sons were stung by them, and I think it may be accounted for as follows: Those insects which had not deposited until late in the season were, perhaps, delayed after their time was fully come, and, in obedience to Nature's law, were driven suddenly to relieve themselves, and hence their tenacity in maintaining themselves upon the human flesh until their object was accomplished. This theory is supported by the facts that the eggs are so injurious to vegetation when deposited in the bark of trees, and that it was during only the latter part of the season, when they were depositing their eggs, that instances were known of persons having been stung or poisoned. In several instances which came to my knowledge, the locust resisted attempts to brush or throw it off until the deposit had been effected. The treatment in the case of a child stung, was bathing in salt water to reduce the inflammation, which extended rapidly, and further, to remove the cause of the inflammation, viz., the eggs deposited in the wound.

C. A. LEWIS.

Washington, D. C.

Submarine Engineering.

Among the many interesting things which the visitor to the rapidly-progressing railroad bridge will see, is the improved process by which men can work under water by a method which has taken the place of the former diving bell. So far as anything like a diving bell is concerned the operator carries it upon his head. The need for such labor is to level the rip rap rock which fills the spaces between the piles, and around them, just above the bottom of the river, to make a perfect sub-structure for the piers after the piles have been sawed off one or two feet above the bottom.

The contract for this work was taken by Mr. Perry, who has in his service for the under-water work, Mr. Quinn and Mr. King. We were at the place of one of the piers yesterday, and waited a few minutes to see Mr. Quinn come up after a four hours' submersion and hard work at the bottom of the river. On the edge of the flatboat stood Mr. King with a rope in one hand and an India rubber tube in the other, both extended out into the water and let out or drawn in to correspond with the motions of the man below, or to yield to, or counteract the strong current of the river, as rapid near the bottom as it was eighteen feet above at the surface. The rope was to communicate understood signals—the tube to convey a proper and uniform supply of air to the sub-aqueous man. Down stream large bubbles of air were almost constantly rising to the surface, air which Mr. Quinn no longer had any use for, or a surplus applied by a very ingeniously constructed air-pump by which three pistons were so adjusted upon a crooked revolving shaft that one of them was constantly and quickly forcing nearly a gallon of air within the sub-marine armor in which the operator was dressed.

A signal was given to ask if all was "right." Responsive twitches of the rope meant "all right." Soon after the signal was given for "dinner time." Then slowly crawled Mr. Quinn to a ladder suspended from the boat to the bottom of the river. The bubbles are seen further up stream—the rope and tube are gradually pulled in—the top of the ladder trembles and he is coming up slowly with his armor-dress of more than a hundred pounds heavier than the weight of his body. Out of the turbid water emerges a frightful head with a great square eye as large as a hand, in front, and a similar one on either side, but without hair, or mouth, or eyes, or any resemblance to the "human face divine." Human hands are seen on the ladder—an unwieldy outline of a human body is seen beneath the great head, nearly two feet in diameter. His assistants thumb a few screws and take on the copper helmet, revealing the good-looking English face of Mr. Quinn. Relieved of sixty pounds weight on his breast and back, and shoes with leaden soles of thirty pounds each, which, being removed, his canvass-rubber clothing is removed, and there he sits, or stands, a proper sized man in dry, ordinary clothing, only his naked hands having been wet.

So strong is the current of the river these sub-water men can scarcely stand against the force of the current, though borne down by armor and weights to the amount of 275 pounds. This weight is partly requisite on account of the amount of air inclosed, for breathing purposes, within the encasing armor. Except a slightly painful sensation from the pressure of condensed atmosphere in the ears, on the first practice of under-water work, they say that no other inconvenience arises from a temporary residence in Neptune's dominions, or, as we live on fresh water shore, we should say the realms of the Nymphs, Naids, or Potamids.

The sub-river men occasionally place a hand upon a fish, which naturally leaves that neighborhood, instanter, but whither he goes the diver cannot tell, for in the dark water of this river, at that depth, he cannot even distinguish the rope or the white air-tube more than six inches from his face, All this work of leveling and adjusting square rods of loose rock must be done by the sense of feeling, battling with the current upon his hands and knees.

Such are among the wonderful matters of science and skill going on within a mile or two of our city, and yet not one in a hundred knows the tenth part of the interesting things connected with the work of the great railroad bridge which is soon to span the river, and be as great a benefit to Dubuque as it is an honor to those who projected and to those who are building it.—*Dubuque Times.*

Brick Making by Machinery—The Gard Machine.

