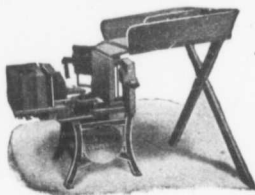


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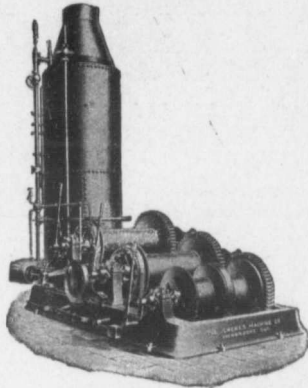
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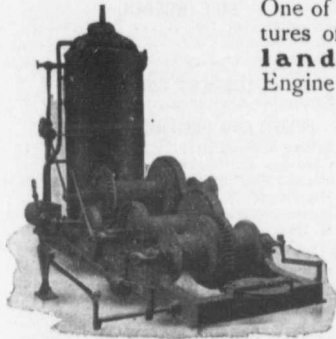
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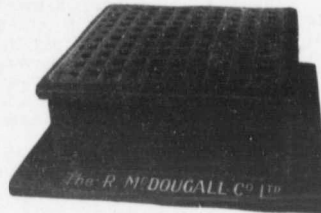
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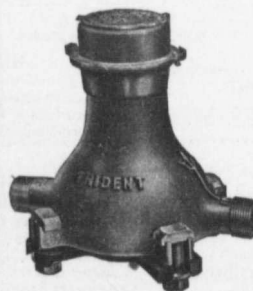
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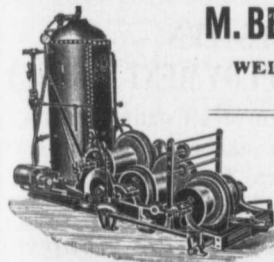
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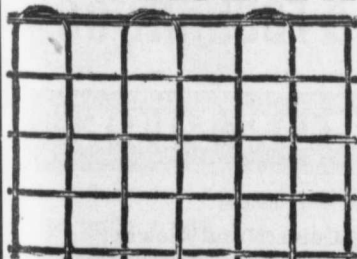
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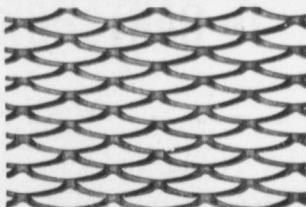
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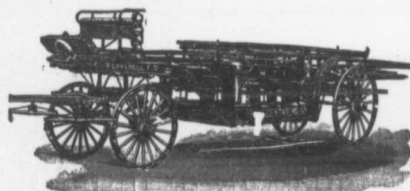


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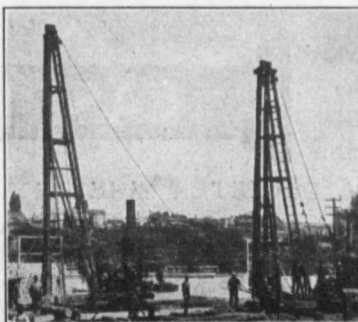
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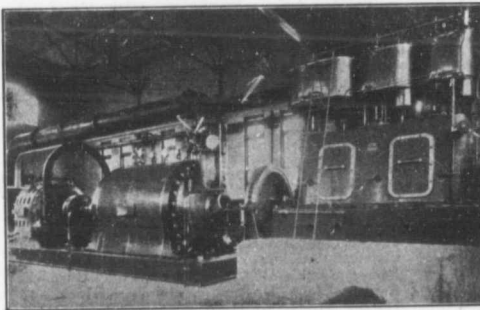
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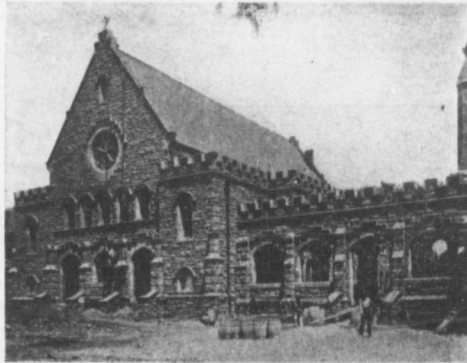
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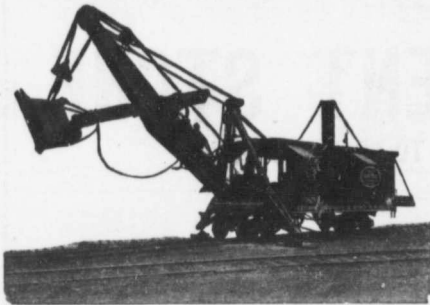
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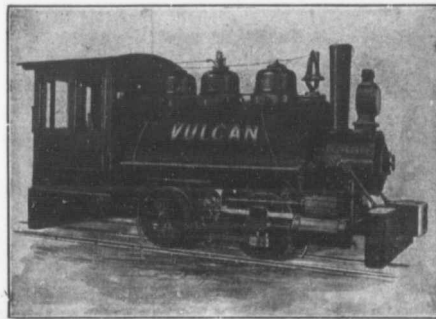
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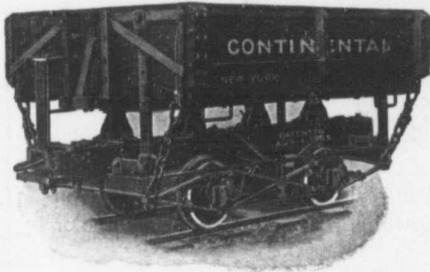
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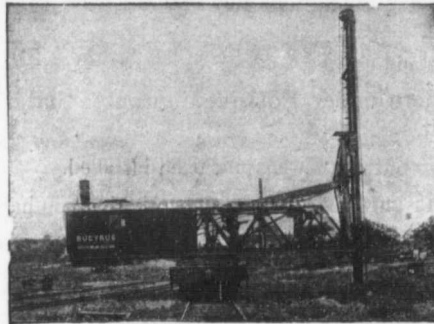
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CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY

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Pessimism and Health.

As long as this old world holds together and business continues, there will be bright faced optimism to predict prosperity and happiness, and dark-browed pessimism to foresee ruin and disaster. It would be an interesting study to ascertain just to what extent the condition of an individual's health is responsible for his view of the business situation and the future of the race in general. That, for the optimist, the sun shines with a more glorious light and that the flowers are colored with more brilliant hues than for the pessimist is a well known psychological fact. Equally well known is it that the latter exercises himself greatly to have his neighbor regard the world from a like depreciatory standpoint. On the other hand, the optimist takes no undue pains to bring the world to see things from his point of view and the pessimist for a time has the greater following. The former, however, is possessed of a clearer vision and is the creature of brighter, higher, nobler and more progressive impulses than is the pessimist. The one by his example of inspiring hopefulness and cheerful courage is a positively progressive force in the world; the other, from his gloomy, suspicious, dispiriting speech and demeanor, is just as non-progressive and discouraging.

Here then is to the health of the optimist, the seeker for the best amid the discouragements of the worst! At

this time of trade discouragement and business quietude his cheerfulness is indispensable. Already, however, he is in control of the situation and views with satisfaction the return of confidence.

To the business world, optimism is as the sunshine to the western wheat field; pessimism as the frost. The former is akin to hope, the latter to despair. Regardless of whence they come, optimism is inspiring, pessimism depressing. The former must prevail. Therein rests the hope of the race.

The Western Crops.

During the first week of March there has been a very heavy fall of snow in Manitoba, which has materially brightened the prospects of a good crop, for the prevailing impression among old pioneers is that a heavy snow fall is necessary to good crops in Western Canada. Much of the land in Manitoba, Saskatchewan and Alberta has been prepared for seeding, the long open fall last year having enabled the farmers to do a great deal more fall ploughing than usual. The prospects are that a much larger area will be put under crop this spring. Thousands of new settlers will seed and others are increasing their cultivated areas. The wheat crop will likely be increased anywhere from ten to fifteen per cent., but it is likely that the oat crop will be reduced, owing to the fact that seed cannot be procured, and new settlers cannot afford to pay the price of \$1.05 to \$1.10 per bushel now demanded for good oats. If the season is at all favorable an unusually early seeding is expected. A little has been done in the chinook belt of Southern Alberta, and at one or two points in Saskatchewan, but it will not likely be general for some weeks.

Building Homes.

One of the most noticeable and direct results of the recent financial disturbance is the manner in which real estate values in practically every part of the country have been beneficially affected. The increased interest manifested in real estate is not due

to any boom or false inflation of values, but rather to the fact that dwelling houses are being more and more regarded as a safe investment for funds that ordinarily would be placed on deposit with some financial institution.

Statistics thus far available show somewhat of a decrease in the aggregate outlay for construction work for which permits were issued in the first two months of the year, but this is attributable largely to the cessation of speculative building or the erection of large structures on borrowed capital. On the other hand, the work authorized shows many dwellings of a modest character undertaken by individuals and which, upon completion, will represent the savings of the owner. It is in these smaller operations, into which lumber, cement, brick, lime, etc., will enter that building activity will show first signs of reviving.

Perhaps no more opportune time for building than the present has been offered the man of moderate means who is anxious to build a home of his own. Not only are real estate values more satisfactory to investors than has been the case for several years past, but most items of building material are just now changing hands at more advantageous rates than will be the case a short time hence. This cannot last long. All material must presently assume an upward tendency. It is but a momentary lull in the roar of trade, and he is wise who grasps present opportunities.

