

BRICK

A Monthly Magazine, devoted to Brick, Tile, Terra Cotta and Allied Clay Industries.

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We want our readers to feel always that BRICK is their paper, and that what interests them interests its publishers and subscribers. We will therefore appreciate most highly any communications, questions, experiences or suggestions, or marked copies of local papers containing items of news pertaining to the interests of clayworking.

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J. R. Van Buren has put in operation a new brick works at Griswoldville, Ga.

T. J. Adams, Matthews, Fla., is reported to be in the market for brickmaking machines.

Nelson & Dawson, Rolfe, Ia., are making extensive improvements at their brick and tile plant.

J. W. Darby, Greenfield, Ia., started fires under his first kiln of brick at the newly opened yards, October 3d.

The American Clay Manufacturing Co. made application, October 8th, to list its securities on the Pittsburg stock exchange.

J. B. Gittings has purchased the brickyards of Thomas Mooney at Walsenburg, Col., and is burning a kiln of 150,000 brick.

A. Van Bridgle, formerly connected with the Rookwood Pottery, contemplates erecting a large pottery works at Denver, Col.

J. Lundle Sloss, Birmingham, Ala., is preparing to purchase the mechanical equipment for a new pottery to be erected in that city.

The Ohlemacher Brick Co., Michigan City, Ind., has installed new machinery which considerably increases the capacity of its plant.

R. Elson Whitaker, formerly a brickmaker of Canton, O., and now a resident of Oskaloosa, Ia., contemplates opening a new brick works at Albia, Ia.

Krels & Monday, Knoxville, Tenn., have installed new machinery at their brick factory at a cost of \$25,000, and are preparing to open a new marble quarry.

The Suburban Brick Co., Moundsville, W. Va., is about to commence the erection of an addition to its plant, which will give employment to 25 extra men.

The Chittenango China Co. at Chittenango, N. Y., are adding two kilns to its already extensive works.

The Eastern Paving Brick Co. of Catskill, N. Y., was the lowest bidder on contracts for 104,000 shale paving brick for the city of Albany, and received the award.

The board of public works, Holyoke, Mass., has decided to purchase 50,000 paving brick of the Catskill (N. Y.) Brick Co., to be used in paving a principal street in Holyoke.

The Walker Rand Brick works, Blackinton, Mass., will furnish 600,000 brick to be used in the erection of the new factory of the Rummage Paper Co., Monroe Bridge, N. Y.

Captain Nelson Swezey has purchased a site for a brickyard on Brown's River, near Sayville, N. Y., and will build a large dock at which deep draught vessels can put in to load and unload their cargoes.

The Des Moines (Ia.) Clay Manufacturing Co. has closed a contract with the Capital City Brick & Pipe Co., of Des Moines, for the erection of a factory building 100x200 feet in dimensions. The plant is estimated to cost \$20,000.

H. S. Edwards projects building a plant at Macon, Ga., for the manufacture of earthenware from kaolin and other clays, and to be used as a branch of the Georgia School of Technology. The building will be erected at a cost of \$25,000.

At the Ingham Street Pottery Co.'s plant at Trenton, N. J., it is said that five more kilns will be erected shortly and other needed additions made. When the new additions are completed the company will give employment to over 1500 persons.

The Furnace Fireclay Co., Irondale, O., has recently increased its capital stock and will use the proceeds for increasing its capacity for the manufacture of firebrick. The company will also develop an extensive vein of coal which underlies its property.

The plant of the Coaldale (Ala.) Brick Co., which was recently destroyed by fire, is being rebuilt. The new plant will be practically fireproof, and will be equipped with all modern facilities for brick manufacture. Its capacity will be greater than that of the plant which was burned.

John Goettsche, of British Columbia, is investigating the clay deposits of South Dakota with a view to erecting an extensive brick works in that state. Tests are being made of the clays in the vicinity of Brookings, and if the results are satisfactory a plant may be erected at that place.

The conduit and tile plants of the H. B. Camp Co. and the S. C. Penfield Co., Akron, O., will be consolidated under the title of the Federal Clay Manufacturing Co., with a capital stock of \$5,000,000. Ten plants will be included in the merger. H. B. Camp, of Akron, will be president of the consolidated company.

