

Manufacturing Items.

THE *Commercial Bulletin* of Boston (a most excellent weekly journal by the way) says that the manufacture of flax into fabrics of cloth and twine has been steadily advancing at Lockport, N. Y. The company engaged in the business have employed 30 hands in a large building where, to make the white fabric from the raw material, about five days are required. Twine is made in less than two days. In the third story, Race, Mathews & Co. are about putting in new machinery for the more extensive manufacture of twine and rope. The second story is filled with such machinery now, which is running every day. The company have been very fortunate in securing the services of Joseph Taylor as superintendent, a gentleman recently from England, whose life has been devoted to this business. Under his efficient management the enterprise will gather new life. They have on hand a large supply of flax, but are still buying all they can get at \$15 per tun, and the farmers are preparing for a much more extensive crop for the coming year.

THE following stave and barrel works are in operation in the Saginaw Valley, Mich.:—O. A. Ballou & Co., Kaw-kaw-lin, own stave and heading works which cut 20,000 staves daily; cooper shop in connection, where 100 barrels are put up per day. C. & E. Ten Eyck, East Saginaw, general machinery; cut in 1863, 2,500,000 staves, with requisite heading; capacity, 3,500,000; cooper shop in connection. Fisher & Lee, East Saginaw, general machinery and saws for cutting tight barrel staves; cut in 1863, 400,000 staves and 20,000 sets heading; capacity, 4,000,000 staves, 200,000 sets heading. Curtis & King, Salina, own stave and heading works; capacity, 3,000,000 pieces staves and heading. Empire Barrel Company, Carrolton, made in 1863, 16,000 barrels, 500,000 staves, and 30,000 sets heading; they have general machinery and stave-sawing machines for tight work; capacity for cutting 3,000,000 heads per annum.

THE New Bedford Copper Company's mill was in operation 275 days in 1863, during which 2,113½ gross tons of metals were melted, and about 2,500,000 lbs. of yellow metal sheathing, heavy yellow metal plates for Government vessels, and bolts, were turned out—a daily product of 9,091½ pounds, and an increase of nearly 33 per cent. on the daily production of the preceding year. The cost of manufacturing was about the same as in 1862, the improved facilities and increased skill being counterbalanced by the enhanced cost of material. Five per cent. of the metals melted are lost—passing off through the chimneys. Most, if not all, this waste will be prevented by a new apparatus which arrests the flying particles of the molten metal.

THERE have been manufactured at the Armory in Springfield, during the last month, 25,700 muskets—a larger number than ever before fabricated in a single month. The last two weeks 6,000 were turned out each week, averaging 1,000 each day. The largest number ever manufactured before in one week was 5,040. When the last month's work is completed, there will be in store at the Armory over 200,000 guns, of which 40,000 are packed ready for shipment. The number of guns to be made the present month will probably equal the last month.

THE Haydenville Brass Works have been established some fifteen years, and now employ 150 hands in manufacturing brass work for plumbers, engine builders, and machinists. They have a high reputation for perfection of finish and manufacture. The business of plumbers' supplies has increased so much of late that their Boston agents, Messrs. Dalton & Ingersoll, 17 Union street, have given up a large hardware trade and are now engaged entirely in these specialties.

MILWAUKEE already manufactures more leather than any city in the West. The Wisconsin Leather Company alone last year produced more than half a million dollars' worth of leather. There are now building near the canal, in the Sixth Ward, two large tanneries—one for Mr. Zohrlant and the other for Mr. Neumann, both men of large experience in the business.

THE flannel mill of John Townsend, of Milton Mills, Rochester, N. H., is now in full blast, and turns out about 13,000 yards of flannel per week.

T. B. PHELPS has completed a "Pea Factory," at Detroit. The building is of brick, 40 by 80 feet, and is devoted to a two-fold use, viz: the "splitting" and grinding of peas, the raw material being obtained from Canada, and the kiln-drying of grain preparatory to its consumption for manufacturing purposes. The machinery is propelled by a neat engine of 15 horse-power, built at the foundry of J. B. Wayne & Co., and the whole affair is the handiwork of Detroit artisans. Among the most noteworthy items of the machinery is an ingeniously contrived screening apparatus for dividing the peas into two sizes, preparatory to splitting them. This was arranged and put up by John Babillion. The mill has capacity for turning out a barrel of peas ready for market every five minutes. The kiln-drying apparatus is designed chiefly for cargoes of damaged grain, and shippers and underwriters who are so unfortunate as to sustain damage to cargoes, will find it a great convenience in being thus enabled to obtain a market.

