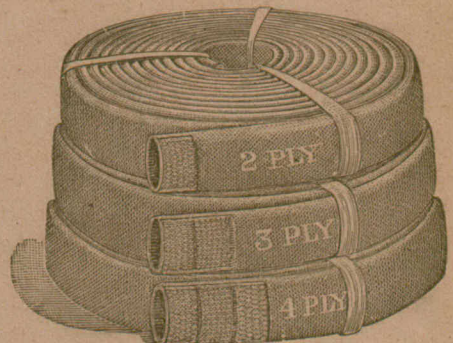
"BAKER FABRIC" Cotton, Rubber-Lined



Fire Hose  
Suction Hose  
Play Pipes  
Valves, etc.



Hook and  
Ladder Trucks  
Firemen's  
Rubber Clothing

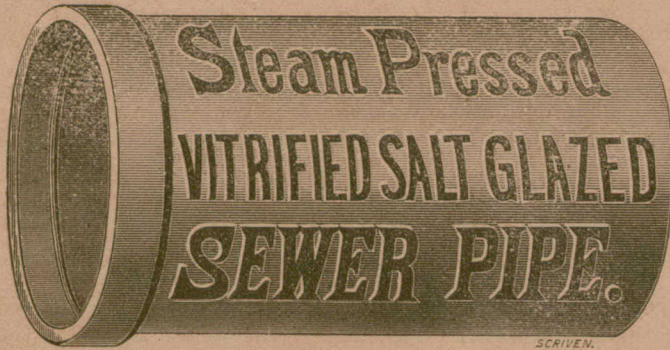


Catalogues, Samples, Estimates and Information Cheerfully Given.

Head Offices and Warerooms—61 and 63 Front Street West, Toronto, Ont.

# HAMILTON AND TORONTO SEWER - - - PIPE COMPANY - - -

MANUFACTURERS OF



Our St. Thomas
agents
Ellison & Lewis
keep a
full supply of
Sewer, Culvert and
Flue Pipes
at lowest prices

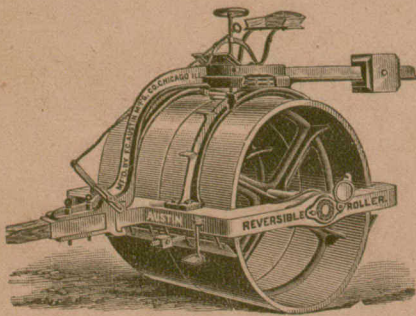
AND

## CULVERT PIPES

FOR LIBERAL DISCOUNT APPLY AT HEAD OFFICE.

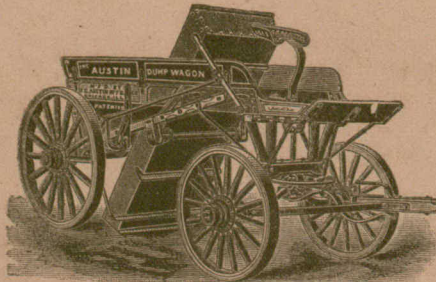
HAMILTON, ONT.

# ROAD TOOLS FOR MAKING GOOD ROADS



**AUSTIN REVERSIBLE ROLLER**

Has anti-friction roller bearings. No weight on horses' necks. Is reversed or brake applied by driver without leaving his seat. Lightest draught and most easily handled. 1½ to 8 tons. Awarded first medal at the World's Fair.



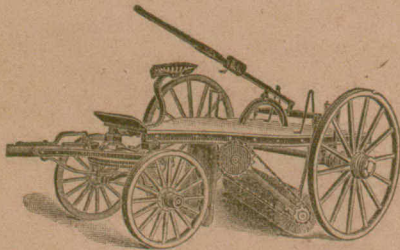
**AUSTIN DUMP WAGON**

Quickly and easily dumped without stopping the horses. Has steel pan and steel-lined box. Holds 1½ to 2 yards. Awarded first medal at the World's Fair.



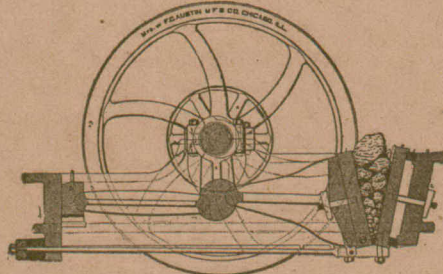
**AUSTIN STEEL STREET SPRINKLER**

All-steel sprinkler, on four-spring platform truck, with best grade of Sarven wheels. Driver can shut off one side or both, and regulate the discharge of water.



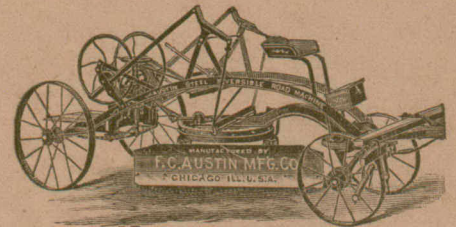
**AUSTIN STEEL STREET SWEEPER**

Lightest running, strongest and most efficient. Two horses only. Cleans thoroughly any kind of pavement. Awarded first medal at World's Fair.



**AUSTIN ROCK CRUSHER**

The jaws having compound oscillating movement, the crushing of the rock is continuous. Embodies an entirely new principle whereby weight is reduced, capacity increased, less power required and life of crusher prolonged. Awarded first medal at the World's Fair.



**AUSTIN STEEL REVERSIBLE ROAD MACHINE**

Strongest, neatest, most complete grader sold. Saves 75 per cent. in cost of work over old methods. Energetic agents wanted in unoccupied territory. Awarded first medal at the World's Fair.

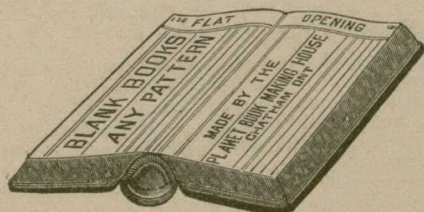
**F. C. AUSTIN MFG. CO., CHICAGO, ILL.**

Catalogue Free

# Blank Books

CITY,  
TOWN AND  
COUNTY  
OFFICES.

Special attention given to this class of work. Blank books of any description ruled and bound to any pattern. Direct importers of English, Scotch and American Ledger and writing papers. Book-makers for the counties of Kent, Elgin,



Oxford, Lambton and Essex. Our books are in every agency of the Merchants Bank, and in use in the Standard Bank, Bank of Montreal and Bank of Commerce, private banking houses and loan companies.

Write for Samples of Paper and Prices.

Every book is perfectly flat opening.

1000 Page Letter Books with Blotters and Index \$1.60.

Estimates promptly furnished.

## PLANET BOOKMAKING HOUSE,

CHATHAM, ONT.

# THE ONTARIO SEWER PIPE CO.

TORONTO, ONT.



Manufacturers  
of

Double Strength—Railway or Road Culvert Pipes a Specialty.

A large stock always on hand. Write for price list to

THE ONTARIO SEWER PIPE CO.,

60½ Adelaide Street East,

FACTORY AT MIMICO.

Agent at St. Thomas—F. M. Griffin.

Toronto, Ont.

## MONEY TO LOAN.

### \$100,000 to Loan.

on real estate security at 5½ and 6 per cent. on the following terms:

**\$3,000 AND OVER** the borrower can have free of all expenses, legal or otherwise, and will receive the exact sum without any deduction whatever.

**UNDER \$3,000** the undersigned pays half of all costs in connection with the loan and the borrower the remaining one-half only.

**DO YOU WANT** to reduce your interest, renew your mortgage, or pay off an old one, or borrow at a trifling cost. Address

ANDREW J. CLARK,

“Clark’s Mercantile Agency,” ST. THOMAS, ONT.

N. B.—These terms apply to all parts of the Province of Ontario.

Farm and city properties for sale. Property sold on commission and a general agency business transacted.

Titles to land searched. Abstracts compiled. Insurance and Conveyancing.

## Special Offer

We will send thirty-four back numbers of THE MUNICIPAL WORLD for 1892, '93, and '94 bound with the “Klip,” to new subscribers, for \$2 50. This makes a valuable volume of municipal information not obtainable elsewhere, and is just what those who are interested in municipal work will appreciate.

Address orders, with price enclosed, to  
THE MUNICIPAL WORLD,  
St. Thomas, Ont.

## Robinson, Lennox & McLeod

BARRISTER, ETC.

Solicitors for the County of York  
and other Municipalities.

Mr. C. C. Robinson gives special attention to litigation and legislation affecting municipalities and electric railway corporations.

OFFICE—

Room 77 : Canada Life Building

(Telephone 2284) TORONTO,

—and at Aurora.

## Municipal Special Audits

Have been a feature of my work. There are many municipalities whose financial affairs are in a muddled condition. I straighten them out and start them off anew.

The longer they are neglected the worse they are to untangle.

A. C. NEFF, CHARTERED ACCOUNTANT,  
AUDITOR, TRUSTEE, ETC  
Canada Life Building, Toronto.

## William Newman, C. E. . .

Asso. Mem. Can. Soc. C. E.  
Mem. Am. Water Works Ass'n.  
Ontario Land Surveyor.  
Civil and Municipal Engineer.

Special attention given to preparing plans and estimates for, and superintending the construction of Water-works, Sewers, Paving, Drainage and reclamation of marsh lands.

OFFICES: WINDSOR, ONTARIO

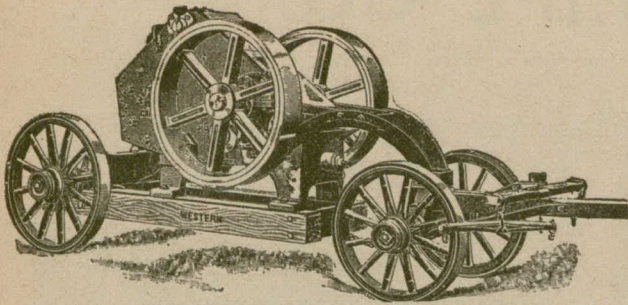


**CAN I OBTAIN A PATENT?** For a prompt answer and an honest opinion, write to MUNN & CO., who have had nearly fifty years' experience in the patent business. Communications strictly confidential. A Handbook of information concerning Patents and how to obtain them sent free. Also a catalogue of mechanical and scientific books sent free.

Patents taken through Munn & Co. receive special notice in the Scientific American, and thus are brought widely before the public without cost to the inventor. This splendid paper issued weekly, elegantly illustrated, has by far the largest circulation of any scientific work in the world. \$3 a year. Sample copies sent free.

Building Edition, monthly, \$2.50 a year. Single copies, 25 cents. Every number contains beautiful plates, in colors, and photographs of new houses, with plans, enabling builders to show the latest designs and secure contracts. Address  
MUNN & CO., NEW YORK, 361 BROADWAY.

# Western Roadmaking Machinery



**WESTERN STONE CRUSHER**

visited towns and cities where other crushers were in operation, and finally selected the Western, not because it was the cheapest in price, but because they thought it was the best crusher tendered for, have had their judgment confirmed, and join with me in recommending the Western to any municipality or others requiring a first-class crusher. Yours respectfully, ORMSBY GRAYDON, City Engineer.

P. S.—The other crushers in competition were the Champion, Blake, Chicago and others.

**Crushers can be furnished with or without screens, trucks or elevators.**

**M**UNICIPAL OFFICERS in Ontario will consult their best interests by examining the Western Rock Crusher before deciding on the purchase of machinery for the preparation of roadmaking material. With reference to the crusher purchased by the City of London last year, the City Engineer says:

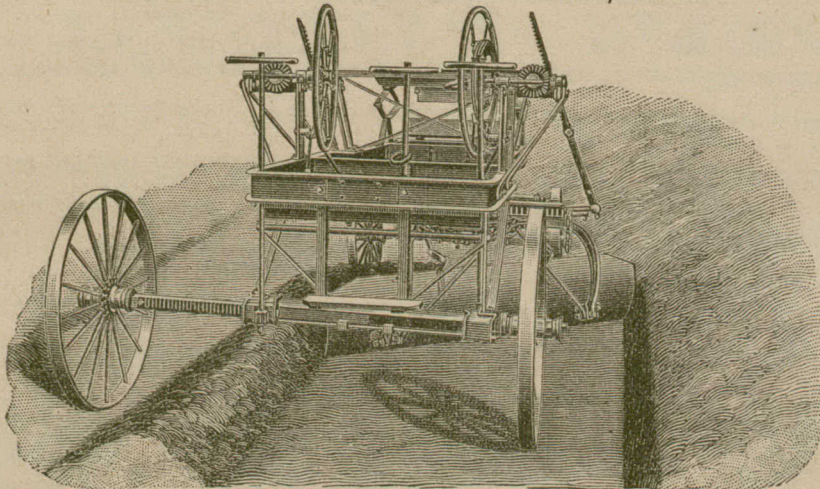
LONDON, ONT., Jan. 5th, 1895.

H. A. BROWNELL, Esq., General Manager Western Wheel Scraper Co.:

DEAR SIR,—The No. 10 Western Rock Crusher, bought of you last season has proved entirely satisfactory and fulfils all claimed for it in every sense of the word. As it crushes to any size required, the product is especially adapted for the making of good roads. Since the Western has been in operation here, some seven months, it has not cost the city one cent for repairs, which speaks volumes for its first-class construction; nor have the plates or jaws, that are subject to so much wear and tear, been found necessary to replace. The committee who

visited towns and cities where other crushers were in operation, and finally selected the Western, not because it was the cheapest in price, but because they thought it was the best crusher tendered for, have had their judgment confirmed, and join with me in recommending the Western to any municipality or others requiring a first-class crusher. Yours respectfully, ORMSBY GRAYDON, City Engineer.