Georgian Bay Canal.

A bill extending the time for the commencement of the construction of the Montreal, Ottawa and Georgian Bay Canal to 1910 has been reported at Ottawa.

The Minister of Railways remarked that the committee should be careful to insert in this bill a clause of the bill of 1906, which provides that the government may on one week's notice take possession of the property on paying the company the cost of construction to date, the cost to be fixed by arbitration. The Ministerial suggestion was acted upon.

Indignant Over Banks.

A representative of "The Commercial," Winnipeg, had interviews with a large number of retail merchants in that city last week, and reports considerable indignation at the action of the banks regarding the tight money situation. Quite a few retail dealers ventured the statement that the only dullness in trade throughout the country this year was caused by the refusal of the banks to give the usual accommodation to their customers. One dealer said that he knew of several merchants who had paid their indebtedness to the banks in the fall, expecting to receive loans later on if required, but when they went back they were met by a stern refusal. The banks would not let them have funds no matter how faithful or prompt they had been in the past.

A man who had been traveling over the provinces said that he saw wheat worth a dollar sold for 22 cents per bushel, simply because the funds were not available as in other years to handle it. Many farmers have still, it is said, considerable wheat for export, but are holding on to it for better conditions. These are of course farmers who are well off, and can afford to keep their produce in their granaries until it suits them to sell.

Montreal Realty Promising.

Discussing realty conditions in Montreal, the current issue of the Craddock Simpson Real Estate Records comments as follows:

"Real estate in Montreal was never in better condition than it is now, with a good demand for all kinds of houses and dwellings and for business premises. The market has sometimes been more active, but its outlook was never brighter, and in many sections property has been put on a better income-paying basis than it has enjoyed for years past. The recent losses in the stock market will probably have the effect of inducing more people to turn to real estate as an investment, and the result of this can only be a better market in the near future.

"The supply of buildings for either residential or business purposes has

not kept up to the demand, and rents in consequence, especially as regards dwelling houses, have an upward tendency. There appears to be a scarcity of houses for people who cannot afford to pay more than twenty dollars to about thirty-five dollars a month, and for all classes the construction of new buildings must proceed with much greater activity if the yearly addition to the population of Montreal is to be properly housed.

"Any man with money who wishes to combine philanthropy with moderately profitable business has an opportunity of doing so now by erecting medium-sized comfortable houses not too far from the business centres, and renting them at rates that would give a moderate return on the amount invested. The probable increase in value would be an additional advantage to the investor.

"The conditions of the mortgage loan market are taking a more favorable turn. Money is now being offered more freely, and first-class loans are being placed at 5 1-2 per cent. Lenders are, however, inclined to be very particular as to the security."

Canadian v.s. American Exports.

There is a striking contrast between the export freight business at St. John, N.B., and Portland. At the latter port the Thompson Line has cut out half its sailings, and will give only a fortnightly service to Liverpool, the reduction being caused by the scarcity of business. Other steamship lines have also reduced their sailings, and the freight traffic is reported as exceptionally dull. From St. John, however, the steamship companies cannot carry the freight. Every steamer is loaded to the hatches, and hundreds of car loads stand on the siding awaiting shipment. Grain shipments are particularly heavy. The first sixty steamships have carried away goods valued at \$13,434,645, which is four millions more than at the corresponding date last year.

It is the man who keeps his troubles to himself who loses them soonest.

Always Unfortunate.

Here I stand within the hall:
For the elevator bawl

With a frown.
"Going up?" I loudly cry,
And the urchin makes reply:
"Going down."

Here you see me buying stocks,
Hoping to acquire both rocks

And renown.
"Going up?" I loudly say.
But my broker answers, "Nay;
Going down."

When old Charon I shall meet,
Looking mystical, but neat
In his gown—
"Going up?" I'll murmur low,
And he'll doubtless answer, "No;
Going down."

—Washington Herald.

Painters Issue Ultimatum.

The painters and decorators of Toronto have issued a demand to their employers for 37 1-2 cents per hour, giving them until April 15th to accept. The union has made no demands for increased pay for four years past and the claim is made that this branch of skilled labor is the poorest paid of any. At present the minimum wage is 30 cents per hour and the maximum 35 cents. No change in the hours is asked. The present schedule is eight hours per day and 44 hours per week. During the past year the painters have been carrying on extensive organization work. There are now three districts, governed by a central district council. From now on the council will meet weekly instead of monthly. The membership totals 620 in the three districts.

Increased Freight Rates on Stone.

The Canadian Freight Association have advanced the freight rates on stone five cents a ton, taking effect March 1st. Buyers who find this increase added to their f.o.b. Toronto invoices, as it will invariably be, should place the responsibility on the railways and not on the producer.

Securing Dry Cellars.

In localities where a porous or sandy soil exists to the depth of six or more feet, cellars are usually dry without the use of any preventive to dampness, but where compact soil exists usually about 80 per cent. of all present cellars are more or less subject to dampness, as few have been waterproofed; that concrete, like brick and stone, is a conductor of dampness is known, but that it is more readily adapted to waterproofing only those experienced in waterproofing walls below the grade line have appreciated.

That a large amount of sickness is

drainage sewer nearer to the building than beyond the last trap shown in the illustration.

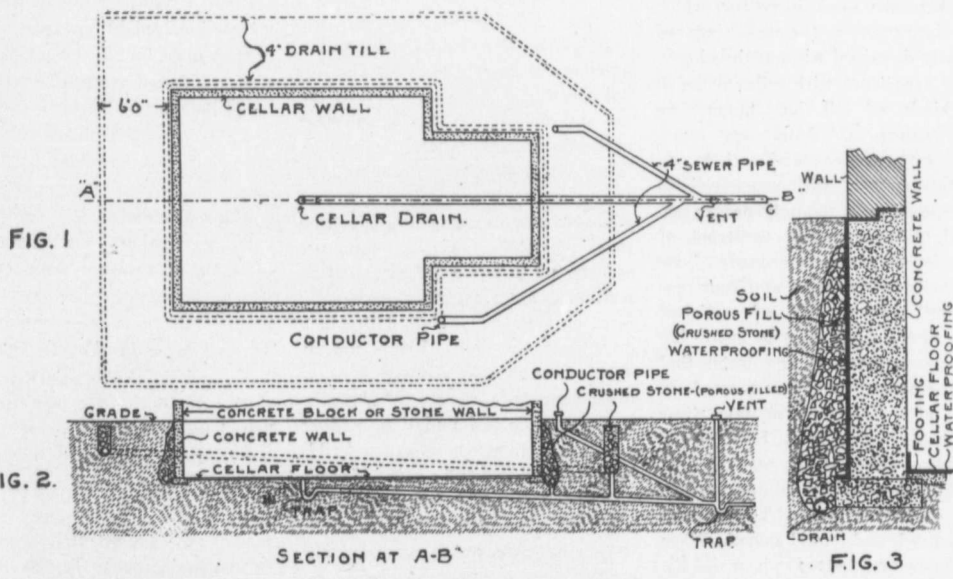
In Fig. 3 is shown a monolithic concrete wall below grade, it being the cheapest and strongest, and when waterproofed on the outside and on the top with the offset shown with any positive waterproofing it will insure dry walls, but causes water to remain on the outside, which is also injurious to health, and nothing but proper drainage will overcome this evil. Perhaps the best method is that shown in Fig. 3, consisting of loosely placed crushed rock against the wall, with a four or six inch porous drain

depth to insure proper nourishment for the lawn.

The two drains carry away the water, thus freeing the premises of all dampness.

One party became such a strong convert to my idea of drainage that he believes waterproofing unnecessary, and two years ago erected a dwelling, using a thirteen inch brick wall without waterproofing, but with the two drains shown in Figs. 1 and 2, which proved sufficient for local dampness, but not for rain storm periods of several days' duration.

I believe the waterproofing to be the most essential, but that the drains



caused by damp cellars our physicians have long ago realized, but as waterproofing does not add to the appearance while adding to the cost it is usually omitted, though medical bills more than make up this additional cost in a few years.

Health being more essential than beauty, I advise building along healthful lines, and a dry cellar is the most important part of a healthful residence.

In the illustration it must be remembered that the piping shown is for drainage only, and no provisions are shown for sewerage plumbing, which will require separate piping and should never be connected to, the

tile, whose joints are not cemented, placed in the bottom of the trench. The drain tile must have no less than one foot fall or drop in twenty feet, which is shown by Fig. 2. The size of the drain tile depends upon the length of wall, and four inch is sufficient for buildings less than sixty feet long.

In localities where clay soil or hardpan is found it is necessary to place another drain six feet from the building wall, which is placed in a trench of sufficient depth to be free from frost; this drain is also covered with crushed stone or brick bats, allowing space to cover with soil of sufficient

are also necessary can not be doubted, for it not only provides a healthful soil around the building but is a protection for the waterproofing. There are numerous materials that can be used for the porous fill, crushed sand stone or brick bats being perhaps the best, but gravel or coarse cinders are acceptable.

In no instance shall any part of the drain nearest wall be above the cellar floor level, but it may be much lower, the outside or lawn drain depth being governed by frost depth.

The cellar and conductor drains should be made of socket sewer pipe well cemented at the joints and have a trap at every opening on the inside

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of the building and one trap after all connecting drains have been entered into the outlet, and this trap must have a vent pipe as shown in Fig. 2 to prevent the formation of obnoxious gases. Some contend that the conductor pipe, having an iron pipe from the grade to the eaves of the roof, makes the best vent possible, but I have found that drains connected with street sewers often carry gases from the street sewers when the traps are not water sealed, in which event the vent shown would be an outlet for such gases.