FLAX is getting into extensive use in Wisconsin for manufacturing purposes. At Milwaukee there are exhibited specimens of flax white as snow, and also colored with the most brilliant hue; calico made of fifty per cent. of flax; cotton flannel, one-half flax; felted cloths, and a variety of other manufactures of which flax is a component part. As handsome an article of broadcloth is manufactured from this cottonized flax as could be desired.

THE number of cigars made by one firm in Detroit, Mich., in 1862, was 1,500,000. The tobacco is all imported from New York, and is the growth either of Havana or Connecticut, mostly of the latter. Cigars are all made by hand. Attempts have been made to bring in the aid of machinery in their manufacture, but they have proved futile.

THE Nova Scotia grindstones are now largely superseded by those obtained in Ohio, which for all the different varieties of grit, either for wet or dry grinding, are pronounced equal, if not superior, to the best English stone.

THE Amoskeag Company's Machine Shop is fully in operation, employing over 400 hands upon arms for the Government and steam fire-engines (turning out on an average about two a week of the latter), as well as doing other miscellaneous work.

THE Ames Plow Company, with \$400,000 capital, has been organized in Boston, to manufacture agricultural implements. O. Ames, President; E. Tasker, Treasurer.

THE Manchester Print Works are as usual in full blast. Many valuable improvements have recently been made by this company, and probably no establishment in the whole country is superior to it.

THE Taunton Locomotive Company are building an extensive improvement to their works.

FARMERS' CLUB.

At the meeting of the Farmers' Club on the 1st of March, a long discussion was had on miscellaneous subjects, valuable for the most part to farmer's only. We select two items as being perhaps of general interest.

A communication was received from a man in Illinois, giving an account of some experiments made by him to ascertain the quantity of pork which could be produced from a bushel of corn, fed in different states. As young pigs require food other than corn, he took for experiments swine more than four months old. He says that, with hogs in clean comfortable pens, supplied with plenty of dry straw—

50 lbs. of corn, whole and raw,	will make	10 lbs. of pork
50 " do ground	" "	15 " "
50 " do ground and fermented	" "	17 " "
50 " do cooked and fermented	" "	21 " "

The subject of the application of magnesian limestone being introduced, Mr. Thompson remarked that while it was well known that magnesian soils are very poor for most crops, he had observed that they were very favorable for melons. He had planted water-melons on rich, strong land; and the fruit was hardly larger than oranges and almost tasteless; while at the same time he had seen water-melons growing on almost barren magnesian soils, and the melons were very delicious, and some of them weighed forty pounds. Mr. Thompson asked an explanation of this, but received no answer.

MISCELLANEOUS SUMMARY.

A GOOD INVESTMENT.—Within the memory of some of the older merchants of New York, Robert Lenox purchased a farm on the eastern side of the "Central Park" for the sum of \$30,000. That property now belongs to his son, James Lenox, a resident of this city; and he has recently put it upon the market for sale. According to a map now before us, the old farm contains 404 city lots, each 25 feet by 100. At the rate which some of the property has recently been sold, its entire value cannot fall much short of \$2,500,000. This may be regarded as a good investment.

THE "GREAT EASTERN."—The fate of the *Great Eastern* seems to trouble the English people greatly. A correspondent of the *Mechanic's Magazine* suggests that the side wheels and their engines be removed altogether and that new and simpler screw engines, working steam expansively, and capable of accomplishing a higher rate of piston speed than the old ones, be introduced; equal at least to a total of 10,000 horse-power. The correspondent thinks that with this arrangement the increased cargo-room and augmented speed of the ship would make her not only popular but profitable.