## The Western Reversible Leads in all Competitions



**THE WESTERN REVERSIBLE ROAD MACHINE**

In the preparation of roadbeds for gravelling, the construction and maintenance of earth roads, and the repair of gravel roads, the Western Reversible Road Machine will do the work in the best possible manner.

All machines sold on trial.

That these machines are the best is the opinion of those who have been using them. That they are economical is shown by the following testimonials from municipal officers. The Western Reversible is an all-steel machine.

All machines sold on trial.

## TESTIMONIALS:

H. A. BROWNELL, General Manager, London, Ont.:

DEAR SIR,—We, the undersigned members of the municipal council of the Township of Burford, having witnessed the operation of your machine, the Western Reversible, on trial with the American Road Machine in this township, on the 22nd of last May, have no hesitation in saying that we consider the Western Reversible a superior machine in many respects. Although the price of your machine was considerably more, we had no hesitation in placing our order with you, and, after using it all summer, have no cause to regret it. We consider it a first-class machine, far superior to any method hereto employed by us, both as a labor-saving and economical system of building or repairing our streets or roads, and can recommend it to any city, town or rural municipality. PHILIP KELLEY, Reeve, Warden of Brant county; CHAS. VANHORN, Deputy Reeve; JOHN McCLELLAN, ADAM CROZIER, Councillors.

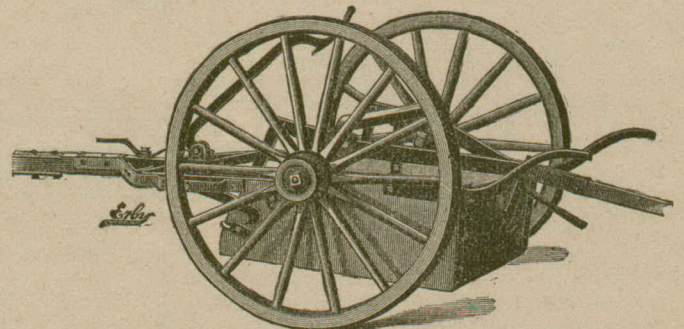
Burford, Ont., Nov. 26th, 1894.

KINGSVILLE, January 25th, 1895.

H. A. BROWNELL, Esq., Gen. Mgr., London, Ont.:

DEAR SIR,—After using the Western Reversible Machine last season, we can truthfully say that the machine has paid for itself three times over. We can further say that other road machines have been used in this township, but, in our opinion, they will not bear comparison with the Reversible Road Machine. In fact, the Western Reversible is worth more than any two machines of other makes that we have seen in Essex county. We consider that the work done by the Reversible machine was worth at least \$1,000, ordinary expenditure, to the roads in the township of Gosfield South last year. We recommend all the municipalities to examine into the merits of the Western Road Machine before placing their orders. As already stated, we have used other machines but do not hesitate to say that they are not as good as the Western, which, in our opinion, has no equal, and is the best all-round road machine in the market.

Yours truly, C. G. FOX, Reeve; R. W. SHANKS, Dep.-Reeve.



**WESTERN WHEEL SCRAPER**

Crushers, Rollers, Western Road Machines, Wheel and Drag Scrapers kept in stock at London. Any of these, or repairs for same, can be furnished at shortest notice. Correspondence solicited. Write for catalogue.

For Catalogue, Price List and Terms, address

**H. A. BROWNELL, General Manager for Ontario LONDON, ONT.**

# THE MUNICIPAL WORLD

Published Monthly in the Interests of Every Department of the Municipal Institutions of Ontario

Vol. 5. No. 6.

ST. THOMAS, ONTARIO, JUNE, 1895.

Whole No. 54

## CONTENTS.

PAGE

Tile, Stone & Timber Drainage Act Am'd'ts.	106
Debenture Instalment Tables, 5, 10, 15 and 20 years at 5 per cent.	106
New Laws	107
Councillors and Law Costs	107
The Public Health Act, 1895	107
School Law Amendments	108
Municipal Electric Lighting	109
Drainage	110
Pretty Roadsides	110
Water Supply	111
Cinder Paths and Good Roads	111
Our Roads	112
Legal Decisions—	
Helms v. St. Catharines	113
Farquhar v. Toronto	113
Alexander v. Huntsville	113
Bryce v. Loutit	113
York v. Osgoode	113
Capon v. Toronto	114
Smith v. Wentworth	114
Reg. ex rel Moore v. Nagle	114
McVicar v. Pt. Arthur	114
Burford v. Chambers	114
Regina v. Justin	114
Meek v. Overholt	115
Drainage Across Railway Lands	114
The Drainage Act, 1894	115
Question Drawer	116
Municipal Amendment Act, 1895	116
Rules and Regulations for Government of Common Gaols	117
ADVERTISEMENTS.	
Copp Bros. Co., Limited, Hamilton—Champion Road Machines	101
Gutta Percha & Rubber M'fg Co., Toronto, Hose and Fire Department Supplies	101
Hamilton and Toronto Sewer Pipe Co., Hamilton, Sewer, Culvert, and Water Pipe	102
F. C. Austin M'fg Co., Chicago, Ill.—Road making Machinery	102
Munn & Co., New York—Patents	103
A. J. Clark, St. Thomas, Money to Loan	103
W. Newman, C. E., Windsor	103
Arthur C. Neff, Municipal Auditor	103
Robinson, Lennox & McLeod, Barristers, Toronto	103
Ontario Sewer Pipe Co., Toronto—Sewer and Culvert Pipe	103
Planet Book making House, Chatham, Blank Books, etc.	103
Western Roadmaking Machinery—H. A. Brownell, general agent, London	104
Books	117
Blanks Required for May	118
B. Baer & Co., Doon, Ont., Highway Bridges—Iron and Wood	118
A. W. Campbell, C. E., St. Thomas	118
Davis & VanBuskirk, Civil Engineers	118
G. A. Stimson, Toronto, Municipal Debentures wanted	118
Ebenezer North, London and St. Thomas, Concrete Culvert, Tile and Drainage Pipe	119
Dominion Bridge Co., Montreal, Highway Bridges—Iron and Steel	120
Hamilton and Toronto Sewer Pipe Co.	120

### SPECIAL FOR JUNE.

Pathmasters' notice to property owners to cut noxious weeds, etc. 50c. per 100.  
 Pathmasters' certificates of gravel drawn. \$1.00 per 100.  
 School trustees' requisition with clerks. Notice of valuation, etc., attached. Per doz. 20c.

## Calendar for June and July, 1895

### Legal, Educational, Municipal and Other Appointments.

#### JUNE.

1. Public and Separate School Boards to appoint representatives on the High School Entrance Examination Board of Examiners.—H. S. Act, section 38 (2).
20. Earliest day upon which statute labor to be performed in unincorporated Townships.—Assessment Act, section 113.
27. High School Entrance Examinations begin. Public School Leaving Examinations begin.
28. High Schools close, third term.—H. S. Act, section 42. Public and Separate Schools close. P. S. Act, section 173 (1), section 173 (2); S. S. Act, section 79 (1).
29. Semi-Annual Reports of High Schools to Department due. Semi-Annual Reports by Public School Trustees to Inspector due.—P. S. Act, section 40 (13). Rural Public School Trustees to report average attendance of pupils to Inspector. - P. S. Act, section 206. Protestant Separate Schools to transmit to County Inspector, names and attendance during the last preceding six months.—S. S. Act, section 12. Semi-Annual Reports of Separate Schools to Department due.—S. S. Act, section 28 (18) section 62. Trustees' Report to Truant Officer due.—Truancy Act, section 12. Assessors to settle basis of Taxation in Union School Sections.—P. S. Act, section 95 (1). Last day for completion of duties of Court of Revision, except where Assessment taken between 1st July and 30th September.—Assessment Act, section 64. Balance of License Fund to be paid to Treasurer of Municipality.—Liquor License Act, section 45.

#### JULY.

1. Dominion Day. All wells to be cleaned out on or before this date.—Section 113, Public Health Act, and section 13 of By-law, schedule "A." Last day for County Council to pass by-law that nominations of members of Township Councils shall be on last Monday but one in December.—Municipal Act, section 113. Before or after this date, Court of Revision, may, in certain cases, remit or reduce taxes.—Assessment Act, section 67. Last day for revision of rolls by County Council with a view to equalization.—Assessment Act, section 78. Last day for establishing new High Schools by County Councils.—High School Act, section 8.

#### Drainage Laws.

CONSOLIDATED in one book, neatly bound in cloth, complete index.  
 The Drainage Act, 1894.....  
 The Ditches & Watercourses Act.....  
 The Tile Drainage Act..... } PRICE 30 CTS.

#### DRAINAGE FORMS.

Forms required by the Ditches and Watercourses' Act, 1894.

"It shall be the duty of the municipality to keep printed copies of all the forms required by this Act."—Section 7, sub-section 2.  
 B—Declaration of ownership, per doz....\$0 20  
 C—Notice to owners, per doz..... 25  
 D—Agreement by owners, per dozen.... 50  
 E—Requisition for examination by engineer, per dozen..... 25  
 F—Notice of appointment for examination by engineer, per dozen .. 20  
 Notice of filing award, sec. 18, per dozen. 25  
 H—Engineer's certificates, per dozen.... 25  
 Summons, appeal to judge, sec. 26, per dozen..... 20

Full explanatory notes are printed on each form.

PRICE—Five to Seven Dollars per Foot up to 100 Feet.

BEST BRIDGE FOR THE PRICE IN EXISTENCE.  
 Bears an enormous strain and will last for ages. Every bridge warranted.

Best of references, and full information promptly furnished.

ROYAL GRAFTON,

Mount Charles P. O., Ont.

Address all orders to

The Municipal World, St. Thomas.

### The Improved Iron Truss Bridge.

# The Municipal World

PUBLISHED MONTHLY

In the interests of every department of the Municipal Institutions of Ontario.

K. W. MCKAY, EDITOR,

A. W. CAMPBELL, C. E. } Associate  
H. F. JELL, Solicitor. } Editors

TERMS. \$1.00 per annum. Single copy, 10c.; Six copies, \$5.00, payable in advance.

EXPIRATION OF SUBSCRIPTION. This paper will be discontinued at expiration of term paid for, of which subscribers will receive notice.

CHANGE OF ADDRESS. Subscribers, who may change their address, should give prompt notice of same, and in doing so, give both old and new address.

COMMUNICATIONS. Contributions of interest to municipal officers are cordially invited.

HOW TO REMIT. Cash should be sent by registered letter. Draft, express or money orders may be sent at our risk.

Address all communications to

THE MUNICIPAL WORLD,  
Box 1252, St. Thomas, Ont.

ST. THOMAS, JUNE 1, 1895.

In June.

Most of the County Councils will fix the rate for county taxes. In doing this it is well to remember that, under section 357 of the Municipal Act, every Council is required to levy on the whole rateable property within its jurisdiction a sufficient sum in each year to pay all the valid debts of the corporation, whether principal or interest, falling due within the year, but the rate is not to be more than two cents in the dollar, exclusive of school rates. All debts and current expenditure should be paid by this year's estimates.

The preparation of voters' lists will engage the attention of many clerks. We have found that to revise a list of the previous year is the easiest and most correct way to accomplish this in a short time.

Statute labor should all be performed. When sending out the road lists, most Councils enclose a form of notice, to be delivered by the pathmaster to each property owner and tenant, directing them to cut noxious weeds and destroy fruit trees affected with certain diseases. Pathmasters should also receive a form of certificate to be given to the owner of gravel drawn for road purposes, showing number of loads, etc. These certificates to be presented to the Council for payment.

The manner in which commutation money collected for statute labor not performed in 1894 is to be expended, may be referred to. Sub-section 2 of section 101 of Consolidated Assessment Act, provides that the clerk is to notify the overseer of highways of the amount of such commutation, and the overseer shall expend the amount upon the roads in the statute labor division where the property

is situated, and shall give an order upon the treasurer to the person performing the work. The council or member having charge of the district where the statute labor division is situated, generally has authority, under the by-law, to direct the pathmaster in the work of the division, and in that way they may, subject to the above section, direct the expenditure of commutation money. Township treasurers are authorized to pay pathmasters' orders out of the commutation fund. To avoid mistakes, they should receive a list of divisions in which the money is to be expended, with names of overseers, amounts, etc., or the clerk's notice, under sub-section 2, should accompany the order on the treasurer.

\* \* \*

The equalization of union school sections should be attended to, the assessment of all school sections checked over and valuation ascertained. To secure uniform requisitions from trustees in townships, it is advisable to send them a form of requisition during July, together with valuation of section, and notice to return requisition properly filled up before August.

### Tile, Stone and Timber Drainage Act Amendments.

1. Section 8 of *The Tile, Stone and Timber Drainage Act* is repealed and the following substituted therefor:—

8.—(1) Any person assessed as owner and being the actual owner of land in the municipality wishing to borrow money for the purpose of tile, stone or timber drainage may make application to the council of the municipality in the Form 4 to this Act.

