

The Municipal World

Published Monthly in the Interests of Every Department of the Municipal Institutions of Ontario—the Best in the World.

Vol. 4. No. 8.

ST. THOMAS, ONTARIO, AUGUST, 1894.

Whole No. 44.

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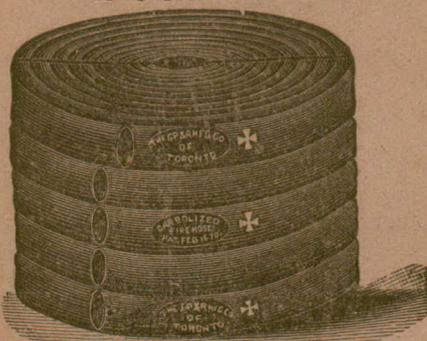
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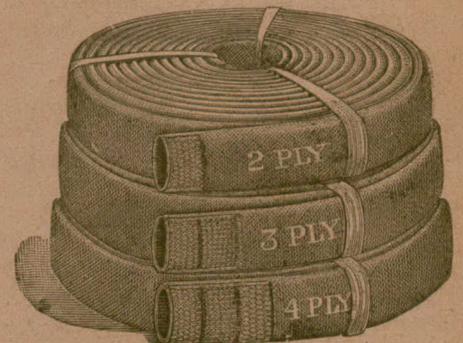


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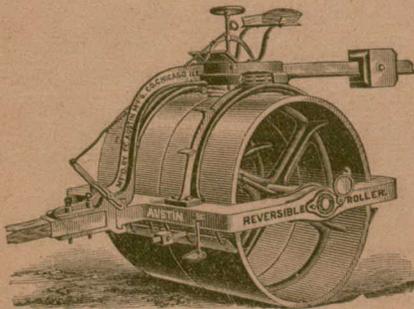
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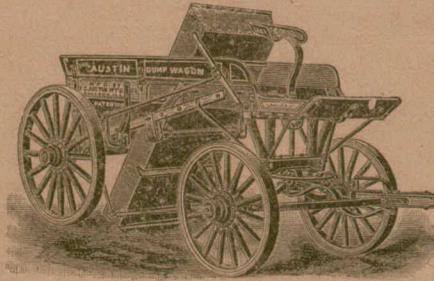
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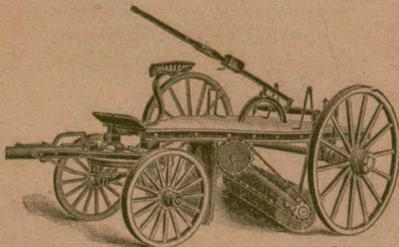
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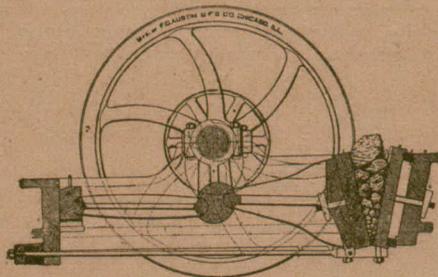
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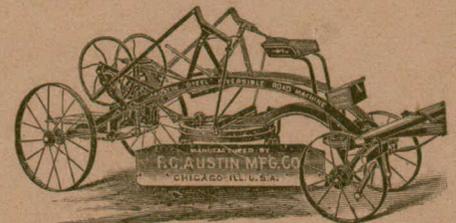
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THE MUNICIPAL WORLD

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CALENDAR FOR AUGUST AND SEPTEMBER, 1894

Legal, Educational, Municipal and Other Appointments.

AUGUST.

1. Last day for decision by Court in complaints of Municipalities complaining of equalization.—Assessment Act, section 79.
- Notice by Trustees to Municipal Councils respecting indigent children due.—P. S. Act, section 40 (7); S. S. Act, section 28 (13).
- Estimates from School Boards to Municipal Councils for assessment for school purposes due.—H. S. Act, section 14 (5); P. S. Act, section 40 (8); section 107 (10); S. S. Act, section 28 (9); section 32 (5); section 55.
- High School Trustees to certify to County Treasurer the amount collected from county pupils.—H. S. Act, section 14 (5).
- High School Trustees to petition Council for assessment for permanent improvement.—H. S. Act, section 33.
11. Last day for service of notice of appeal from Court of Revision to County Judge in Shuniah.—Assessment Act, section 68 (2).
15. Last day for County Clerk to certify to Clerks of local municipalities.—Assessment Act, section 85.
- Meeting of Executive Health Officers of Ontario at Chatham.
- Last day for Overseer of Highways to return as defaulter, to Clerk of municipality, residents, non-residents, owners, etc., who have not performed statute labor.—Assessment Act, section 101.
- Last day for receiving appeals against the High Schools Entrance Examination.
20. Rural, Public and Separate Schools open.—P. S. Act, section 173 (1); S. S. Act, section 79 (1).
25. Applications for admission to County Model Schools to Inspectors due.
27. High Schools open, first term.—H. S. Act, section 42. Public and Separate Schools in cities, towns and incorporated villages open.—P. S. Act, section 173 (2); S. S. Act, section 79 (2).

SEPTEMBER.

3. County Model Schools open.
14. Last day for Judge to defer judgment in appeals from Court of Revision for Shuniah.—Assessment Act, section 68.
15. County selectors of Jurors meet.—Jurors Act, section 13.
20. Clerk of the Peace to give notice to Municipal Clerks of number of Jurymen required from the Municipality.

* NOTICE *

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

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The Municipal World.

PUBLISHED MONTHLY

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COMMUNICATIONS. Contributions of value to the persons in whose interests this journal is published, are cordially invited. Those for next issue should reach the office of publication not later than the 20th of the month. Address all communications to

K. W. McKAY, EDITOR,

Box 1252, St. Thomas, Ont.

ST. THOMAS, AUGUST 1, 1894.

Municipal Statistics.

A most interesting volume of statistics of Ontario municipalities will shortly be issued: We have had the pleasure of looking over some of the advance sheets and find in 1890, the last year for which the returns have been completed, that \$779,028. was expended in township municipalities for roads, bridges and other works, that these municipalities contributed \$67,469 for the support of the poor and other charities, and for schools and education \$1,884,569.00. The total municipal and school taxes collected during the year to pay the above, as well as other municipal expenditure, amounted to \$4,563,863.00.

In the town and village municipalities the sum of \$2,232,456.00 was collected for municipal and school taxes; \$596,594.00 was expended on streets, bridges and parks, while \$40,478.00 was contributed to the support of the poor and other charities, and \$908,108.00 was the expense incurred on account of schools and education.

In city municipalities taxes amounting to \$3,945,508.00 were collected; \$2,282,089.00 was expended on streets, bridges and parks, and the support of the poor and other charities cost \$123,902.00, and the payments of the cities for schools and education amounted to \$993,699.00.

During the same year county rates amounting to \$1,312,795.00 were collected, of which \$225,913.00 was expended on roads and bridges. The administration of justice, gaol maintenance, etc., cost \$4,384.53, and the support of the poor and other charities cost \$56,678.00. The grants to schools and other payments for education amounted to \$427,510.00.

When all of the Ontario municipalities are considered, the total municipal and school taxes collected in 1890 amounted to \$10,741,827.00, and during the same year interest was paid on \$7,414,270.00, being the amount of money borrowed for current expenses. The sum of \$64,132.00 was paid to members of councils for attendance at meetings and committees; in addition to this the sum of \$669,050.00

was paid to officers and employees under the head of salaries, allowances and commissions. The total expenditure on roads bridges, streets and parks amounted to \$3,883,624.00. and the support of the poor and other charities cost on the aggregate \$288,527.00.

The largest item of municipal expenditure is on account of schools and education, the grand total being \$4,213,856.00.

To a student and municipal reformer statistics published in a form as convenient as that before us cannot help but be of great assistance. There is hardly a question of expenditure that municipal councils have to consider, concerning which they cannot obtain some valuable information, by an intelligent reference to the volume of municipal statistics, shortly to be placed in their hands.

How Public Charities Are Aided.

The apportionment of Government aid is made under the provision of "The Charity Aid Act" of 1874, and all the institutions entitled to a grant under its provisions are treated alike. They are provided for, under three classes, viz: (1) hospitals, (2) houses of refuge and (3) orphan asylums. The grant of public money to the first of these is made on the basis of 20 cents for each day's actual treatment of every patient in the institution, to the second on a basis of 5 cents for each day's lodgment and maintenance of an indigent person, and to the third on the basis of 1½ cents for each day's lodgment and maintenance of an orphan and neglected abandoned child, reckoned in each case on the number of inmates in the several institutions during the previous calendar year. And with the view of encouraging contribution by municipalities and from other sources, the act also further provides that further aid upon the same basis may be given of 10 cents to hospitals, 2 cents to houses of refuge, and 1½ cents to orphan asylums; but so as to not exceed one-fourth of the amount contributed from other sources in the preceding year.

All institutions in receipt of aid under the charity aid act of Ontario are subject to inspection from time to time by the inspector of prisons, who is authorized to make all proper enquires as to maintenance, management and affairs thereof, and to particularly satisfy himself by the examination of registers and other means as to the correctness of returns made under the act, and to report to the Government. The annual return for each institution is made by its officers according to forms prepared by the Government.

The introduction of the Torrens' system of land transfer is making slow progress in Ontario. A few counties have passed by-laws adopting the system, but so far few, if any, applications have been received for a Torrens' title outside of York

or Toronto. The first expense is no doubt the cause of this, but we believe that in the near future loan companies and other financial institutions dealing in real estate will insist on Torrens' titles for property coming into their hands.

