BRUSHES AND BROOMS.

HOW THEY ARE MADE AT THE FACTORY OF T. S. SIMMS & CO.

A St. John Industry that Draws Upon the Whole World for its Raw Materials, and Distributes its Manufactured Products Over British North America.

Prominent among the large manufacturing industries whose products find a market throughout the whole of British America, is the brush and broom manufactory of T. S. Simms & Co., St. John, whose warerooms and business offices occupy the store comprising five spacious flats at 57-59 Dock street, where is stored upon shelves and piled upon counters an immense stock of wares of nearly every description in the brush line, all neatly packed in boxes or tied in bundles and labeled, ready for shipment.

An inspection of the sample rooms, on the main floor adjoining the offices, will give at a glance a general idea of the great extent and variety of this line of goods. Systematically and artistically arranged upon the walls are sample brushes and brooms of all the myriad kinds and styles made by this house, and the array comprises nearly everything of the brushy character called for by the trade and used in the household, stables, stores and workshops throughout the land. Toilet brushes, fine camel's hair brushes for artists' use, and feather dusters, although kept in stock, are not manufactured here, as in the special branches the foreign manufacturers, of England, France, and Germany, can send in their goods and sell them notwithstanding the tariff duty at prices with which home enterprise cannot compete. But everything else, from a shaving brush to a horse "dandy," a lamp-chimney duster to a window washer, and a whisk broom to a street sweeper, is turned out by the skilled workmen and ingenious machinery of this establishment.

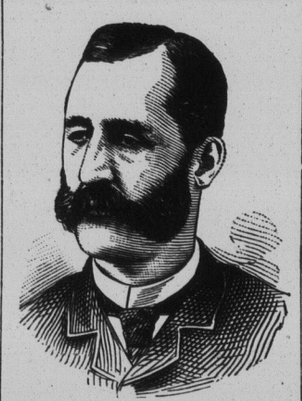
Here are painters' brushes in all styles—round, oval, chisel, flat, dust, sash and blind—for all kinds of uses in applying paint and varnish; paper-hangers, wall, paste and sizing brushes; masons' brushes—skimming, kalsomine, whitewash, and brick liners; barbers', dust and shaving brushes; brewers' scrub brushes; tanners' scouring, stuffing and blacking brushes; printers' lye brushes, tailors' cloth brushes, moulders' hard and dust brushes; and numerous others of the special styles required in the various arts and mechanical trades. For ships' use there are deck scrub, tar and seam brushes; for household purposes, furniture dusters, handy and parlor dusters, clothes and hat brushes, floor and window brushes, stove daubers and polishers, and scrubs for special and general use; and for stable use, the various forms of horse, harness and carriage brushes, including "dandies" of many styles and grades, harness scrubs and polishers, spoke brushes, and bass and rattan floor brushes or brooms.

Then there are stencil brushes for all grades of work, shoe daubers and polishers, store brushes for counters and shelves, factory dusters, car washers, etc., etc, while the line of artists' goods includes brushes for copping, coloring, mottling, lacquering, stripping, marking, frescoing, blending, graining, and in short every class of work. The broom line comprises whisks in great variety, all the common styles of floor brooms for house and stable and store use, and carpet sweepers' of bristles or vegetable fibre, in the most approved patterns of many different grades. All these goods are the product of Messrs. Simms & Co's' factory, which it may well imagined, is not only a busy establishment but an exceedingly interesting one to the visitor.

The factory and works are at 55-57 Smythe street, occupying four floors in a large brick building and comprising 15,000 square feet of floor surface. The basement, which has an entrance on the wharf in the rear, contains the boiler and engine room, and aside from this is devoted to wood sawing—preparing the stock from which are fashioned the various styles and sizes of brush handles and backs. There is also a drying room, where the lumber is thoroughly seasoned by steam heat. The blocks after being cut by the circular saws are taken by an elevator to the second floor, which is the general woodworking department of the factory. No turned handles are made, but all the other forms of handles and backs, by the aid of machinery specially designed for the purpose, are cut here and prepared to receive the bristles.