(2) No such application shall be acted upon by the council unless it is accompanied by a statutory declaration made by the applicant stating that he is the actual owner of the lands mentioned in the said application, and that the said lands are free from encumbrances, or if the said lands or any part thereof are mortgaged or otherwise encumbered, stating the amount of such mortgage or other encumbrance and the name and address of the mortgagee or encumbrancer, and where the said mortgage has been assigned, the name of the assignee or present holder of such mortgage with his address.

(3) In case it appears that there is any encumbrance upon the said lands or any part thereof, the said application shall not be disposed of until two weeks after the mortgagee or other encumbrancer has been notified by registered letter sent to him by the clerk through the post office to his last known address of such application.

2. This Act shall come into force on the 1st day of July, 1895.

We have placed in a stock form of Statutory Declaration required by above amendment. Price per dozen, 25c.

### Debenture Instalment Tables.

Showing annual payment required to discharge a debt of one dollar and its interest, also the respective amounts of principal and interest annually discharged.

NO. 9.

Debenture bearing 5 per cent. interest, payable in five yearly instalments.

EQUAL ANNUAL PAYMENT.—\$230,974.

YEAR.	INTEREST.	PRINCIPAL.
1	050,000	180,975
2	040,951	190,023
3	031,450	199,525
4	021,474	209,501
5	010,999	219,976

NO. 10.

Debentures bearing 5 per cent. interest, payable in ten yearly instalments.

EQUAL ANNUAL PAYMENT.—\$129,504.

YEAR.	INTEREST.	PRINCIPAL.
1	050,000	079,504
2	046,025	083,480
3	041,851	087,654
4	037,468	092,036
5	032,866	096,638
6	028,034	101,470
7	022,960	106,544
8	017,633	111,871
9	012,046	117,464
10	006,167	123,337

NO. 11.

Debentures bearing 5 per cent. interest, payable in fifteen yearly instalments.

EQUAL ANNUAL PAYMENT.—\$096,342.

YEAR.	INTEREST.	PRINCIPAL.
1	050,000	046,342
2	047,683	048,660
3	045,250	051,092
4	042,695	053,647
5	040,013	056,329
6	037,196	059,146
7	034,239	062,103
8	031,134	065,208
9	027,874	068,469
10	024,450	071,892
11	020,856	075,487
12	017,081	079,261
13	013,118	083,224
14	008,957	087,385
15	004,588	091,755

NO. 12.

Debentures bearing 5 per cent. interest, payable in twenty yearly instalments.

EQUAL ANNUAL PAYMENT.—\$080,242.

YEAR.	INTEREST.	PRINCIPAL.
1	050,000	030,243
2	048,488	031,755
3	046,900	033,342
4	045,233	035,010
5	043,483	036,760
6	041,645	038,598
7	039,715	040,528
8	037,688	042,554
9	035,561	044,682
10	033,326	046,916
11	030,981	049,262
12	028,517	051,725
13	025,931	054,311
14	023,216	057,027
15	020,364	059,878
16	017,370	062,872
17	014,227	066,016
18	010,926	069,317
19	007,460	072,782
20	003,821	076,422

"I am sorry, Mr. Miller, but I cannot marry such a bicycle enthusiast as you are."

"But you are yourself a devotee of the sport."

"That's just the reason. Who would stay at home and—cook?"—Radfahr Humor.

## New Laws.

## Councillors and Law Costs.

The Coroners Act, section 3, was amended at last session of the legislature, by adding thereto the following: "Provided that in the case of a death taking place in any county house of industry, such inquest shall not be necessary, unless after notification, the county crown attorney, believes that such death took place under circumstances requiring investigation."

The Ditches and Watercourses Act, 1894, has been amended by adding to section 7 the following:

"Provided nevertheless that in case of omission to file such declaration through inadvertence or mistake at the time aforesaid, the judge may in case of ownership at said time permit the same to be filed at any stage of the proceedings upon such terms and conditions as he may impose or direct."

In case an application is made to set aside proceedings taken under the Ditches and Watercourses Act for the reason that a declaration of ownership has not been filed, the judge may, under this amendment allow it to be filed, upon such terms as he may direct. The terms would no doubt refer to the payment of costs incurred. The failure to file a declaration may be expensive. Clerks should in no case issue notices for first meeting or receive requisition for examination by engineer unless the requisite declaration of ownership has been filed.

Section 36 of this act has also been amended by adding at the end thereof the following proviso:

"Provided, that should any ditch, after its construction, prove insufficient for the purposes for which it was constructed so as to cause an overflow of water upon any lands along the said ditch and has caused damage to the same, any owner party to the award may at any time after the expiration of six months from the completion of the ditch take proceedings as aforesaid for the reconsideration of the agreement or award under which such ditch was constructed for the purpose of remedying the defect in that particular respect. This proviso shall apply only to that portion of the province lying east of the county of Frontenac."

In other municipalities two years in case of an open drain and one year in case of a covered drain must elapse before an award can be reconsidered.

The Municipal Light and Heat Act has been amended so that the word "gas" shall be deemed and construed as including natural gas.

The acts respecting mechanics' institutes, art schools and free libraries have been repealed, and the Public Libraries Act of 1895 has been substituted therefor.

## A Doubtful Chance.

First Mouse—Let's go out and scare that crowd of women. Are you wit' me?

Second Mouse—Better be careful. If they happen to belong to the new women crowd, you may get smashed—Indianapolis Journal.

Municipal councillors are generally capable of transacting the affairs of their own municipality in a business way. Actions for damages and other disputes in which lawyers become interested sooner or later are the cause of high taxes in many localities. Without wishing to cast any reflections on the members of the legal profession, we believe that they are in many instances to blame for lawsuits, owing to their desire for business, and the fact that municipalities are good customers. Many councillors who on behalf of a municipality will carry on a lawsuit to the bitter end, would act differently if it was a private matter. When a notice of action is received or a writ served on the municipal corporation, the first procedure is generally to consult a solicitor in reference to the legality of the claim. This is not so much for the purpose of securing information, but rather a desire to employ some one on whom the responsibility will fall, if the action of the council is questioned at the following nomination meeting. All lawyers are not alike, but many when consulted satisfy their clients by an advice and future proceedings that result in a bill of costs nominally for services, but in reality for assuming in most cases the responsibility that would attach to the municipal representatives if they acted independently. A lawyer advising a municipal council that a plaintiff has no claim satisfies his client, and it is seldom that a council takes independent action after receiving such advice. There are those in every municipality that are ready to find fault no matter what may be done, and the reply, "we acted solely on the advice of our solicitor" covers a multitude of short comings. Again there is a desire of many municipal councillors to appear sharp, and not allow any one to get the best of them, or appear to do so. Disputes between municipalities over boundary lines are often the cause of much bickering, while more pretentious differences are often settled in municipalities by fence-viewers in a few minutes. The reason for this is that one council is afraid that the other will secure an advantage and boast of it at election time to the detriment of the other. This is human nature and councillors are but human although many of them think differently. We would like to be in a position to suggest a remedy for this condition of affairs and would request our readers to consider the advisability of the appointment of a board of arbitration in their county to whom all disputes between municipalities should be referred. This board to be composed of one arbitrator appointed by the county council and one by each of the parties interested. In the ordinary actions for damages councillors should look at the claims in a business way. Municipalities are but financial corporations and a few hundred dollars paid in settlement of a claim will very often save

thousands. In most cases settlements made before either party has consulted a lawyer are the best. Where it is not thought advisable to settle a claim, we would suggest that all the particulars be laid before a disinterested lawyer with recognized ability who resides at a distance sufficient to remove him entirely from local considerations and prejudice, consider well the advice he gives, and if necessary to go to law employ your own solicitor. We cannot have everything our own way in this world. Just as soon as municipal councils learn to admit their liability when good sense tells them that they or their predecessors have been at fault, the squandering of ratepayers money in law costs, will, in many cases be avoided.

## The Public Health Act, 1895.

This act repeals section 39 of the Public Health Act and substitutes a new section therefor, which provides that in townships, villages and towns under 4,000, the local boards of health shall be composed of the reeve or mayor, clerk and three ratepayers, appointed for 1, 2, and 3 years, respectively, retiring in rotation same as school trustees. One ratepayer to be appointed each year for a term of three years. In cities and towns with over 4,000 population, the local board of health shall consist of the mayor and six ratepayers, two of whom are to be appointed for three years, two for two years and two for one year. The retiring members to be replaced by two members appointed for three years.

Section 30 of the Public Health Act is repealed and new section substituted. This makes it compulsory for city, town and village councils to obtain consent of provincial board of health, before establishing a public water supply or sewerage system.

Section 99 is amended in reference to feeding certain things to hogs, viz: Blood, offal, meat of any dead animal which has not been boiled or steamed when fresh, or which is putrid or decomposed. The sanitary inspector or health officer is authorized to prosecute in such cases and to destroy the hogs.

Section 61 is amended by authorizing the local boards affected to institute an inspection where nuisance arises in another municipality.

## His Young Highness.

"I want to see the boss of the house," said the pedler to Mrs. Darley, who had answered the ring.

"I'm sorry," she replied, as she gently closed the door, "but baby is asleep just now."—American Review.

## Wanted to be Reminded.

Husband—Will you remind me that I have to write a letter this evening?

Wife—Yes, dear. And will you remind me of something?

"Of course. What is it?"

"Remind me that I have to remind you."

## School Law Amendments, 1895.

1. Sub-section 5 of section 14 of the High Schools Act 1891, is repealed and the following substituted therefor :

(5) To apply to the municipal council or councils liable under this Act on or before the 1st day of August, or at such other time as may be required by the municipal council for such sums of money as the board may require for the maintenance of the high school for the twelve months next following the date of such application, exclusive of all fees from pupils and other sources, and of appropriations from the legislature and municipal council of the county ; and for an additional sum as they may deem expedient for permanent improvements for the same period of time not exceeding five hundred dollars.

2. The High Schools Act, 1891, is amended by adding thereto the following section :

29a.—The trustees of any high school district may, with the approval of a majority of the municipal council or councils composing the district, and of the Lieutenant-Governor in council, sell, transfer or lease any site, territory or other property vested in them as a corporation, and after making provision for all debts and liabilities of the corporation, apply the residue of the proceeds of such sale, transfer or lease to any purpose that may be approved by the Lieutenant-Governor in council, and on such sale, transfer or lease and disposition of assets as aforesaid the Lieutenant-Governor in council may, by proclamation in the *Ontario Gazette*, declare such corporation dissolved and determined.

3. Sub-section 1 of section 36 of the High Schools Act, 1891, is repealed and the following substituted therefor :

(1) All moneys which the municipal council is authorized to collect under the authority of this act for permanent improvements shall be paid to the treasurer of the high school board on or before the 25th day of December of the year in which application was made by the high school trustees for such moneys ; all moneys which the municipal council is authorized to collect by assessment, or to raise by way of loan, or otherwise, for the maintenance of a high school shall be paid from time to time to the high school treasurer as the board may by requisition require.

4. Section 81 of the Public Schools Act, 1891, is amended by adding thereto the following sub-section :

(4) When part of any school section has been added to a city or town by order of the Lieutenant-Governor in council, the municipal council in which such section is situated may pass a by-law for the re-adjustment of the boundaries of the remaining portion of such section, notwithstanding the passing of a by-law within

five years affecting the limits of such section or adjoining sections.

5. Section 107 of the Public Schools Act, 1891, is amended by adding thereto the following sub-section :

(14) To provide such facilities for industrial and manual training in the first four forms, and such instruction in needle-work and domestic economy in all forms as they may deem expedient.

6. Sub-section 10 of section 107 of the Public Schools Act, 1891, is amended by striking out the words "current year" at the end thereof and substituting the words "twelve months next following the date of such application."

7. Section 109 of the Public Schools Act, 1891, is amended by adding thereto the following sub-section immediately after sub-section 3 thereof.

(4) In all cases and at all times the municipal council shall have power, and it shall be their duty to correct in subsequent collections any errors or omissions that may have been made within the preceding three years in the collection of the school rate duly imposed or intended so to be, to the end that no property shall escape from its proper proportion of the rate and that no property shall be compelled to pay more than its proper proportion of such rate.

8. Section 110 of the Public Schools Act, 1891, is amended by adding thereto the following words : "and shall pay the same to the treasurer of the public school board from time to time as may be required by the board for teachers' salaries and other expenses."

9. Sub-section 3 of section 172 of the Public Schools Act, 1891, is amended by striking out the following words in the 5th line thereof : "so much of the school rates of any such person as would be the equivalent of."

10. Section 172 of the Public Schools Act, 1891, is amended by adding thereto the following as sub-section 3a :

(3a.) When the children attending a neighboring section are three miles or more distant in a direct line from the schoolhouse in the section to which they belong, the trustees of the section in which such children are resident shall remit as much of the taxes chargeable upon the parents or guardians of such children, for school purposes, as would be at least equal to the fees paid to such neighboring section.

11. Sub-section 8 of section 31 of the High Schools Act, 1891 as amended by section 2 of an act passed in the 56th year of Her Majesty's reign, intituled an act to amend the High Schools Act, 1891, is amended by inserting after the words "high school purposes" in the third line, "except such county rate as may be levied for raising the equivalent of the government grant as required by section 30 of this Act."