Municipal Fire Insurance.

The committee of the city council appointed to investigate the subject of insurance rates for Toronto reports upon a plan which, upon the average fire loss records of the past eight years at one-half the usual premium rates, would save to the city the annual cost of the whole fire brigade, \$161,535.00; two salvage corps, \$15,000, and additional fire plant, \$10,000, besides a cash surplus of \$73,452.71. If it saved nothing at all, and only reduced the premiums a fraction of the rate used as a basis of calculation, it is worthy of most careful consideration and an early practical experiment. And as a result the corporation will, at the next session of the Legislature, apply for power to establish a civic insurance bureau. In Ottawa, St. Thomas, Brantford and other cities keen interest is being taken in the Toronto departure because people there are suffering from the same injustice to which our citizens have for so long been subjected. It is not unreasonable, therefore, to expect assistance from those cities in carrying out the policy for which many councils have declared. But the main hope for success will rest upon the patron members of the Legislative Assembly. The mutual idea has always been popular in the townships, and the representatives of organized agriculture can hardly refuse to entertain a proposal that Toronto shall push that idea to its fullest limit. It is far from being settled that the Legislature will turn a deaf ear to the petition. On the contrary there is an excellent prospect that it will be granted.

There was quite a crowd around a coal hole in the sidewalk, and it was soon learned that a lady who was passing had stepped into the uncovered hole, and they were getting her out. She was not hurt in the least, but rather frightened and dusty. A male relative who accompanied her was executing a series of gymnastics around her.

"Sure you're not hurt Addie?" he asked anxiously.

"Not a bit, Richard."

"No sprained or broken bones?"

"Not one. You see I was caught by a man who was passing, and that saved me from being hurt."

"Where is the officious wretch?"

"Richard he is my deliverer!"

"Deliver nothing! If you had just broken one little bone we could have sued the city and recovered \$10,000 damages."

County Poor-Houses on the Cottage Plan.

—BY—

A. M. ROSEBRUGH, M. D.,

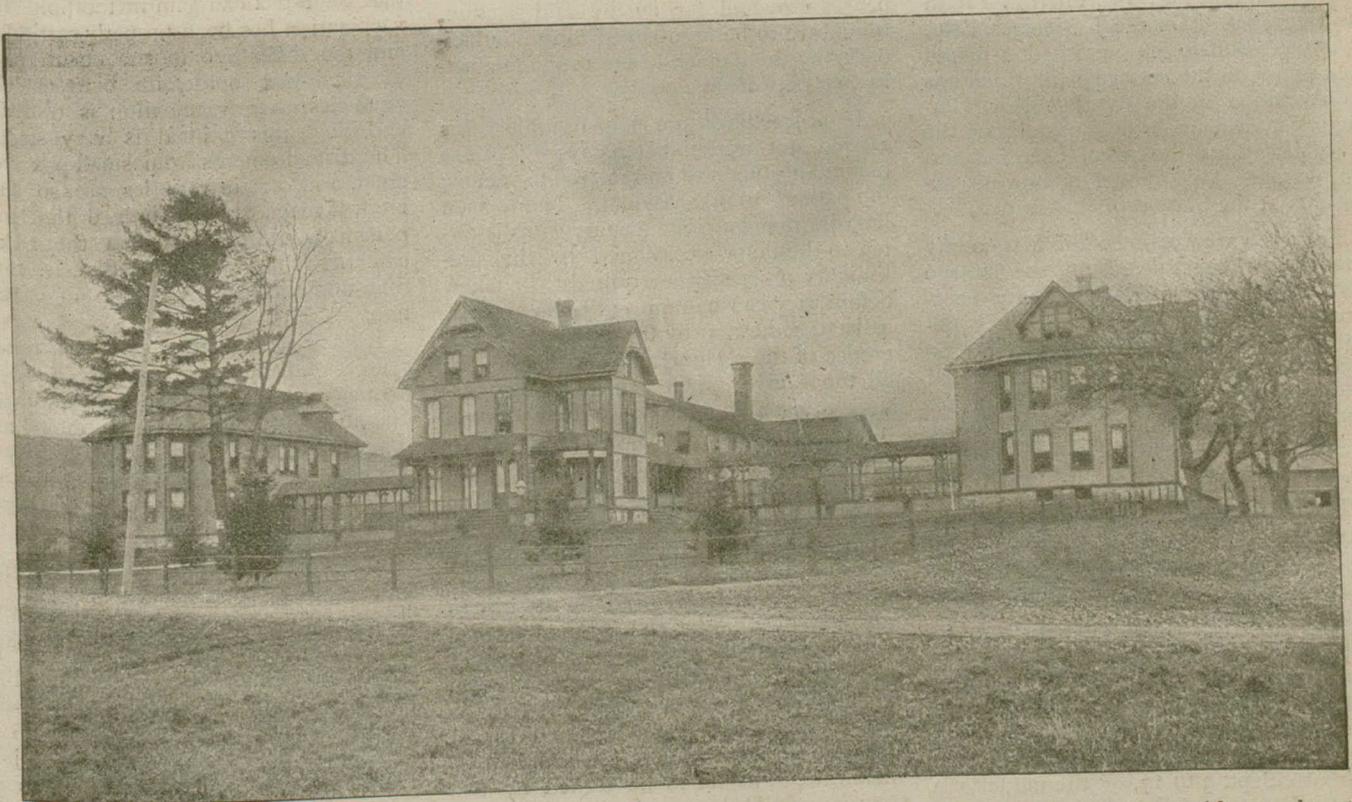
Secretary Prisoners' Aid Association.

The Editor of THE MUNICIPAL WORLD has done, and is still doing, a valuable service to the Province by the publication of articles on the construction and management of county industrial homes or houses of industry. Some one has said, and perhaps with as much truth as humour, that the degree of civilization of any country can be very accurately gauged by the amount of soap used by the community. However, this may be, I believe it is a recognized fact that the degree of civilization and enlightenment of a community can be gauged very accurately by the provision made for the care of the destitute poor. It is a pleasing sign of the times that at the present moment a num-

question in this way: We found that in those counties where there is no industrial home, the jail is made to do duty as a poor-house. This is a double evil, firstly it causes over crowding of the jail and prevents a proper classification of prisoners, and, secondly, it is a gross wrong to the indigent poor, many of whom are honest and respectable people. The practice, we believe, to be out of harmony with the spirit of the age, with our common humanity and with the dictates of religion.

Under these circumstances, and especially in view of the fact that several of the counties are just now moving in this important matter, it occurred to me that an article on the cottage system or poor-house construction would be timely, and might be read with interest in those counties where the establishment of an industrial

new home, and also that the construction of the farm house is such that it can be used both as a residence for the keeper and as the executive building, and let us suppose farther, for the convenience of description, that said farm house faces the south, and also that the barn is to the northeast of the residence. In this case, for the purpose of establishing the industrial home, we would proceed as follows, viz.: The cottage for the men would be located to the east of the residence, while the cottage for the women would be located on the west side. The building for the kitchen, male and female dining-rooms, &c., would be located in the rear or on the north side of the residence. This latter building would be 15 or 20 feet distant from the residence, while the cottages would be 25 or 30 feet distant. From the rear of the residence a covered



ber of the county municipalities are moving in the direction of the erection of a county industrial home, "or poor house," as they are called in the United States. In this respect, however, our neighbors across the line are in advance of us in Canada. I believe in nearly all the Northern States, all the counties, with very few exceptions, are provided with poor-houses. Thus, for instance, in the State of Illinois out of 102 counties all but four have poor-houses. In the State of New York all but two of the counties have poor-houses, and in the State of Ohio each one of the 88 counties has a poor-house. In the comparative small State of Michigan there are 71 poor-houses, whereas in Ontario we can boast of only 10.

Our society—that is the Prisoners' Aid Association—became interested in the

home has been decided upon.

Since my attention has been specially directed to this question I have had extensive correspondence with members of the State Boards of Charity and Correction in the United States, and I find that although the cottage system has not yet been adopted, except in one or two counties, the concensus of opinion is decidedly in its favor. In cases where new poor-houses are built, I have no doubt preference will be given to the cottage system. The cut presented herewith does not do full justice to the cottage system, but it was the only one available.

For the purpose of making the matter as simple as possible let us suppose that the county municipality has purchased a farm for an industrial home; that the farm buildings occupy a good position for the

way, one story high, would extend east to the cottage for the men, west to the cottage for the women and north to the dining-rooms and kitchen. The covered way extending north to the dining-rooms would be divided by a partition, and there would be two dining-rooms, one on the east side for the men, and one on the west side for the women. The kitchen would be on the north side of the dining-rooms, and the laundry and boiler-house would be in the rear of the kitchen. The space over the dining-rooms and kitchen could be used as a chapel.

The cottages should be only two stories high, and there should be no basement. My object in designating the eastern cottage (the cottage for the men) is for the simple reason that in the case supposed the barn is located to the northeast of the

residence. By this arrangement, both the barn and the men's cottage would be to the east of the residence. This is a matter of no slight importance as it is imperative that the two sexes should be kept absolutely separate. With the men's cottage east and the barn to the northeast, the men in passing to and from the barn do not pass in the vicinity of the cottage for the women. The women would of course have a yard to themselves to the west and north of the dining-rooms, so that the strict separation of the sexes would be carried out both indoors and out of doors.