The Garfield Fireclay Co., whose plant is located at Garfield, Indiana County, Pa., will receive the bulk of the fireclay for the manufacture of its products from the quarries at South Fork, where the company owns one of the richest deposits of fireclay in the state. A railway is being built from the Garfield works to the newly opened mines for the transportation of the clay. Operations at the South Fork mines are in charge of Thomas J. Robinson.

Canada's Clay Industries

Being *De* Faithfulle Cronicles of a
Membre of *De* Staffe.

The country round about Quebec has also many deposits of as yet unworked clay. On the lines of the Quebec Central R. R., in the parish of St. Joseph, at Beauce, Beauce county, is a very extensive clay bed, situated about 600 ft. from the railroad tracks and of perfect quality for the manufacture of brick, tile, terra cotta or sewerpipe. It would require also very little working as it forms a hill nearly 70 ft. high, the clay having a depth of only five feet below the ground level. That part of it belongs to S. Theberge, a prominent lawyer in Beauce, who exhibited also many expert testimonials as to the suitability of the clay for manufacturing purposes.

In fact almost anywhere through the 210,000 square miles covered by the province of Quebec are to be found clays suitable for

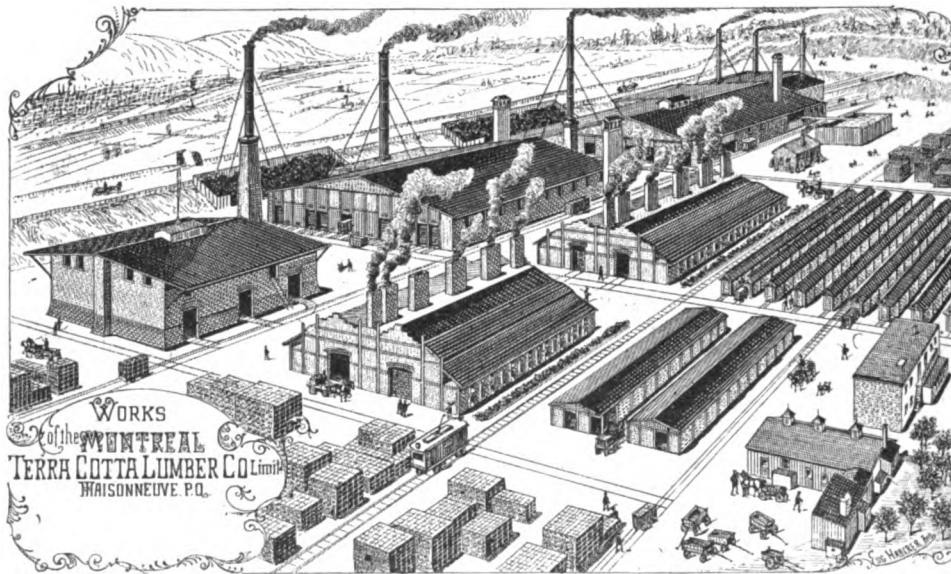
Montreal have played their parts prominently in the progress of Canadian transportation facilities. In Quebec was launched the first vessel propelled by steam, the Royal William, in the year 1831. One old Canadian trapper who saw the boat as it maneuvered all over the gulf without visible means of propulsion exclaimed in holy horror:

"Mais croyez-vous que le bon Dieu permettra tout cela!"

This translated into American would be:

"Do you think the good Lord will permit all this? I should say not!"

One would now gather by a glance at the harbor of Quebec at any time of the day that the "bon Dieu" disagreed with the Canadian or has altered his opinion since.



every class of clay-working industry while the province of Ontario is no less well supplied and already leads the way in extent of output, as will be observed later in our travels.

Canada is also rich in fossil fuels, but these are not conveniently distributed for Quebec and Ontario have scarcely any. They possess, however, especially the former province, inexhaustible quantities of good peat, which I was surprised to find is not extensively used.

The traveler, westward bound, has choice of several routes. He may make a delightful trip up the St. Lawrence river; he can pass over the Grand Trunk route, or the comfortable cars of the Canadian Pacific will take him easily and swiftly from Quebec to Montreal and on to the Pacific, if need be.