## Cheap Stone Roads—The Cost of Macadam Highways has been Reduced in New Jersey.

The cost of building roads has been greatly reduced within three years in New Jersey, as the width of the country roadways first laid was not less than 16 feet, now 12 feet wide, stoned 10 to 12 inches in depth. Another style of road for heavy travel is only 10 feet wide, stoned 10 to 12 inches in depth, with grass wings on the sides. Such a roadway has been in use three years and is in good order, even where loads of five tons are transported over it. On roads where there is no heavy travel the width may be only eight feet, stoned 10 to 12 inches, with wings two feet on each side, stoned six inches. It has been ascertained that the cost of a telford road is no more than a macadam, though at first contractors charged from 10 to 12 cents more per square yard for telford.

In Camden county in 1893 it cost \$1.15 to lay a square yard of 12 inch stone road, but in 1894 the cost of the same was only 79 cents. For six inch stone roads in Camden county in 1893 it was 80 cents ; in 1894, 42 cents, and in Gloucester county 39 cents a square yard. This reduction in the cost would make it possible to have stone roads in many sections where before they could not be had. Yet, in justice to some portions of the state, Mr. Burroughs, the public roads commissioner, thinks the present laws should be amended so as to allow hard materials other than stone to be employed in road improvement. He also believes that in the future—say, 15 or 20 years—national assistance will be given as well as state.—Exchange.

## Good Roads the Key to Prosperity.

It is the opinion of well informed Frenchmen who have made a study of economic problems that the superb roads of France have been one of the most steady and potent contributions to the material development and marvelous financial elasticity of the country. The far-reaching and splendidly maintained road system has distinctly favored the success of the small landed proprietors, and in their prosperity and the ensuing distribution of wealth lies the key to the secret of the wonderful vitality and solid prosperity of the French nation.—Selected.

## Hypnotism and Crime.

The Judge (severely)—This poor man says that you, prisoner, hypnotized him into committing the crime. What have you to say for yourself ?

Prisoner—He's right, your Honor. Another man hypnotized me into hypnotizing him.—Chicago Record.



## ENGINEERING DEPARTMENT.

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

## Municipal Electric Lighting.

There are certain financial responsibilities which attend the ownership of a municipal plant which are deserving of careful consideration. Among these are: (a) the liability of loss from fire; (b) destruction of poles and circuit by storm; (c) danger from a broken wire or defective insulation and the possibility of costly litigation resulting; (d) damage from lightning; there are instances of where as many as three armatures were burned out in the course of a year; (e) the probability of a great advancement in electric generation and transmission in the near future.

A company must estimate on a margin for these risks and responsibilities, and very often, no doubt, this margin is overestimated; but in order to determine fairly what the cost to the municipality will be in comparing this cost with the figures of private companies, a reasonable allowance should be made and added to estimated cost of operation and maintenance.

After going through some of the largest manufactories of electrical appliances in America, and examining machinery now being developed, and looking into recent theory and practice, we have to acknowledge that our means of utilizing the electric current are by no means, as some affirm, safely past the experimental stage, but, on the contrary, the electric domain is changing every day, old appliances ceaselessly give way to new methods of production, destruction and utilization vary yearly, and we may soon expect it to thrust a revolutionary force into the lighting and power system, and for this reason it is impossible to estimate this margin.

It is only about fifteen years since incandescent lights were introduced, and while it must be admitted that its adoption was rapid and widespread, yet the records show that its proportion of the lighting is small and its rate of increase slow, not even exceeding that of gas. Some factor is wanting to give longer circuits, better generating apparatus, and improved lamps which will not burn out, so as to meet the popular demand for perfect light at reasonable cost.

A visit to a number of lighting plants owned by companies and municipalities considered to be modern, without exception shows a large floor space occupied by engines, shafting, pulleys, belting and dynamos, presenting a giddy maze. And, except a few plants driven by water-wheels, gas engines and compressed air, this is universally the case. Now, each step from consuming coal in the furnace to the glow of light is attended with great loss. The energy is frittered away through this complication of machinery and belting.

It is argued that the standard make of electric generators of to-day possesses a mechanical efficiency of about 95 per cent.; that is, that every one hundred horsepower required to turn the armatures will be given back in the form of 95 horsepower worth of current; the other five per cent. is taken up in mechanical and electrical losses. And that, therefore, it is not obvious that any extensive improvement can be made in the generation apparatus. But actual tests prove that barely five per cent. of the current produced manifests itself as light in an incandescent lamp. One great object to be obtained is the consolidation of the parts of machinery to prevent, as far as possible, this great loss of energy, and a notable stride in this direction is in the machine now being put on the market, in which the engine and dynamo is combined, yet this leaves a complicated mechanism with a dynamo, in which some part is not utilized every moment. With the oscillator, the recent great invention of Tesla, fly-wheel generator balls, eccentric valves, belting, etc., are thrown aside. The piston of the engine is the only part doing work, and to this is attached the armature, which, instead of revolving between magnets, is simply darted in and out of the field of force. It is evident that such a machine must have an economy far beyond anything at present in use, and it is possible that when perfected, from its simplicity and economy, it will render valueless the machinery of to-day.

Efforts of electrical engineers are now being directed towards the conservation of energy in the transmission of the electrical current. When this is accomplished, and it seems to be a matter of a short time, the vast power of Niagara and others of a similar character will be turned to account and the present system of lighting revolutionized by companies of central distribution furnishing cheap power for this and like purposes. The Niagara company has already contracted with the city of Buffalo at a rate of fifteen cents per lamp per night, and negotiations are in progress with other cities, and even this price will be reduced as the amount of work increases.

A new arc lamp is now being tried, which promises to make an innovation in electric lighting. It may be said to be a combination of incandescent and arc principles. It is claimed that with this lamp carbons of ordinary length will burn from one hundred to two hundred hours, instead of ten to eighteen as now. The current required to operate the lamp is only from four to five amperes, as distinguished from seven to ten commonly used. The labor and carbons, if it succeeds to the expectations of the promoters, will effect a saving in the cost of an ordinary plant.

A new illuminant, a gas called acetylene, has recently been discovered, and is attracting much attention. Its illuminating power is 240 candles, whereas a like

quantity of London gas is only sixteen candles. What the cost of this is likely to be has not yet been ascertained, although it is claimed that it will be very low.

We have enumerated these few phrases of electrical development to show the necessity of a fair allowance for these risks.

Reasons advanced in favor of municipal ownership:

1. In the construction of a municipal station, the municipality saves the profit that a private company would expect to make.

2. A city is generally in a position to borrow money at a lower rate of interest than a private company.

3. Most of the plants owned by companies in the large cities were put in some years ago, when the cost of electric appliance was greater than it is to-day, while their efficiency was less.

4. In the construction of a private plant, capitalists will not risk investing money unless they are assured of good dividends, while all the municipality requires is a sufficient return to pay the cost of running, including interest on the outlay, with a margin for renewals.

5. A company operates usually under a franchise, which is not exclusive, and under a contract which is made for a short term of years, making it inadmissible to venture capital unless the returns are so large as to warrant taking the risk.

6. There is a reason for believing that a city can, by letting contracts publicly, erect more cheaply than a company, which obtains the machinery by private contract.

Reasons advanced in opposition to municipal ownership:

1. In American cities, where State politics enter largely into the council chamber, it is urged that the situation is not always favorable to the operation of a municipal plant, but no valid reason has been advanced why, under the government of a Canadian city, a municipal system of lighting should not be as economically managed as a private plant.

2. A company furnishing light, heat and power, being given a secure franchise, can by a slight additional investment make the capacity of their apparatus sufficient to do the municipal lighting only.

3. The possibility of great advancement in electric generation and transmission in the near future.

## Good Roads Promote Development.

Good roads often tend to circumvent death and disaster, but they are a million times more valuable in promoting life—not simply existence, but the kind of civilized life which makes human development possible, and not only possible, but practical.—Good Roads.

### Drainage.

Is there no danger of draining land too much? May not land be over drained? These are questions often and very naturally asked, and which deserve careful consideration. The general answer would be that there would be no danger to be apprehended from overdraining; that no water will run out of land that would be of advantage to cultivated crops by being retained. In other words, soils generally hold by capillary attraction all the moisture that is of any advantage to the crops cultivated on them, and the water of drainage would, if retained for want of outlets, be stagnant and produce more evil than good. We say this is generally true; but there are exceptional cases, which it is proposed to consider. If we bear in mind the condition of most soils in summer, we shall see that this apprehension of over-draining is groundless. The fear is that crops will suffer in time of drought if thoroughly drained. Now, we know that in almost all Canada the water-table is many feet below the surface. Our wells indicate pretty accurately where the water-table is, and drains, unless cut as low as the surface of the water in the wells, would not run a drop of water in summer.

Farmers dig their wells twenty and even fifty feet deep, and expect that every summer the water will sink to nearly that depth; but they have no apprehension that their crops will become dry because the water is not kept up to within three feet of the surface.

The fact is, that nature drains thoroughly the greater portion of all our lands, so that artificial drainage, though it may remove surplus water from them more speedily in spring, cannot make them more dry in summer. And what thus happens naturally on most of the land without injury cannot be a dangerous result to effect by drainage on lands of similar character. By thorough drainage we endeavor to make lands which have an impervious or very retentive sub-soil near the surface sufficiently open to allow the surplus water to pass off, as it does naturally on our most productive upland.

Everyone who is practically acquainted with marshy land knows that such land may be easily overdrained, so that the soil becomes dusty, or husky, as it is called—that is, like a dry sponge—the white crops flag, and the turnip leaves turn dry and yellow in a long drought.

Most peat meadows in America, when first relieved of stagnant water, are very light and spongy. The soil is filled with acids, which require to be neutralized by an application of lime, or, what is cheaper and equally as effectual, by exposure to the atmosphere. These soils, when the water is suddenly drawn out of them, retain their bulk for a time, and are too porous and unsubstantial for cultivation. A season or two will cure this evil in many cases. The soil will become more com-

pact, and will often settle down many inches. It is necessary to bear this in mind in adjusting the drains, because a four-foot drain when laid may, by the mere subsidence of the land, become a three-foot drain.

A hasty judgment in any case that the land is overdrained, should be suspended until the soil has acquired compactness by its own weight, and by the ameliorating effect of culture and the elements.

Our observations bring us to the conclusion that it is not possible to lay pasture land too dry, for, during the recent dry summers and falls, we have noticed that both in lowland meadows and upland pastures the lands which have been the most thoroughly drained by deep and frequent drains are those that have preserved the freshest and most profitable pasture.

While, therefore, we have no doubt whether any land, high or low, can be over drained for general cultivation, it is probable that a less expensive mode of drainage may be sometimes expedient for grass alone. While we believe that in general even peat soils may be safely drained to the same depth with other soils, there seems to be a well-formed opinion that they may frequently be rendered productive by a less thorough system.

The question of the drainage of the soil requires as much careful consideration and study as does any branch of agriculture, and the nature of the soil to be drained is one of the main considerations. Drainage simply means rendering the land so free from moisture that no superfluous water will remain in it long enough to injure or even retard the healthy growth of the plants. Some plants grow in water, some spring from the bottom of ponds and have no other life than such a position affords, but most useful plants are drowned by being overflowed even for a short time and injured by stagnant water about their roots, and all lands require drainage that contain too much water at any season for the intended crop.

### The Progress of Road Reform.

The advantages of wide tires, for both the team and the road, are thoroughly demonstrated. To by law compel the adoption of wide tires is difficult because of the danger of injustice or hardships to individuals. The Pennsylvania house of representatives has passed a bill that aims to bring about this result so gradually that there can be little objection to the measure. Other legislation in behalf of good roads is on the docket in several states, but most important is it to entirely abolish the system of paying one's road taxes by work on the roads. This wasteful practice has prevented good roads wherever permitted, because such slipshod methods can never build or maintain good roads.—Orange Judd Farmer.

### Pretty Roadsides.

A WIDE-AWAKE WOMAN OFFERS SEVERAL SENSIBLE SUGGESTIONS.

Now that the newspapers are agitating the subject of good roads, would it not be advisable to say a word in regard to roadsides? The city people advocate good roads, especially the bicycle element, which is rapidly increasing. What shall we do with those who disfigure our roadsides by dumping all the refuse of their back yards and pantries, consisting of broken crockery, old tinware, tin cans, etc., by the country roadside without leave or license? One of the beautiful mountain roads leading from the neighboring city, which has been widened and improved at considerable expense to the town, as it is a popular and pleasant drive, has been made such a dumping-ground that, although the trees grow beautifully on either side, one can hardly find a spot of ground which is not covered with back yard refuse. If these people who consider the whole country free, would dig a hole and bury such a refuse out of sight, or dump it in a hole and shovel a little earth over it, doubtless nature would soon conceal their broken treasure. But at present, it is not a pleasant sight for country people or anyone else, and this practice should be discontinued. There is very little to encourage country people to beautify their roadsides. For instance, there is a case very near the home of a farmer having about half a mile of land fronting a public street, who has taken a certain amount of pride in picking up all the stones and smoothing off the land by the roadside, so that it is green and level. Too level, in fact, so that people will turn down on to it and drive right straight up through, past the front gate, cutting deep ruts, not only during the springtime when the roads are muddy, but in the warm weather if the roads are a trifle dusty. Of course the people who do this have their own roadsides dug out in holes from which they cart soil to the barnyard, or covered with heaps of stone picked up from the farm. The road is always kept in good repair, but there is a certain lawlessness about such things in the country that is discouraging to improvements and exasperating to would-be improvers.—*Alice E. Pinney, in Rural New Yorker.*

### Roll the Roads Frequently.

A steam roller should be in constant and active use on the roads of every township. Then will the roads speedily attain that smoothness and firmness which not only every wheelman but every farmer and business man desires.