A MAMMOTH HOTEL.—The Lindell Hotel, St. Louis, is the largest hotel in the United States. It is seven stories high, exclusive of basement. Its height from sidewalk to cornice is 112 feet. Beside marble flooring and other flagging, 300,000 feet of flooring boards have been laid, requiring 300,000 feet of carpet to cover them. Thirty-two miles of bell-wire are used, and three water-tanks, or reservoirs, into which 30,000 gallons of water are taken up and distributed to all parts of the house, rest upon the roof. The whole property will have cost nearly a million and a half of dollars.

MECHANICS EXCLUDED.—At one time the rich merchants and professional men of Philadelphia proposed to form themselves into a social circle, from which all mechanics were to be excluded. The papers were drawn up for this purpose and presented to Dr. Franklin for his signature. On examining its contents he remarked that he could not consent to write his name, inasmuch as by excluding mechanics from their circle, they had excluded the Almighty, who was the greatest mechanic of the universe.

SILVER DISCOVERED IN MICHIGAN.—There is great excitement in Michigan over the discovery of silver near Lake Superior. Speculation has already commenced. Men who have taken lands at one dollar and twenty-five cents an acre, are selling out at advances of thousands of dollars upon the original cost of their tracts. One tract has been sold for six thousand dollars; the owner bought it a few weeks ago from Government for two hundred dollars. The specimens of ore contain liberal quantities of lead and silver.

ARTESIAN WELLS IN THE DESERT.—Modern science is literally making "the desert to blossom as the rose." In the great desert of Sahara in 1860, five artesian wells had been opened, around which vegetation thrives luxuriantly; thirty thousand palm trees and one thousand fruit trees were planted, and two thriving villages established. At the depth of a little over five hundred feet, an underground river or lake was struck, and from two wells live fish have been thrown up, showing that there is a large body of water underneath.

VAN DUSEN's whip factory, in Westfield, turns out 300 dozen whips per week.

ONE of the verdicts against New York city, for riot and damages, is the sum of \$55,000.

THE ATLANTIC MONTHLY. Published by Ticknor & Fields, Boston, Mass.

The March number of this excellent magazine is as welcome as ever. The contents embrace continuations of several articles which were commenced in the February number, such as the "Convulsionists of St. Medard," "Relation of Art to Nature," which is becoming tedious; and the "House and Home" papers of Mrs. Stowe, of these no one could ever tire, so pleasingly are they written. A tribute to the Quaker poet, Whittier, and also one to the memory of Thackeray, by a friend of his, render this number an exceedingly valuable one. For sale by all booksellers.

Designs for Textile Fabrics.

It is by no means creditable to American art that it has done so little to render our textile industries independent of European designs. We have cotton mills producing goods worth \$100,000,000 per annum, and woolen factories manufacturing \$100,000,000 of woolen fabrics; and yet for the printed designs in the former and the woven in the latter we are almost exclusively dependent on patterns imported from England and France. It is true that our printers of calicoes and delaines have their employed designers who produce patterns creditable to their taste; but with slight exceptions they are accustomed to follow the lead of European fashion, and their productions are mere accommodations of foreign styles, not always altered for the better. In the manufacture of fancy woolen goods we are still more dependent on foreign invention. There is scarcely a manufacturer in the country who makes any pretensions to originality. The principle mills have their agents abroad who forward specimens of all new goods, which are either copied, or produced in a modified and too often less desirable form. One result of this abject dependence on European taste and invention is that our fabricants are always a season behind European fabrics. The samples of English or French products do not arrive here in time to be reproduced for the current season, they consequently are copied here some months later, when the foreign products are here to compete with them, having probably been exported from Europe as old styles at a reduced price. Large amounts of foreign fancy goods are sent to this country after having been refused by European buyers. They are bought as unseasonable goods at a reduction of from ten to twenty per cent from the original price, and come upon this market just as we are producing the same class of styles. The reduced price at which they have been purchased has enabled the importer to compete much more closely with the domestic manufacturer than he otherwise could. Had we the designing talent that would enable us to originate our fashions and produce our own styles, instead of affording foreign fabricants an opportunity of throwing their old goods upon our markets to compete with our new productions, we should compel them, if they would produce for us at all, to follow our own inventions, which course they would find to a considerable extent impracticable; for in order to produce, for instance, fancy cassimeres following styles of our own, they would have to wait until our own styles appeared, when it would be too late for them to manufacture and send them across the Atlantic for the season's market. Thus foreign fancy-goods would be practically excluded from our market.

