

Mr. England prefers to fix with weak cyanide of potassium, although hyposulphite of soda may be employed for the same purpose.—*British Journal of Photography.*

THE GREAT MARKETS OF PARIS.

Translated for Every Saturday from the French.

There is in the heart of Paris a monument where 1,900,000 mouths seek daily food; in whose neighborhood are to be found street after street which wake when the other portions of the city prepare for sleep; a quarter traversed every night by 12,000 vehicles, and which from 4 to 10 o'clock, A. M., sees added to its 42,000 inhabitants a floating population of at least 60,000 souls; in one word, the Great Markets.

Six uniform divisions, marshalled in two ranks, are sheltered under an immense iron roof, which has a superficies of 20,000 yards. A forest of delicate and elegant small columns support this gigantic roof. Broad sidewalks planted with trees, extend around the vast parallelogram, which is crossed by three broad covered avenues. The six divisions have each their especial trade. One is devoted to fruit and flowers; another to vegetables; another to fish; this to eggs and butter by the wholesale; that to game and poultry; as for the sixth and last, so many different sorts of things are sold there that the Archbishop of Phris himself could not hear to the end the long enumeration of them.

It was when the new Great Markets were opened. Archbishop Sibour had at his elbow a cicerone, whose duty it was to inform him of the destination of the several divisions, as he blessed them one after the other. He had already blessed five of them. When he reached the sixth the cicerone said, "This is the division of retail butter." "I bless the division of retail butter," said the Archbishop, raising his hands. "And of bread," whispered the cicerone. "Of retail butter and bread," added the Archbishop, catching himself. "And of cooked meat." "Of retail butter and bread and cooked meat." "And kitchen furniture." "Oh!" exclaimed the good Archbishop, making a gesture of despair, "I bless everything."

Beneath the Great Markets visible are the cellars. There are thirty of them. As a general rule, each cellar is a basement floor which is an exact copy of the division above ground. There are the same lines of stalls, only instead of the stalls above ground there are lofty recesses, divided by iron railing, with numbers corresponding to the numbers of the shops above them. These recesses are the store rooms of the market people; they keep their stock and baskets in them. They are all alike; except that the fishmongers have, besides, reservoirs supplied with running water, where fishes are kept alive.

In the cellar of retail butter dealers several conscientious tradesmen are to be discovered giving their stock (which is sometimes a little rancid) the desired fresh taste. They mix by gas light on wooden boards their venerable butter, water it, add a little flour if the butter lacks consistency, and if it is too pale they add carrot juice of carmine, which in a few moments gives the palest butter the beautiful orange color so dear to all housewives.

In the next cellar are the poultry shambles. Around eight immense marble tables, placed equidistant from each other and in regular order, are men, women, and children, cutting, clipping, tearing, picking, pulling. They have all been at work since 11 o'clock, P. M., and they will not have ended their task before 5 or 6 o'clock, A. M.: for they have to prepare some 1,000 or 1,200 geese, turkeys, chickens, ducks, or pigeons for the market stalls. Everywhere in the neighborhood of this cellar one sees nothing but baskets full of feathers, baskets full of poultry under sentence of death, heaps of dressed poultry. Here is a line of ducks hanging by one leg, head downward. Presently a young girl comes with a huge knife. Her little hand slips the steel on the neck of the duck nearest her. You would think she was caressing it, she is so rapid and so light. She goes to the next, and to the next, and to the next; a second for each duck. She passes on, her task ended, as quietly as if she had been pricking apples for the oven.

The Great Markets are still quiet, but labor has begun its tasks even above ground. One detects faint glimmers of light through the iron railings of the divisions allotted to fruit and vegetables. If one goes near, one discovers women seated around lamps or lanterns. They are shelling peas. A large number of women earn their daily bread for six months of the year by shelling peas. One may form some conception of the number of peas required, when he is told that Paris consumes during these six months 600,000 bags, say 30,000,000 quarts, of the valuable vegetable. There are some vegetable preservers who employ every season 200 women to do nothing but shell peas for them. They get 30 sous for shelling a large basket which contains 25 pounds of peas. An active woman can shell 50 pounds in her 10 or 12 hours of labor; but then she must not dawdle.