The State of New York is taking the lead in the introduction of the cottage system. The Hon. W. P. Letchworth, L. L. D., for many years an active member of the State Board of Charities and Correction, and also the Commissioner for the Eighth District, has spent several years in the study of the poor-house question, both in Europe and in America. With the assistance of George J. Metzger, Esq., architect, Buffalo, he designed a model poor-house on the cottage plan, which was on exhibition at the World's Fair, Chicago, last year, under the auspices of the New York State Board of Charities and Correction. This model is now on exhibition at the State capital, Albany.

Fig 1 is a view of one of the first county poor-houses constructed on the cottage plan, namely, the Allegany County poor-house, in Western New York. It is designed to accommodate 80 inmates. Although it is constructed on the broad principle of the cottage plan, it does not include all the good features represented in the model poor-house above referred to.

In my next article I propose giving a ground plan of the cottage system and pointing out the many advantages the cottage plan has over the old style of county poor-house.

[The Prisoners' Aid Association of Canada are endeavoring to make arrangements with the State Board of Charities and Correction of the State of New York for the exhibition at the Industrial Fair, Toronto, Sept. 3 to 17, of the model of a county house of industry on the cottage plan. If they are successful they will be pleased to have it inspected by all persons interested in county houses of industry or industrial homes.—Editor.]

Under section 101 of the Assessment Act, provision is made for the return of statute labor lists before the 15th of August, and the clerk is required to enter the commutation for statute labor against the name of every resident, owner, tenant or occupant entered upon the assessment roll, who has made default in performing statute labor, or in payment of the commutation of the same. To make this complete, notify all pathmasters who have not made returns, to do so at once. This notice should be issued after the 1st of August.

Indigent Lunatics.

In some counties the practice of confining lunatics in the county gaol interferes seriously with the accommodation therein provided for prisoners. Many of these are, no doubt, fit subjects for asylum treatment, and have been committed as dangerous.

The committal of lunatics to gaols is a matter that should, we think, be considered by the heads of municipal councils as provided in section 11, chap. 245, R. S. O., which provides that when an insane person is in destitute circumstances and is a fit subject for asylum treatment, application may be made to the head of the municipality for a medical examination of the person. The reeve or mayor is then required to notify two medical practitioners to make an examination. The local council have to pay all the expenses provided for in the said section, which are to be reimbursed to the municipality by the county, where the municipality is a part of the county.

If proceedings are taken under this section, not more than ten days will elapse before an order will be received to remove the patient to the asylum. The reason lunatics remain in the county gaols is owing to the delay occasioned by the preliminary proceedings required to be taken before they can be removed to an asylum, assisted somewhat by the apparent indifference of the asylum authorities, who, at all times, give preference to the applications received in reference to those who are not in any public institution where they can do no harm.

In the case of an application to the head of a municipality where the lunatic is not dangerous, the reeve should at once write to the medical superintendent of the nearest asylum, stating that he desires to make application for the admission of a lunatic under the provisions of section 11 referred to. He will then receive the preliminary papers which are required to be filled out. These, when returned to the asylum, are examined, and if satisfactory, medical certificates to be signed by two physicians will be received with instructions to remove the patient to the asylum within ten days. In the case of dangerous lunatics, application may also be made to the head of the municipality, who should proceed the same as in ordinary cases, and if the person is so dangerous as to require to be locked up, an information should be laid before a justice of the peace and the lunatic remanded to the gaol or lock-up for safe custody pending enquiry. Where this is not convenient he may be placed in the charge of the constable arresting him. This is provided for in section 14 of the Act referred to. In this way he may be remanded or otherwise detained from time to time until the certificates are received from the asylum when he may be removed the same as in ordinary cases.

We know from experience that this system works satisfactorily, so much so that in counties where this is adopted, all of the lunatics are cared for by the proper asylum authorities, thereby relieving the county of an item of expense which is very large in some counties.

Almost a hundred years ago Jenner accidentally discovered a means of sure and perfect protection against that loathsome disease, small-pox, and yet in his own country, in England, and elsewhere there is a society of so-called anti-vaccinationists, who in every way oppose vaccination as being dangerous to the health. In all this time vaccination has progressed, until almost every civilized country compels its subjects to be vaccinated and employs physicians to regularly visit and perform the operation when necessary.

Reliable statistics conclusively prove that small-pox can gain no foothold where vaccination has been properly carried out, and the difference in the occurrence of small-pox epidemics between those countries where vaccination is obligatory and where it is optional is very striking. The disfigurements from small-pox are so great, and certain varieties are so surely fatal, it seems strange indeed that many persons would prefer to run the risk of catching this loathsome disease rather than undergo the trivial pain of vaccination.

If the virus be obtained from reliable sources and the physician be cleanly in his performance of this most important operation, the chances of introducing disease into the system are practically nil. Persons should seek vaccination rather than be forced to it by laws and orders of local boards of health.

Some time ago the town of Chatham and county of Kent had an arbitration to decide amount of expenses of administration of justice to be paid by the city. The county authorities took up the award and now the county has issued a writ against the town for the payment of fees to the arbitrator, the stenographer and the jailor in arbitration amounting in all to nearly \$400. The town will defend the action.

The Ditches and Watercourses' Act forms supplied through THE MUNICIPAL WORLD office are giving entire satisfaction. They are complete in every particular and clerks requiring them cannot do better than take advantage of our offer of 300 assorted for \$5.00. This is cheaper than they can be procured for a printer. As many are no doubt in favor of procuring the forms in their own locality, we would suggest that they refer our advertisement to their township printer or stationer, and request them to write us for trade prices, and mention the quantity of blanks required. In this way all will benefit. Orders for blanks received by mail or telegraph will be attended to promptly.

ENGINEERING DEPARTMENT.

A. W. CAMPBELL,
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Taxes are paid for public improvement. These taxes are mostly expended through township, village, city and county authorities. In most townships the the councillors are the officials who expend the largest part of that portion of the public taxes invested in bridges. Civil engineers, unfortunately, have had but little opportunity in the past to influence the selection of improvements in the line of highway bridges. A few years ago the large majority of those in ordinary practice gave little attention to the subject of iron highway bridge designing. This was mainly because the question was a new one and because the methods of practice were so constantly changing that engineers, as a class, had no opportunity for being informed. Added to this was a lack of demand for their services on the part of public officials, and it must be confessed, something of a spirit of hostility towards civil engineers on the part of the contractors.

Though, however, instances are not wanting where engineers, as superintendents, have influenced the construction of numerous first-class stone arches and iron highway bridges, yet it is the contractor—and by the term contractor I mean manufacturer and contractor combined—who has been the agent for the introduction of perhaps four-fifths of all the iron highway bridges in the province. In this introduction he has performed his full share of exertion—exertion of tongue, of mind and of muscle. He has visited the locality where a new bridge was needed; he has argued with the councillors and leading tax-payers, and pictured the advantages of a permanent bridge as against the poorly-built, old fashioned, perishable, wash-away-able structure, in which the taxes of the past had been invested. He has, at his own expense, taken officials to see iron bridges, and has given the editor of the local paper some reason to be in favor of better public improvements. He has influenced the passage of laws giving more authority to the town councillor. He has issued circulars by the ten thousand, indicating the advantages of permanent bridges and incidentally alluding to the powers and duties of municipal officials in such a way that the meaning of the law has been made manifest. He has helped carry suits into court in order to assist in making plain the intention of the statutes, and has then published the results as widely as possible. He has furnished printed blanks to guide the officials, attended their meetings, made estimates of costs without number, and has left no means untried to introduce his wares, lowering himself, it may be, nearly to the level of an ordinary peddler in his anxiety to give the public the benefit of the best modern improve-

ments. Even if a competitor has in the end secured the coveted contract, he has captured his full share of the prize going, and has perhaps gathered quite his own proportion of the harvest.

As a matter of course he has done all this from the low motive of self-interest, and in its performance he has made many mistakes. He has been, most of the time, a pioneer in a business which has at last become well understood, but which has groped its way through a long period of peculiar uncertainties. These mistakes have sometimes been rectified at the cost of the manufacturer, but in many cases the manufacturer has dropped out of the race, his place to be taken by a more practical party offering an improvement, studied up from the failures of the past.

Engineers can best serve themselves and the public by exerting themselves to the utmost of their knowledge towards creating a demand for the best structures. All streams should be bridged in the most substantial manner possible. Whenever practicable, bridge abutments should be constructed of the best stone masonry, and we recommend iron tubes filled with concrete, iron bents, posts or piles, as ranking next to masonry. Whenever neither of these foundations can be used on account of their cost, we advise the use of red cedar, oak or spruce piles, or bents, in the order named. For bridge superstructure we advise the use of stone arches and iron bridges whenever they can be afforded, and we suggest that in order to improve our bridges, while endeavoring at the same time to improve our roads, it will be best to give very careful consideration to the economy of stone and iron bridges as against those of perishable material. It is not safe for the public to rely on receiving its money's worth without the assistance of an expert, and yet, as a matter of fact, there are on record a vast number of instances where contractors, who as a class are as good as ordinary human beings, have, when the officials were unassisted by expert talent, actually advised and carried out the very best possible expenditure of public funds at the very least margin of profit; but this should not be allowed to stand in the way of the general proposition, that the public has a right to demand of its councillors that they call to their aid, educated, impartial, competent, well-trained experts when important permanent improvements are undertaken.

This demand is founded on reason, and is, therefore, right, as a little reflection will show. The building of an important bridge is, in most places, an extraordinary event, generally coming up after the councillors are elected and it is reasonable to suppose them, in many cases, ignorant of the best way to proceed to purchase, in the legal manner, the best bridge called for by the circumstances of the case. I wish, therefore, as strongly as possible, to urge on the public to demand of their officials when building important bridges,

that they purchase, and pay liberally for the services of well-trained engineers, and to insist that both sub-structure and super-structure be constructed on well known scientific principles. The more stringent the requirements of these engineers, the more probable is it that all contracts will be finally placed in the hands of contractors or manufacturers possessed of the best facilities for carrying out the most stringent specifications.