Space will not permit a detailed description of the operations required in brush making, nor is it necessary in order to convey a general idea of the work; but several of the processes and machines employed are of special interest on account of their novelty and ingenuity, and merit particular mention. There are no less than seven different departments—first the woodworking, already spoken of; then the stock room, where the bristles and fibres are sorted and sized, softened by soaking, bleached if required, and otherwise prepared; the room devoted to drawn work, in which the bristles are drawn in and fastened through holes bored in the wooden backs, including shoe, cloth, horse and scrubbing brushes; the department in which paint and whitewash brushes and all painters' tools are made; the room for set work, such as dust and floor brushes, etc., and the finishing room, where all the work is finished—the loose bristles removed, the ends trimmed and smoothed, the backs polished or painted or stained and varnished, and the brushes packed ready for shipment.

The greater part of the work is done by specially devised machinery, although some of the operations are performed by hand, as there are several processes in which it scarcely seems likely that machines can ever take the place of the individual intelligence and skill of the hand operator. Such for instance, is "dipping," in which the bristles are bunched and dipped in hot pitch, then inserted in the holes bored in the wooden backs, a process which, though simple, requires extreme and deftness of handling to ensure nicety and thoroughness of work. Nevertheless, machines have been invented for about all the processes of brush making, but many of them have proved too imperfect, or too complicated and liable to get



out of order, to be of practical use. This factory is fitted with all the most approved mechanical appliances for the work, among them being a complicated but exceedingly clever machine for driving the nails that fasten the leather or metal which binds the brushes and secures the bristles to the handles; it works on the principle of the ordinary sewing machine, and with nearly the same smoothness and dispatch.

The broom department of the factory is scarcely less interesting. The broomcorn as it is unpacked from the bales is cut and sized by machines, sorted for fineness and color; then wet, after which the light-colored material is subjected to bleaching by the fumes of brimstone. Then comes the seeding process, in which the seeds attached to the straws are removed by machinery—a work formerly performed after the brooms were made up, but which is done much better and more thoroughly while the material is in small bunches; there are three of these machines in operation. Then the corn goes to a curious machine of seemingly human intelligence, called the hurlcutter, which takes out or separates the long center stalk from the outer and shorter, as perfectly and far more quickly than it can be done by hand. Thence it goes to the brooms machines, of which are several in operation, where it is tied up into brooms and fastened to the handles, after which the brooms are sewed or knitted firmly by other machines and are ready for drying and finishing.

The broom material having been wet, and to make it pliable, and subjected to its working while in this state, requires drying, and this is done by steam heat in a room fitted for the purpose. The sewing machines above mentioned are truly wonderful pieces of mechanism, and their use marks a great advance in the broom-making industry. There are four of them in operation, and one of them was made in St. John, by W. F. and J. W. Myers, the Waterloo street machinists. They are an American invention, originating at Syracuse, N. Y., and Mr. Simms owns the patent and controls the process for the maritime provinces.

Another most ingenious machine is used for saving waste material. Amid all the handling to which the broom straw is subjected in passing through the various operations, a good deal of it gets scattered about the floor, and the pile of sweepings which accumulates every day is of no small proportions. The chief obstacle in the way of utilizing it is the time and labor required to handle each individual straw and place them so that the butt ends will all point in the same direction. This machine does it, with scarcely any tending, by a series of bins to which is imparted an oscillating or rocking motion, which stands the straws on end and causes them to drop through the compartments upon a wire screen or separator. Those falling with the heavy ends down pass through the screen on to the floor beneath, while if the lighter or pronged ends point downward the meshes arrest them and they fall upon the screen, and as in each case the butt ends are all pointing one way, they are readily bunched and utilized.

The factory has a capacity of turning out 150 dozen brooms a day and 450 dozen brushes a week, and when running full employs upwards of a hundred hands. At present as the season's work is not yet fairly under way, about ninety hands are employed, including twenty girls and a number of boys, and the broom production is about 100 dozen a day. The corn comes from Illinois, in bales of about 300 pounds each, and is bought in the field by Mr. Simms, who annually visits the growers of that section in the harvest season, and when he makes a purchase usually takes the farmer's whole crop. Thirty carloads were bought in last year and when in full operation the factory uses up a ton a day. The broom handles, are made in Nova Scotia, as none of the quality required are made on this river or hereabouts. The factory used 250,000 last year, and when all the broom machines are at work uses up a thousand handles a day. They ought to be made here. The sawmills of Bangor have for many years numbered broom handles among their products, not only for home consumption but for export, and it would seem that some one of the St. John mills might find it profitable to make even no more than a quarter of a million of them in in season.