The porters of the Great Markets are organized in an excellent association. Five or six hundred members belong to their society, and they unload and load not only in the Great Markets, but in several important markets. They are divided into gangs, which are subdivided into squads, each having a "boss" or head man. At the Great Markets are to be found the butter porters, the fruit porters, the meat porters, the flour porters, and the others. Markets in Paris have their porters: La Vallée porters, Le Mail porters, Le Marché Noir porters. A head "boss" is invested with the sovereignty over all of them, although he does not receive one sou more than any of them. He is the beau-ideal of the constitutional monarch. He is paid little or nothing, and personally has no power, neither to reward nor to punish. The butter porters and meat porters earn their 10 francs a morning. Next to them come the fruit porters, and the fish and flour porters. The latter earn at most 5 francs a morning; to make up this

disproportion, the police allow the flour porters to work for bakers, and the fish porters to unload peas. The people we see arranging long narrow bags in lines, like so many sausages, along the sidewalks, are porters of the Great Markets. While a squad work under the eye of their "boss," another squad, stretched at length on the sidewalk, take their rest. They sleep under the feet of passers, their heads covered with their striped cotton caps. Near them lies the white felt hat, with an immense brim, their classical headpiece, which is, however, merely an accessory of their costume, and is not, as is commonly believed, the essential element of it. The porter never wears this hat unless he has sacks to carry, for when he has baskets to carry he places them on a leathern cushion secured to his shoulder, and when he has back baskets to carry he places around his neck a wadded collar, to prevent the friction of the basket. When you see in the Great Markets a tall, stalwart fellow, with merely a moustache, with square shoulders and solid legs, calm, silent, and active, as a general rule you may be sure he is a porter. And when you see a little fellow, fat, well fed, clean shaved, looking like a retired tradesman who is sauntering for pleasure, but bends every moment under the weight of his abdomen and is constantly obliged to take a seat in order to support his own weight, be sure he is a "boss."

As we quit the porters we discover in obscurity the Awakener. He undertakes, for a trifling amount of money, to rouse at any given hour of the night whoever may confide the care of their interests to him. It is a grave question for the laborers of the Great Markets to be roused in due season. He goes about the streets in the neighborhood of the Great Markets from 10 o'clock, P. M., to 4 o'clock, A. M., bawling to this one, ringing up that one, and continuing to bawl and ring until the sleeper gives signs of life by bawling back or tapping on the window. Each customer pays him one or two sous a night, or between thirty sous and three francs a month, according to the distance he is obliged to come. Some customers give him as much as three sous; these are the hard sleepers, who must be pulled out of bed or be shaken by the arm. The Awakener is an enameller by trade, and he can make good days' wages; but he prefers poor nights ill-paid passed out of doors. His trade of Awakener used to bring him in on an average \$480 a year.

Near by, on stools, are several men; no shirts; their whole costume consisting of canvas pantaloons, secured by a strap around their waist. They throw vague objects into immense boilers. These strange workmen are artichoke boilers. An active, lively, healthy brunette, the mistress of the establishment, stimulates them by voice and gesture. Her name is Pauline Gandon. She is the largest artichoke boiler of the neighborhood. During four months of the year she does business to the amount of \$4,000. In the artichoke season, wagons full of them are daily emptied in front of her door. Women wash them and cut off the stalk. They are then sorted, according to size, and packed in the boilers, the several layers being separated by linen cloths. An immense wood fire is carefully kept up, during the whole period of time required to cook them, and which lasts till daybreak. From 5 o'clock, A. M., to 8 o'clock, A. M., there is quite a procession of green grocers, petty eating-house keepers, and vegetable peddlars coming to purchase their daily supply. In these three hours' time at least 3,000 artichokes are sold. There are not above three or four great artichoke boilers in the neighborhood of the Great Markets, because this business requires not only the appliances to carry it on, but a good many servants and large daily expenditure of ready money.

Let us return to the Great Markets. Already the market gardeners are beginning to spread their stack in trade. They come early to select their place—to secure a favorite corner; and then most of them bring articles which can be sold as soon as the bell announces two o'clock. Here are potatoes, there are salads, yonder are fruits or cresses taken out of the carts and placed on the market. After the marketmen and market-women count their baskets, they lie down in the midst of their vegetables. Some of them keep watch, wrapped in their thick cloaks.

Strange figures go to and fro in silence. These uneasy shadows belong to a strange corporation—the clan of vicious and good-for-nothing fellows, or, as it is called, *la Gouape*—vagrabonds driven nightly to the Great Markets for the sake of the shelter they afford. They are chiefly lazy fellows, professional thieves, and good-for-nothing workmen dismissed from their places.