Watch the statute labor as performed in divisions in your neighborhood and estimate the value of contract work, as compared with it. Most people will do more work for a contractor than a pathmaster.

## Water Supply.

There is perhaps no question before the Canadian people to-day, and it involves all the people of the entire human race, of such transcendent interest and importance as is the question of public water supply.

The well-being, comfort, health and life of the human race is more closely identified with, and involved in, the quality of the water used in our domestic economy than in any other, perhaps all the other, causes combined.

In low marshy districts where the waters are always loaded with decaying vegetable and animal matter with all conditions in the highest degree favorable to the production of bacterium, the most minute microscopic disease germs known, the atmosphere is very much of the time dense with fog and moisture. In absorbing this moisture from the stagnant, steeping waters, doubtless vast numbers of these minute disease germs are taken up; so that in all localities both elements, the air and the water, unite in their attack upon the health and lives of all who live in such places; hence the world over, such places are most unhealthy.

In the temperate zones where frost arrests fermentation and decay for several months of the year, the diseases produced by this agency assume comparatively mild forms; but in the tropics where this ferment, decay, putrefaction and germ developing process is forever at work the result is frightful. Here all the terrible plagues that have afflicted the human race since the dawn of civilization are fomented and start out on their tours of worldwide devastation. The terrible destructiveness of these plagues is vastly enhanced by the fears and ignorance of mankind. When a plague starts out from its Asiatic birthplace all the people in its pathway become panic stricken. It is at once accepted by the people that as soon as a case of cholera appears in a place the entire atmosphere is tainted and every one in danger.

Good authorities affirm that cholera cannot be communicated through the atmosphere except possibly in wet, filthy localities where the atmosphere is always dense with moisture, and even then perhaps only when disease is prevalent there.

Critical investigation will show that personal contact is necessary; that the germs of the disease must be taken into the system before the disease itself can be produced.

Strangely enough the last place which this enemy is locked for, is in the direction of its almost invariable approach namely, through the medium of our drinking water.

Water is the natural developing place and home of all disease germs; and water is among the first and most necessary ele-

ments of human existence, and yet the average person is more careless concerning the quality of the water he uses than about anything else in his daily life. That which most vitally concerns his well-being, he, through his ignorance, gives the slightest attention to. If the people can be so educated as to see and understand these things in their true meaning, then will the question of public water supply receive the attention and treatment its great public importance calls for. The term, public water supply is generally understood as applying only to cities, villages and other large communal aggregations where a general system is designed to provide for the wants of the entire community; if we confine ourselves to this view we leave entirely out of the consideration by far the greater part of all the people. Except in a few of our larger cities by far the greater portion of even our urban population obtain their water supply from private sources, almost invariably the ordinary private well, this source being almost universal among all rural populations. The waters of the well are the most impure and dangerous waters that we can use; all the more dangerous because of the almost universal belief in their purity and excellence.

The chief reason why the people are so slow to discard their private wells and adopt the public water supply, arises from the fact that the almost universal belief seems to be that the ordinary private well furnishes the purest and best water to be obtained from any source. To overcome this popular faith will prove a Herculean task, all the more so from the fact that this faith is primarily well founded. The prime source of the water supply of our private wells will furnish the purest water obtainable from any source. It is only in the mode of development and utilization that we all are wrong. Nature's process of filtration is far superior to anything that man has yet discovered or probably ever will discover. In taking our water supply from the ground, we must take it from comparatively near the surface or if we go very deep we usually find the water so highly impregnated with mineral matter as to be unfit for domestic use. On the other hand we must never take it from above the danger line of surface contamination.

In all cases where the rainfall penetrates the earth and percolates through its strata these waters in their downward passage become so contaminated by largely absorbing the impurities of the atmosphere and of the vegetable and animal matter encountered, that we will almost invariably find the upper levels of the first subterranean water stratum more or less contaminated with organic matter.

As now constructed nearly all wells penetrate the water stratum, skimming their supply from the extreme surface, thus of course getting the cream of these contaminations.

## Cinder Paths and Good Roads.—A Plea for the General Improvement of the Highways.

To the Editor of THE MUNICIPAL WORLD:

SIR,—The proposals which have been made in some portions of the public press to construct a cinder path for the use of bicyclists between Hamilton and Toronto, is not a practical one on many grounds, and this the bicyclists would soon discover were they to commence construction. The movement for good roads can be so immediately aided by bicyclists that it will be a serious drawback to the movement to introduce such a side issue as the construction of a mere cinder path. Every member of a club, as well as every rider, has a direct interest in the maintenance of a good road. The bicycle as a means of conveyance has a practical value. The farmer, mounting his wheel, can run more rapidly over the road than he can drive. With a moderate amount of physical exertion he can cover a good many miles in an hour, and often in the time taken to hitch up and unharness he can preform his errand on his wheel. The wheel is looked on too commonly as an instrument of pastime. The commercial value of time saved by attending to light business affairs, such as visiting to market, the post, and so forth, where a light-running vehicle has to be employed, has not yet forced itself upon the farmers' attention. Every wheelman is a power in his district to perform the improvement of roads. A well-made, well-maintained public road will afford ample opportunities for pleasure whilst it serves the more important function of being a direct means of promoting the prosperity of the country.

The working season now coming on will be an eventful one. If a proper start is made in the construction of our highways the battle will have been fought out. A few miles in each district of well shaped, well drained, solidly constructed roadways, will be such a revelation to the community, there will be no more desire to follow in the existing ancient customs of road making. The bicyclists has an important franchise in the movement for good roads he must learn that the source of his pleasure and amusement—a good road—is the foundation of his country's prosperity, and he must remember that the greatest conquerors of the world in all ages, have invariably recognized good roads as an immediate adjunct to their military and civil government. Let each bicyclist use his influence this year to promote the construction of a permanent road, and he will at once receive a benefit in increased value to his property, a road on which his commerce can always be carried, and on which he will enjoy thoroughly his pastime, as he sees the prosperity around him, produced by good roads.

ALAN MACDOUGALL,

M. C. S. C. E.

## Our Roads.

The statute labor system as at present operated is a travesty and a failure. It has been tried everywhere in the province, and has seldom proved satisfactory. Such work is a blot upon our civilization, and a scourge upon the industry of the farmers, and upon every town surrounded by farming population. It is a most expensive way of building and maintaining, the least efficient in its use, and the road produced is the most exasperating in its normal conditions of all the roads ever contrived by human hands. Older nations have abandoned it entirely, their farm property has improved in value, and other systems requiring that the highway shall be properly made and maintained has produced such amazing results in the enchantment of rural conditions, that no kind of argument could induce the European farmer to accept the drawbacks and embarrassments of the old system. The figures obtained from the different municipalities show that the money and labor spent by the people of this province within the last half century would more than suffice to build and maintain 25,000 miles.

## DRAINAGE.

Water is the great destroyer of roads, whether improved or unimproved. It has no proper place in the road, and should be carried away from and out of it as fast as it falls. In cold weather it freezes, forming frost and ice, and heaves and swells the soil of the roadway, dislodges and throws down masonry of retaining walls, bridges and culverts, and in warm weather softens the earth, destroys the foundation, and, consequently, the whole structure. The one rule, get the water out and keep the water out, is indispensable. Drains should be constructed on each side of the grade, about twenty feet apart, at least one and one-half feet in depth below the surface at the lowest point, and should have sideslopes of one foot horizontal to one foot vertical, and the grade between these ditches should be drained in such a manner and to such an extent as the circumstances may require, either by tiles running lengthwise on either side of the road metalling, or connecting at the centre and running diagonally to the side ditches from four to eight rods apart, or by drains constructed of bowlders, broken stone, or loose brick bats. This question of draining the grade is a very important one, for most ordinary soil has an obstinate tendency to hold water. Its composition is more or less of a vicious, sticky, tenacious substance, which, when wet, lays hold of every solid material that is brought in contact with it, and forms an obstacle to the free passage of water.

## EARTH ROADS.

Earth roads, which are those principally used in this country, stand lowest in the claim for excellence and durability, and highest in the cost of thorough repair of all the land highways adopted for the pub-

lic use. By earth roads I mean those roads which are made from the natural soil found in the line of the roadway, including sand, loam, gravelly earth, and, what is very common, a mixture of two or more of these. Earth is rarely adapted to the making of a good wagon road, and never adapted to the making of the best and most permanent roads. There is, however, a vast difference between the right and wrong methods of making and maintaining an earth road. The methods adopted will depend on their efficiency, the cheapness with which loads are hauled, and the number of breakdowns which occur during the year, and the size of the load which your horses can haul over them. Earth is commonly thrown up from the shallow side-ditches and left lying in the centre of the grade, where it is so placed as to imperfectly fill the ruts and holes. The passing vehicles compress this road in two shallow gutters, corresponding with the direction taken by the wheels on either side. The water gathers in quantities in these depressions, and the continuous action of the wheel's causes ruts in the material softened by the water, until, in the wet season, a wagon sinks into the mud to such a depth as to render them almost impassable. Shallow side ditches are of little or no value. They should be of sufficient depth below the surface at the lowest point as to lower the water line sufficient to leave an unyielding foundation for the surface material under a load. Water stands for days at a time in deep ruts when nothing intercepts its flow into the side ditches except a narrow strip of clay which forms the sides of the roadway. This barrier prevents the passage of the water, and in such situations, unless the surface of the road can be kept properly sloped and hard at all times, side ditches are in no sense sufficient to ensure proper drainage of the road. The surface must be properly crowned by rolling, so as to immediately convey the water from the road, and both maintained in this condition.

## GRAVEL ROADS.

Gravel roads have a distinct advantage over common earth roads in point of usefulness, for the force required to haul a load over a well-made dirt road is much greater than would be sufficient to haul the same load over a well-made gravel road. The question of What is gravel? put to a dozen pathmasters, would, I venture to say, bring forth as many answers, none of which would probably be very accurate. There are two kinds of gravel, one which will pack under travel and one which will not. This is due to the small proportion of clay or earthy matter contained in the former, which unites and combines the material together. Sea-side or river-side gravel consists almost entirely of water-worn and rounded pebbles of all sizes, which easily move and slip on one another; it is unsuitable for road covering unless other materials are mixed with it. This is difficult to do in order to

secure perfect bond. The gravel for the top layer must be hard and tough, so that the wear will not pulverize it and convert it into dust and mud. It should be coarse, varying in size from one-half to one and a-half inches in diameter. Gravel roads can generally be told by the crisp, gritty sound made by the wheels as you drive over them, which is more or less distinct as the condition of the road varies, but is always present in good gravel roads, which, to the close observer, will fairly indicate its quality, and, in some measure, the integrity of its maker. On ordinary roads the gravel should be eight feet wide and about nine inches in thickness, placed in the excavations made to receive it. The surface of these excavations may be made level. A layer four inches thick of the gravel should be first spread upon the road, and then thrown open for travel, until it becomes tolerably well consolidated, when the remainder of the material should be put on and kept in shape with a rake until thoroughly compacted. The depth of the excavation should be such that when the gravelling is put on the whole crown of the road-bed will be regular and uniform.

## ROAD MATERIAL.

The question of materials to be used, and how to obtain them, is of the greatest importance in road-making, and often difficult to determine. It would seem to be a common notion with many who have essayed to enlighten the public on this subject, that stones suitable for road-making are obtainable on every farm, and all that is necessary is to encourage farmers to have them properly prepared at their leisure and delivered on the road. On the contrary, though there is an abundance of stone on most farms, those suitable for first-class artificial road-making are quite uncommon. Stones gathered promiscuously from the surface of the field, though they may do very well to patch up a small piece of mud road, are most likely unfit to be used even on the poorest kind of turnpike. If generally of a good quality, they are sure to be mixed with soft and worthless ones, which spoil the whole. Even where there are quarries of hard stones, it is usually of stratified formation, with layers of different degrees of hardness, and even if generally good, they are devoid of that uniformity which is so essential to making a good road. A quarry of road stone, to be worked to advantage, must be situated very near a railroad, and have a track convenient for loading cars direct from the crusher. Breaking stone by hand will soon be a lost art. Stone for surfacing a road should be uniform and possess a great degree of hardness. The best measure of the quality of stone for this purpose is its power of resistance to crushing force, though it appears from experience that the qualities of hardness and toughness are not always the measure of the resistance to abrasion or the wearing away by the contact of horses' feet and the passage of vehicles.

TO BE CONTINUED.

## LEGAL DEPARTMENT.

H. F. JELL, SOLICITOR,  
EDITOR.

## Legal Decisions.

HELLEMS VS. THE CORPORATION OF THE  
CITY OF ST. CATHARINES.