One of the most interesting features of this industry, aside from the manufacturing processes themselves, which are of a character to greatly interest even the casual observer, is the fact that the whole world almost is drawn upon for the supply of bristles and fibres to maintain it. The great bristle market is Leipsic, Germany, where there is a great fair held each year at which the large bristle growers and dealers from all Europe and Asia dispose of their yearly product. But the London dealers are the principal buyers upon these occasions, and although Messrs. Simms & Co. have tried buying at Leipsic direct they have found they can buy of the London houses to better advantage, all things considered. Consequently, the bulk of their fibre bristles they buy in the London market, and they come originally from Germany, Poland and Russia, principally from the latter country. They are tied in bunches of quarter pound to one pound weight, and some of the given grades cost as high as $4.75 a pound. They they also buy native stock from France, and from China they get a very fine black bristle, used principally in the finest quality of painters' brushes. They also use a large quantity of Chicargo bristles, which come directly from the stockyards of the windy city, bought of the Chicago Hair and Bristle Company; but these are used only for the cheaper grades of brushes. Western hogs are grown for pork, and not for bristles.

But bristles are by no means the only material used in making brushes. Not that cheaper and imitation stuff masquerades as bristles in this establishment. The brushes are in all cases sold for just what they are. But the trade calls for cheap brushes of many kinds, and there are various vegetable fibres which fill the bill, while not a few of them answer their special purpose better than the more costly bristles could. Among them are rice root, which comes from Mexico, and is used mostly for horse (dandy) brushes; cocoa fibre, principally from Jamaica, used mainly for scrubbing brushes; palmetto, from Florida, for dandy and scrubbing brushes; kittool, an East Indian fibre, bought in London; piassava, from Babia, S. A.; tampico, or cactus, from Mexico, for shoe and stove polishing brushes, of which this firm uses tons yearly; Indian fibre, for coarse horse brushes; and rattan, for street and stable brooms.

Still other materials, among them whalebone, are used, adapted to especial purposes. The firm gives special attention to making various kinds of machine brushes, and brushes required for any special purpose or use are made to order, in any shape or style desired.

The woods used for the handles and backs are principally birch, poplar and spruce, and about 75,000 feet is consumed annually. In transporting the brushes from one room to another, and from the factory to the warerooms, cars made of leatheroid and mounted upon trucks are used, and prove a very handy method of conveyance. They are made by the Leatheroid Manufacturing company, of Kennebunk, Maine. The factory is run by a 50 h. p. boiler and engine, which also furnishes power for the machine shop of Joseph Thompson, occupying adjoining quarters in the same block.

Messrs. Simms & Co's trade not only covers the maritime provinces and Newfoundland, but extends over the upper provinces and includes British Columbia on the Pacific coast. Mr. Simms came here from Portland, Maine, twenty-two years ago, and bought out a small brush factory, to which he subsequently added the broom-making business. His trade expanded steadily year by year, until it has reached immense proportions. There is a small brush manufactory in Halifax, and with this exception he has no competition in the maritime provinces; while the fact that so large a part of his trade is in the province of Quebec, Ontario and Columbia, speaks volumes for his enterprise mechanical skill, and business sagacity. The maritime provinces need a few more industrial establishments patterned after that of T. S. Simms & Co.

Thoughtless.

"That's the most hopelessly foolish achievement of my existence," he moaned.

"What have you done?" asked his wife.

"Lent an umbrella."

"I thought you knew better."

"It's worse than that. I lent it to its original owner."

A GROWING MACHINE INDUSTRY.

Where Inventions are Developed—Machine Shop and Works of Joseph Thompson.

One of the young but prosperous and growing industries of the city of St. John is the machine shop of Joseph Thompson, occupying the first floor in the brick building at 53 Smythe Street. Mr. Thompson came here from the States and opened a small shop three years ago, since when he has been steadily expanding his business and increasing his facilities, until his establishment is actually over-crowded with machinery, and his trade extends over upper Canada as well as throughout the maritime provinces and Newfoundland.