It is interesting to note also at this juncture that Quebec and

The first train left Montreal for the Pacific Coast on the Canadian Pacific tracks, the 28th of June, 1887, and two years later almost to the day the Canadian Pacific locomotive steamed into Halifax.

A few miles only from Quebec is delightfully placed the little village of Lorette. Here are most extensive deposits of blue marl. Lorette is an Indian village where are gathered together nearly all that remains of the once powerful and much-feared tribe of Hurons. They never seem to have turned as other tribes of Indians did to the making of pottery. They confine themselves to the manufacture of beaded moccasins, snowshoes, souvenir canoes and other small trinkets. The men are also great hunters. They are more French than Indian, as a result of intermarriage and some of the female descendants of this union are exceedingly beautiful.

They have an ancient little church to worship in and a small cannon presented to them by George III. This is their special pride and it is fired with zeal and gunpowder on all state occasions.

We proceeded then to St. Anne de la Perade and crossing the river by wherry landed on the southern shore of the St. Lawrence. An old coach waits there to convey you to the town of St. Jean Deschaillons. This place is noted for its brickmaking industries, nearly 35 brickyards being grouped together, all in active operation. All work the same way; they dig the clay with shovels, temper it in pits, mold it into bricks by hand and set these in clamps. Father, mother, son and daughter are all to be found hard at work; the sun dries the brick and they are burned with wood. Nowhere on earth probably is there such a hive of clay-workers, turning out the quantity of brick with such primitive methods. I was told that the combined annual output of these yards ranged near 62,000,000.

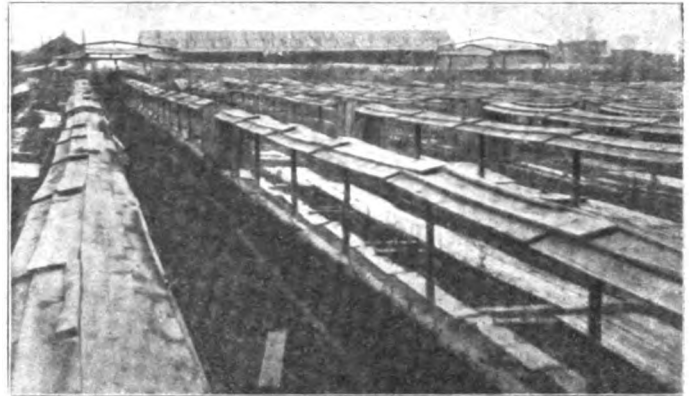
What becomes of the brick? They are shipped to Quebec and to all points up the river. In large "bateaux" or barges containing sometimes as much as 100 cubic yards of brick, the bricks are floated by tide as far as Three Rivers, the head of the St. Lawrence tidewater, and thence for about 80 cents per thousand they are hauled by tug to Montreal. They are placed on the market there at \$4 and \$4.50 per M. much to the disadvantage of the Montreal brickmakers. These Deschaillons men live a hand to mouth existence. I was shown one small clay pit that had had 20 different owners in four years. The lawyer that lent the money to carry on the business was the only one that made any profit.

MONTREAL, THE QUEEN OF THE ST. LAWRENCE.

You remember Jacques Cartier, mentioned in our last issue? He was here on October 2, 1535, with two boats and 50 men, being the first white man to reach Hochelaga, the Indian village on the present site of Montreal. They thought a good deal of him; brought their sick and maimed to be healed, and sat around in open-mouthed silence while he read out the story of the crucifixion. After this service, he gave presents and was conducted to the summit of the now famous mountain of Montreal, from

ious enthusiasm. A tax-gatherer of Anjou and a Parisian priest had visions pointing out their respective missions as founders of a hospital and a college of priests. They laid their plans before the church and the court.