In this manner will our mutual interests be advanced, while at the same time the tax-payers' interests will be better attended to, and the councillors will be partially relieved of a responsibility which very few of them have any desire or ability to bear.

Road Metal.

The materials employed for a macadamized road should be both hard and tough. Hardness is that disposition of a solid which renders it difficult to displace its parts among themselves; thus, steel is harder than iron, and diamond almost infinitely harder than any other substance in nature. The toughness of a solid or that quality by which it will endure heavy blows without breaking, is again distinct from hardness, though often confounded with it. It consists in a certain yielding of parts with a powerful general cohesion, and is compatible with various degrees of elasticity.

Some geological knowledge is required to make a proper selection of materials. The most useful are those which are most difficult to break up. Such are the basaltic and trap rocks, particularly those in which the hornblende predominates. The greenstones are very variable in quality. Flint or quartz rocks and all pure silicious materials are improper for use, since, though hard, they are brittle and deficient in toughness. Granite is generally bad, being composed of three heterogeneous materials, quartz, felspar and mica; the first of which is brittle, the second liable to decomposition, and the third laminated. The sienitic granites, however, which contain hornblende in the place of felspar are good, and better in proportion to their darkness of color. Gneiss is still inferior to granite, and mica-slate wholly inadmissible. The argillaceous slates make a smooth road, but one which decays very rapidly when wet. The sandstones are too soft. The limestone of the carboniferous and transition formations are very good, but other limestones, though they will make a smooth road very quickly, having a peculiar readiness in "binding," are too weak for heavy roads, and wear out very rapidly. In wet weather they are liable to be slippery. It is generally better economy to bring good material from a distance than to employ an inferior article obtainable close at hand.

The whole science of artificial roadmaking consists in making a solid, dry path on the natural soil and then keeping it dry by a durable water-proof coating.

Roads and Roadmaking.

The virtue of broken stone in macadamized roads lies not so much in the support it offers to vehicles as it does in the protection it affords to the natural soil by shielding it from the effects of moisture. The weight must really be borne by the natural soil which does, in fact, carry the stone road itself, as well as the carriage.

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The erroneous idea that the evils of an undrained, wet, clayey soil can be remedied by a large quantity of materials, has caused a large part of the costly and unsuccessful expenditures in making broken-stone roads.

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The leading principle of the Macadam system of roadmaking is that the stones should be all broken into angular fragments before being placed on the road, and that no rounded stones should ever be introduced.

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The roadbed, having been thoroughly drained, must be properly shaped and sloped both ways from the centre, so as to discharge what water may penetrate to it, and not, as is often practised, be made level, and the crowning given by a greater thickness of stone in the middle.

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No large stones should ever be employed. Whenever a carriage wheel or horse's hoof falls eccentrically on a large stone, it is loosened from its place and disturbs the smaller ones for a considerable distance around it, thus preventing their consolidation.

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If too small, the stones crush too easily, but on the other hand, the less the size of the fragments, the smaller are the interstices exposed to be filled with water and mud, and the sooner will they make a hard road. For roads little travelled, and over which only light weights pass, the stones may be reduced to one inch in thickness.

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Small angular stones are the cardinal requisites. When of suitable materials of proper size, and rightly applied to a well-drained sub-grade, they will unite and consolidate into one mass, almost as solid as the original stone, with a smooth, hard and unelastic surface.

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The stones should be as nearly cubical as possible, the largest of which, in its longest dimensions, can pass through a

ring three inches in diameter. In reducing them to this size there will, of course, be many smaller ones in the mass.

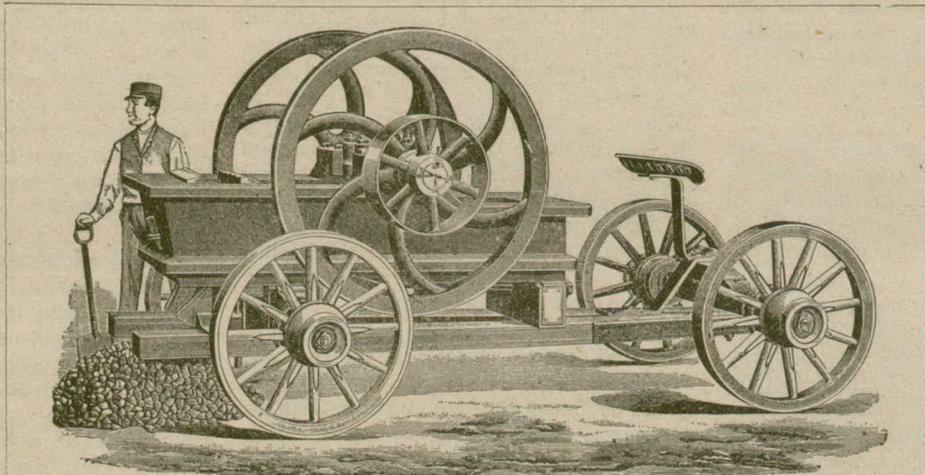
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Twelve inches of well consolidated materials in a good condition will be sufficient for roads of the greatest travel, and will resist all usual weights and frosts. Macadam considers from seven to ten inches sufficient, calling the latter depth of "well-consolidated materials equal to carry anything." In the climate of France, ten inches has been shown to be quite enough for the most frequented roads, and six or eight inches enough for others. The thickness should vary with the soil, the nature of the materials, and the character of the travel; it should be such that the greatest load will not affect more than the surface of the shell, and it is for this purpose chiefly that thickness is required, in order that the weight which comes on a small part only of the road may be spread over a large portion of the foundation.

about an inch. This last coat, like the preceding one, is watered and well rolled. In place of screenings, fine gravel or very coarse and perfectly clean river sand may be used, but on no account is fine, or dirty pit sand permissible. Coarse pit sand may be allowed after having been thoroughly washed so as to remove all earthy matter and the finer particles of sand, which would work down between the stones, prevent them from binding, and convert the macadam in a short time into a loose mass of rounded stone, little better than ordinary gravel. The great object is to cause the stone to consolidate under traffic into a firm, compact and smooth roadway through the stones being wedged together among themselves. If any loose, earthy or other fine material be mixed with the stones they cannot become so consolidated.

The Queen's Highway.

It is well known that for soft or sandy ground the broad tire is much better than the narrow one. It does not sink so deeply, for which reason the same load can be drawn with less horse power. On all soft roads and soft stretches the owner of the vehicle would find the tire proportioned in width to the weight of the load to be decidedly to his own advantage in traction force to be expended, while on the hard roads he would be no worse off, though abstaining from the commission of a great injury on the street pavements. On all



The above is an illustration of the Austin Rock Crusher mounted on trucks for portable use. It will be found to be strong, durable, light running, and a complete and effective crusher.

In building macadamized roads in St. Thomas, the stone is supplied from the quarries in three grades of coarseness: 1, screenings, consisting of the stone dust and small particles of stone not over five-eighths of an inch in diameter; 2, egg, consisting of what passes over the five-eighths inch screen and will pass through a one and one-half inch ring; 3, tailings, or what is too large for the one and one-half inch screen, averaging from two and one-half to three inches in size. A first coating of the largest size as above mentioned, six inches thick in the middle of the road and four inches at the sides, is laid on a prepared sub-grade and rolled until it is well consolidated. If possible, it is well watered or advantage is taken of wet weather to facilitate the binding of the materials. This is coated over with stone of the second size to a depth of three inches and the road is again thoroughly rolled. On this is placed a layer of screenings sufficient to fill the surface interstices between the stones and to cover them

kinds of pavements the narrow tire works so much mischief that its extent is out of all proportion to the amount of money necessary to make the change in the wheels. It is a moderate estimate to place the shortening of the life of a pavement by narrow tires at one-third.

The reported embezzlement of \$7,000 of Winnipeg's sinking fund is an argument, says the Hamilton Times, in favor of having no sinking funds. The terminable annuity system of paying off the principal of city debts along with the interest avoids the risks of embezzlement and of bad investment. It has been adopted in Hamilton in connection with most of the smaller loans contracted since 1880, and it would have been wise to apply the same plan when the loan of \$2,350,000 was placed at the beginning of the present year. The loss of interest, trouble and risk of managing a sinking fund are a heavy offset against the gain made by selling bonds at a slightly higher figure upon the straight loan system.

Water Purification.

Chemical analysis of water is used to determine the amount of mineral and organic matter dissolved or suspended in water, and so far as it is possible, to determine the character and condition of the organic elements. The presence of inorganic substances is thus disclosed, which may render the water unfit to drink or unsuited to other domestic or to manufacturing purposes. From this analysis we also learn much concerning the organic matters found in water, which, from their character, abundance and the degree of their oxidation, often give valuable information concerning the kind, extent, and remoteness of pollution.

Microscopic analysis reveals the nature of much of the suspended matter in water, whether it be living or dead, and whether its source be animal or vegetable. Among the minute vegetable organisms in water, which are revealed by the microscope, are the bacteria, a group of especial significance, because among them are to be found the germs of certain serious infectious diseases.

Special methods are required for the study of these organisms, and are used in water analysis, to determine the number and kinds of bacteria present, to decide upon the efficiency of purification by methods which aim to remove or destroy bacteria, for the discovery of bacteria of disease, and for the study of the vitality of known species of disease producing bacteria, in waters of different compositions and under varied conditions.