The above covering the drainage of the walls and surroundings we must now consider the cellar floor, which is as important as the walls, but can be fully described without drawings.

My experience with cellar floors in all kinds of soil has taught me that waterproof floors are essential everywhere, and that cement, together with a reliable waterproofing, is the only proper material; this I usually construct of three inches of concrete, made of one part cement, two sand and four gravel, well tamped and of sufficient slope to the drain pipe to insure immediate drainage of any water that may be poured upon any part of the floor; after four or five days cover with a heavy coat of R. I. W. or Dehydratine paint or hot coal tar, and follow with an eighth to quarter inch coat of one part cement to two parts sharp sand, and trowel smooth. When tile floors are desired, place the tile while applying the top coat of the above described method.

In localities subject to springs or constant damp soil it is best to have six or eight inches of well rammed crushed stone footing under the concrete floor and several lines of drain tile spaced about eight feet apart with proper slope for drainage, and connected with the outside drains so as to insure proper drainage.

To insure completely dry cellars the waterproof paint and the top coat of cement is continued up the inside wall to a height of six or eight inches, as shown in Fig. 3.

Recently, a physician who enjoys a large practice chanced to see a drain-

age system as above described and it caused him to remark: "That not only insures dry basements but prevents the contamination of the air entering the building, making it an ideal hospital building."

In justice to the several successful waterproofing compounds not mentioned I desire to say that my practical experience has been confined to R. I. W. and Dehydratine, but have seen splendid results of others that were used by other parties.—American Carpenter and Builder.

Reinforced Concrete Construction.

It is most essential in order to appreciate the description of a reinforced concrete structure, as well as the use of this material, that a clear understanding of its meaning be had. When we speak of plain and reinforced concrete, we are dealing with two materials as different as is stone from wood. To the average lay mind not accustomed to analyzing a material's resistances against various stresses before considering its adaptability in a certain construction, this is not at once apparent. We usually think of plain concrete in masses. It plays the important role of foundation, holding up engines, power houses, tall buildings, steel bridges and a score of other like structures. This is because of its remarkable strength. Quite as readily we have grown to associate flat arch bridges, floors, some buildings, slabs, tanks and the like with reinforced concrete. This is because of its remarkable tensile strength. Moreover, here we have a material in thin sections, but against the danger of failure we are protected by the reinforcements in the concrete. The essential difference of reinforced from plain is found here. Our reinforced concrete has tensile strength; it has, so to speak, lost its brittleness and acquired the bending strength of steel or oak.

Reinforced concrete is a new building material. The significance of this statement becomes more apparent when we consider reinforced concrete

with some of the more common building materials of every day construction. What has been said of plain concrete, applies equally as well to stone and brick. Should we come to a creek spanned by a 3 inch x 12 inch plank, say about 10 feet across, we would not hesitate, I believe, to walk over it. If that plank were a 3 inch x 12 inch flagstone on such a span, the possibility of its cracking and the consequent ducking might cause us to hesitate. A reinforced concrete slab in the same position of the same size might cause us from its newness also to hesitate, but the truth of the matter is, there would be no other reason or danger involved in our crossing safely than upon the wooden plank. Like steel, reinforced concrete is very similar in the matter of resisting stresses. The differences though are quickly appreciable, if we consider an all-steel house, an all-steel floor and one of reinforced concrete.

No other material has the fine characteristic of growing stronger each year, save concrete. History contains many notable example of its durability, notably, Saint Peter's Dome, at Rome, and the canals and waterways of the Aztecs in our own country. Tests have shown that concrete, plain and reinforced, grows in strength as crystals forming increase in size with time. In fact, so far as we understand it now, the set of a concrete is but a crystallization. To this increasing strength we attribute concrete's wonderful durability.

No form of construction requires as little repairs. In fact we might say, reinforced concrete never is repaired because it does not need it. This high-absence of a maintenance cost has figured very largely in letting bridge contracts and has been another feature of its superiority for tank construction. When we add the saving of insurance and maintenance costs, we begin to see where, in some cases, the first cost alone may not be always the only feature entering into the selection of this material over others.

Modern Fire Resisters.

Every great conflagration acts as a sifter of good, bad and indifferent protective appliances in settling by actual experience the claims to effectiveness made on behalf of many fire resisters by more or less competent critics. The Baltimore, Toronto and San Francisco fires have brought forth volumes of reports and almost endless comment on the value of various forms of construction, building materials, sprinkling systems, fireproof

illustrations showing a brick wall, the openings of which were protected by two different kinds of doors. The relative power of resistance to fire of the tin clad shutters and the "Kinnear" steel rolling door is indeed noticeable, and whereas the one kind was burst open and practically destroyed, the other stood the test to perfection.

Ordinary steel plate shutters, as well as the tin clad, even though well braced with angle iron and on strong

front—the whole being designed to set firmly in a rigid frame, thereby reducing the chance of collapse through extreme heat or falling debris to a minimum. In the case of the Volkman Building they were subjected to the heaviest test, and the debris fell against them heavily, but, although bent, they were not forced out of the guide and provided complete protection as far as they were concerned.

It is interesting to note that wired glass was a complete failure in the light court of the Wells-Fargo Building, which was equipped throughout with this material in metal sashes. The wired glass melted out of the frames which were themselves badly warped and distorted by the heat. Moreover, wired glass cannot stand up against falling debris and may be completely demolished, even before the fire reaches its greatest heat.

For the enclosure and protection of all openings in which ease and speed of operation and economy of space are considerations, this form of door is very effective. Moreover, they are applicable to all classes of both new and old building construction, and by their use very large openings may be closed which could not otherwise be conveniently covered. On account of the form of the "Kinnear" slat the coil is much smaller than that of any similar curtain, and it is seldom that there is not sufficient space in the thickness of the ordinary wall to contain it. Where economy of space is desirable they are especially valuable, as goods may be placed in close proximity to the doors without interfering with their operation.

The rapid spread of fire has time and again been shown to have been caused by openings for freight or passenger elevators. For such openings, combined manual and automatic construction is designed, wherein the shutters may be operated at will by hand, but are closed automatically by fire. In the same way window openings in light-courts and large doors opening on narrow alleyways may be protected, though in some cases, particularly in light-courts, the shutters are made automatic and normally re-

(Continued on Page 21.)



"KINNEAR" SHUTTER AFTER A FIRE.

doors and partitions, etc. Our attention has been called to an exceedingly interesting series of photographs of more or less ruined buildings in San Francisco which were collected by the Kinnear Manufacturing Company, of Columbus, O., and published by them in catalogue form. We are enabled, through courtesy of their Canadian agents, Messrs. Mussels, Limited, Montreal, to produce one of these il-

lustrations, which will warp and burn out of shape and be rendered entirely useless.

The "Kinnear" door or shutter seems to have many important advantages over other forms of doors. In the first place the system of steel slats is bent in such a way as to develop the greatest strength of the material and at the same time interlocks, so as to form an impenetrable

Contracts Department

News of Special Interest to Contractors, Engineers, Manufacturers and Dealers in Building Supplies.

CONTRACTS OPEN.

Bridgewater, N.S.

Contracts will probably be let in May for the construction of a power plant for the Micmac Gold Mining Company; estimated cost \$50,000; consulting engineer, P. H. Moore, New York City.

Broadview, Sask.

A new brick hotel will be erected this season by W. H. Dayman, of this town.

Calgary, Alta.

In connection with the proposed extension of the telephone system it is likely that a central exchange will be erected in this city.

Batchelor, Marshall & Sharin are asking for tenders up to March 15th for supply of gravel and sand for construction of concrete walks in this city for the season of 1908.

Chippawa, Ont.

The British-Canadian Smelters, Limited, of Toronto, have decided to locate their large plant here on a site of twenty acres adjacent to the old Slater dock. The company will put up a plant for smelting and refining and employ five hundred men. Negotiations are under way for securing power from the hydro-electric commission.

Cookshire, Que.

Plans are being prepared for the erection of new public buildings here.

Cornwall, Ont.

A. H. McMillan, reeve, Roxborough township, will receive tenders up to March 16th for construction of drainage work in the townships of Roxborough and Cornwall. Specifications at offices of T. H. Dunn, C.E., Winchester, and R. C. McGregor, township clerk, Sandringham.

Dalhousie, N.B.

A new mill is to be erected here by the St. Lawrence Lumber Company, of Three Rivers, Que., at a cost of \$150,000.

Denison Township, Ont.

The Lorne Power Company are seeking authority to construct a steam or electric railway near Wabageshik Falls in this township.

Durham, Ont.

The Board of Works will prepare specifications and plans for a new bridge on Garafraxa street.

Edmonton, Alta.

H. T. Finch, proprietor of the Pendennis Hotel, is contemplating the extensive enlargement of his building.

John Stocks, Deputy Minister of Public Works, wants tenders up to March 21st for fire-proof windows, doors and frames, metal partitions, metal lath etc. Specifications may be seen at the branch office of the Department, at Calgary.

Bylaws for the following amounts have been carried: \$42,500, part cost traffic deck C.P.R. bridge; \$10,000, side walk construction; \$40,000, extensions to telephone system; \$60,000, extension light and power system; \$20,000, fire equipment and cost of new fire halls; \$130,000, street railway extension and paving.