Manufacturers may be assured that a far more effective protection than high tariffs may be established by their paying liberally for the best designing talent; so as to enable them to produce distinctive American styles and be the authors of their own fashions. This is not to be achieved at once, nor without a concerted and vigorous effort to develop the latent art of the country. Our painters and sculptors are acquiring a world-wide fame, proving that the genius of art inheres in the intellect of our people. It is for our manufacturers to found and foster institutions calculated to bring out the taste of our young men, and to ally art with industry. A school of design founded in this city, placed under the guidance of the best artists in the country, and offering its advantages at a cheap rate, would in five years develop industrial art to an extent that would go far towards rendering us comparatively independent of foreign taste and designs, and place our manufacturers upon a footing, in respect of art, commensurate with the immense capital invested in their industries.—*U. S. Economist.*

The Great Labor of Simple Work.

That a man's labor must not be estimated by the character of his work is evident from the following paragraph cut from an English paper:

"The horse-nail maker's hammer averages 3lb., and the average amount of blows required to make a nail is from 36 to 38, so that in making one nail he must lift 112 lbs.; consequently in making a thousand, which quantity is considered a fair day's work, he has lifted the enormous weight of 50 tons, and that

with the right hand only; and we must take into account the gravity of the iron, which is near allied to that of steel, and the reduction that must take place in the rod to reduce it to a proper size required to another size fit to drive into a horse's foot. For instance, a workman takes 15 lbs. of rods to make a thousand of say 12 lb. counter-sunk horse-nails (which is the weight allowed), the size will be 11-32, or a little less than 3-8. He must reduce that in every nail to 1-12th of an inch. For example, the 15lbs. of rods will measure (before commencing work) 35 feet to 36 feet, as the case may be, and when the work is finished it will measure, in the form of nails, fully 208 feet 4 inches. So that a workman in doing an ordinary day's work has drawn the iron about 173 feet so that horse-nail making is all work. He must work 8 hours per day, and draw the iron, as above stated, 22 feet or thereabouts, every hour, or over 4½ inches every minute. It will be seen the force required from the body, shoulder, and arm, in order to accomplish such labor, is very great; hence the bent shoulder, the curved arm, the contracted muscles, &c., which are almost invariably seen in the horse-nail maker of fifty, who has followed it from his youth."

These men get about \$1 per day and they ask a shilling more, which it is doubtful if they will get.

The Colorado Gold Mines.

The *Commercial Bulletin* says:—"It is only within a few years that much has been known about Colorado, and now principally from its gold product, which has run up to millions annually, the product of the ensuing year being estimated at over twenty millions, and with the improvements now brought to bear upon the extraction of gold quartz the same amount of labor is increasing the yield three or four fold. The attention of New York and eastern capitalists has been attracted to the mines of Colorado, and heavy amounts have been invested in claims. About a million and a half has been invested since September last, and eight or ten new companies started, which if honestly managed, must pay largely.

"The Excelsior Company, which started in the spring of 1863, has made considerable headway, and owns a valuable property; at the rates paid for claims now it could be sold so as to net \$10 or \$15 a share; the management, however, think the results justify developing rather than selling; its market price now is about \$7½ per share.

"The Colorado Gold Mining Company, of Boston, one of the most prominent and profitable of these companies, which is owned principally by New England capitalists, and which has a large amount of improved machinery in successful operation, is now running a large mill, the building of which, with its machinery, cost over one hundred thousand dollars, while the application of scientific invention is very largely increasing its yield of the precious metal."

A Broadside from the "Ironsides."