All bacteria found in water or their progenitors have been derived from extraneous sources. The great majority of them are not in any way harmful to man, and their presence in water is important to induce and promote the chemical changes which dissolved and suspended matters undergo in the process of purification. Many of the harmless species are known to multiply in potable waters, and some of the disease-producing forms, although they rarely multiply to any great degree, have been found to remain alive in water for varying periods of time, in some instances for several months, while others are usually rapidly destroyed.

Numerous cases are on record in which bacteria of disease have been found in polluted streams. The difficulties usually met with in the search for these organisms in waters which contain a large number of other bacteria are great, and the chances of discovering the disease-producing forms are small. Although a number of them may be present and may infect persons using the water, yet by the time the disease they induce has developed, and suspicion that the water is infected has been aroused, it is quite as likely as not that the disease germs will have disappeared from the supply. The discovery of disease-producing bacteria, however, is not the primary object of bacteriologic water analysis, as we know, without any kind of

analysis whatever, that they may be present in polluted waters.

The number of bacteria a water may contain and yet be considered wholesome cannot be stated, as the conditions surrounding the sources of supply are so different. Contamination of water from an uninhabited region is without significance from a sanitary standpoint, while pollution from sewage or excrementitious matter, be it ever so slight, is a menace to health, and yet the number of bacteria found might vary to any degree in favor of either of such waters. Arbitrary standards of purity have been set, but they have little intrinsic value in determining the amount of pollution, or the degree of the purification of the water, but the number found gives no clue to the sources from which these bacteria are derived.

Nearly all waters contain bacteria in greater or less numbers, and analysis shows that, as a rule, many more bacteria are contained in surface waters than in ground waters, and running waters are found to contain more than lakes and other bodies of still water. In surface streams running through inhabited districts, the number of bacteria received from the washings and pollutions of the banks and tributaries often far outnumber those removed by self-purification, and it will be found that such streams generally contain larger numbers of bacteria at their outlets than at their sources. This is especially true in rivers, where cities or towns, located on the banks, empty their waste and sewage directly or indirectly into the stream. At the point of contamination of the water, the number of bacteria is usually enormously increased, and through the agency of self-purification, they often again gradually decrease, although some increase in the number found will often be maintained.

Electric vehicles that can be moved with ease on the ordinary street or hard road are to be the next sensation. The difficulty that prevented the supply of motive power at a price that would successfully compete with horseflesh is believed to have been overcome. The Electrical Review reports that new types of batteries have been introduced which take up little room and which may be kept charged at a small expense, with sufficient power to meet all necessities of the case. For the new vehicles it is claimed that they can be propelled along the thoroughfares at any rate of speed that may be desired without making noise. No difficulty is experienced in making them thread their way among the mass of other vehicles or in keeping them under perfect control. Those already built have broad tires, but it is proposed to introduce pneumatic tires which will be lighter and more satisfactory.

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A by-law has been carried in Kincardine to purchase the waterworks and expend \$10,000 for an electric light plant.

Sewer Gas.

At one of the general sessions of the Congress of American Physicians and Surgeons the subject of sewer gas was introduced and the old ideas on the poisonous character of sewer air were completely refuted. The test showed that sewer air does not vary very markedly from the air we ordinarily breathe, except that it contains slightly less oxygen and more carbonic acid gas; and that it contains very few bacteria, which is in strong contrast to what is popularly taught.

Many mistakes in teaching are due to falsely preconceived ideas and vague impressions which have no scientific basis. Sewer air contains few pathogenic bacteria because the non-pathogenic bacteria act antagonistically to them; again, the few bacteria in sewers are kept adherent to the sides of the pipes because of the moisture. Experiments on the pressure of sewer gas would seem to show that there is but little pressure and the flow is almost always toward the mouth of the sewer, and not backward as has so often been affirmed.

Experiments in the laboratory with sewer air and liquids in closed vessels containing bacteria, showed that it was very difficult to displace the bacteria from the liquid unless by very strong agitation of the latter, and even when active bubbling and effervescence was caused in the liquid, and as sometimes occurs in sewers, very few bacteria were set free. This would prove that even if there were backward currents of air (which rarely occur), they would have to be much stronger than they usually are to displace bacteria and carry them into buildings and houses.

The effects of sewer gas on the health of children and on the throats of persons breathing such air were considered. The theory evolved from an old man's brain that children having their mouths near the ground were much more liable than adults to inhale bacteria was considered absurd. It was shown that sewer gas does not cause diphtheria, but a case of diphtheria may undoubtedly be aggravated by exposure to sewer exhalations, and certain forms of throat disease are made worse by the presence of sewer gas.

The attempts to show the harmlessness of sewer gas were rather extreme, and while the work of these scientific papers was not complete, the general inference drawn from them and from the discussions which followed was that sewer gas is hardly more unwholesome than ordinary atmospheric air, and that there was even a tendency to overstep the mark by those investigators whose work was not of an experimental character.

The Guelph city council has awarded a contract for laying 155,000 yards composite stone sidewalk at the rate of fifteen cents per square yard, crossing three and one-half cents per yard extra.

Sewerage and Sewage Disposal.

It is often held by the conservative citizen that the cost of sanitary works is an obstacle to their construction, but when a great work which will enhance the wealth and comfort of a community is under consideration, too much stress should not be laid upon the cost, for "What will a man give for his life? Correct sanitation is life, health and happiness, and correct sanitation the world over means the complete extirpation of cholera, typhoid fever, diarrhoea, dysentery, diphtheria and every other infectious disease, and if all communities were equally interested in advancing the condition of their sanitary arrangements, our bodily complaints would then be limited to those due to our personal habits.

The discharging of raw sewage into streams and rivers, some of which are now or soon will be sources of public water supply to cities and towns, will in due time be prohibited by law in every locality where offence to health or the bodily senses is liable to follow the pollution of water by sewage discharges. Opinions will likely always differ upon the amount of sewage contamination which a stream may suffer without risk to the animal life which may be compelled to draw its water supply from such stream below the sewage outfall, but the opinions of those who are reinforced by long and careful observation, clearly points to the possible danger of discharging any sewage into a stream, the water of which is later drawn for drinking purposes, especially as the disease-producing bacteria which may come into the stream with the sewage are not easily detected, and may propagate and produce dire results before their presence in the water is suspected.

The attempts to recover from dilute sewage its theoretical value as a fertilizer have occupied the attention of sanitarians and chemists for more than forty years and it cannot be said that any very satisfactory success has attended their efforts. Some sewage farms and works abroad, seem to pay something more than the cost of maintenance, but a majority are, and have been, operated at a loss to the municipal corporations which have adopted this means of sewage disposal.

Certain soils work very well for filtration of sewage, especially when the effluent is applied intermittently to respective areas of land, and time is given for the sewage to pass out of the filtering soil, and air to pass in and fill the interstitial spaces. In such instances, if the rate of filtration is properly proportioned to the filtering material in the ground, the oxidation or combustion of the organic matter in the sewage is practically complete, but, of course, such a method of treatment assumes that no value is attached to the solid matter in the sewage for manurial purposes, and that the whole object is to obtain the best sanitary condition of the

effluent. Sewerage filtration can best be had by the use of the modern mechanical filter, with an arrangement of tanks or subsiding and intercepting reservoirs to retain the heavier solid matter, and the filters rotated and rested in service at frequent intervals.

The most approved, and apparently the most successful solution of the question is found in a mode of treatment which combines subsidence and interception of the solid matter in the sewage in reservoirs or tanks, with chemical precipitation: The sludge which accumulates in the tanks to be pumped into the filter presses, and the resulting solid sewage cake disposed of as a fertilizer, or dried and consumed as fuel.

In those instances where sewage is used for irrigation purposes, it is applied directly to the land by a hand hose, through carriers or small channels cut in the earth, or by means of porous, open-jointed drain tile laid from two and one-half to three feet below the surface; the liquid in this case being taken from the soil surrounding the carrier pipes to the roots of the growing vegetation by capillary attraction.

One difficulty in the path of the successful disposal of sewage by irrigation schemes, is the inability of the vegetation to assimilate at all times, all the organic matter which may come to the sewage-irrigated field. During winter, the growth of plant life is practically nothing, and the effect of irrigation then is simply to keep the ground saturated with sewage, and to depend on such filtration as the soil is capable of furnishing to reduce the amount of organic matter in the effluent to safe proportions. It generally happens, however, that when the sewage-irrigated field cannot take the sewage effluent and produce the reactions due to the absorption of the nitrogenous compounds by active plant life, that the raw sewage can be discharged into a neighboring watercourse with the least injury to the stream.

The stream usually being in flood at this season, the dilution of the sewage is great enough to remove the present danger from pollution of the watercourse by sewage, unless the sewage effluent contains disease germs, when no amount of dilution will certainly remove the danger due to these.

When the surface is relied upon as sufficient for the purpose, and broad irrigation is the mode in which the sewage is applied, the surface should present a gentle slope in order that the sewage may travel slowly forwards in a lateral direction and thus admit of the surface being equally wetted throughout, and also admit of the drainage and drying of the surface subsequent to the application of the sewage.

When Intermittent Filtration is the method by which the purification is to be effected, the land is laid out in level beds, and the sewage applied to each bed passes

vertically downward through pervious stratum from which, in a more or less purified condition, it escapes by means of drains or otherwise.

If the soil for intermittent, downward filtration be open or porous, no sub-soil drains will be required, but if the soil is heavy and retentive, as, for instance, clay soils and mixtures of clay and loam, sub-soil drains will become necessary to avoid a supersaturation of the ground, which will of course prevent proper filtration of the sewage, and in warm weather produce a nuisance and a menace to health which sewage disposal works, for a principal object, should aim to avoid.