The defendants in this action are the municipal corporation of the city of St. Catharines. On the 2nd February, 1893, the plaintiff applied for the position of street superintendent, which was then vacant. On the 13th March, a resolution of the council was passed appointing him street superintendent. On the 27th of March, a resolution of the council was passed rescinding the former resolution. In accordance with this last resolution the plaintiff was not employed as street superintendent, and this action was brought for wrongful dismissal. It was held that the effect of section 279 of the Consolidated Municipal Act, 55 Vic., chapter 42 (Ontario) which enacts that officers appointed by a municipal council shall hold office until removed by the council, is that all such officers hold office during the pleasure of the council, and may be removed at any time without notice, or cause shown therefor, and without the council incurring any liability thereby. In a case brought under similar circumstances to the above, Wilson vs. corporation of York, it was judicially stated that the Municipal Act expressly provides that all officers appointed by the council shall hold office until removed by the council. The effect of this is that all such officers hold their offices during the pleasure of the council, and may be removed by the council at any time without notice of such intended removal of any kind, and without any cause being shown for such removal, and without the council thereof incurring any liability to such officers for such removal. There is no hardship in this, for such officers accept their offices upon these terms. And were it otherwise, councils might be greatly embarrassed in the transaction of their public duties by the frowardness of any officer whom they would have no means of immediately removing without subjecting themselves to the liability of an action.

## FARQUHAR VS. CITY OF TORONTO.

The contract between the defendants and plaintiff's assignor for the paving of a certain street provided that the defendants might, on the recommendation of the city engineer, settle and pay the price of any materials for which payments were in arrears, and deduct the amount thereof from any money falling due to the contractor, under the contract. The contractor assigned to the plaintiffs all such money so to become due to him, and the defendants were duly notified. After this the engineer certified that a certain sum was due to the contractor. The defendants, however, deducted from such sum the amount of a certain claim for materials furnished to the contractor.

Held, that they had the right to do so, notwithstanding the assignment to the plaintiff, which was subject to such conditions and restrictions with respect to the right of transfer as were contained in the original contract.

ALEXANDER VS. THE CORPORATION OF THE  
VILLAGE OF HUNTSVILLE.

A by-law on the faith of which land had been purchased and a manufactory erected, was passed by a municipal council, under section 366 of the Municipal Act, R. S. O., chapter 184, by which the property was exempted from all taxation, etc., for a period of ten years from the date at which the by-law came into effect. The council subsequently within the period of exemption on the alleged ground that it was expedient and necessary to promote the interests of the ratepayers, passed another by-law repealing the exempting by-law. The court, being of the opinion on the facts as set out in the case, that the repealing by-law was passed in bad faith, to enable the council to collect taxes upon a property which was exempt under the section, and, in the absence of any forfeiture by the applicant of his rights, quashed the by-law as not within the powers of the council. In this application a ground relied on by the council was that the applicant had erected more than two dwelling houses on the exempted lands, whereby, under the terms of the by-law, the exemption ceased. This was done through oversight, and on the applicants' attention being called thereto, and on his undertaking to pay taxes thereon, a by-law was passed agreeing thereto and validating the exempting by-law; but through inadvertance, was not sealed. The dwellings were subsequently assessed, and the taxes paid on them.

HELD, that the corporation by their acts and conduct were precluded from now setting this up as a breach of the by-law.

SEMBLE, the words "manufacturing establishment" in the exempting by-law included land and everything necessary for the business.

SEMBLE, also, the period of exemption was within the statute.

## BRYCE VS. LOUTIT ET. AL.

The defendants, the corporations of two townships, without being bound to do so, built a culvert under the highway between the townships, to which the other defendant, the owner of lands adjoining one side of the highway, in order to carry off the surface water of his lands, built a drain and subsequently a gangway of stones for convenience of access to the highway, which had the effect of damming the water on his lands. He afterwards made an opening in the gangway, and the water suddenly rushed through the culvert, flooded the plaintiff's land on the other side of the highway, which was also connected with the culvert by a receiving

drain, through which he had theretofore permitted the water in its ordinary course to flow.

HELD, that the defendants, the corporations, were not, but that the other defendant was, liable for the damage sustained by the plaintiff.

The provisions of a submission to arbitration in reference to the appointment of a third arbitrator must be strictly followed. Where therefore, a submission provided that the third arbitrator should be appointed by writing endorsed thereon under the hands of the arbitrators therein named, and the appointment was not so endorsed, the award was held invalid.

The costs of printing unnecessary material disallowed.

YORK ET. AL. VS. TOWNSHIP OF OSGOODE  
ET. AL.

1. Where the engineer of a municipal corporation purports to make an award under the Ditches and Watercourses Act with respect to the making of a drain, the affirmance of such award by the county court judge does not preclude the high court from entertaining the objection that the engineer had no jurisdiction to make the award; nor is such an objection one for the determination of the county court judge alone.

2. In the absence of a resolution of the municipal council, such as is provided for by section six (b) of the Ditches and Watercourses Act, R. S. O., chapter 220. The question whether the engineer has jurisdiction to make an award depends upon whether, before filing the requisition, the owner filing it has obtained the assent in writing of a majority of the owners affected or interested, as provided by section 6 (a), if he has obtained such assent, the engineer is immediately upon such filing clothed with jurisdiction; and the absence of the notice (form d.) required by section 6, would not deprive him of such jurisdiction, but would form only a ground of appeal against his award.

3. The assent of the municipal corporation as one of the land owners interested may be shown by resolutions passed by the council directing the engineer to proceed with the work.

4. The term "owner" as used in the act means the assessed owner; and a tenant at will may be an owner affected or interested within the meaning of the act.

5. The decision of the county court judge as to matters over which the engineer has jurisdiction cannot be reviewed by the court; and whether the plaintiffs were benefited by the proposed work was a matter to be determined by the engineer and the subject of appeal to the county court judge.

6. The mere publication by the engineer within a year after the affirmance of an award, of a notice that he would let the work to be done upon the land of one of the persons affected by the award, and that such letting would take place after

the expiration of a year from such affirmation, does not afford any ground for an action of trespass.

CAPON V. CORPORATION OF TORONTO.

Where, under a local improvement by-law, an assessment is made of the lands benefited and chargeable with the cost of the improvement, and lands having a specified street frontage are thereafter charged with a specific amount of the cost of the improvement, which is entered on the assessment and collector's rolls, and such lands are subsequently sub-divided, the whole rate cannot legally be charged against a portion of the lands so sub-divided.

The duty of the clerk of the municipality is to bracket on the roll the different sub-divisions, with the name of the persons assessed for each parcel, and the annual sum charged against the original parcel, as that for which the sub-divided lots and persons assessed for them are liable under the special rate.

SMITH V. CORPORATION OF THE COUNTY OF WENTWORTH.

Section 87 of R. S. O., chap. 159, as extended by sec. 157 of that Act, and by 52 Vict., c. 27 (O.), applies not only to toll roads owned or held by private companies, or municipal councils, but also to all toll roads purchased from the late Province of Canada, so that, where one of such roads is intersected by another of them, a person travelling on the intersecting road shall not be charged for the distance travelled from such intersection to either of the termini of the intersected road, any higher rate of toll than the rate per mile charged by the company for travelling along the entire length of its road from such intersection, but subject to the production of a ticket, which he is entitled to receive from the last toll gate on the intersecting road, as evidence of his having travelled from such intersection.

Mandamus granted to compel the issue of such tickets.

REGINA EX. REL. MOORE V. NAGLE.

Where in a High School Board of a High School district constituted under sec. 11 of 54 vic., chap. 57 (O.), and consisting of six members, three appointed by the county and three by the town, a vacancy occurred by reason of the expiration of the term of office of one of the trustees appointed by the town, whereupon the council of the town passed a by-law appointing the plaintiff to fill the vacancy, and the council, however, at a subsequent meeting, in the absence of any of the causes provided by the Act, namely, death, resignation, or removal from the district, etc., passed a by-law amending their previous by-law by substituting the name of the defendant for that of the plaintiff.

Held, that the plaintiff was duly appointed to fill the vacancy and that he was entitled to the seat, and that the sub-

sequent appointment of the defendant was illegal and void.

M'VICAR V. TOWN OF PORT ARTHUR.

In an action by an owner of land taken by a Board of Park Management under the powers given by R. S. O., c. 190, for the amount of an order given by the board on the town treasurer in payment for the land, it was held (reversing Robertson, J.) that by the passing of a by-law adopting "The Public Parks Act," the corporation gave, in effect, antecedent authority for the doing of everything authorized to be done by the provisions of that Act, including the purchase by the board of "the lands, rights, and privileges needful for park purposes."

That the effect of "The Public Parks Act" is to make the board the statutory agents of the city or town for the purchase of such lands, rights, and privileges, and to take the title of all lands purchased, to the city or town, and the necessary inference from the Act is, that the city or town is bound to pay for the lands so purchased for it by their agents, the board.

Held, also, that although the council of the city or town may raise, by a special issue of debentures under s. 17, s. s. 4, of the Act, the sums required for the purchase of lands, they are not compelled to adopt that course or be confined to it, but may pay such purchase money out of the general funds of the city or town.

Held, also, that the plaintiff had no remedy against the board, as it had performed its whole duty in purchasing her land, taking the title to the corporation and giving an order for the purchase money, but had a remedy against the corporation whether it sold its park fund debentures or not; or was concerned with the method to be adopted by the corporation in procuring the money.

THE CORPORATION OF THE TOWNSHIP OF BURFORD VS. CHAMBERS ET. AL.

This was a motion for an injunction to restrain an arbitrator from acting on the ground of unfitness for the position from possible bias.

The arbitration was between the corporation of the township of Burford and one Margaret Chambers in respect of a piece of property which the corporation claimed was a highway, and Mrs. Chambers claimed was part of her farm. Mrs. Chambers and her husband had been previously indicted and tried for an alleged obstruction of the highways; and the proposed arbitrator, one Bowlby, who was a barrister and solicitor, had defended the husband at the trial.

He had subsequently written a letter, as solicitor for both the husband and the wife, to the reeve of the township of Burford, in which he alleged a breach of faith on the part of the predecessors in office of the plaintiff corporation.

It was held that the highcourt has power to prevent a non-indifferent arbitrator from acting, without waiting until

the award is made, though perhaps the better course is to apply for leave to revoke the submission if another arbitrator be not substituted.

A barrister and solicitor who had acted as counsel for the husband on an indictment, and trial for obstructing an alleged highway claimed by his wife to be her property, and who had written a letter concerning the matter as solicitor for both husband and wife, was restrained from acting as arbitrator in an arbitration between the wife and the municipal corporation in which the highway was situated.

REGINA VS. JUSTIN.

This was a motion by way of appeal by the defendant in person from a refusal by the learned Chief Justice of this court, to grant an order for a writ of certiorari to bring up a conviction for riding a bicycle on the sidewalk on main street, in the town of Brampton, contrary to sec. 8 of by-law No. 150, of the said town of Brampton.

Held, that a bicycle is a "vehicle," and riding it on the sidewalk is "encumbering" the street, within the meaning of sub-section 27 of section 496 of the Consolidated Municipal Act, and of a by-law of a municipality passed under it.

A certiorari to bring up a conviction under the by-law was refused.

Drainage Across Railway Lands.

A much needed bill has been introduced in the House of Commons by G. E. Casey, M. P., West Elgin. The drainage laws of Ontario do not apply to the lands of railway companies within the legislative authority of the parliament of Canada, and the result is that the benefit to be derived from drainage work is restricted and in many cases it has been found impossible to drain lands at all owing to the opposition offered by the railway companies.

The bill as read a second time reads as follows:

"Notwithstanding anything in any Act of the Parliament of Canada contained, every railway company within the legislative authority of the said Parliament is hereby declared to be subject, with respect to all lands, whether covered by roadbed or not, owned, occupied or used by it in any Province, to all Acts of such Province concerning drainage and watercourses as applied to railways.

Natural History Problem.

First Natural History Student—Very wonderful, these things with a hundred legs, and all that. Wonder how they manage to control so many members?

Second Ditto—Don't know. Seems to me more wonderful, though, how a thing gets on on one leg.

First N. H. S.—Thing that goes on one leg? Impossible! No such thing.

Second Ditto—What about a stocking! —London Answers.

MEEK VS. OVERHOLT AND SOUTHWOLD.

This was an action to recover damages for cutting of two ornamental shade trees which stood on the public highway adjacent to the plaintiff's land in the township of Southwold by the alleged order of the township municipal council, but really by the order of men who had no authority from the council. The defendant Overholt did the work under instructions from a member of the council.

His Honor Judge Hughes in delivering judgment stated: The wrong-doers are those who took part in or assumed authority in ordering these trees to be cut down, they and they only are the responsible parties, and although the counsel for the defendant corporation, consented if the act were determined to be unlawful, that I might instead of adding the individual parties as defendants, find and give judgment against the corporation. This may be a convenient proceeding for them, but I consider that were I to comply with it, and assess damages against the corporation, the ratepayers of the township would be unlawfully taxed for what the individuals who did the wrong, should pay.

How is it to be expected of me, that in the face of the Municipal Act, 1892, sub-section 20, section 479, I should order the corporation to pay for what the municipality, through its council, did not order especially in view of the clear authority which existed in the council, for causing any tree growing on any highway to be removed. All officers and persons are absolutely forbidden from the moving or cutting down or injuring trees, even on pretence of improving the public highway or otherwise, without the express permission of the municipal council. Here there was no such express permission given, if they had, the council could only have been liable for any damages that might be shown against them for not giving the ten days notice, for ordering the removal of the trees, or for not paying the authorized compensation to the owner.

In the absence of the only thing that could have made the corporation liable at all, I must decline to give judgment against the township, but find in their favor without costs. Judgment is given in favor of the plaintiff and against the Defendant Overholt for the sum of \$50 damages with costs.