Their enthusiasm was contagious. A large company, backed by capital and political influence, was soon formed and in February,

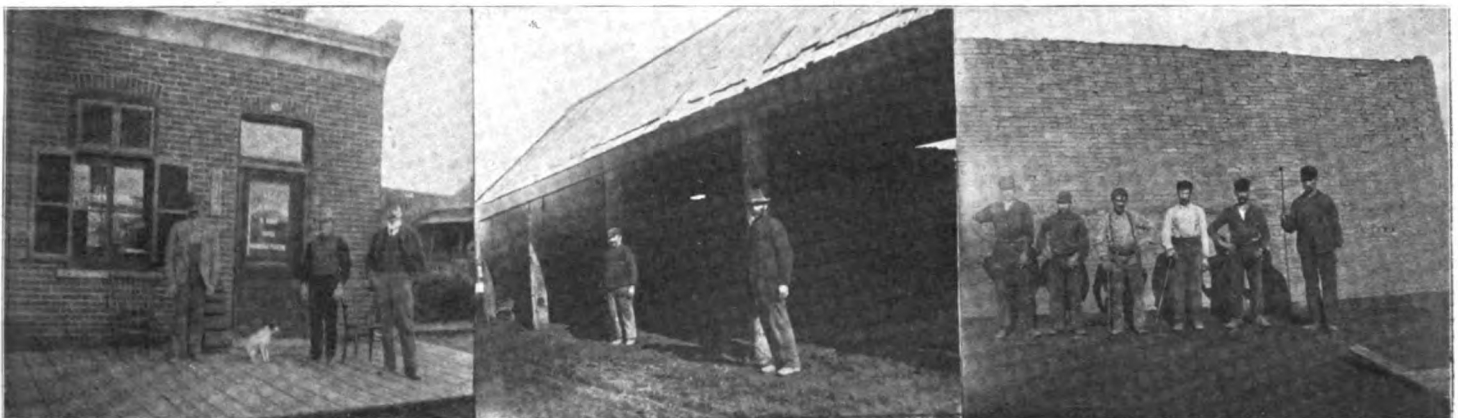


J. BRUNETTE & CIE., MONTREAL.

1641, these crusaders landed on Montreal island and named the future town Ville Marie de Montreal.

A paragraph from Parkman's vivid description of the scene may prove of interest to all:

"Maisonneuve sprang ashore and fell on his knees. His followers imitated his example and joined in enthusiastic song and thanksgiving. Tents, baggage, arms and stores were landed. An altar was raised on a pleasant spot near the landing-place. Mademoiselle Mance with Mme. de la Peltrie, aided by her servant Charlotte Barre, decorated it with a taste which was the admiration of all beholders. Now all the company gather before the shrine. Here stood Vimont in the rich vestments of his office.



Office and Staff.

CHAS. SHEPPARD & SONS, 502 PARTHENAIS ST., MONTREAL.

Drain Tile Sheds.

Burner "John Lack" and his gang.

whence he could see the silver Ottawa river winding midst the scarlet and russet tints of the woods and forests beyond. He called it Mount Royal—hence the name of Montreal. Champlain paid the place some attention in 1603, but the Hochelagans had vanished. They were potters and mound builders, but the tribes that succeeded them seem to have had no knowledge of the plastic art.

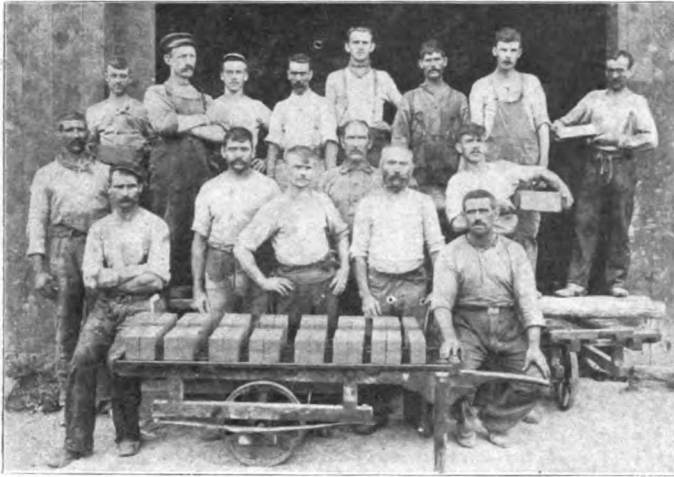
Montreal proper, however, was founded as a result of relig-

Here were two lords, servants, Montgomery and Maisonneuve, a warlike figure, erect and tall—his men clustering around him—all knelt in reverent silence as the Host was raised aloft. When the rite was over the priest turned and addressed them:

"You are a grain of mustard seed that shall rise and grow till its branches overshadow the earth. You are few, but the work is the work of God. His smile is on you and your children shall fill the land."