Fort Frances, Ont.

The Manitoba Peat Company's plant will likely be rebuilt this spring.

The Backus-Brooks Company, of Minneapolis, are contemplating the erection of a pulp mill in this town.

Grand Forks, B.C.

Dr. Appleton, of Spokane, Wash., states that \$20,000 worth of new machinery is to be installed this season on the property of the Little Bertha Gold Mining Company before July 1st. The items will include a ten-stamp mill, crushers and concentrators.

Guelph, Ont.

The Berlin and Bridgeport Electric Railway will likely be extended to connect the villages of Bloomingdale, New Germany, Conestogo and other places with this city.

Hamilton, Ont.

The Markets Committee have engaged A. W. Peene, architect, to draw up plans for the new police station.

Halleybury, Ont.

A committee have been appointed to raise funds for the erection of the proposed hospital.

Letellier, Man.

Farmers in this district are organizing to erect a cheese factory early in the spring.

London, Ont.

It is considered probable that a wing will be added to the court house.

The estimates of the Western Fair Board for the coming season call for the expenditure of about \$7,000 for the enlargement of the buildings.

In addition to other projected improvements the Western Fair directors have decided to erect a new transportation building.

Tenders are invited by W. G. Murray, architect, Masonic Temple, up to March 14th for the erection of a school in section No. 9, London township.

A. O. Graydon, City Engineer, invites tenders up to March 12th for the following supplies for 1908: cement walks, curbs and gutters, corner irons, lumber, bridge lumber, gravel, glazed and concrete tile and cement, hardware, etc.

Marquette, Man.

A. Henry, Secretary-Treasurer, will receive tenders up to March 18th for \$2,000 six per cent. ten year Prairie school district debentures.

Montreal, Que.

It is stated that enlargements are to be made to the Savoy hotel, which has just changed hands.

At a recent meeting of the water committee, Superintendent Janin recommended the laying of a large water main at Water avenue to Delorimier avenue at a total cost of \$180,000 and it was decided to submit a report to council asking for this money.

Coincident with the visit to this city of Lord Ranfurly and J. X. Lavoie, respectively the English and Canadian vice-presidents of the Atlantic, Quebec & Western Railway, a few facts concerning the company's plans have been made public. The company are spending \$6,000,000 to secure a first class road from the Intercolonial at Metapedia to Gaspé Basin a distance of 200 miles. The railway are paying \$2,000,000 for the Baie des Chaleurs section, but they will be obliged to spend another million in rebuilding the roadbed, renewing some seventy-five per cent of the ties and reducing the curves generally. There are about twenty-six bridges on the lower section of the Atlantic, Quebec and Wes-

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tern, and all of these are to be built of concrete and steel, at a cost in the neighborhood of a million dollars.

Chief Benoit, of the Fire Department, is calling attention to the inadequate fire protection equipment of many of the city schools and says that prompt action should be taken.

Moose Jaw, Sask.

The school board will build a Collegiate School for ladies at a cost of \$100,000. William Grayson, chairman.

Nanaimo, B.C.

The construction of a nurses' home will be entered upon this season. \$5,000 has been donated towards the building by the Provincial Government.

New Glasgow, N.S.

Application will be made by the town council to secure legislation to engage in the manufacture and distribution of electricity for lighting and power purposes.

New Westminster, B. C.

The estimates now before the Legislature include \$60,000 for the erection of an insane asylum for this town.

The specifications submitted by J. A. Waddell, C.E., of Kansas City, for the Lulu Island bridge, estimated to cost \$76,000, were not in accordance with the civic plans and the engineer is now engaged upon amended estimates.

Niagara Falls, Ont.

The Public School Board have accepted the plans of architect Nichols for the erection of a school building to cost \$14,000.

Ninette, Man.

The sanitarium committee have decided to start building as soon as the weather will permit.

Norway Bay, Que.

W. J. Scobie, of Bristol, Que., will receive tenders up to March 20th for the erection of a summer hotel at this place.

Oakville, Ont.

C. A. Bradbury, town clerk, will receive tenders up to March 17th for \$25,000 twenty-year local improvement debentures.

Orillia, Ont.

Architect Siddall has been instructed to prepare plans for an addition to the Collegiate Institute. Rev. M. Moyna and Mr. Clark are members of the special committee.

Ottawa, Ont.

Rev. H. A. Young, pastor of the City View Methodist church, recently destroyed by fire, says that the congregation will rebuild.

Charles MacNab, County Clerk, invites tenders up to March 20th for \$15,000 twenty-year debentures issued by the county of Carleton.

The Ottawa South Methodists have endorsed the scheme for the erection of a new church building and Rev. F. G. Robinson is now busy getting in funds.

The C.P.R. have been authorized to construct bridges at or near the following points on their system; Lethbridge, Alta.; Carpenter Creek, B. C.; Mission Branch, B. C.; Bala, Ont.; Thames River, Ont.; Embro, Ont.; Brockville, Ont. and Badger Creek, Man.; C. N. Monsarrat, engineer of bridges, Montreal.

Peterborough, Ont.

The Board of Trade have passed a resolution in favor of asking Mr. Carnegie for a grant towards a public library.

A new wooden bridge will be erected this season at Deer Bay Creek. Reeve Brown, of North Monaghan, is Chairman of the Roads and Bridges' Committee of the County Council.

Portage la Prairie, Man.

An auxiliary system of waterworks to cost \$40,000 will be installed here. Plans prepared by Willis Chipman, C.E. Toronto.

Prince Albert, Sask.

Tenders for the market site have been referred to the market committee by the city council. A bylaw will be submitted to the ratepayers later.

Quebec, Que.

The steel cantilever bridge over the St. Lawrence river, which collapsed last spring, is to be rebuilt by the Quebec Bridge Company.

In order to overcome the problem of accommodating the thousands who will flock to Quebec this summer to attend the tercentenary celebration, it is probable that temporary hotels on a large scale will be erected.

Regina, Sask.

Tenders will be received until March 19 by Fred Gelinis, Secretary, Department Public Works, Ottawa, for installing a heating system in the new Public Building at this city. Geo. Willoughby, Clerk of Works, Regina.

Sherbrooke, Que.

F. J. Griffith, Secretary-Treasurer, will receive tenders up to March 20th for \$170,000 five per cent. twenty-five year debentures of this city, interest and principal payable in half yearly payments of \$5,993.86.

St. Boniface, Man.

At a council meeting held last week the secretary was instructed to write

to the city of Winnipeg asking for a conference with a view to constructing a new central bridge.

The Dominion government engineer has approved of the plan to divert the river Seine at Provencher avenue, and to erect a bridge of concrete and masonry work at a cost of \$80,000. The structure will be 65 feet in width.

Tillsonburg, Ont.

Alfred E. Raynes, town clerk, wants tenders up to March 20th for \$17,000 4½ per cent. debentures and \$8,500 5 per cent. debentures running for a period of twenty years.

Toronto Junction, Ont.

This town will likely secure the services of a permanent engineer.

The premises of the Sterling Bank, corner of Dundas and Keel streets, will be enlarged shortly.

A new building will be erected at the corner of Union and Dundas streets early this season by the Home Bank of Canada. Plans have already been prepared. The estimated cost is \$25,000.

Toronto, Ont.

The city engineer will recommend a sewage pumping station at Sunnyside bathing station.

An addition is to be made to the building of the Young Women's Christian Guild, McGill street.

At the annual meeting of the W. C. T. U., held recently in Massey Hall, it was stated that new headquarters to cost \$50,000, were to be erected for the Union.

Tenders will be received by H. F. McNaughten, Secretary, Department of Public Works, up to March 18th for an addition to Osgoode Hall. Specifications may be seen at the Department.

It is mooted that a large apartment house to cost \$100,000 to \$150,000 is to be erected on the corner of Carlton street and Homewood avenue opposite the Allan gardens. Negotiations are said to be well under way for the acquisition of the desired property.

Recent building permits include: G. Knaggs, pair semi-detached houses, Foxley street, \$11,000; H. Ford, two-storey brick dwelling, Clarence avenue, \$2,500; Wm. Kurry, moving picture theatre, Yonge street, \$5,000; S. J. Bent, two-storey brick store and dwelling, corner Bloor and Clinton streets, \$5,000; C. E. Proctor, three attached two-storey brick dwellings, Concord avenue, \$7,500; Amelius Jarvis, 1½-storey frame residence and boat house, Toronto Island, \$3,000; E. B. Shuttleworth, addition to fac-

tory, corner Wilton avenue and Victoria street, \$3,700; W. L. Bullen, three pair two-storey semi-detached brick dwellings, Montrose avenue, \$11,000; C. A. Grant, pair two-storey semi-detached brick store and dwellings, Pape and Badgerow avenues, \$4,800; Waters & Elliott, pair two-storey semi-detached brick dwellings, Clinton street, \$3,500; Charles Jolliffe, pair 2½-storey semi-detached brick dwellings, Havelock street, \$6,000; J. O'Leary, three attached two-storey brick dwellings, Wallace avenue, \$7,500; C. McCracken, 2½-storey brick dwelling, Havelock street, \$4,500; Wm. Halls, two-storey brick dwelling, corner Indian Grove and Ridout street, \$4,000; H. Butwell, three attached 2½-storey brick dwellings, Bloor street, \$7,500; Imperial Loan & Trust Company, alterations to offices, Yonge street, \$3,000; S. A. Weismiller, three attached brick dwelling, Fern avenue, \$7,500; Robert Boyd, two-storey brick dwelling, Lappin avenue, \$2,600; C. E. Proctor, pair two-storey and attic semi-detached brick dwellings, Ossington avenue, \$5,500; H. S. Harwood, 2½-storey brick dwelling, Admiral road, \$6,000.