Had the other parties who took such objectionable proceedings in the direction of ordering or having the trees cut down been made defendants I should of given judgment against them as well.

When making application in the future for the sale of debentures issued under the Tile, Stone and Timber Drainage Act, it will be necessary to forward certified copies of application for loan and by-law imposing special rate (under seal) to the Provincial Treasurer with the debentures.

The Drainage Act, 1894.

In considering section 53 and the following three sections, we consider it advisable to retrace our steps and also call attention to sub-section 2 of section 19 of this Act as being along the same line. There are a number of notable differences between the last-mentioned sub-section and its parent—sub sec. 2 of sec. 569 of the Consolidated Municipal Act, 1892. Probably the most important is that, under the latter, the corporation were authorized to issue debentures for the repayment of the moneys necessary to construct the drainage works, to the requisite amount in sums of not less than \$100 each. The new sub-section authorizes the issue of such debentures in sums of not less than \$50 each. It also introduces a new provision where the drainage works are pumping or embanking. In this event the debentures shall be payable within 30 years from the date thereof, instead of 20 years as is the case, with all the other debentures to be issued for drainage purposes. The amount thus borrowed is to be repayable in 20 or 30 years, as the case may be, from the date of the by-law, but no provision is apparently made for requiring the by-law on the face of it to show the date of its passing. By sub-sec. 1 of sec. 340 of the Consolidated Municipal Act, 1892, it is made necessary to the validity of an ordinary by-law to raise money on the credit of a municipality, that it should name a day in the financial year in which the same is passed, when the by-law shall take effect. The said sub-sec. 2 of sec. 19 does not require that such a day should be named in the by-law. Even in the case of an ordinary money by-law a court refused in a case under their consideration, after the issue of debentures, to quash the by-law on the ground of the omission. It has been judicially stated that a good deal of doubt was felt whether Legislature did not intend that in the body of every by-law shall be dated a day on which it is to take effect. The day on which a by-law is passed does not necessarily form a part thereof, though it may be the practice of some officer of the corporation to mark the day of its passing thereupon. It was thought that the Legislature meant that it should not be necessary to refer to anything extrinsic to the by-law for the purpose of learning when it would or had come into operation. The purchaser of a debenture, for instance, would require to see that it and the by-law under which it was issued were legal, and might on that account require to see when the by-law took effect. In this connection we might also refer to sub-sec. 2 of sec. 619 of the Consolidated Municipal Act, 1894, which requires that every by-law for borrowing money shall provide for the repayment of the loan, and the maturing of debentures to be issued pursuant to the by-law within the probable life of the work or improvement for which the debt is incurred. The rate of interest payable on debentures of

this kind is fixed by the Act at not less than four per cent. per annum. It might be well to note in passing, that the funds the council are authorized to borrow under the act, are not only those necessary for the carrying on of the drainage works, or the portion to be contributed by the initiating municipality when the same is to be constructed at the expense of two or more municipalities, but also those necessary to cover the cost of an appeal, if any, and any amount payable in respect of work on railway lands. Section 53 makes provisions for the including in the debentures issued under the act, the interest on the debentures, in lieu of the interest being payable annually in respect of each debenture. Section 54 authorizes any owner of lands or roads including the municipality, assessed for the drainage work to pay the amount of the assessment against him or them, less the interest, at any time before the debentures are issued, when the amount of the debentures shall be proportionally reduced. This is, in effect, an authority for the payment of a debt in advance, and as an inducement there is a rebate of interest. It is to be observed, however, that the privilege can only be exercised before the debentures are issued. After the issue of the debentures, the debt for the whole amount is contracted, and it rests with the purchaser, who thereby becomes the creditor of the municipality, to say whether he will accept payment of any of the debentures before maturity, and, if so, on what terms as to rebate of interest or otherwise

(To be continued.)

#### Moral Character Not Essential.

One of the judges in Georgia, when the alliance craze was sweeping over the State, requested Judge Griggs to secure through an alliance friend an endorsement for him from the county alliance. This friend introduced at the next meeting a resolution giving a hearty indorsement to the judge in question.

As soon as it had been read, says the Atlanta Journal, one of the alliance men, a backwoods specimen, arose and said, "Brothers, I hev hearn tell that the Jedge's moral karacter were not the best, an' I would like to hear from some brother on that pint, fore I casts my vote."

"Brother chairman," interrupted another member, "I would like to raise to a pint er order. I don't see what moral karacter has got to do with a jedge a fillin' uv his orfis. Whoever hearn tell uv a jedge or a lawyer, either, fer that matter, a havin' of a moral karacter?"

The "pint" was ruled well taken, the judge was indorsed and was re-elected by the alliance legislature.

"I feel sure he loves me," she explained, "but, womanlike, I wish to test him."

"H'm. Does he ever ask you to sing?"

Then noticing her look of pain, the Mean Thing apologized for suggesting an ordeal so drastic.—Detroit Tribune.

## QUESTION DRAWER

SUBSCRIBERS only are entitled to opinions through the paper on all questions submitted 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.

G. Y.—1. If a council appoints a committee to look after the roads and sidewalks, and also appoints a road commissioner to do the work, who has the legal right to buy the stuff to build the sidewalks? If the chairman of the committee bought the stuff, could he be disqualified?

2. If a town has a dog tax to pay for sheep killed, can another man shoot his dog if he goes in his field where his sheep are, if the dog is not worrying the sheep?

1. We are of opinion that if the road commissioner was appointed to do the work only, the authority to purchase the material did not vest in him, but remains on the committee.

2. Section 9, of chapter 214, R. S. O., 1887, provides that any person may kill any dog which he sees pursuing, worrying or wounding any sheep or lamb—if the party shooting the dog cannot justify his conduct under this section. He is liable in damages to the owner of the dog.

G. A. W.—Is there anything exempt from seizure by the collector for taxes? If so, what is it, and where is it mentioned in the statutes?

Section 27, of chapter 143 of the Revised Statutes of Ontario, 1887, provides, that the goods and chattels exempt from seizure under execution shall not be liable to seizure by distress by a landlord for rent in respect of a tenancy created after the first day of October, 1887, except as hereafter provided; nor shall such goods be liable to seizure by distress by a collector of taxes accruing after the said first day of October, 1887, unless they are the property of the person actually assessed for the premises, and whose name also appears upon the collector's roll for the year as liable therefor. See section 2, of chapter 64, of the Revised Statutes of Ontario, 1887, as to goods exempt from seizure under execution.

R. M.—Would you say in next issue, if a railway company through whose land a drain runs and which has been kept open for the purpose of under drainage of the parties interested in said drainage, can compel the railway company to keep the drain cleaned out on their portion of land so as to allow the drain to carry off the under drainage water as when said drain was originally opened and in use?

Our correspondent's question, or at least the facts given by him, are very indefinite. He does not state whether an award was made by an engineer, or an agreement entered into between the parties, pursuant to the provisions of the Ditches and Watercourses Act, and chapter 69, of 53 Vic. Ontario Statutes. If neither of these has been done, the railway company is under no obligation to clean out or keep open the portion of the drain on their lands.

P. M.—Is it legal for township clerk to be treasurer too?

No. These two officers are incompatible.

W. F. B.—A member of a council, otherwise qualified, removes his residence to another municipality twenty-six miles from the municipality of which he is a member. Does this change of residence disqualify him?

If the member referred to were qualified at the time of his election, the mere fact of his subsequent removal from the municipality would not operate as a disqualification.

## Municipal Amendment Act, 1895.

(Continued from last month.)

663d.—Upon the petition of a majority of the ratepayers entitled to vote on money by-laws in any defined area or portion of a police village, representing in value more than one-half of the assessed real property within such portion or area, the township council of the township in which such police village is situate may pass a by-law or by-laws for the purchase of a fire engine and other appliances and the supply of water therefor for the purposes of fire protection, and may by the same or any subsequent by-law define, by metes and bounds or otherwise what real property within such area will be benefited by the proposed fire protection and is to be charged with the cost thereof, and may also by such by-law or any subsequent by-law, make provision for assessing and levying on the real property so defined by the by-law the cost of managing and maintaining the said fire engine and appliances and providing the necessary water supply.

(2) The said council may levy the costs of such engine and appliances and of the water supply upon the real property to be benefited in any one year, or may issue the debenture or debentures of the township payable in annual proportions during a period not exceeding ten years, with interest as to the said council may seem meet and proper, and may levy the amount payable thereon from time to time upon the real property to be benefited as aforesaid.

(3) The police trustees shall have the charge, control and management of the said fire engine and appliances and the said supply of water, and shall annually, before the striking of the rate for the year by the township council, furnish to the council a statement showing in detail the amount required to be levied for the current year for managing and maintaining the said fire engine and appliances and for providing the necessary water supply.

(4) It shall not be necessary to submit any of the said by-laws in this section or in the preceding section mentioned, except the by-law directed to be so submitted, to a vote of the electors, nor to comply with the other formalities required only for or on account of such submission.

(5) Debentures issued under this section shall be so issued in conformity with section 342 of this Act.

36. Section 667 of the said Act is amended by adding thereto the following as sub section 667b:

667b.—(1) Upon the petition of three-fourths of the persons entitled to vote upon a moray by law in any police village, the township council of the township in which such police village is situate may pass a by-law or by-laws for acquiring real property within or without the limits of said police village for a public park garden or place for exhibitions, and for the erection thereon of such buildings and fences as the said council may deem necessary for the purpose of such park, garden or place for exhibitions and for the disposal of such real property and improvements when no longer required for such purposes.

(2) By the same or any subsequent by-law the council may make provisions for assessing and levying on the real property of the said police village, the cost of such park, garden or place for exhibitions, and of the erecting thereon of buildings and fences and of the repairing and maintaining of such improvements, or for the issuing of the debenture or debentures of such township payable in annual proportions during a period not exceeding ten years, with interest for the payment therefor, and for levying of the amount payable on such debenture or debentures from time to time upon such real property.

(3) The police trustees shall have the charge, control and management of such public park, garden or place for exhibition, and shall annually before the striking of the rate for the year by the township council furnish to the council a statement showing in detail the amount required to be levied for the current year for managing and maintaining such public park, garden or place for exhibitions.

(4) It shall not be necessary to submit any of the said by-laws in this section mentioned to a vote of the electors, nor to comply with the other formalities required only for or on account of such submission.

37. Sub-section 3 of section 413 of the said Act, added thereto by section 5 of *The Municipal Amendment Act, 1894*, is repealed.

38. This Act shall be read with and as part of *The Consolidated Municipal Act, 1892*, and shall come into force on the 1st day of June next after the passing of this Act.

In the construction of large school buildings, a janitor's residence is sometimes located in the top flat or some other part not required for school purposes. This is not as it should be. School buildings should not be used to provide janitors' families with homes. It may be a saving of expenses, but the danger of contagion is too great. Local boards of health should see that janitors are not allowed to live in school buildings. It is false economy to act otherwise, and involves a sacrifice of pupils' rights.



**Rules and Regulations for the Government of Common Gaols.**

(Continued from May.)

**GUARDS.**

When six prisoners, or any less number, sentenced for felony, or under the sentence of the Court of Oyer and Terminer and General Gaol Delivery, or the General Sessions, or County Judge's Criminal Court, are employed beyond the gaol walls, they shall be constantly under the supervision of two efficient guards, and for every additional six prisoners, similarly convicted, another guard shall be employed; but where prisoners have been otherwise sentenced, two guards shall be considered sufficient for any number not more than twelve of such prisoners, and one extra guard for every additional twelve prisoners, or less. In cases where it is found expedient, the ordinary turnkeys of the gaols shall be employed for the duty above referred to; but where the disciplinary arrangements of a gaol will not admit of this, the Sheriff shall hire the extra guards required, and fix the amount of their remuneration. Guards shall continuously watch and supervise the prisoners while at work beyond the gaol walls, and shall enforce any rules which the Sheriff, having regard to the special exigencies of the work and its surroundings, may consider it necessary to make for the safe custody of the prisoners so employed.

If the Sheriff considers it absolutely necessary for the safe custody of prisoners employed at works beyond the gaol walls, he shall cause the guards to be furnished with fire-arms; and in the event of a prisoner having attempted to escape, the Sheriff may direct that a ball and chain be attached to the ankle of such prisoner, or that two or more prisoners who may have attempted to escape shall be chained together while going to and from work.

The Sheriff shall cause to be kept by the gaol officials, a proper record, showing the names of the prisoners employed under the foregoing regulations, the time worked daily by such prisoners, the nature of the work, the money received for the labour, and the government or municipality for whom the work was done; and he shall send copies of such record to the County Clerk and the Inspector at the end of each quarter.

**GAOL BUILDINGS AND YARDS.**

No horses, cows, pigs, cattle, poultry, dogs, or other animals shall be kept in the yards of the gaol, or in any part thereof.

No dirt shall be allowed to accumulate in the prison yards, and no wood or material shall be piled against the walls, either outside or inside, and all boards and materials, whether loose or fixed, that can be used as a means of escape, must at once be removed beyond the reach of prisoners.

No portion of the gaol interior or yards

shall be used by a gaol officer for storage or as a workshop for his or her own purposes.