A correspondent of the *London Times*, writing from Richmond under date of Dec. 21st, thus discourses of naval armament:

"Again I feel tempted to raise a warning voice about the disparity of the armament on board of the English and American vessels. It is impossible for those who have been many months absent from England to be well informed as to the actual state of public opinion at the present moment upon this vital subject. But, judging from the officers of her majesty's navy who have at rare intervals brought vessels of war into Confederate ports, it appears still to be held, that the 68-pounder, or 8-inch smooth-bore, is England's best weapon of offense against iron-clad vessels. The experience gained at Charleston enables me confidently to affirm that as well might you pelt one of the Yankee monitors or the *Ironsides* with peas as to expect them to be in any way damaged by 8-inch shot. Another disagreeable question forces itself upon an Englishman's attention when he is cognizant of the terrible broadside thrown by the eight 11-inch guns of the *Ironsides*—one of the most formidable broadsides, in the opinion of the defenders of Charleston, which has ever been thrown by any vessel upon earth. Have we any ship in existence which could successfully resist such a broadside, and respond to it with anything like commensurate weight and vigor? I should be faithless to my duty if I did

not mention that it is the universal opinion of all the English officers serving in the Confederate army, with whom I have conversed, that England is behind America in the weight and power of the guns sent by both nations to sea. It is still a matter of the greatest surprise to those who are cognizant of the endless experiments in guns and projectiles which are every day made by the Federal and Confederate States, that England has not thought it worth her while to attach to the armies of both nations such a commission as McClellan had in the Crimean war, with a view to their gaining such scientific information which regard to ordnance and projectiles as at this moment can be gained nowhere else on earth. It is my conviction that from both sections such commissioners would receive nothing but courteous and unreserved information upon all that is important for them to know. It is scarcely creditable to our Government that they should be blind to the opportunities for gaining information which this gigantic conflict affords, or that from old-world pride they should refuse to avail themselves of the experience to be derived from a continent destined henceforth and evermore to play no secondary part in the drama of the world."

A Charlatan Unmasked.

At a recent sitting of the members composing the Academy of Science the following resolution was passed:—

"Resolved: By the National Academy of Science, that, in the opinion of this Academy the volumes entitled 'Sailing Directions,' heretofore issued to navigators from the New Observatory, and the 'Wind and Current Charts,' which they are designed to illustrate and explain, embrace much which is unsound in philosophy and little that is practically useful, and that, therefore, these publications ought no longer to be issued in their present form."

This is all very well, but does it not strike these worthy savans that their protest is a little too late? After years of laudation from every one high and low, from Queen Victoria down to nobody, it is now first published to the world under, the sanction of scientific men, that the "Wind and Current Charts" are wrong. The Academy of Science will be called an old foggy institution with some truth if it never makes any predictions until they are verified by practice.

Loss of the "Bohemian."

The steamship *Bohemian*, of the Montreal Steamship's Company's line, was lost at sea on the 22d ult. she struck a rock off Cape Elizabeth when going at half speed, knocked a hole in her bottom and went down in about an hour and a half. There were a large number of passengers on board, of whom twenty-six in the steerage are supposed to be lost. The night was perfectly clear. This company is very unfortunate, having lost no less than eight vessels since 1857, or over one a year. The *Bohemian* is said to be the twenty-fourth steamship lost at sea since the commencement of ocean navigation.

KNOWLTON'S SAW-MILL.—This excellent mill, which we illustrated on page 128 of the present volume, is meeting with great success. A number of the most prominent ship-building firms in Philadelphia are employing it; and one establishment—that of Messrs. Wm. Cramp & Sons—are sawing monitor beams with it; these beams are of white oak, 46 feet long, 14 inches deep, have 19 inches spring, and require to be beveled. Two men saw these beams with ease, at the rate of 62½ inches per minute. The mill is adapted to saw any kind of ship or boat timber without any alteration or adjustment whatever, and is also self-feeding; it will do all that the common saw will do, and has all the advantages we named. Parties interested are invited to call on the above-named builders and see the machine in operation.

THE NEW YORK "CENTRAL PARK."—More than 79,000 trees, shrubs, and herbaceous plants were planted in New York Central Park last year. The carriage-drive now completed is about eight miles in length; bridle-road five miles, and walks twenty miles. Over 4,000,000 persons visited the park in 1863, and in one day over 8,000 carriages entered the drives.