Formerly vintner's shops were allowed to remain open all night for the sake of marketmen who come from a distance. But the disorderly scenes witnessed in them led the police to interdict their opening before 3 o'clock, A. M. To lessen the inconveniences of this measure, some men were authorized to hawk coffee among the market gardeners and other nocturnal laborers.

Observe those young fellows with aprons, moving actively from group to group. Each one carries a tin apparatus to which a great many tin boxes, that jingle as he moves, are suspended by hooks. A box contains spoons, and small papers which hold each two lumps of sugar. These are Sausserousse waiters.

Sausserousse is one of the characters of the Great Markets. He rises regularly at eleven o'clock, P. M., and goes to bed the next day at four o'clock, P. M. His establishment is in the Rue des Innocents, and is the rendezvous of all the market-gardeners. They go there to await the opening of their respective markets; they sleep or take a bowl of coffee in this house, which is an old establishment. It is higher than it is wide. It consists of a cellar, ground floor above, and first story, placed one on the other. A circular stair case goes to the first story, while a stone ladder goes to the cellar. Each story has its individuality. The first is a dormitory till day-

break. Market men and market women lay pell mell on the floor—these lying lengthways, those sideways, others anyway between the legs of chairs and tables. The fifteen or twenty leagues they have travelled to bring us vegetables are their excuse. Some of them spend all their time on the road, and often pass two months without sleeping in a bed. On the ground floor the customers sleep, seated or standing, but they have not courage enough to acknowledge that they are sleeping. They would persuade themselves that they are eating or drinking. Leaning against the wall, or the shoulder of a good-natured brother market-man, their hand on their cup of coffee, or chocolate, they look as if they would defy sleep; but invaded by the warm vapor which arises from the immense kitchen range built in one of the angles of the room, the movement of the waiters or the momentary elevation of voices, they are unable to keep sleep at a distance.

At Sausserousse's the meal consists of ten sous of meat, five sous of wine, and two sous of bread. There is not much sleeping in the cellar; nevertheless, sonorous snores are occasionally heard mingling with the clatter of plates and forks. The principle section is half filled by two immense copper boilers. It is in these boilers that Sausserousse makes his coffee, and chocolate. He sells about one thousand cups a day at four or six sous each. At least five hundred cups are sold out of doors by those active waiters with tin vessels above mentioned. They go their beats around the market several times during the night and until seven o'clock A. M. After ten o'clock the establishment is entirely empty; and if it still remains open half the day, it is partly to give customers time to pay their nights expenses. The majority of them rarely pay cash. They pay after market hours.

Day is breaking. It is time to quit Sausserousse's, if we would witness the Great Arrival. Up to this hour the market men were few and silent as they drove up and discharged their vegetables. They become every moment more numerous. The noise increases; the carts multiply; and all the neighboring street are crowded with them. The quarter is now surrounded by policemen, who allow no vehicle other than market-carts to enter the environs of the market. There are twelve thousand market carts in Paris and the neighborhood which regularly bring vegetables to the city; about six thousand come every day. The apparently inevitable disorder formerly produced by such a throng of market vehicles—to say nothing of purchasers—has been abated by the present organization of the Great Arrival, which was introduced only two or three years ago. At present, every market-man has his particular entrance, his place of unloading, and his particular exit. The road followed by the market-men is regulated beforehand; their vehicles move with perfect order, which is a little surprising when one considers the few policemen on duty. The ingenious organization of the present arrangement is due to the Inspector General, who may every day be seen, between three and five o'clock, A. M., directing the manoeuvres like some military commander. "Halt, water-cresses!" "To the left, cauliflowers!" "Go ahead, turnips!" "This way, ye gardeners!" "Put out that hack!" The rustic vehicles move in good order before his eyes. Each market-man as he enters makes a declaration at the clerk's office of the number of bags or panniers he brings, and of the superficies of square yards he wishes to occupy. The cost of the stands is three cents a yard on the outside sidewalks, and six cents a yard on the covered sidewalks. The clerk gives him a ticket, which is his title to possession. He then goes to the portion of the market where the sale of the sort of provisions he brings takes place. There the porters unload his vehicle, and see if the number of bags or baskets is the same as the number stated on his ticket. Then the vehicle is taken to one of the empty vehicle stands. There are no less than fifty-seven empty vehicle stands in the neighborhood of the Great Markets. Formerly the municipal authorities levied the toll for occupying these stands; at present they are leased to a company, which pays \$46,600 for the toll. As market men, busily engaged in arranging their stock, would find it inconvenient to drive their vehicles to the proper stand, men have undertaken the business for them. These drivers are twenty in number, under command of a "boss," to whom they pay over their receipts. Their wages are forty cents a day, and the market-men commonly give them one cent for each vehicle. These drivers give the empty vehicles to the watchmen.