No gaol yard or portion of a yard shall be used as a garden for the purpose of raising roots or vegetables for the benefit of an officer of the gaol; and no trees or shrubs shall be planted in any of the gaol yards, or within ten feet of a wall on the outside.

There shall be privies in every yard of the gaol, and whenever it is practicable these privies shall be used instead of the closets inside the building; and it shall be the special care of the gaoler to see that absolute cleanliness is observed in all the privies and closets, and that they are kept constantly flushed with an abundant supply of water.

Wherever padlocks have to be used for securing outside doors or gates, or interior ward gates or doors, and such padlocks require to be renewed, the new padlocks shall be of the pattern known as the "Scandinavian" gaol lock, of not less weight than 2 lbs. 6 oz. to each lock; and the keys of all yard gates, and of gates and doors leading from the gaol yards, shall be in the continuous possession of the gaoler.

CONCLUDED.

It is sound opinion constructed by intelligence, rather than multitudinous opinion, that takes the force of law. In this is our safety. The schools are worth vastly more than they cost, in securing this result.

# IMPORTANT BOOKS

FOR

## Mayors, Reeves, Councillors and Municipal Officers

*Jones' County Constables' Manual*

OR HANDY BOOK.

Compiled from the Criminal Code, 1892-3, with schedules of fees, crimes, and punishments. The court and jurisdiction, all in such a compact form that it can easily be carried in the pocket. The book is excellently printed, and bound in red and gold. Just the book required by a constable; and very useful to a magistrate. The work is correctly compiled from the Criminal Code. Price 75 cents.

*Harrison's Municipal Manual*

5TH EDITION.

This book should be on the Council table in every municipality in the province. The notes and explanations in reference to all important sections of the Municipal Acts make it a valuable assistant to Councillors, who desire to discharge with the true intent and meaning of the various Acts, with which they have to deal. The numbers of the sections of the Municipal and Assessment Acts are the same as in the Consolidated Acts of 1892. Price, \$7.00.

*the New Conveyancer*

BY H. A. O'BRIEN, BARRISTER.

Has been prepared with great care and research, and embodies important changes not made in any other Conveyancer published. The forms are concise, but complete, useless verbiage being omitted. Full explanations are given, so as to make each form adaptable to varying circumstances. It can safely be used by students and others unfamiliar with legal terms. Bound in half calf, price \$3.75.

*Clark's Magistrates' Manual*

3RD EDITION

REVISED, ENLARGED AND IMPROVED.

In the preparation of this edition of the Manual, the English and Canadian Cases decided since the publication of the last edition are all noted, together with the numerous changes of the Statute Law and Criminal Code of 1892.

To Justices of the Peace, Mayors, and Reeves who find it necessary to act as a Magistrate in their municipalities, this book will be found very useful and save them the trouble of looking up and interpreting the Statutes in complicated cases. Price, \$5, leather.

*The Canadian Lawyer*

2ND EDITION.

It contains just what you want to know. It is reliable, being compiled by a Lawyer in active practice. It is practical, and contains those points arising most frequently in every-day life. It contains over 225 forms, which alone are worth more than the price of the book. Price, in cloth, \$1.50.

*The School Law of Ontario*

Comprising the Education Department Act, 1891; The Public Schools Act, 1891; The Act respecting Truancy and Compulsory School Attendance; The High Schools Act, 1891; and the amending Acts of 1892 and 1893; with Notes of Cases bearing thereon; the Regulations of the Education Department; forms, etc.

Price, bound in half calf, \$5.50; price, bound in English cloth, \$4.50.

**Drainage Laws.**

CONSOLIDATED in one book, neatly bound in cloth, complete index.

The Drainage Act, 1894  
The Ditches and Watercourses Act  
The Tile Drainage Act. } PRICE 30 CENTS

Address with price enclosed to THE MUNICIPAL WORLD, St. Thomas

# Municipal Debentures Wanted

THE UNDERSIGNED IS DESIROUS OF PURCHASING ALL

## DEBENTURES OF Towns, Villages, Townships and Counties

As they are issued (no matter for what purpose), and will pay the very highest prices for them. MUNICIPAL OFFICERS will kindly bear this in mind and write, sending particulars and copy of By-laws, &c., at any time they are issuing debentures for sale. Money to loan on first mortgage at very lowest rates of interest. Any assistance required in making the necessary calculations for insertion in by-laws in connection with the sinking fund, etc., will be gladly given.

**GEO. A. STIMSON,**

**9 Toronto Street, Toronto, Canada.**

**FOR JUNE** ↩

Books—100 Orders on Treasurer, suitable to carry in the pocket, 50c. each.

Tile Drainage Act forms

Ditches and Watercourses Act forms

Drainage Act forms

Collectors' Bonds

Collectors' Rolls

Declarations of Office

Blank Books and Stationery Sundries to order.



Catalogue on application.

Address all orders to

*The Municipal World, St. Thomas*

**W. M. DAVIS,** **W. F. VANBUSKIRK,**  
M. C. S., C. E., O. L. S. A. M. CAN. SOC., C. E., O. L. S.

**DAVIS & VANBUSKIRK**

SANITARY, CIVIL AND HYDRAULIC  
ENGINEERS,

**WOODSTOCK and STRATFORD**

DRAINAGE, SEWERAGE, SEWAGE  
DISPOSAL, WATERWORKS, WATER  
PURIFICATION, and WATER POWER.

*Cases of damages resulting from pollution  
of streams or improper construction of  
drains examined and reported on.*

**MUNICIPAL MEN**

*Look Here!*

Do you know the merits of the BAER Patent Bridge? If you do not you are standing in your own light, because you could save money for your municipality. Our Bridges will last forty years if taken care of. Common sense convinces the most sceptical. The sun shines on them the year round, and happy are the rate-payers who have them. Correspondence solicited.

**B. BAER & CO.,**  
Builders

DOON, ONT.

**A. W. CAMPBELL**

O. L. S., C. E., A. M. C. S., C. E.

Examinations, surveys, designs, specifications, estimates for waterworks, sewerage systems, sewage disposal, municipal drainage, reclamation, expert tests.

Reports made on all classes of municipal work

Electric light, electric street railways.

Improvement of Highways  
and Streets

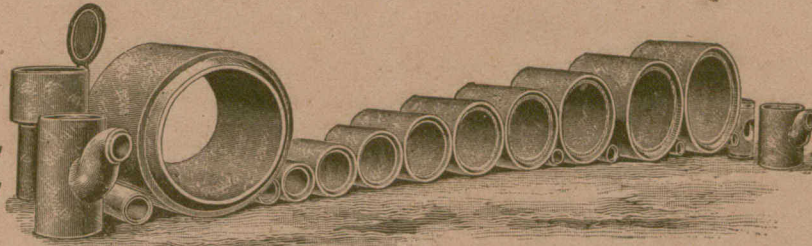
Clarification of turbid water for public supply by chemico-mechanical filtration.

ST. THOMAS - ONTARIO

# .. CULVERT PIPE ..

North's Patent

Plain Street Gully  
Water-trap Street Gully  
Double-tap Street Gully



North's Patent

Water-trap Catch or Slop  
Basin, suitable for  
Hotels and  
Private Houses.  
Automatic Valve and  
Grate for Street Gullies

## Portland Cement, Concrete, Stone, Culvert and Sewer Pipe Well-curbs, Manholes, Cold Air Pipes for Furnaces

These Pipes filled with Concrete are suitable for posts, for frame houses, verandah posts and for barns. Large size pipe will take the place of small bridges or large culverts and are suitable for chimneys in frame houses.

To Municipal Councillors and the Public Generally:

PORTLAND CEMENT, CONCRETE, STONE, CULVERT AND SEWER PIPE ARE WANTED IN EVERY CITY, TOWN AND TOWNSHIP AND IN EVERY PART OF THE DOMINION OF CANADA, WHEREVER SEWERS, CULVERTS, GULLEYS AND DRAINS ARE NEEDED.

When properly made and set, they will resist the action of the frost. The longer they are in the ground the harder they get, and the very conditions which they undergo as a sewage carrier are the best possible, both for their present and ultimate hardening. The concrete from which these pipes are made is a chemical composition, which is certain to increase in hardness by its laws of continuous crystallization. Frost has no effect whatever on concrete sewer pipe. This is positive and we can refer to hundreds of parties who will testify that frost has not in the slightest injured cement pipe that has been laid under their immediate observation for years and in the most trying places. We make and sell large quantities of culvert pipe for use under railroads and wagon roads. A road culvert is the severest test a pipe can be put to, as it being open at both ends, there is always a strong draft through it, the dampness of the ground lowers the temperature, and in cold weather freezes harder than any other point. We have furnished pipe for hundreds of culverts and the testimony of road authorities is unanimous in favor of our pipe. Any sewer pipe that will not resist frost should be at once condemned, as in irregular ground, the pipe in some points of its length will be near the surface, where the severe frost of our northern winters will, in time, destroy it, unless it is the very strongest and most compact.

### PATENT RIGHTS FOR SALE

Concrete Culvert and Sewer Pipe can be manufactured in any part of the Dominion of Canada wherever the raw materials are suitable in the locality. Patent rights for sale, apply to E. NORTH, London, Ontario.

We, the undersigned, have seen the "PORTLAND CEMENT CONCRETE STONE SEWER PIPE," manufactured by E. North, London, Ont., and have had some experience of their use, and would recommend them to municipal councils and the public generally, as suitable for sewers and culverts, where strength, durability and economy is desired:

Joseph Marshall, M.P., Ex-Warden, County of Middlesex  
Thomas Duffin, Ex-Warden, County of Middlesex  
Robert Boston, M.P., Ex-Warden, County of Middlesex  
T. E. Robson, Ex-Warden, County of Middlesex  
Matthew Day, Ex-Warden, County of Oxford  
F. B. Talbot, Bridge Commissioner, County Middlesex

William Robinson, Ex-City Engineer, London  
Robert Ironside, Assistant City Engineer, London  
W. G. Smith, Roadmaster, G. T. R.  
John Law, Inspector, G. T. R.  
John Corrie, Road and Bridge Inspector, County Perth  
D. McKenzie, Ex-M. P., Westminster

### PRICES at Factories in London and St. Thomas

4 inch.. 10c. per foot	12 inch.. 35c. per foot	24 inch. \$1.25 per foot
6 inch.. 12 1-2c.	14 1-2 inch. 55c.	30 inch. \$1.75
8 inch. 20c	18 inch. 65c	36 inch. \$2.50
10 inch. 25c	21 inch. 95c	48 inch. \$3.75
	48 and 53 inches Within made to order.	

AT THE WESTERN FAIR, 1892, THE CONCRETE, CULVERT AND SEWER PIPE EXHIBIT WAS AWARDED SILVER MEDAL.

## Ebenezer North, Manufacturer

LONDON

Works corner Mt. Pleasant and Talbot Sts.  
TELEPHONE :  
Works 849.

ST. THOMAS

Works, Elm Street, on Port Stanley Railroad near  
Fair Grounds  
Telephone 228.

LONDON

OFFICE :  
Corner Grosvenor and Wellington Sts.  
Telephone 837.

# DOMINION BRIDGE CO., LTD.

(SUCCESSORS TO TORONTO BRIDGE CO.)

MANUFACTURERS OF

Iron and  
Steel Bridges



ST. LAWRENCE RIVER BRIDGE, CANADIAN PACIFIC RAILWAY, LACHINE, P. Q.

Railways and Highways  
Iron Bridges, Turntables  
Iron Piers and Trestles  
Bridge Roofs  
Right and Left Hand Sleeve Nuts  
and all kinds of  
Structural Iron Work.

The cost of Metal Bridges for a term of years, is less than the cost of building repairing and replacing wooden bridges, and believing the only reason so many bridges are still built of wood to be that those who are charged with the duty of contracting for them are not aware how little difference there really is in the first cost of a good Iron or Steel Bridge and a well-built wooden one, of equal strength, we are at all times pleased for an opportunity to quote prices to officers of counties, cities and townships, so that they may intelligently compare the cost of metal and wooden bridges. To enable us to name prices closely we need information on the following points: Number of spans and length of each span. Width of roadway and number and width of footways and sidewalks. Kind of Lumber to be used for floor joists and plank and its value. Name of nearest R. R. Station and distance of bridge site from station. Depth of water at ordinary level and height of floor above water. Also strength and capacity of bridge required, if any particular strength has been determined on; or a general statement as to the nature of travel over the bridge; whether on a country road, a well-ballasted turnpike, or located in a village or city, and subject to heavy loads.

**WORKS: LACHINE LOCKS, P.Q. OFFICE: 20 St. Alexis Street, MONTREAL, P.Q.**

Address Inquiries in Response to this Advertisement, to

**DOMINION BRIDGE COMPANY, LTD., Montreal, Que.**



Waterwork's Office

HAMILTON, ONT., January 17th, 1895.

To His Worship, the Mayor, Owen Sound, Ont.:

DEAR SIR,—I have the honor of informing you that the Vitrified Sewage Pipes manufactured in this city by "THE HAMILTON & TORONTO SEWER PIPE CO." are the only ones that have been used by our City Corporation for over 20 years, during which time MANY MILES have been laid. The pipes now manufactured by that Company are not second to any that I know of, a vast improvement having been made since the factory was established, over thirty years since. I have no hesitation in recommending these pipes for the sewerage of your town, feeling that they will give you entire satisfaction, as they do here. I am, dear sir, yours truly,

WM. HASKINS.