Truro, N.S.

The Colchester Coal & Railway Company are taking tenders for the erection of a manager's residence, workmen's cottages and office building at De Bert Mountain, to be erected this spring.

Vancouver, B.C.

A. Caroli, proprietor of the Europe hotel, will put up a new hotel to cost \$150,000; architects, Parr & Fee.

R. V. Winch, of Robert Ward & Company, will erect a five storey apartment building to cost \$375,000. Hooper & Watkins are preparing the plans.

A six-storey business block is to be erected on the site of the old Leland hotel by the Canada Life Assurance Company. Plans are now being prepared in Toronto for this building, which will cost in the neighborhood of \$250,000.

Recent building permits include: Stone & Boulton, frame tenement, Hastings street, \$4,200; Richard Bowman, brick warehouse, Powell street, \$18,000; Carl S. Gustafson, frame dwelling, Davie street, \$3,200; William Kinch, frame dwelling, Eleventh street, \$3,000; A. Slater, frame dwelling, Tenth avenue, \$5,000; W. J. Cavanagh, concrete store and dwelling, Ninth avenue, \$2,700; A. G. Main, brick store and dwelling house, Park Drive, \$3,500. W. Oya, frame dwelling, Powell street, \$2,500; National Construction Co., theater, Gran-

ville street, \$9,000; Bedford Davidson, brick store, Hastings street, \$1,800; Martin & Robinson, brick stores and offices, \$75,000.

Victoria, B. C.

Plans for an addition to the post office to cost \$10,000 have been approved by the Government architect and tenders will be called for at an early date.

In the estimates for public work now before the Legislature, the total sum of \$778,585 is set aside for construction of roads, streets, bridges and wharves. \$86,380 will be voted for the same purpose on Vancouver Island.

It is reported that a company has been formed to erect a boarding school in this city at a cost of \$150,000. D. R. Kerr, C. A. Holland, John Nelson and R. V. Winch, all of Vancouver, are stated to be interested.

At a special meeting of the directors of the B.C. Agricultural Association held recently, it was decided to call for competitive plans for a one-storey building to be erected upon the agricultural park grounds to contain 20,000 square feet of floor space and to cost not more than \$12,000, this amount to include electric wiring and fixtures. J. E. Smart, Secretary-Treasurer, B.C. Agricultural Association, this city.

Walkerville, Ont.

The First Presbyterian church will undertake the erection of a new edifice this spring. An Assembly hall will also be built and a special committee have been appointed to secure plans.

Welland, Ont.

In regard to our announcement last week, it is further stated that the Capitol Lock Nut Company, of Columbus, Ohio, will take over the plant of the Robertson Machinery Company and spend \$100,000 in enlargements.

Windsor, Ont.

Plans are being prepared for a \$5,000 addition to the armories.

Winnipeg, Man.

A temperance hotel for immigrants may be erected by the Y.M.C.A. W. T. Hart is secretary.

\$5,000 has been donated by Grace church to the fund for building a mission church in the north end of the city. The total amount subscribed is nearly \$9,000.

In connection with the projected bridge over the Red river, we are informed that the plans are now being prepared and that construction will commence early this season. Tenders will shortly be called for.

A new parish house, to cost \$25,000, is to be erected by All Saints church, and plans for the proposed

building have just been completed by Cram, Goodhue & Ferguson, architects, New York. Darling & Peason, architects, this city, are interested in the project. It is stated to be the intention of constructing later a church to cost \$100,000.

W. D. Lumsden, Chief Engineer of the Transcontinental Railway, recently arrived in the city. He states that the first work on building construction to be undertaken this spring will be the erection of a round house on the site of the company's yards in the east end of the city. The construction of the large shops will be put in hand upon the completion of the plans.

Woodbridge, Ont.

The Canadian Railway Commissioners have approved plans of abutments and piers of the proposed bridge over Pine street.

CONTRACTS AWARDED.

Montreal, Que.

The fire committee have decided to purchase 3,000 feet of "Keystone" hose at \$1.00 a foot.

Vancouver, B.C.

G. C. Coulson has received the contract from R. Bowman for the erection of a four-storey concrete warehouse to cost \$20,000.

Winnipeg, Man.

G. L. Stephenson has received a contract from the city for plumbing and sewer connections at a figure of \$1,153.95.

Fires.

Sydney Hotel, Sydney, N.S.; loss \$5,000.

Building of Austrian Trading Company; loss \$3,000.

Pioneer Hotel building, Teulon, Man.; loss \$10,000.

Brick plant of J. Hoffman, Medicine Hat, Alta; loss \$5,000.

City View Methodist church, Ottawa, Ont.; loss \$4,000.

Premises of Minitonas Hotel, Minitonas, Man.; loss \$40,000.

Building of the Norman Block, Calgary, Alta.; loss \$20,000.

Warehouse of J. A. Gagnon & Company, Quebec, Que.; loss \$5,000.

Property of James Martin and others, Rounthwaite, Man.; loss \$20,000.

Office building of Eastmure & Lightbourn, Toronto, Ont.; loss \$2,000.

Factory of James Smart Manufacturing Company, Brockville, Ont.; loss \$5,000.

Washing plant of Dominion Coal Company, Morien Junction, Glace Bay, N. S.; loss \$7,500.

New Companies.

Wabi Improvement Company, Limited, Haileybury, Ont., incorporated, C. A. Foster, K. G. Robertson, A. E. Way and H. L. Slaght, all of Haileybury.

Bowman-Gray Lumber Company, Limited, Dundas, Ont., incorporated, capital \$40,000. Incorporators, J. H. Bowman, A. McL. Gray, M. T. Brown and others, all of Dundas.

Churchill Development Company, Prince Albert, Sask., incorporated, capital \$20,000. Incorporators, J. Patterson, H. G. Wright, J. F. Monck and J. M. Gibson, all of Hamilton, Ont.

Britnell & Company, Limited, Toronto, Ont., incorporated as lumber manufacturers, capital \$40,000. Incorporators, W. Britnell, A. E. Britnell, Thos. Reid and C. W. Thompson, all of Toronto.

Toronto Indestructible Brick Company, Limited, Toronto, Ont., incorporated, capital \$100,000. Incorporators, A. Cohen, C. F. Ritchie, A. G. Parish, George Keogh and A. Thompson, all of Toronto.

Hamilton Independent Brewing Company, Limited, Hamilton, Ont., incorporated, capital \$200,000. Incorporators, A. L. Burke, W. E. Burke, T. E. Launders and J. T. Greenaway, all of Hamilton.

Toronto Fireproofing & Concrete Company, Limited, Toronto, Ont., incorporated, capital \$40,000. Incorporators, W. E. Denise, Edwin Lake, J. A. Jackson, J. G. Holden and J. E. Denise, all of Toronto.

Trinidad De Cuba Light and Power Company, Limited, Belleville, Ont., incorporated, capital \$100,000. Incorporators, E. G. Sills, O. A. Marshall, James Little and J. J. Flint, all of Belleville, Ont., and others.

Westrumite Company of Canada, Limited, Toronto, Ont., incorporated to manufacture road material and machinery and to carry out contracts for roadways and sidewalks, capital \$100,000. Incorporators, J. A. MacDonald, F. M. McDowell, R. R. Grant, W. A. Hare and others, all of Toronto.

Canadian Stewart Company, Limited, Montreal, Que., incorporated to carry on a general engineering and construction business and to manufacture machinery, capital \$100,000. Incorporators, C. F. Franson, of New York, N. Y., and A. Bissett, J. T. Ostell, F. H. Shaw and D. B. Smith, all of Montreal, Que.

Psi Delta Psi House of Toronto, Limited, Toronto, Ont., incorporated to erect and maintain a residence or dormitory for students of Toronto University, capital \$20,000. Incorporators, P. G. Brown, J. M. Wilson, A. E.

Bunnell, E. L. Cousins, C. M. Hincks, K. A. MacKenzie and J. J. MacKenzie, all of Toronto, Ont.

Business Notes.

J. E. Collin & Company, plumbers, Quebec, Que., have registered.

It is stated that Ouimet, Henri & Company, builders and contractors, Montreal, Que., have dissolved,

George Tomlinson, contractor, Ottawa, Ont., has assigned to E. A. Lar-mouth; creditors meet March 16th.

The city council, of Strathcona, Alta., have sold \$243,000 debentures, bearing 6 1/2 per cent. interest, at par to the Imperial Bank.

G. A. Stimson & Co., of Toronto, have just purchased a block of \$1,925 bonds of the township of East Luther, bearing 5 per cent. annual instalments.

G. A. Stinson & Company, of Toronto, have just purchased \$11,367, bonds of the town of Carberry, Man., bearing 5 per cent. interest and maturing in 20 annual instalments.

S. Cunard & Co., Halifax, N.S., will receive tenders up to March 16th for the cargo of the "Affezione" now lying at the dry dock and consisting of 704 M spruce lumber, 1 by 3 to 1 by 11, shippers, and 51 M, spruce lumber, 1 by 3 to 1 by 11, seconds.