Educating Pathmasters.

The Atlantic Monthly contains an excellent article on the subject of country roads, by Prof. N. H. Shaler, of Harvard University. The Professor says:

This field of activity is not one which can be advantageously cultivated by ignorant men whatever be their natural capacities, or the measure of the experience which they may have derived from a wise use of their blunders. This art demands a wide and well-founded training. It must rest, indeed, upon a good knowledge of several natural sciences. No amount of general determination to improve our conditions in this economic field will be fruitful unless we provide our communities with men who are well trained for the work which is to be done. Unless provision is at once made to educate roadmasters, the present access of interest in this art will lead inevitably to a vast array of costly mistakes which will be likely to discourage our people, and to lead them to the conviction that their new estate is worse than the old. At present there are probably not fifty engineers in the United States who have been properly trained for the work of constructing highways. There may be several times this number who are more or less satisfactorily expert in constructing city streets; but that particular task, though difficult enough, is, as compared with that which the rural highway engineer has to take up, of a relatively simple nature. Few, if any, of our engineering schools pay any particular attention to this science and art. The question of common ways is treated incidentally, and with no emphasis at all commensurate with its importance. There is practically no effort made to develop specialists in this profession.

The first step towards our new dispensation is to persuade our greater schools to undertake the systematic education of roadmasters, giving to the task the same care which they devote to the preparation of young men for railway or hydraulic engineering.

The next question for the reformer in the matter of road-building concerns the method by which the work of construction, improvement and repair can be insured against the evils of ignorance.

LEGAL DEPARTMENT.

H. F. JELL, SOLICITOR,
EDITOR.

Municipal Corporations.

THEIR POWERS AND JURISDICTION.—
HIGHWAY.

By section 282, of the Consolidated Municipal Act, 1892, it is provided that the jurisdiction of every council shall be confined to the municipality the council represents, except where the authority beyond the same is expressly given.

The municipality is a locality whose limits are defined and determined by statute, and the council has no general authority beyond those limits. It cannot, in general, benefit another municipality at the expense of its own; but as roads, streets, bridges and other like public communications may extend from one adjoining municipality into another so as to be partly in each, power is given by section 554, of the said Act, to the council of any municipality to pass by laws for granting aid to any adjoining municipality, in making, opening, maintaining, widening, raising, lowering or otherwise improving any highway, road, street, bridge, or communication passing from or through an adjoining municipality.

Sub-section 1, of section 555, of the said Act, authorizes the council of every township, city, town or incorporated village to pass by-laws for granting to the county or united counties, in which such municipality lies, aid by loan or otherwise, towards opening or making any new road or bridge on the bounds of such municipality.

Section 556, of said Act, makes provision for the enforcement of the repair of township boundary lines not assumed by the county in the same way as other township roads, when the township councils interested, fail to agree mutually to the share of such maintenance to be borne by each. In such case it shall be competent for one or more of such councils to apply to the county council to enforce joint action on all township councils interested. Apparently the intention of this section is to embrace roads dividing townships, otherwise there would be no necessity for a provision as to the share to be borne by each in respect to the obligation to open, repair and improve. It is true that in cases of townships adjacent to an unsurveyed tract, the provision would be in terms applicable, whether the townships were divided or not by the boundary line. The probability is, however, that the legislature meant the section to have a more extended operation. This supposition is confirmed by a reference to section 557 of said Act, which gives a majority of the ratepayers, resident on the lots bordering on either or both sides of such line of road, authority to petition the county council to enforce the opening up or repair of such lines of road by the township councils interested, in the case where all the township councils interested

neglect or refuse to open up or repair such lines of road in a manner similar to other local roads. The last mentioned section supposes that at least one of the townships interested is disposed to do what is required of it. But if all interested fail to perform the duty cast upon them, the majority of the ratepayers, resident on the lots bordering on either or both sides of such line may petition the County Council to enforce the opening up or repair of such line. On receiving such petition either from the township council or from rate-payers as mentioned in sections 556 and 557, the council may consider and act on the same at the session at which the petition is presented and the action taken by them may be either by directing the expenditure of money or the doing of statute labor or both, as may seem necessary to make the said lines of road equal to other roads. The word "may" in this section and the succeeding one is permissible.

The original section provided that "It shall be the duty" of a county council receiving, &c. The change in language is designed to remove the duty and leave the power to act as one of simple discretion. It is the duty of the county council, under these circumstances to appoint a commissioner or commissioners to execute and enforce their orders or by-laws relative to such roads. The mere order or direction of the county council, without power to enforce it against the townships interested, would be of little avail.

Legal Decisions.

M'DONALD V. DICKENSON, ET AL.

The cause of action, as stated in the claim, was that on or about the 18th of June, 1892, the plaintiff was lawfully driving along Talbot road in the township of Yarmouth, and when about four miles west of Aylmer, and while driving westward to St. Thomas, owing to obstructions placed and excavations made in the road unlawfully by the defendants, the plaintiff's horse became frightened and ran away, the conveyance in which the plaintiff was driving was upset, she was thrown out and seriously injured, and the vehicle and other property were damaged.

On Talbot road, there was a fill between the hills of a depth variously estimated at from 14 to 17 feet, and a railing extended along each side of the fill, and in this fill there was a culvert which required renewing, and on the 4th of April, 1892, a resolution was passed by the Council of Yarmouth that the reeve and Mr. Luton be a committee to rebuild this culvert.

The defendant, Brower, was the reeve and the defendant, Luton, was the first deputy reeve of the township, and they superintended the work and appeared to have been paid by the township for such superintendance. The defendant, Luton, brought tiles for the culvert and had them shipped to New Sarum, and employed the de-

fendants, the Tisdales, to draw the tiles to the culvert. The defendant, Dickenson, was employed to work by the day at putting in the culvert, and he happened to be at the same time the pathmaster for the beat in which the culvert was situated. The tiles were large, two and one-half feet long and 40 inches outside, and 31 inches inside diameter, and some of them were placed on the north side of the fill at the end of the railing, and as the plaintiff was driving along the road to St. Thomas her horse shied at these tiles and upset the conveyance and she was injured.

The defendants raised the objection that they were fulfilling a public duty, and the placing of the tiles on the side of the road was done by them in the performance of such public duty, and that they were, therefore, entitled to the protection of the Act R. S. O. ch. 73, and were entitled to notice of action, and the learned Judge, being of this opinion, dismissed the action at the trial.

On appeal to the Queen's bench divisional court it was held that the defendants were not fulfilling a public duty, and were not entitled to notice of action under R. S. O. ch. 73.

It was held, also, that that statute is applicable only to officers and persons fulfilling a public duty for anything done by them in the performance of it, when it may be properly averred that the act was done maliciously and without reasonable and probable cause, and therefore not to actions for negligence in the doing of the act.

It was held, lastly, that one of the defendants, who was pathmaster for the beat in which the culvert was situated, did not come within the protection of the statute as pathmaster, because he was not employed as in doing this work, but as a day laborer.

This case at present is in the Court of Appeal and a judgement of personal interest to municipal councillors and officers is looked for.

JOHNSON VS THE CITY OF TORONTO.

These are two actions which are consolidated, and were brought by owners of adjoining houses on the north side of King street west to recover damage alleged to have been occasioned by the negligence or improper of the defendants in respect to the sewer in that street and the drainage of the said houses.

It appeared that the sewer had been properly constructed and maintained by the defendants, according to a plan of drainage adopted by them, and the houses in question were erected after the construction of the sewer, the owner having first sought and obtained leave to drain and discharge his sewerage from the houses into it. He, however, made the cellars of the houses too deep to be drained by the sewer, though otherwise the houses were situated in the proper and appropriate location for draining them thereby.

It was held, affirming the decision of Street, J., at the trial, that the plaintiff's action must be dismissed with costs.

Illegal Payments by Township Councillors.

The following opinion of Messrs. Bull & Werritt, solicitors for the township of York, was read at a recent meeting of the council of the said township, and was laid over for future action. As the matters in controversy seems to be of considerable importance, generally, we think it worthy of publication in these columns for the benefit of those interested in municipal work. We give the opinion as printed in the columns of the *Recorder*:

"We are asked if any of the payments made to the members of the municipal council of the corporation of the township of York for the years 1891, 1892 and 1893, as set forth in pages 71 to 79, both inclusive, of Mr. Neff's report are illegal, section 231, consolidated municipal act 1892, which is word for word the same as sec. 231, cap. 184, R. S. O. 1887, provides for payment of members of a municipal council as follows: 'The council of every township . . . may pass by-laws for paying the members of the council for their attendance in council, or any member, while attending a committee of the council, at a rate not exceeding \$3 per diem, and 5 cents per mile necessarily traveled (to and from) for such attendance, while section 479, sub. sec. 2, of said consolidated municipal act, 1892, provides that the council of every township may pass by-laws (appointing certain officers) for appointing such pound-keepers, fence viewers, overseers of highways, road surveyors, road commissioners, valuers, game inspectors and other officers as are necessary in the affairs of the corporation, . . . but nothing in this act shall prevent any member of a corporation from acting as commissioner, superintendent, or overseer over any road or work undertaken and carried on, in part or in whole, at the expense of the municipality, and it shall be lawful for the municipality to pay such member of the corporation acting as such commissioner, superintendent or overseer.' Under the old acts respecting municipal institutions payments to members of municipal councils for such services were illegal. By 12 Vic. municipal councils were empowered to pass by-laws for the payment of members with certain restrictions. By sec. 262, cap 99, 22 vic., municipal councils were empowered to pass by-laws for paying members of the council for their attendance in council at a rate not exceeding \$1.50 per diem and by sec. 25, cap. 30, 31 vic., members of the council were empowered to act as overseers, etc., and to receive payment for same. We are of the opinion that strictly legally speaking, without legislative authority or a by-law authorizing same, the payments set out on pages 71, 73 and 75 are prima facie illegal and that any rate-payer of the township of York can bring an action on behalf of all the rate-payers of the township (save the members of the municipal council against whom the action may be brought) as well

as on his own behalf; or the corporation as represented by the present municipal council may bring the same to recover the amount of such illegal payment. The council of one year is separate and distinct from the council of another year, notwithstanding that the members of such councils are the same in each case there might be different causes of action. "We gather from the authorities that the principle is that members of a municipal council may be paid reasonable remuneration for their services as such members, but that such remuneration shall not exceed a certain sum per diem, and that they may act as overseers of works and that a member of a municipal council shall not use his position as a means of profit to himself. It has been held in cases where a debt has been incurred by a council, and the work performed, that the corporation are liable although no by-law has been passed. This principle has been applied, so far as we are able to learn from the authorities, to a case of the kind before us, but it would no doubt be raised and would have to be met; therefore each item in the report would probably stand upon a separate footing. In the township of York, in many cases, payments were authorized by resolution, by general purpose by-laws and by a statement in local improvement matters adopted by the court of revision or the council. Consequently, in each case it will be necessary for you to ascertain whether any resolution, with or without the seal attached, has been passed authorizing the payment to be made, or the payment has been authorized by any general purpose by-law sufficiently designating the purpose for which the payment was to be made, or whether any evidence exists of the adoption of the payment after the payment of same. We are inclined to the opinion that any item for work actually performed in good faith where the same was authorized or adopted by the council, if such work were not caused by irregularity, neglect or fraud on the part of the council or its officials, and there was reason that such work should be done in the interests of the corporation, then that the court would be loathe to order payment back from the member receiving the same. In 1891 we know that the reeve attended on arbitration between North Toronto and East Toronto, and in the suit of Tabor v. the Township of York. The result in the North Toronto arbitration was considered very favorable to the township, and in the Tabor suit the stand taken by the reeve saved the township some hundreds of dollars, and no doubt the reeve was at expense in connection with these matters, which expense should be paid by the township.

"Re Local Improvements. We do not see that a member of a municipal corporation can be entitled to any greater sum as compensation for attendance at a meeting to consider a local improvement than for an attendance at an ordinary council meeting. An attendance in council would

mean, in our opinion, an attendance for the entire sitting of the council, no matter whether it might be an hour or twenty-four hours, so long as the sitting was held on any one day, so that each reeve and deputy-reeve would be entitled to receive \$3.00 per day, and 5 cents per mile each way (to and from) place of meeting and place of residence, for such attendance. The extra charges are, therefore, if for attendance on the same day, illegal. As to the charges for inspection, it is not so clearly laid down that a by-law is necessary, and a reasonable sum might be allowed under section 479 of the consolidated municipal act of 1892 for services of this kind. No tariff appears to be laid down, but the charges should be reasonable. The sum to which members of the council would be entitled under heading, 'Salaries of Council,' would be \$3.00 per day and mileage each way for attendance in council or committee. In 1892, the items 'S. S. No. 28, negotiating debentures, \$20,' 'S. S. No. 4, ditto \$25,' would, unless the reeve was authorized and acting in committee, be entirely illegal; if so authorized, the usual fee only would be allowable. (The funds to meet these payments, as we understand the matter, were not township funds but the funds of the respective school sections which would be entitled to same). And 1893, the items 'Revising debentures Woodbine avenue. \$25; ditto, Eglington avenue, \$25; ditto, Beaumont road, \$25, are in exactly the same positions as the items for 1892 above mentioned, and the funds paid were, we presume, paid out of the funds of the districts. The item of \$90 paid deputy-reeve MacDonald in 1893 for services rendered in committee in 1892 we would consider illegal. A councillor is not an officer within the meaning of the Municipal Act, and should be voted his compensation by the council of the year in which the services are rendered, as they only have a knowledge of the necessity for the work, and the amount of work done by such councillor. By section 17, chap. 52, R.S.O., 1887, the reeve, clerk and assessors are ex-officio selectors of jurors for a township, and by section 157, such selectors are entitled to such sums of money as is authorized to be awarded them by the council of the municipality. As these payments are prima facie illegal, your council should ask the members of the councils for the years 1891, 1892 and 1893 to explain the charges they made and the payment received therefor, as a first step."

Publications Received.

- Financial Statement and Departmental Reports of the city of New Westminster, B. C., 1893.
- Auditors' Reports, Receipts and Expenditures, Township of Moore, 1893.
- Minutes and By-laws of the Council of the Township of Beverly, 1893.
- Financial Statement of the Village of Streetsville for 1893, and Voters' List for 1894.
- Financial Statement, City of Brantford, 1893.

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.

A TOWNSHIP CLERK.—In the current number of the WORLD, page 109, you give it as your opinion that an elector can second as many nominations at a municipal nomination meeting as he sees fit. If your opinion is correct, any two electors whom we will call A and B, who, when the chairman calls for nominations, can take the floor and nominate as many candidates as they see fit, say 7, 8, 100, 200, or more and occupy the whole hour allotted for receiving nominations. I hold that A and B can nominate a candidate for reeve, also a candidate for one or more deputy-reeves, and for the number of councillors required, in all not more than five in number, and when they have done so they have exhausted their privilege for the time. At the election they can vote only for the five members of council and no more, if the contest is for the full number. Therefore, I cannot see how they have any right to nominate more candidates than they can vote for. I would like to hear some further explanation of your theory. I might add that I have had parties try the GAME OF EXTRAS with me at nomination meetings but I have refused them for the reasons given above.

We are still of the same opinion as expressed on the page of THE WORLD referred to by our correspondent. The difficulty referred to by him could easily be got over by taking the nominations from parties proposing, to nominate in the order of their making known or evincing an intention to do so.

G. G. A.—The mayor called a special meeting of the town council for general business on June 27th, 1894. The notices therefore were in writing and served on the members of the council by the constable. Shortly before the hour of meeting through some incident the meeting was formally adjourned or dispensed with, when it was understood among those present, at the mayor's request that the council should meet on the following evening, June 28th, after transacting business, adjourned to Wednesday July 4th. All the members were not present on the 27th. June and 28th. June when the adjournments were made. July 2nd. was the night of regular meeting, under the rules of the council, but it being a holiday the meeting was not held on that evening, but was adjourned from June the 28th. to July 4th. as above stated.

Doubts have arisen as to the legality of the meetings held on June 28th. and July 4th. as no formal written notice thereof was served on the members.

1st. Do you consider the meetings of June 28th. and July 4th. are legal?

2nd. Under section 236 of the con. Municipal Act 1892 is it necessary that notices of special meetings should be in writing, instead of verbal notice?

1. Assuming that the special meeting for June 27th was legally called, and the necessary notice of same given to all members of council entitled to receive the same, we see no reason why an adjournment could not be taken to the 28th June, or 4th July, and such acts as might be performed by the council at such adjournment be held legal. In any event in the absence of formal objection to such acts or proceedings they would stand.

2. Although the Municipal Act does not in terms require the notices referred to, to

be in writing, it would be better that they should be issued so that there could be no question as to the exact purpose for which the special meeting is called.

J. R. M.—A rate payer of the municipality and candidate for councillor at last annual election but not elected, received notice from the clerk on the 23rd, of April last to make his declaration of office for overseer of highways, but failed to do so before next meeting of council on the 19th. just for division of statute labor, a certain beat having been left in his charge. Then the clerk gives one of the councillors a copy of his declaration to be subscribed before him at his residence. When handed to him he destroyed it wilfully. Please give opinion how council should act in the matter.

The council had better appoint another person to act as pathmaster in the road-division mentioned. A pathmaster is not liable to fine or punishment for refusal to accept the office, unless a by-law has been passed in accordance with sub-section 17, of section 479, of the Municipal Act.

A Secret Service Fund.

"Review."

The following resolution was recently introduced into the Peterborough council: "That a sum not exceeding one-third of all fines imposed under the liquor license act or under any by-laws of this council passed in pursuance thereof be set aside as a fund to be used for the better enforcement of the said act and by-laws, to be administered and paid out from time to time as may be required on the recommendation of the police magistrate without necessarily disclosing the names of persons to whom the same is to be paid, no portion of such moneys to be paid to any employees of either the government or this corporation and that the finance committee be authorized to issue cheques as may be required for this purpose."

This is a matter entirely new and we doubt very much if the council is able to sustain its position if legal exception is taken to the payment of moneys for the purposes above mentioned in resolution.

This multiplication of high schools, apart from its injurious effects upon our public schools, has not been without bad results. Many are attracted to the high schools whose usefulness would be enhanced by a good public school training, but with the craze for the so-called genteel occupations which seems everywhere prevalent, they take a course in the high school and leave it to still further swell the ranks of professions already overcrowded. The larger proportion, however, take a short course, receive a modicum of preparation, and at once or much too soon blossom out as teachers. It may not be fair to charge this solely to the high schools, but it will not be denied that our copious system of high schools offers facilities for perpetuating the most flagrant defect of our public schools, viz.:—the transitory character of the teacher's calling.—Extract from an address by A. McMillan, chairman P. S. dept. Ontario Educational Association.