The watch is composed of men and women, who take care of the vehicles confided to them. They form quite a numerous army, in the pay of the company which farms the stands. They not only take care of the vehicles, but of the heaps of provisions temporarily left on the sidewalks by the greengrocers, hawkers, and the like. They are distinguished by the metal badge they wear on the left arm and the steel chain which hangs from their waist. There is at the end of this chain a pair of pincers, closed by a key, and which retains the counterfoil of the little green, white, yellow, or red tickets they deliver for receipts. The color of these tickets serves to designate the sort of heap or the kind of vehicle confided to them. The majority of these watchmen are women. They are for the most part good creatures, and are on excellent terms with their customers, who refuse to call them by their numbers, which they have borne since their new organization. They give them their old nicknames which were in vogue before they were organized by the company which has enlisted them. This one is called "Green Peas," that one "Planks Marie."

At four o'clock, A. M., the market bell rings to announce the opening of the market. None but vegetable dealers have the right to begin to sell as soon as they begin to unload. All the others are forbidden to enter into negotiations with purchasers before this bell rings. Sellers are looking sharp, purchasers are examining the provisions; some men, who seem to be loitering idly, are watching a basket as a cat watches

a mouse. When the bell rings the scene changes into one of the greatest confusion, apparently. Buyers clamor for baskets, and before the bell ceases ringing thousands of baskets have changed hands.

The retail market-women rent the stalls in the Market. Their hours of sale are all the day long. They are the chief go-between of market gardener and buyer. They pay the rent for their stalls (each has her name painted above her stall) by the week, and in advance. The price varies, according to position, from 70 cents to \$2.10. There are two other sorts of huckstering. One is carried on by people who buy from the market gardeners vegetables, etc., at the period of the day when they are extremely cheap (for instance, at the close of the market), to sell them when they have risen in value. The other is driven by market-gardeners themselves, who come with empty baskets and buy in the morning from their brethren wherewithal to fill them.

Here a portion of the itinerant greengrocers called hawkers, buy the damaged fruit they hawk at low prices in the quarter of Paris peopled by the laboring classes. There are some 12,000 hawkers daily moving about Paris, who come every morning to the Great Markets for their supplies. They are watched by special inspectors, whose duty it is to see that they do not stop in the streets or loiter in the neighborhood of markets.

BUSINESS AND MANUFACTURING ITEMS.

GLASS IN ILLINOIS.—A correspondent corrects the statement that the manufacture of glass in La Salle was first commenced in 1865. Glass making was first started in La Salle in 1857 by J. P. Colné, who formed a company with \$10,000 capital in less than a week, and the factory was just getting into operation, a melting having been already made, when the financial crash of 1857 extinguished the enterprise. Mr. Colné was the first who brought to public attention the utility of this sand, which abounds in many parts of Illinois. The factory was subsequently bought by parties who are now running it.—A glass factory was built at Bellaire, Ohio, last year, and now a rolling-mill and a nail factory are in process of construction.—A glass factory is talked of at Jackson, Mich.

LUMBER.—The lumber manufacture and traffic is the leading business of Fond du Lac, Wis. There are fourteen steam saw-mills and as many steam shingle mills in operation, running each from two or three to seven or eight saws of various kinds, with twenty to fifty men, besides boys and girls for packing lath and shingles, and turning out a grand total, as estimated, of 85 million of lumber, 225 million of shingles, and 18 million of laths, in a season. The lumber is cut and rafted on the affluents of the Fox and Wolf Rivers, in the north-eastern part of the state, where immense pine forests are intersected in all directions by these natural highways. There are five different kinds of shingle mills in use, three of which were invented on the spot. The hands earn about \$10 a week on common mill and pinery work—alternating between the two, winter and summer—and engineers, head sawyers and filers get \$2.50 a day. A filer in Moore's mill, who works on the eight hour system—eight hours before dinner and eight hours after—earns \$5 a day.—The lumber business of Albany, N. Y., engages some twenty-five considerable firms, one of the largest of which handles thirty millions a year. Ten millions of Michigan lumber are sold there yearly by the agent of the Whitneys of Detroit. Large quantities also come from Canada.—There is a portable steam saw-mill at South Carver, Mass., which like Mahomet can go to the mountain if the mountain won't come to be sawed.—A floating steam planing mill is building at Bangor, Me., through which rough cargoes will pass, coming down the stream, and go on their way rejoicing in smoothed and jointed surfaces.