Sturdy Vimont! Zealous Maisonneuve! Farewell, Charlotte Barre!

This scene of the past vanishes and we but catch the echoes of the stormy time through which Montreal subsequently passed. In 1689 the Iroquois massacred 200 of its people. It was cap-



JOHN AND HIS GANG AT THE AUGER MACHINE.

tured by Gen. Montgomery in 1775. In 1812 war ended and Montreal responded to the touch of the hand of commerce.

Now we wake to the clanging of the church bells—Montreal is full of churches—we tread on well-paved streets. The electric car service is the best in Canada. There are many stately buildings. The river front is lined with stone quays of such extent as to remind one of Liverpool or Paris—Paris, rather, if you take into account the speech, for Montreal is three-fourths French.

Everywhere are universities, convents, priests with breviary and

Stages run to all parts of the beautiful environs of the city. The world-known McGill University, at the foot of Mount Royal, would require a page of description. The river, here nearly a mile wide, is spanned by the famous Victoria Bridge, comprising 23 spans, 242 ft. in length, the center span being 330 ft. long. These rest on 24 piers of blue limestone, wedge-shaped to the down current. The bridge cost \$6,300,000. At the beginning of this great highway is a large boulder, railed in, and commemorative of the death of 6,500 Irish emigrants, who succumbed to ship fever in the month of February, 1847.

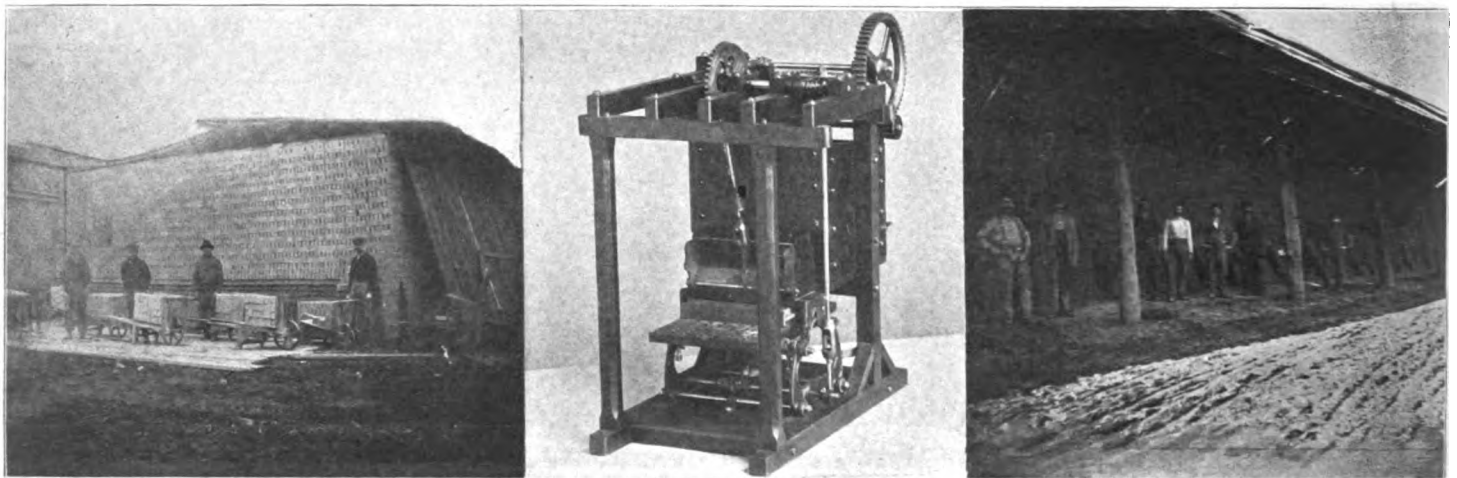
Three miles from the bridge, at Hochelaga, is the Convent of the Sacred Name of Jesus and Mary, the greatest monastic institution in Canada.