Wood, Gundy & Company, Toronto, were the successful tenderers for \$36,779.89 five per cent. debentures of the town of Waterloo. Following are the bids received: Wood, Gundy & Company, Toronto, \$37,460; W. C. Brent, \$37,319; Dominion Securities Corporation, \$37,148; W. A. MacKenzie & Company, \$36,858; Emilius Jarvis & Company, \$36,051—all with accrued interest.

Mayor Ashdown of Winnipeg, is in favor of issuing stock or debentures to raise \$1,000,000 for expenditure on works for 1908. Members of the council suggest \$1,500,000 for improvements and there is likely to be a compromise at \$1,250,000. Whatever amount is decided upon, stock or debentures will be placed on the market some time this month, together with the rest of the city's securities.

Building News.

At Montreal, forty-four permits for an estimated expenditure of \$72,590 were issued for new structures by the building inspector in February. In January there were 27 permits for an estimated expenditure of \$55,650. Permits for alterations and repairs in

the same period were issued to the amount of \$64,790. The figures are only a trifle lower than for the two corresponding months in 1907.

Building operations at Prince Albert, Sask., promise to be lively this spring. The Imperial bank propose starting work on their new block as soon as excavation can be started. The bank's present quarters are much too small and something has to be done. The new \$90,000 high school building and St. Albans's school for girls, to cost \$20,000, will be built this year. Work on the C.N.R. rail and traffic bridge is progressing very favorably. Both abutments are completed and the eight piers are well under way. Work is being pushed day and night. The bridge, when completed will give access to the rich Shelbrook country across the North Saskatchewan and will lap the main line at Battleford.

At Edmonton, Alta, the Compensation Act has finally been passed with several amendments, the most important of which include the following: In the case of accidents in building operations, a height of thirty feet instead of forty feet as in the original bill. In case of the wilful or serious misconduct of the work, if the injury results in death or permanent disablement. In the original it was payable only when death resulted. The weekly payments are raised from \$5 to \$7.50 and the compensation on death from \$1,500 to \$1,800. The trades and labor councils pressed the government to eliminate the height of buildings entirely, but the government could not see the wisdom of it. The meaning of several sections was made clearer by the adoption of minor amendments.

For the second time this year the monthly returns of the building department at Vancouver show an excess over the corresponding months of last year. The February total amounts to \$368,225 as against \$319,220 for last February, an advance of \$49,005. The advance over the 1907 record for the months of the year now stands at \$217,425. Building Inspector Jarrett states there will be no difficulty whatever in rolling up a six-million-dollar total for the present year.

Following the announcement just made of the completion of the deal with the G. T. P. a contract will immediately be made awarding the contract for the construction of 100 miles of railway from Prince Rupert eastward at approximately \$8,500,000. The most important feature is that construction work begins this year and is to be carried on continuously until the line reaches the eastern boundary of the province.

TENDERS AND FOR SALE DEPARTMENT

Young man with commercial business experience and financial training has about \$5,000 to invest in partnership with some experienced contractor engaged in rail-road, dredging or similar construction work. Reply will be considered confidential. Address J. G. W., CONTRACT RECORD, Toronto. 11

TO CONTRACTORS.

Sealed, whole and separate bids will be received by the undersigned up to MARCH 20TH, 1908, for the work of erecting a Banking House in Windsor, Ontario. Plans and specifications may be seen at the offices of the Architects, on and after March 8th. The right is reserved to reject any or all bids.

CARRERE & HASTINGS
and
EUSTACE G. BIRD,
Architects.

Toronto Office: 828 Traders Bank Bldg.

NOTICE

Sealed bids will be received at the office of the City Clerk of Vancouver, British Columbia, up to noon of SATURDAY, APRIL 4TH, 1908, for the manufacture and erection of the Superstructures of the new Bridges over False Creek at Westminster Avenue and Granville Street. Estimated weight of structural steel, about 2,800 tons.

Plans and specifications will be on file at the City Engineer's office, Vancouver, on and after SATURDAY, MARCH 14. Copies of all the papers may be secured from Waddell and Harrington, Consulting Engineers, Kansas City, Mo., upon the receipt of a deposit of twenty-five dollars, which will be refunded upon return of the plans and other papers in good order. 14

TENDERS FOR CEMENT

Tenders will be received by the undersigned up till noon on

Wednesday, April 1st, 1908

for the supply of Portland Cement required by the Corporation of the Town of Galt for the coming season. The quantity is estimated at 2,000 barrels more or less. The lowest or any tender need not necessarily be accepted. Specifications furnished on application to

JOSEPH MCCARTNEY,
Town Clerk. 12

Galt, March 27th, 1908.



TO CONTRACTORS

Sealed Tenders, endorsed "Tender for Work," addressed to the undersigned, will be received up to noon on Wednesday, the 18th day of March, 1908, for the building of an addition to the west wing of Osgoode Hall, in the City of Toronto. Plans and specifications can be seen at this Department.

An accepted bank cheque, payable to the order of the Hon. J. O. Reame, Minister of Public Works, for five per cent. on the amount of the tender, and the bona-fide signatures and business addresses of two parties as securities, or the bond of a guarantee Company, approved of by this Department, is to accompany each tender.

The Department will not be bound to accept the lowest or any tender.

By Order,
H. F. McNAUGHTEN,
Secretary Public Works Department.

Department Public Works, Ontario.
Toronto, March 5th, 1908.

Newspapers publishing this advertisement without authority will not be paid for it.

POSITION WANTED

Civil Engineer (20), A.M. Inst., C.E., 11 years sewerage and sewage disposal experience, desires position of responsibility with consulting engineer or contractor, with view to partnership preferred. Box 120, CONTRACT RECORD, TORONTO, Ont. 11

SUPERINTENDENT OR FOREMAN

I have held the Position of Superintendent and Foreman in Canada on Reinforced Concrete Construction for the past 6 years, before that I was superintendent and foreman on Mill Construction, Wharf Building and Railway Construction. Can produce good work at minimum cost and am open for re-engagement on any of the above works. Box 123 CONTRACT RECORD, Toronto. 12

FOR SALE.

One 7 x 12 Beatty Hoisting Engine with swinger, and stiff leg derrick with clam shell attachment, also one one 7 x 12 Beatty Hoisting Engine, one Beatty swinger and one set of stiff leg derrick irons. All in first-class condition. For particulars address

THE CADWELL SAND & GRAVEL CO.
Windsor, Ontario. 13

Debentures For Sale VILLAGE OF ELMIRA

Sealed tenders will be received by the undersigned up to 7 o'clock p.m. on the 6th DAY OF APRIL, 1908, for the purchase of \$7,500 4 1/2 per cent. Debentures, payable in twelve years, re loan to "Elmira Interior Woodwork Company, Limited," and \$22,000.00 4 1/2 per cent. Debentures payable in thirty years, re Waterworks. Particulars from the undersigned. No tender necessarily accepted.

JOHN H. RUPPEL, Clerk. 14

CITY OF SHERBROOKE.

Debentures For Sale

Sealed tenders will be received by the undersigned up to noon of FRIDAY THE TWENTIETH DAY OF MARCH, A.D., 1908, for the purchase of ONE HUNDRED AND SEVENTY THOUSAND DOLLARS (\$170,000.00) worth of twenty-five years annuity debentures of the City of Sherbrooke bearing interest at five per centum per annum. Interest and Principal payable in half yearly payments of FIVE THOUSAND NINE HUNDRED AND NINETY THREE DOLLARS AND EIGHTY SIX CENTS. On the 2nd October and April in each year.

Tenders to be marked "Tenders for debentures." For copies of by-laws and other information apply to the undersigned.

F. J. GRIFFITH,
Secretary-Treasurer. 12

Sherbrooke, 27th February, 1908.

Notice to Contractors CIVIC SUPPLIES

Sealed tenders, addressed to the Chairman of the Board of Control, City Hall, Ottawa, will be received by registered post only, up to 12 o'clock noon, TUESDAY, THE 24TH DAY OF MARCH, 1908, endorsed Tender for "Brick", "Broken Stone", "Curbing", "Cement", "Plank and Cedar", "Sand", "Vitriol Clay Pipe", "Brass Work", "Castings", "Cast Iron Pipe", "Hydrants and Valves", "Lead Pipe and Pig Lead", "Oils and Grease", or "Street Sprinkling Carts". Specifications, forms of tender and full particulars may be obtained at the City Engineer's Office, City Hall, Ottawa.

The Corporation does not bind itself to accept the lowest or any tender.

NEWTON J. KER,
City Engineer. 12

Ottawa, March 5th, 1908.

POSITION WANTED

As superintendent or chief engineer of electric light plant; eight years' experience; references. Box 124 CONTRACT RECORD. 11

POSITION WANTED

Foreman &c. strictly sober, desires position in charge concrete foundations, excavations, sewers. Handle men to advantage, conversant with plans and profiles. Address Box 385 CONTRACT RECORD. 11

FOR SALE LARGE CONCRETE PLANT

20 acres of splendid land on T. H. and B. Railway; near Welland, Ontario, with buildings, machinery and dry houses, for the manufacture of concrete blocks and bricks in all shapes. For sale and terms, apply to

N. W. PORTER, Esq.,
Arlington Hotel, Welland, Ont. 13

TENDERS FOR SUPPLY OF TURBINE PUMPS

Sealed tenders addressed to the Chairman of the Board of Control for supply of turbine pump of 2,500.000 Imperial Gallon capacity with electric motor for City Water Works will be received at the office of the undersigned up to 12 O'CLOCK NOON ON TUESDAY, MARCH 24TH, 1908. Specifications and form of tender may be obtained at the office of H. N. Rutman, City Engineer, Winnipeg. Each tender must be accompanied by an accepted cheque or cash deposit for the sum called for in the form of tender supplied, which will be subject to forfeiture in case of failure on the part of the Contractor to enter into a written contract with approved surities if called upon to do so. The lowest or any tender not necessarily accepted.