LEATHER.—Leather, boots and shoes, instead of cotton and woolen, according to the *Boston Commercial Bulletin*, are the leading manufacture of New England. The cotton and woolen manufacture is concentrated at a few points; the leather manufacture is dispersed; and although the number of hands employed in the leather business is smaller than in that of cloth manufacture, the amount paid to its operatives in annual wages is considerably larger. The sales of shoes in Lynn amounted in February to \$1,011,513; in March to \$1,255,454—the largest month's sale ever made in the city. In the manufacture of patent leather, F. S. Merrill, of Roxbury, the largest manufacturer in New England, employs about sixty hands, and has facilities for turning out about 50,000 sides per year, but during the present "dull times" the business has decreased at least one half.—The manufacture of the new leather-splitting machine, by which several hides can be made of one, will soon begin at Newburyport.—The peg factory at Livermore Center, Me., consumes about one cord of white birch per day, and turns out 1,000 quarts of pegs.

WOOLEN.—Burrillville, R. I., comprises ten manufacturing villages, containing twenty woolen mills, with an aggregate of over 100 sets of machinery.—The Tremont and Suffolk Mills, of Lowell, have decided upon a stoppage of half their machinery and the entire cessation of woolen manufacture. Other corporations of Lowell are contemplating similar action.—A flannel mill is to be built on the site of the old "Endicott Mills," near Newport, R. I., four stories high and containing five sets of machinery. It will be finished about Oct. 1st.—A woolen mill is to be built at Oneida, N. Y.—A company has recently built a fine woolen mill at Clinton, Lenawee Co., Mich. It will have six sets of machinery and will go into operation about August 1st, employing eighty hands.—An effort is being made to raise \$30,000 capital for a woolen mill at St. Clair, Mich., to take the place of Nichols' mill, burned last year.—Parties propose to build at Niles, Mich., within

a short time, a woolen mill, a paper mill, and an oil mill.—Stock has been subscribed in part for a new woolen mill at Jackson, Mich., which will cost \$50,000 to \$75,000.—A foundry and a woolen mill are to be started at Bethany, Harrison Co., Mo., this season.—There are now in operation in the States of Illinois, Wisconsin, Indiana, Iowa, Michigan, Minnesota, and Ohio, about 175 woolen mills, more than half of which have been started since 1860, running 350 sets of machinery, and consuming annually about 8,500,000 lbs. of clean wool.—At San Antonio, Texas, a cotton and woolen mill is being organized.

COTTON.—Most of the mills owned by the A. & W. Sprague Manufacturing Company are in full blast. Besides the Augusta purchase and their extensive works in Central Falls and elsewhere, they carry on the Baltic, 75,136 spindles and 1,973 looms; Quidnick (two mills), 26,880 spindles and 654 looms; Arctic, 22,144 spindles and 560 looms; and Natick (four mills), 40,608 spindles and 975 looms—total, 164,768 spindles and 4,162 looms.—The Kalmia Cotton Mills, in South Carolina, have been sold to a new company for \$210,000, subject to a mortgage of \$190,000.—It is supposed that work will soon be resumed on the Taft Cotton Mill, at Taftville, Ct., the owners of which recently failed, and which, if finished, will be the largest cotton mill, it is said, in the world.—A. D. Smith, Woonsocket, R. I., is enlarging his cotton mill by two additions, making the whole building three stories high, with a complement of 10,000 spindles.—A cotton mill is talked of at Millport, Chemung Co., N. Y.