No visitor who has time misses shooting the Lachine Rapids, which extend, interrupted occasionally by stretches of smooth water, over 10 or 12 miles. The bargain-hunter can get filled to satiety in the fine stores on the main streets of Montreal.

SOME MONTREAL CLAY WORKERS.

The works of the above company are pleasantly situated at Maisonneuve, adjoining the municipality of Montreal. It possesses abundant shipping facilities by sidings to the Canadian Pacific and also does quite a trade by water. The grounds cover 231,000 superficial feet, including the clay bank. There are four large buildings. The machinery building is 80 x 100 ft., the engine and the boiler house 60 x 40; the clay drier house 25 x 80, and there is also a four-tenement block. All of these are substantially built of brick and terra cotta. The material is a soft blue plastic clay and is obtained on the premises close to the factory. There is no shale. The clay is mined with shovel and pick and is wheeled at once by the men to a Cummer clay drier where it is heated so as to drive out the moisture. The clay is too soft to work direct from the bank. As is usual, sawdust is mixed with the clay.

Molding is accomplished in the stiff-mud state. A valuable part of the plant's equipment is a Penfield disintegrator and a double shaft pugmill by the same maker.



Gang of Setters

CHAS. SHEPPARD & SONS, 502 PARTHENAIS ST., MONTREAL.

"Canada" Brick Machine.

Kiln of Brick Ready for Burning.

cross, nuns with bonnets like the sails of Don Quixote's windmill, and large crosses on the public roads and the summits of the buildings. There is the splendid church of Notre Dame, with seats for 20,000 people, the famous market of Bonsecours, of quasi-Doric architecture, erected at a cost of \$300,000—these should all be seen.

The clay on coming out of the drier is elevated by means of buckets on an endless belt. From the pugmill it passes to the presses by belt conveyor. There are two presses, one Johnson and one Big Wonder press. These have each an average daily capacity of about 20,000 blocks, 12 x 8 x 4. There are also about 40 different shapes of dies. A wire cutter is attended to by one man;

one takes off; there are two men kept busy as shovelers at the pug-mill and one tending to the pugmill itself. One man also attends to the hopper.

The drier, one of Cummer construction, was recently burned down and has not yet been rebuilt. The cars are of Cleveland make, and over 150 are in use.

The plant is equipped with two Wilford twin down-draft kilns, each 52 ft. in length and with four chambers.



THE BOSS AND A FEW TEAMSTERS.

Each chamber holds 15,000 blocks, 8 x 12 x 4. The only fuel in use is coal and about 5½ tons are required to burn each chamber. This is accomplished in 48 hours easily.

The power equipment comprises one Leonard Tangye engine of 125 h. p. and one Ball engine of 50 h. p.; two Leonard tubular boilers of 80 h. p. each carrying 80 lb. pressure. There is also a Leonard tubular boiler of 50 h. p.

The product of the plant is porous terra cotta fire proofing exclusively, of all sizes and shapes.

The plant was established in 1888 and was much enlarged from 1892 to 1895. Then came the usual brickyard disaster. The newly equipped plant was utterly destroyed by fire in 1895 and it all had to be rebuilt, which has been done, save only the drier. This will be re-erected in the spring.

The company had a small beginning with limited capital and encountered from the outset a strong competition but through all it has pulled through and is now doing a satisfactory business.

Work is carried on for six months of the year and about 60 men are employed throughout the working season, only teamsters and shippers being retained during the balance of the year.

The officers of the company are as follows: Hon. A. Desjardins, president; Erasme Barsalou, treasurer; Hubert Desjardins, managing director.

Hon. A. Desjardins is a former minister of Public Works under the last administration. Mr. Barsalou is a wealthy soap manufacturer and Hubert Desjardins is a son of the president and has been identified with the business since 1890. Although only 32 years of age Hubert Desjardins has for six years been the mayor of the town of Maisonneuve. Everything about the plant is indicative of order and hustle and the future prospects of the company are good. N. T. Gagnon, with offices at 204, St. James St., Montreal, is the secretary and selling agent.