The shop is fitted for about all kinds of general machine work and repairing, being equipped with forge, lathes, planer's drills, etc., of all sizes from large to small, run of steam power, and its assortment by small tools, taps, dies, drills, wrenches, punches, reamers, etc., in all the varying sizes down to degrees of fineness reckoned by thousandths of an inch—is ususually large and complete. Other special machinery is employed, and an addition has been received this week in the shape of a big engine lathe, weighing four tons, and swinging fifty inches, from the Watrous engine works of Brantford, Ontario. With these facilities, a large part of the business naturally consists of custom work and general repairing—the latter including repairs on mills, steamboats, engines, printing presses, bicyles, elevators, etc.

But Mr. Thompson is chiefly known throughout the province as a manufacturer of special machinery, notably drilling machines, forges, lathes for wood working, shears, gold concentrators, blowers, etc., of these his leading specilities are portable forges and upright drills, both his own inventions, and known under his name throughout Canada and Newfoundland. The forges are used very largely by farmers as well as by manufacturers, and the drill can be operated either by hand or power. They combine many improvements over other machines of their class, and they are made in interchangeable parts, so that when any part becomes worn, or disabled by accident, it can be immediately replaced at slight expense without sending it to the shop for repairs. Mr. Thompson is also the St. John agent for the Robb Engineering Company of Amherst, N. S., manufacturers of boilers, rotary saw mills, water wheels and general machinery.

In this, the American system of machine working, lies the secret of Mr. Thompson's success in this class of work. Each part is made by a special tool, designed for that purpose and useless for any other. Every hole is bored by a jig, in which the drill is held and guided by a steel bush, so that any number of pieces are made exactly alike, any one of them fitting into the machine as well as another. The Thompson forges and drills are carried in stock by all the leading hardware houses of St. John, and, as has been said, are sold over the whole of the Dominion. A large order has lately been shipped to the Canadian Machinery Agency, Montreal. Mr. Thompson also manufactures a good many gold concentrators, used in the gold mines of Nova Scotia. He makes for a Boston company the Golden Gate concentrators used in Canada, and also the Boston concentrator, built on a similar plan but of cheaper construction.

Aside from these a highly important branch of the business consists of developing the ideas of inventors who have not the requisite mechanical knowledge to carry them out. A great amount of this work is done. Mechanical ideas are often suggested by people who are not themselves mechanics. Mr. Thompson is not only a practical machinist, but an expert designer and skilled draughtsman, and is an adept at putting inventors' ideas into practical form. Consequently he always has some machine or appliance invented by local or provincial genius underway in his shop, and many are the machines and tools of this character which he has turned out, some of which become of general use and make fame and money for the inventor, while many do not. Among the curiosities in this line as an ingenious nutmeg-grater, the invention of a St. John lady, which however seems to be an example of misdirected talent, from the fact that nobody ever uses a great amount of the spice at one time and it requires to be grated fresh, so that the machine really saves neither time nor labor. A more pretentious invention, upon which Mr. Thompson has been for some time at work, and which is now practically completed, and ready for trial, is an improved street-car fender. The inventor is Robert Buston, well known throughout the province of New Brunswick, and the patent is owned by a company of St. John and Fredericton gentlemen, of which Mayor Vanwart of the latter city is the president. This fender seems to combine many points of advantage over the numerous other styles which have been tried with more or less success in practical working, and it is believed that its operation will prove it to be a useful and profitable invention.

Mr. Thompson as an Englishman, but has passed the most of his life in the United States, where he has served in some of the largest machine shops and plants of the country, with a view to gaining the thorough and varied experience that would enable him to successfully conduct a business of his own. He came here from the Thompson-Houston Electric company works at Lynn, Mass., and previous to that time had been with the Brown & Sharpe manufacturing company and the Providence Tool company, of Providence, R. I., the Mason machine works of Taunton, Mass., and the Portland Company, of Portland, Maine. He is still a young man, and at the present rate of youth it will not be many years before his machine works will be numbered among the large manufacturing industries of St. John and the maritime provinces.

Sheltered by the English Flag.