Board of Control Office, M. PETERSON,
Winnipeg, Feb. 24th, 1908. Secretary.

Builders' Exchanges in Convention.

There was held in Washington during the past week the annual convention of the National Association of Builders' Exchanges. Representatives of many of the contractors' and builders' organizations in the United States and Canada met together for discussion of matters relating to the building interests.

Magnets for Handling Glass.

It has been proposed to use electro-magnets for lifting and handling large panes of glass. This is accomplished by placing a piece of sheet iron under the glass, and applying one or more electro-magnets on the upper face of the glass. The electro-magnets attract the sheet iron, and thereby hold the glass suspended while moving.

Modern Fire Resisters.

Continued from page 15.

main open, closing only in case of fire.

Recent great conflagrations have fully vindicated the claim of "Kinnear" steel rolling doors to pre-eminence as a fire stop, and when placed side by side with various other forms of fire retardants they have in every case remained in place, even after the others were destroyed. Nevertheless, it must not be supposed that other considerations have been put aside in making them fireproof. It has been briefly pointed out above how applicable these doors are to all forms of buildings.

It must also be noted that many buildings have been equipped with them, irrespective of their fireproof qualities, in view of their ease of operation, economy of space, strength and durability. Street railway car barns, grain elevators, freight warehouses and sheds would be better equipped with these doors, even if there were

no possibility of fire to be considered. Not only that, but the same style of door can be made in wood if desired. These meet the demand for round-houses and other buildings where wood is preferred and where a fire-proof door is not essential. They are also adaptable to use as interior doors and partitions, particularly where economy of space is desired.

Death of Thos. Murray.

Mr. Thomas Murray, of 44 Rose avenue, this city, died last week after an illness of several months, at the age of seventy-nine. Deceased was born in Canonbie, Dumfriesshire, Scotland, and came to Canada in the year 1852, settling at Niagara Falls, where for many years he was connected with the old Great Western Railway, and to the last generation probably no man was better known in the Niagara Peninsula.

About the year 1875 he left the railway company to become a member of the firm of Lobb, Dawson & Murray, contractors for public works,

and removed to Thorold, and afterwards to St. Catharines, where he resided for some years. Besides other contracts the firm built a large section of the Welland Canal, including the railway tunnel.

For some years after this Mr. Murray had large lumber interests in Northern Michigan, retiring from that later and opening and operating stone quarries in Pelee Island and the Credit Valley, continuing at the latter place up to the time of his death. About twenty years ago he removed from St. Catharines to Toronto, where he has since lived.

To Memorialize Government.

A resolution is being framed by the Executive of the Labor party to be forwarded to the Government protesting against the selling of western lands to railway companies and speculators and holding that the bona fide homeseeker should be given more consideration.

WRITE FOR CATALOGUE
FULL PARTICULARS AND ESTIMATES FURNISHED



**Machine Banded
Wood Stave
WATER PIPE**

For city and town Water Systems, Fire Protection, Power Plants, Hydraulic Mining, Irrigation, Etc.

One-half the cost of Iron Pipe—and better.

PACIFIC COAST PIPE CO., LIMITED

P.O. BOX 563 VANCOUVER, B.C.

CONTRACTORS!

Protect your hoisting engines, concrete mixers, etc., by painting them with Esco Steel Coating. We guarantee that they will be absolutely proof against rust and corrosion.

Your derricks or other exposed wood work can be made absolutely waterproof and proof against rotting by painting them with Esco Steel Coating.

AGENTS WANTED

Circulars and full information furnished on application to
EADIE-DOUGLAS COMPANY
22 St. John St., Montreal

M^CGREGOR & M^CINTYRE

LIMITED

67 to 91 Pearl Street, Toronto, Ont.

Structural Iron Works

Beams, Channels, Tees, Angles, Chequered Plates, etc., in stock. Fire Escapes, Sidewalk Doors, Iron Stairs, etc., etc.

Sole Agents for

Duplex Hangers and Goetz Post Caps, Wall Boxes, Etc.

PHONES: 7248
7249

ESTIMATES FURNISHED

School Sanitation.

A very interesting circular has been issued by the Indiana State Board of Health, entitled "Why Not Protect the School Children?" While the statements made in the pamphlet are not new, they cannot be too frequently repeated, in view of the fact that so many schools are still heated by stoves, although the lethargy or short-sightedness of school boards can be assigned as the only reason for the lack of proper heating equipment. In Toronto even there are schools wretchedly heated and ventilated, while scattered through the small towns and country are hundreds no better. To quote the pamphlet:

"A schoolroom in which there is a stove is never evenly and uniformly warmed, and the same air, or about the same air, is heated over and over, denying the pupils the amount which nature says they must have to keep well. Besides this, the children near the stove are overheated and made uncomfortable, and in consequence cannot study and progress as they should. They are also rendered more

liable to catch cold when they go out. All of this is a handicap upon them. But remember, also, that the children seated away from the stove are cold and chilly, and in consequence cannot study and progress as they should, and they, like the overheated ones near the stove, are more liable to catch cold. So it appears that heating schoolrooms with stoves is a money loss, for it puts a handicap upon the progress of the pupils, and besides makes them more liable to colds. Indeed, it is extravagant, bad business, unjust and cruel to the children.

"It is absolutely impossible to properly ventilate a schoolroom by windows and doors in the winter time. To ventilate properly it is necessary to have ventilating ducts of ample size and always in good working order, and it is necessary to have a furnace of ample size taking fresh air from outside, warming and then introducing it into the schoolroom."

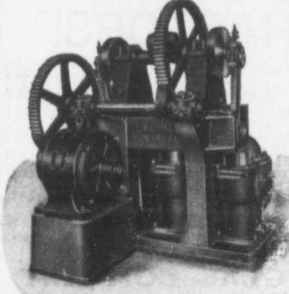
Cardinal & Jean, lumber manufacturers, Montreal, Que., have dissolved partnership.

A Utility Pipe Wrench.

A utility pipe wrench consists of an ordinary monkey wrench and a piece of an old round file. Place the wrench on the pipe, leaving a little space between the pipe and the wrench jaws; place the piece of file in the open space and turn the wrench. Two monkey wrenches may also be used as two pipes wrenches by their use in gripping in opposite directions.

Used American Material.

Canadian cement and steel manufacturers are dissatisfied over the working out of the reciprocal agreement between Canada and the United States in respect to the supplying of material for the \$12,000,000 tunnel between Detroit and Windsor. They claim American manufacturers have been awarded practically all the contracts. Particularly do they object to the use of United States cement and steel in the three-quarters of a mile wholly on Canadian territory. An appeal is to be made to Ottawa.



"LAURIE"
Power
Pumps

FOR
General Water Supply
Municipal Water Works
Mine Pumping, etc.

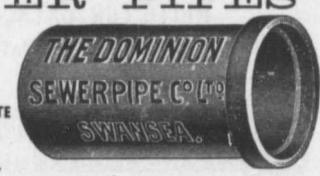
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**LAURIE ENGINE
AND
MACHINE CO.
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Edison's House Impracticable.

Mr. Edison's plans for constructing cement houses in a single casting do not appeal to a correspondent of "Engineering News," who indulges in the following satirical remarks concerning the scheme:

I am struck with admiration at the off-hand way in which a great mind brushes aside the many perplexities that trouble the ordinary designer of concrete buildings. The casting of plumbing fixtures and plumbing pipes in place is certainly a startling idea; but if this can be accomplished, why not carry the idea farther and have the necessary furniture cast in place? Dishes may be cast on the dining room table and arranged with flush-

ing rooms and wastes like the plumbing fixtures, so that the trouble of dish-washing may be done away with forever. When thinking along this line one's ideas expand so rapidly as to cause hesitation in presenting them, but it seems to the writer that if the householders' sensibilities are so blunted as to make him willing to occupy a cement dwelling which is precisely like 30,000 others, presumably in the same town, he would almost be ready to consider cement napkins and cement bedding.

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An Adjustable Building.

The St. Paul Auditorium, which has just been opened, is an elastic sort of affair. According to the "Bellman," the local architects have invented mechanical appliances by means of which a row of boxes and balcony will swing toward the centre and walls will drop from out of the ceiling, cutting off about half of the area of the building and making a good sized, well proportioned, fan-shaped room suitable for a concert hall.

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Municipal Bridges.

(Continued from last issue)

COMMON DEFECTS OF BRIDGES.

The more common defects of steel bridges are:—

(1) Weak joints and connections. A bridge is no stronger than its weakest part.

(2) Insufficient, small, and badly formed rivets. Shop rivets are usually satisfactory, but field rivets are very often loose, badly formed, burned, bent, and the connected plates twisted.

(3) An inferior form of truss. The amount and weight of steel used in a truss is of little account if the design is weak.

(4) The use of inferior metal. For large and important bridges, inspection should commence at the rolling mills, or at the bridge works. When steel is assembled and painted it is difficult to detect metal that is too hard, which has been rolled when cold, or has other defects. Bridge companies are apt to put into bridges metal from other work.