A good way along on the De Lorimier road the seeker after "brickies" reaches the point of their chief activity. It was raining with considerable vigor when I stepped out of the car into the middle of the hacks of J. Brunette & Cie, brickmakers. This plant covers a good deal of ground and the hacks have a capacity of a million brick at a time. The illustration gives a view

of the Brunette works taken under the most unfavorable weather conditions possible, but it will sufficiently indicate the general lay of the yard. At the clay bank I found a blue clay alternating with a gray clay of varying depth of deposition, but fairly uniform in character. The clay is mined by hand and allowed to weather for some time before use, generally 48 hours. The clay pit at present is only a few feet deep, but the clay extends downwards with uniform quality to a depth of 30 ft.

From the weathering bank the material is taken to the machines, of which there are five—two Sheppard, two Hamilton and one Pelham. These machines differ but slightly from the ordinary machines of this character and the power to drive them is supplied by horses. Here at least the chief engineer can calculate his horse power *prima facie*. Far away at the end of the plant you will notice the building wherein are housed the twenty-three sturdy horses which fulfill all the requirements of the yard. The five machines are not all together but are placed in different parts of the yard so as to facilitate the filling of the hacks with the least expenditure of time and labor. The molds turn out six bricks at a time and the capacity of each machine averages 16,000 daily.

When the bricks are dry, which may occur in any time between five days and three weeks, they are taken and set in standing clamps, usually 250,000 to a clamp. The bricks are set 5 over 2 and 13 over 5. The burning is accomplished in about six days. There are eight of these kilns in operation. Cross firing methods are employed. The yard is operated about eight months in the year, and the product is a fairly good builder, which fetched from \$7 to \$8 per M. in the Montreal market. Over 100 men are employed in the height of the summer season, and the pay



SOME FINE SPECIMENS OF THE SHEPPARD PRODUCTS.

averages \$1.35 a day. This seems small wage at first glance, but it must be remembered that the cost of living in Canada as a rule is less than in the United States. The plant has been in existence nearly 30 years and has a good business connection.

A short walk from the Brunette yard brought me to the Chas. Sheppard office, 502 Parthenais St. Mr. Sheppard was at home, sure enough, and gave a cordial welcome. With him we toured his plant. I believe that it is the oldest established in Montreal,

and the activity of the plant showed it has improved with age, like violins and Limburger cheese. The clay is dark-blue and plastic and yields a fine red brick. It is mixed with one-third of sand. Nine Sheppard machines, soft-mud, are at work with average capacities of 12,000 each daily. There is also installed an auger machine, made by the American Clayworking Machinery Co., Bucyrus, O. This has a 25,000 daily capacity. Drain tiles are also made on a machine which was brought from England, as far as we could decipher by diligently scraping. It was patented in 1860, has been 30 years in use and can still render satisfactory service. The tile are dried on special drying-racks in a shed but the bricks are dried in hacks. The bricks dry well in eight days. Shaped bricks are also made in good variety.

The bricks are set and burned in common scove kilns of 25 arches and 400,000 capacity. The fuel used is tamrac wood, and a good burn is accomplished in seven days. The product is a good red brick and has a gratifying metallic ring. The output of the yard is between 10 and 12 million a year. There is also installed a "Peerless" kiln, down-draft and burned with American steam coal. This is for all the better class wares. Over 100 men are employed when at the height of the working season and most of them are paid by the piece.

Mr. Sheppard has another large plant at a short distance from the one here described which is driven by steam power, but it was not in operation at the time of my visit.

At the yard now working, horses are used as on the Brunette plant. Chas. Sheppard & Sons make not only brick and tiles but place also on the market the "Canada" brick machine, which may be operated by either steam or horse power. A hand lever machine is also made.

In the "Canada" machine a nut above the plunger regulates the pressure according to the stiffness of the clay, care being required not to give any more pressure than will fill the molds and turn out the bricks perfectly square at the corners. The nut can be moved at will as the plunger is raising. By a swivel joint, the length of the connecting rod is adjusted for driving out the molds. The planer is placed conveniently on the squares fastened to the plunger.