IRON.—It is said that Mr. Bessemer now enjoys from his patents for the conversion of iron into steel, the princely income of \$500,000 a year.—Messrs. Fairbanks, of St. Johnsbury, Vt., the original inventors of the platform scales, although no longer protected by patents, melt up in their manufacture over thirteen tons of iron per day, and shipped from their works, during ten days in April, 2,923 boxes of scales, weighing over 222 tons. They are about occupying a new foundry which is one of the completest in the country.—Notwithstanding the prohibitory law, now so energetically pushed in Massachusetts, about 150 hands are employed at East Bridgewater in the manufacture of gins, which were exported to the cotton states, Brazil, etc., to the amount of \$500,000, last year.—A very heavy compressing machine is building at Poughkeepsie for the Hudson River Peat Company. The metal used in it weighs 200 tons, several of the castings weighing one to seven tons each. It will be driven by an engine of 100 horse-power.—A company has been organized at Albany for the manufacture of Youmans' patent car truck, in which the axles adjust themselves at all times at right angles to the track and radially to the curves.—A new file manufactory is building at Norwich Conn.—Russia sheet-iron works are to be established at Portsmouth, Ohio, which seems in some measure to confirm the reported success of the operation at Youngstown.—The Wrightsville Iron Company, of Columbia, Pa., capital \$80,000, have commenced building their furnace and expect to get to work in October next.—New rolling mills are to be established at Marietta, Ohio, and at Indianapolis, and two furnaces are to be erected at Brazil, Clay Co., Ind.—At Marquette, Mich., five furnaces, a rolling mill, foundry and machine shop, and several other manufactories will soon be in operation. Work has commenced on the new furnace and mill of the Marquette and Pacific Rolling Mill Company, which will employ several hundred hands.—The Ellis Locomotive Works, at Schenectady, N. Y., are now employing 480 men and turning out a finished locomotive every week, having a contract for twelve from the Union Pacific Railroad Company.—It is computed that the whole number of sewing machines is now 750,000, and that the present rate of increase is 200,000 a year.—The U. S. Railroad Screw Spike Company, at Greenpoint, N. Y., perform something like the novel operation of forging screws, which has been introduced in France. The thread is formed between top and bottom swedges, equivalent to a threaded nut cut in halves, under an atmospheric hammer, the bolt being turned between the blows, until the swedges come together.—A company in Bridgeport is manufacturing the submerged force pump, which is fastened in the bottom of the well or cistern, and projects a rigid iron pipe to the surface, which being oscillated by hand at once operates the mechanism and conducts the stream. No packing is used, and no water can stand in the pipe above the surface of the water, to freeze in cold weather.

THE STEAMSHIPS OF THE GREAT LAKES.—The Western Transportation Company will run this season twelve screw steamers of an aggregate tonnage of nearly 10,000 tons between Buffalo, Chicago, Milwaukee and Racine. The Buffalo, Cleveland and Chicago line will run eleven steamers, of about 8,400 tons, between Buffalo, Sheboygan, Milwaukee, Racine and Cleveland. The Buffalo, Cleveland, Toledo and Sandusky line will run thirteen steamers of about 9,800 tons, between Buffalo, Cleveland, Toledo, Sandusky, Detroit and Green Bay. Evans' line will run six steamers, of about 4,000 tons, between Buffalo, Chicago, Milwaukee, Racine and Detroit. Charles W. Ensign will run two new vessels, of 1,200 tons each, between Chicago and Buffalo.

MAINE WATER POWER.—The Kennebec at Augusta has a fall of 15 feet; the Androscoggin at Brunswick has a fall of 50 feet; at Lewiston 64 feet; Emerson's Stream at West Waterville has a fall of 200 feet within five miles. The fall of the water of the Cobbosecontee, at Gardiner, within one mile of the tide-water, is 128 feet; the fall of water in the Vaughan Brook, in Hallowell, within three fourths of a mile of tide-water, is 188 feet.—The citizens of Waterville are endeavoring to raise \$75,000 or \$100,000 for the improvement of the water power at that place, and the inauguration of extensive manufacturing improvements.

CHEESE.—The cheese factories at Otto, Cattaraugus Co., N. Y., are said to be doing an immense business, and others are starting up in the vicinity—among them one at Ellicottville.—A cheese factory 40 by 70 and three stories high is in process of construction at West Brookfield, Mass.