(5) The entire bridge, or an occasional member, too light. This can only be overcome by careful scrutiny of the plans by an engineer. It is a fault very common to work done by local men who have little more facility for bridge erection than a blacksmith. The engineer by fixing the loads to be carried can determine the necessary size and shape of each piece of steel in the bridge.

(6) Defective field erection. When a bridge is being erected in the field a company may send their own foreman, or may let the work as a contract to some one who is more or less capable. Field work must be examined to see that members are straight and properly assembled. Under a careless foreman certain members may be bent, twisted, placed end for end, etc.

(7) Insufficient attention paid to painting. Inferior paint, carelessly applied to rusted steel, is a common defect.

(8) Necessary bracing or members may be omitted. A steel bridge should be so constructed as to be an independent unit, without relying on abutments or piers for stiffness.

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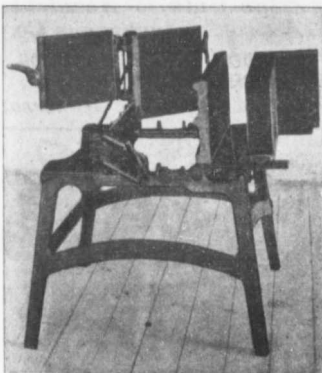
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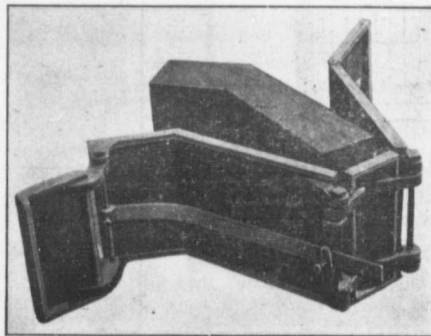
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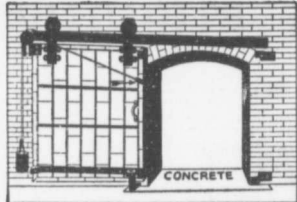
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(1) The specifications in accordance with which the bridge is to be erected.

(2) The length of bridge or of each span from centre to centre of bearings, or from face to face of abutments or piers.

(3) The clear width of roadway required.

(4) The live loads for which the trusses and flooring system are to be designed.

(5) The kind of floor to be used.

(6) The nearest railway stations, and length of haul to the site of the bridge.

(7) The character of the river bed, depth of water, speed of current, and height from the bed of the river to floor of the bridge.

The style of bridge to be erected, if there is any preference in respect of kind and height of trusses, riveted or pin connections.

(9) If the bridge is skewed, the necessary angles should be given.

(10) The number and size of piers, if any.

(11) Number and width of foot walks, and kind of hand rails.

(12) When the work is to be completed.

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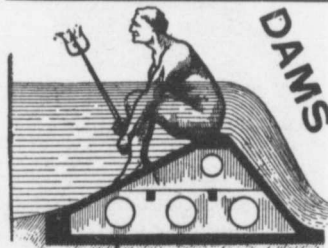
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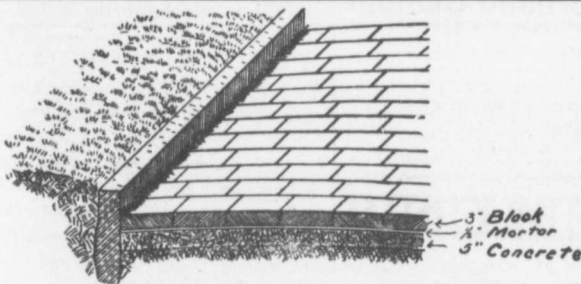


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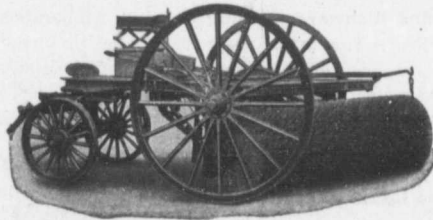
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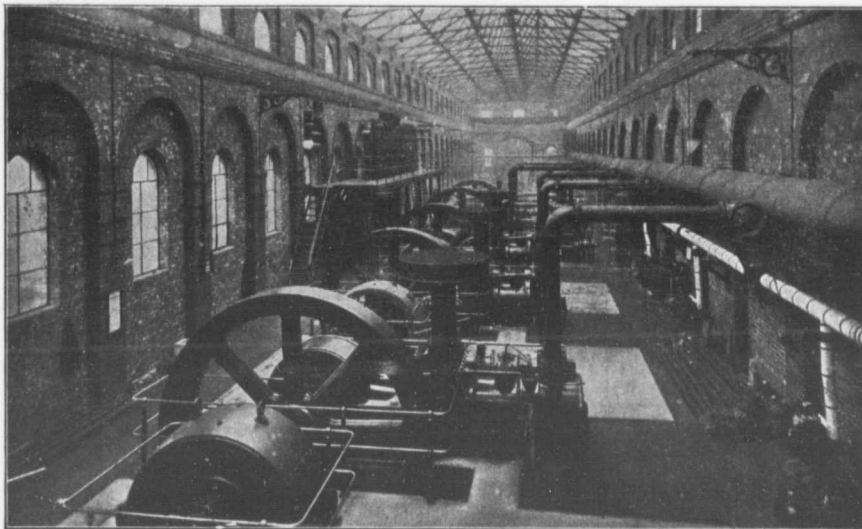
The life of a steel bridge is largely dependent upon the manner in which it is first painted—and afterwards kept painted. Unless kept properly painted, they deteriorate very rapidly. Railway bridges are greatly injured by the vibration caused by heavy moving loads. But in the case of highway bridges, rust is the chief destructive agency. If they could be fully protected from rust, steel highway bridges would practically last forever. It is found that painting is required about once in five years; oftener if the bridge is in a much exposed situation by a lake shore.

Before painting steel, the surface should be absolutely free from rust, scale, moisture and grease. Rust is removed by scraping with steel scrapers, and scale by the use of stiff wire brushes. Rust left beneath the paint will spread, in time the paint will flake off, and the metal is then wholly exposed to the destroying action of air and moisture. As portions of the metal in a bridge are only 1-4 and 1-6 of an inch thick, it is evident that rust, acting on both sides, can greatly weaken the structure. Connections, too, require special care, to see that they are fully protected. Bridge companies rarely exercise sufficient care, when erecting a bridge, to see that the scale is fully removed and the bridge properly painted.

The materials commonly used in painting bridges are red lead mixed with linseed oil; and oxide of iron, with linseed oil. The former is much the more desirable paint. These are subject to much adulteration and care has to be exercised to procure reliable materials. Lamp-black added to red lead will change the color to a rich chocolate, and will not injure the paint.

A useful paint consists of red lead, lamp-black and pure raw linseed oil, mixed in the proportions of one pound of lamp-black, eight pounds of red lead and one gallon of linseed oil. The red lead and lamp-black should first be mixed dry, the linseed oil added, and the mixture stirred to a uniform consistency.

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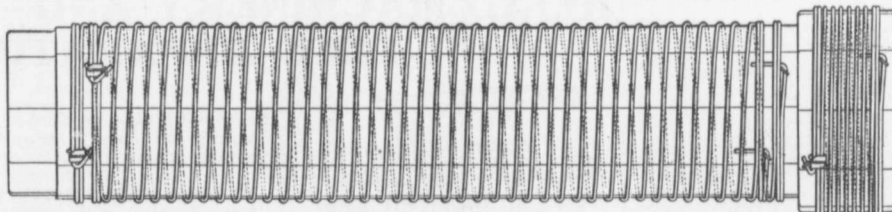
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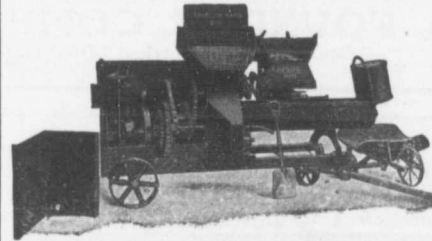
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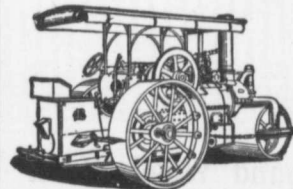
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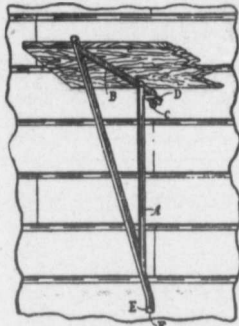
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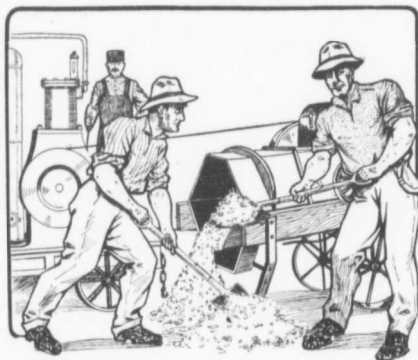
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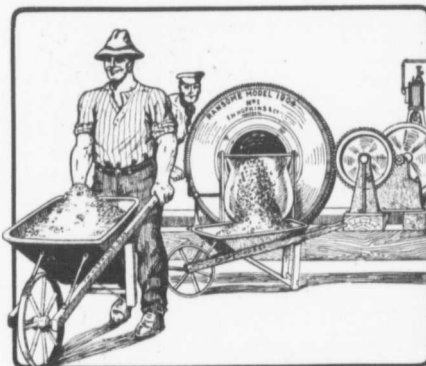
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