An act passed by the Legislative Assembly of Ontario at its last session provides one of the simplest, cheapest and speediest methods that has yet been devised for the settlement of controversies by arbitration. The board of trade in any city of 30,000 inhabitants may elect 25 members of a board of arbitration to be chosen from 30 or more names selected by the council of the board of trade. Membership in the board of trade is not a necessary qualification for the board of arbitration. Persons submitting a case may select one, two or three members of the board of arbitration to hear and decide the case. Sittings may be entirely private unless otherwise agreed, and unless the time be enlarged by agreement, all awards shall be made within 21 days after the submission has been signed. Arbitrators can compel attendance of witnesses on oath and have other powers similar to those in other arbitrations. There is also provision for the submission and award being made a rule of court.

* * *

Section 109, of the Public Schools Act, of 1891, as amended by the act of 1892, does not refer to union school sections which include part of a township, and a village or town, provides that the municipal council of every township shall levy and collect by assessment on the taxable property of the public school supporters of the whole township, the sum of \$100 at least, for every public school therein, in which a public school has been kept open for a whole year. When a public school has been kept open for six months or over, a proportionate amount of the said sum of \$100 shall be levied and collected on the taxable property of the whole township, and an additional sum of \$50 shall be levied and collected in a similar manner for every assistant teacher engaged for the whole year, and a proportionate amount for such assistant teacher if engaged for six months or over.

In the case of union schools they shall levy and collect a portion of said sum as fixed by the equalization provided for under section 95 of the said Act.

* * *

It is difficult to suggest anything that will materially assist clerks in making entries in collectors rolls. Our practice is to use rate tables. Clerks who have not heretofore adopted this plan will find that the rates can be entered more correctly and in a shorter time than by any other method. It is the custom in many municipalities to enter in the roll, but one amount for all the different rates. Section 119 of assessment act requires all rates to be entered separately, so that ratepayers will know under what authority the taxes to be paid are levied, it is also sometimes very useful in giving information.

Rules and Regulations for the Government of Common Goals.

In previous issues the general rules and regulations referring to gaol officers, the sheriff and gaoler have been given, the next official of importance is the matron, whose duties are as follows:

The matron shall reside in the gaol, and shall, under the direction of the gaoler, have the care and superintendence of the female department of the gaol and the female prisoners; she shall see that no male officer or other male person enters the wards for females, or other place where female prisoners are at work, without being accompanied by her; and she shall have the sole custody and care of the keys used in the female departments.

She shall not be absent from the gaol during the night, or at any time when female prisoners are in custody, without the express authority of the sheriff, nor unless an efficient female substitute, approved by the sheriff, takes her place.

She shall, at least once a day, visit and inspect every part of the gaol in which female prisoners are confined or at work, and shall, at least once a week, along with the gaoler, closely inspect all the iron gratings, locks, and window gratings, and search the cells and bedding in order to discover whether anything is secreted by which an escape might be facilitated.

She shall accompany the gaol surgeon on his visits to the departments for the female prisoners, and shall inform him of anything pertaining to the mental or physical condition of the female prisoners that should be brought to his attention; and she shall notify the gaol surgeon without delay of the illness of any female prisoner.

She shall be present at the meals served to the female prisoners, and see that they are properly served; and she shall be present in the morning at the opening of the wards and cells in which the female prisoners are confined, and at the locking-up of the same at night.

She shall see that the persons of all female prisoners are searched on admission, and that all articles found are delivered to the gaoler, and that the list thereof in the Prisoners' Effects Book is signed by the prisoner.

She shall report everything of importance that occurs in the female departments to the gaoler, to be recorded in the journal, and she shall also report every case of disobedience, insubordination, or other infraction of the rules and regulations on the part of the female prisoners, and shall see that the punishment awarded for the same is strictly carried out.

THE GAOL SURGEON.

The gaol surgeon shall attend professionally on all the prisoners, and shall have the general care of their health. In his visits to the male wards he shall be accompanied by the gaoler, and in his visits to the female wards by the matron.

He shall also attend all the resident officers and servants of the gaol, and such members of their families as are bona fide residents on the premises.

He shall keep a journal which shall be open for perusal in the gaol office, in which he shall record, in plain legible writing, with his signature thereto: 1st, the date and hour of every visit paid to the gaol; and 2nd, an account of the nature of the disease of every prisoner requiring treatment, and his instructions respecting diet, medicine, and exemption from labor.

He shall at least once every three months visit every part of the gaol and closely inspect the means of drainage, ventilation, heating and water-supply, and shall record in his journal, for the information of all concerned, any remarks or suggestions he has to make respecting the same, together with any remarks or suggestions he may have to make as to want of cleanliness, bad quality of food, insufficiency of clothing or bedding, or any other cause which may affect the health of the prisoners.

When corporal punishment is, by the order of a judge, to be inflicted on a prisoner, the gaol surgeon shall first make an examination of the physical condition of the prisoner, and report whether the infliction of such corporal punishment will be attended with danger to life or with risk of permanent injury to health, and he shall always be present during the infliction of the punishment.

The gaol surgeon, being by law one of the statutory examiners of lunatics committed to gaols, and of prisoners who have become insane therein, shall closely observe the mental condition of such prisoners, and enter in his journal a record of the result of his observation.

In case of sickness, necessary engagement, or leave of absence granted by the sheriff, the gaol surgeon shall appoint, subject to the approval of the sheriff, an efficient substitute, who must be a duly qualified medical practitioner, who, during the absence of the gaol surgeon, shall perform all his duties and be subject to all his responsibilities.

THE TURNKEYS.

The turnkeys shall obey the directions of the gaoler, subject to these rules and regulations, and perform such gaol duties and work as may be directed by the sheriff or gaoler, such directions to be recorded in the gaoler's journal, and to be subject to revision by the inspector or sheriff.

They shall sleep in the gaol at night in a place close to the corridor in which the most important prisoners are confined, and shall not at any time absent themselves from the gaol without leave first given by the gaoler, and before so absenting themselves they shall deliver to the gaoler such of the keys of the gaol as are in their possession.

(To be continued.)

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I am giving special attention to the work and invite correspondence.

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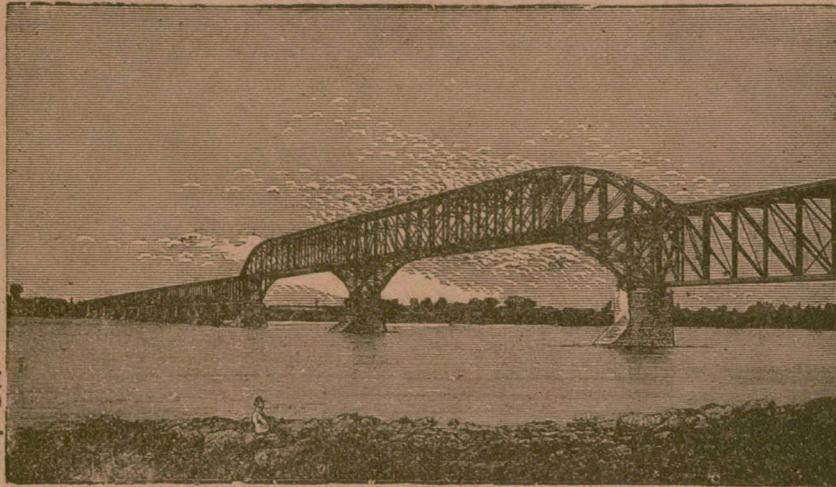
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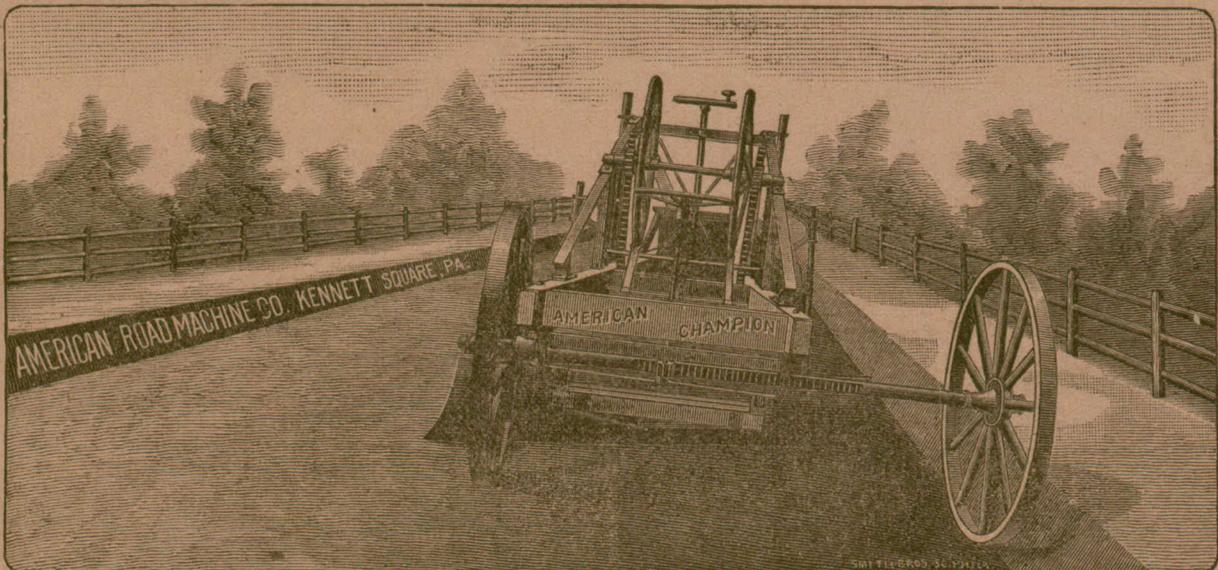
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