When first starting the machine, the plunger is closed to prevent the entrance of the clay till it is properly mixed. Then the molds are placed in position and used in the usual manner. The cam spring is adjusted so that it will just draw out the empty molds, but if a stone or any other obstruction should prevent the moving of the mold the spring yields to the additional strain and throws the cam out of gear. By means of a clutch this is also done to the machine and the obstruction removed. The horse-pole is 22 ft. long, and of course if it is desired to reduce the speed of the machine, the pole is lengthened. Machines varying in capacity from 13,000 to 26,000 daily, are made by Mr. Sheppard. He is of vigorous personality, and impressed me as being a matter-of-fact business-like brick manufacturer. May his tribe increase!

Obituary.

Jesse E. Eastes, of Chicago, the western representative of the Chambers Brothers Brick Machinery Co., of Philadelphia, died at the Chicago Baptist Hospital, October 21st, of typhoid fever. Mr. Eastes was 48 years old.

Mitchell H. German, the brickmaker of Delmar, Pa., whose mysterious disappearance on August 26th gave rise to the conjecture that he had been murdered, has been located in Liverpool, England. Financial reverses are said to have been the reason for his abrupt departure from Delmar.

St. Louis Letter.

Business has picked up the last few weeks among the brick industries. The various brick and tile yards have been busy and report that a better business has been done this year than for several previous ones.

The World's Fair plans are gradually assuming shape, and within a few days ground will be broken. After that building will at once commence and will be pushed. This will increase business in all lines.

The passing of the various charter amendments at a special election held October 22d, will increase the laying of brick pavements and the construction of sewers. An immense quantity of all kinds of brick will be used. The result of this will be a boom in various kinds of brick used in these two enterprises.

Miles and miles of brick paving are contemplated and many hundred feet of new sewers will be built.

The Belleville Brick Co., of Belleville, Ill., was incorporated a few weeks ago, with a capital stock of \$60,000. John A. Day, Edward Ahend and Lena E. Day are the incorporators.

There is a strong probability of a new shale brick factory being built at Edwardsville, Ill. The Board of Trade of that city has a proposition under consideration from a company which wishes to build. The representative of the new company, one from St. Louis, has made a proposition to the city and if matters can be arranged work will soon begin. The company, which is one of \$150,000 capital, proposes to build an extensive plant with new machinery, employing 175 men, if it can secure certain switching facilities.

From Little Rock comes word that in the case of the Arkansas Brick & Manufacturing Co. against the State Reformatory Board, the former has been granted a permanent injunction. The case will be appealed. The decision of the court in effect sustains the claims of the brick company that it has a valid contract, which could not be set aside by the board.

Two car loads of brick from St. Louis to Augusta, Me., were recently sent on by Adams' Express at an express charge of \$1,955. The contractor in Augusta, who has a time limit on a contract for a residence he is building for Governor Hill, of Maine, needed a special quality of brick, which was specified in the contract, and St. Louis was the nearest place they could be had at once.

The September report of Commissioner of Buildings shows a gratifying increase over last year's corresponding month, the aggregate being \$542,291 for 1901, and \$275,096 for 1900, or nearly double.

There has been no change in prices of brick since my last letter.

Dickey Drills in Deepwater.

The largest plant of the W. S. Dickey Clay Manufacturing Co., located at Deepwater, Mo., will be closed for 10 days while three shifts of men drill wells sufficient to replenish the company's exhausted reservoir. Water has been supplied from an artificial lake which the Dickey company built a few years ago at a cost of \$12,000, but as the plant mixes about 20 tons of clay per day the demand has of late proved exhausted, with the result that a large force is at work boring wells. It will be necessary to drill to a depth of 1,000 ft. to obtain water. The other plants of the company are running at full time, and all orders will be filled with reasonable promptness.

The J. W. McCoy Pottery Co., of Roseville, O., is perfecting plans for an addition to its plant, which will practically double its output. The company is engaged in the manufacture of fancy glazed ware, and makes a specialty of the rosewood finish.