OILS AND CHEMICALS.—The buildings of the Manufacturing Company at Coldwater, Mich., have been completed, and the manufacture of linseed oil and corn and oat meal will soon begin. The enterprise, the second of the kind started in the state, will encourage the cultivation of flax, and it is believed that the neighboring region will send to this mill, during the next season, at least 25,000 bushels of flaxseed.—The Pacific Oil Works, at San Francisco, Cal., are now in full operation. The present machinery can consume about 4,000 bushels of flaxseed per week.—The Golden City Chemical Works, recently erected in San Francisco, cost \$250,000, and can turn out 20,000 lbs. of sulphuric and 3,000 of nitric acid per day.—At Sharpsburg, near Pittsburgh, Pa., three oil refineries are being built, one covering an area of seven acres and a river frontage of 700 feet. Two others will each have a capacity for refining 1,200 barrels of oil per week.—The American oil product during the past six years is estimated at about 11,640,670 barrels, for which there have been sunk 7,930 wells, not more than one tenth of which are now believed to be producing oil. In 1859 the product was 325 barrels.

MISCELLANEOUS.—Shoe strings are little things, but very numerous, and in union find strength, at South Carver, Mass., where seventy hands are employed in one shop, making shoe strings and lacings of cotton, silk and linen, to the value of \$175,000 annually.—The soapstone stoves appear to find increasing favor, as new buildings are now being erected by the manufacturers at Nashua, N. H., who have a capital of \$150,000 invested in the business, and a single order on hand for 7,000 stoves.—Jelly from unfermented apple juice was made at Livermore Falls, Me., to the amount of 16,000 lbs., last season.—A Meriden, Conn., Hat Company has been formed, to make hats by a machine which weaves them whole—capital \$400,000.—Boston and East Boston are to be connected by a suspension bridge that will cost half a million.—A bridge is to be built across the Ohio river at Louisville, Ky., 360 feet long and to cost \$1,500,000.

PRELLER'S PATENT TANNING PROCESS.

In sole leather tanned by Preller's patent the fibrous structure is entirely preserved, and in a condensed state, of great strength and solidity: comparing with oak-tanned leather by weight as 34 to 50, from 100 pounds of green hide, and showing much less thickness than the distended and weighted leather produced by ordinary processes. On tearing, the latter discloses a felted structure, whereas the former shows all its fibers in their original parallel juxtaposition, and by experiment, resists at one fourth of an inch thickness, in constant working, more strain than the best oak-tanned three eighths of an inch thick. The obvious practical advantages of the lessened bulk and greater flexibility need not be suggested. Butts, it may be remarked, become available, from improved flexibility, for purposes to which they were hitherto unsuited, and by paring them a very large even horsehide may be obtained for many useful purposes, especially carriage tops. Another comparative test which is very suggestive, is that of boiling. Ordinary leather attains in this way a woolly texture and becomes brittle, or else becomes converted into a kind of gelatinous mass. Preller's leather, on the contrary, seems to "boil down" to a tougher, denser, and still fibrous condition, resembling horn. Calf leather, it is evident, will realize similar advantages, of which the last that we shall mention is that it can be tanned in sixteen hours; sole leather requiring but 2½ days. Having these effects in view the tendencies of the process may be the better appreciated. It is as follows:

The hides are slightly washed, and then unhaired in the usual manner. Next they undergo a partial drying, and receive a uniform coating of a peculiar paste, which is the main feature of the invention, and is a compound of various vegetable, animal, and saline substances. The vegetable substances are such as contain a large proportion of starch and little gluten—such as barley flour, rice flour or starch itself. The animal substances are of a fatty nature; ox brains, butter, milk, animal oil, or grease. Salt and saltpeter are used merely as preservatives for the brains and the butter. Next the hides are put into the interior of large drums, around the inner peripheries of which a number of stout pegs are disposed radially, the intention of which is to beat up and mellow the hides and to effect an equal distribution of the moisture they still retain, and the complete and uniform absorption of the paste throughout their fibrous system. The drums are driven by a steam engine and to promote a drying action the waste steam from the engine is conducted into them. Having been kneaded forcibly together in this manner for some hours—more or less according to the nature and thickness of the hides—the drums are thrown out of gear, and the hides drawn out. It is now ascertained that the work of absorption and of partial drying has gone on vigorously, and with uniformity, and that the hides not having yet attained the point of saturation, are ready for another supply of the paste and a second turn in the drums. Previous to this, however, they are hung up in an airy part of the room, so as to insure uniformity of color and of substance, which when perfected proves that the conversion of the gelatinous mass has been equal and complete. They are now ready, after a little more drying, for the operations of the currier, who finds that his work is considerably lessened in amount by the effects of the above process. The *Shoe and Leather Reporter* is authority for the above statements.

The Nashawannuck Suspender Mills at Easthampton, Mass., are to close 18th inst.