News from Cuba is to the effect that the people are about to make another attempt to gain their independence. The last rebellion began, or rather became serious, in 1871 and lasted till 1878. It came near involving the U. S. in war with Spain, owing to the Virginius massacre in 1873. The Virginius was an American vessel, which was carrying arms to the rebels. It was captured by a Spanish cruiser and all on board taken to Santiago de Cuba. There they were tried by what is known as the drumhead court-martial, that is, are hastily formed and without due authority. The telegraph office was seized and closely guarded lest a cable dispatch should be sent for relief. There was in the office, however, a boy who understood telegraphy, and he, not being suspected, was not watched. When the news that the prisoners were to be shot came in, he stood with his back to the instrument and cabled to Jamaica, where two English gunboats lay. They suspected treachery and came over at full speed. The English consul, immediately on their arrival, took his flag and drove to the place of execution. Fifty-three had already been shot and two others were standing waiting a similar fate. Rushing directly in front of the firing party he unfurled his flag and shouted: "No more of this!" Spain had no quarrel with England whatever she might have against the States, and the soldiers did not dare to fire on the English flag. So those lives were saved.

A Twenty-Seven Year old Baby.

The following item is clipped from a late English paper: A woman of the age of twenty-seven, who was literally "an infant," died on Thursday in Milnthorpe Workhouse, Westmorland. She presented to the last the appearance of a stout child of two or three years of age, and never gave the slightest proof of the existence of a mind in her body. She passed through the regular period of training at the asylum for idiots, at Lancaster, but could be taught nothing, not, even in the slightest degree, the power of speaking. It is only during the last year or so that she gave utterance to a few inarticulate sounds. The only indication of the possession of, any quality above the rudiments of instinct was the possession of some sense of modesty and cleanliness of habit. She was very good-natured, and was simply idolized by the old women resident in the house. It was curious to see them crowd around her and cry out, "Bless its little heart, the dear little honey!" She was buried in the beautiful churchyard of Haversham, the acting chaplain of the workhouse officiating. Her name was Sarah Agnes Simpson, and she was born in 1868. Probably no death from the workhouse ever more sincerely mourned.

Was It the Candidate Who Was Jailed?

"Once, when I was making my first race for parliament," remarked a veteran statesman of the lower house, "I had to visit a small town about ten miles from any railway station. I drove over in the cart that carried the mails and such unfortunates as had to go to the town, and, as I was the only passenger, I took a seat by the driver. We hadn't gone more than half a mile before questioning him about the visitors to the district.

"'You don't have many passengers?" said I.

"'Not as a rule,' he replied; 'but I had two day before yestiddy.'"

"'Who were they?'"

"'One of 'em was a canditate for parliament tryin' to git votes o' the county, and t'other was a candidate for prison trying to git hosses out of the county.'"

"'Ah!' said I. "What became of them?" for I was afraid one of my opponents was on the warpath.

"'Well, we've got one of 'em in jail, and t'other skedaddled.'"

"This was rather out of the ordinary, but I wanted to know more, especially who the horsethief was, so I asked the name of the man in jail.

"'One of 'em was named Smith,' said he, 'an' t'other's name was Morris. But I'm hanged if I know which one got away!"

The Editor Identified Him.

At a recent gathering of the notable men of Tennessee, the after-dinner chat turned upon personal experiences, and a distinguished jurist related this:—After graduation the migrated to a western town; months of idleness, with no prospect of improvement, induced him to seek a new home. Without money to pay his fare, he boarded a train for Nashville, intending to seek employment as reporter on one of the daily newspapers. When the conductor called for his ticket he said:

"I am on the editorial staff of Nashville; I suppose you don't charge me?"

The conductor looked him over sharply.

"The editor of that paper is in the smoker. Come with me; if he identifies you, all right."

He followed the conductor into the smoker; the situation was explained; Mr. Editor said:

"Oh, yes, he's one of the staff; it is all right."

Before leaving the train, the lawyer again sought the editor:

"Why did you say you recognized me? I'm not on your paper."

"I'm not the editor either. I'm travelling on his pass, and was scared to death lest you should give me away."

Byles on Byles.

Writers of important books are sometimes taken in a net of their own devising. This has happened on the bench. The late Mr. Justice Byles was once engaged in a brief contest with counsel about a bill case. On what did the advocate ground his arguments?

"On the well-known work, 'Byles on Bills,'" was the disturbing answer.

But the judge cleverly covered his defeat.

"Ah, I know him well," he said; "and he is not always to be relied upon."