It is pleasant to say a good word for a really good thing, and such, we are convinced, is the brick machine invented by E. R. Gard, of Chicago, Ill., descriptions of which may be found on page 238, Vol. XIV., and page 132, Vol. XVI., SCIENTIFIC AMERICAN. These descriptions, however, of a machine not then perfected, do not convey a proper idea of the machine we saw in operation a few days ago, which turned out seventy perfect bricks per minute from raw clay, bricks so perfect that they could be "hacked" nine high from the machine without crumbling, defacement, or the necessity of previous drying. Fully equal to hand made, in other respects, these bricks present an edge face as smooth as that of the famous Philadelphia bricks, while their side faces are excellently well adapted to holding and retaining the mortar. The machine uses the clay just from the bank, nothing ever being required to be added but water, and that rarely, and turns out the perfected bricks at a rate only limited by the capacity of the workmen to remove them.

The confidence of the inventor in the superiority of his machine is evinced by his challenge to the owners of all other machines in the country, of a competitive trial on the fairest terms, the proceeds of the trial to be given to charitable objects. A full size working machine may be seen in operation in the rear of 59 Ann street, New York, from 9 A.M. to 3 P.M., and we suggest to our builders and others a visit. For descriptive pamphlet address E. R. Gard, New York City.

BARR'S IMPROVEMENT IN CENTRIFUGAL MACHINES.

The Weston Centrifugal Machine, becoming quite commonly known—over one hundred being now in use in sugar refineries—is a great improvement on the common machine by being self-balancing, a result obtained by suspending the rotating cylinder, allowing it to gyrate in accordance with the varying distribution of the load, thus greatly reducing the power necessary to drive the machine. This gyration is sometimes excessive and the object of the improvement illustrated in the engravings is to prevent this excess of movement without interfering with the productive results of the machine.

Fig. 1

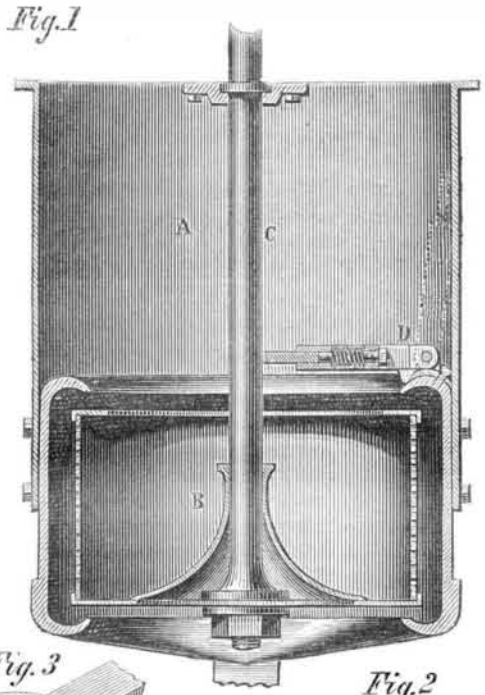

Fig. 3

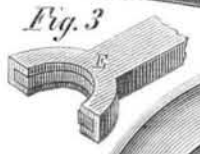

Fig. 2

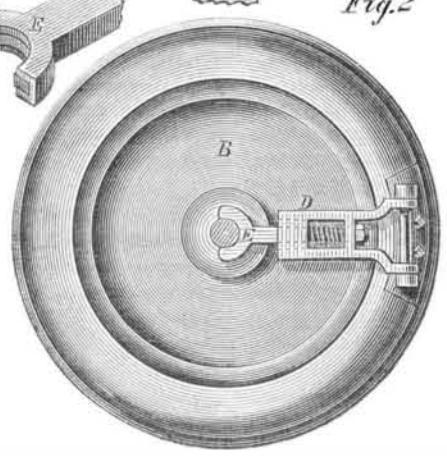

Fig. 1 is a vertical section showing the improvement; Fig. 2 is a plan or top view; and Fig. 3, a perspective view of the device itself, the clutch.

A is a stationary cylindrical case, suspended from timber or the ceiling of the room, and B is the revolving cylindrical vessel for receiving the sugar or other material to be operated upon, and having perforated sides. C is a vertical shaft by which this vessel is suspended. The improvement consists in a hinged frame, D, for guiding the shaft, and a clutch, E, working in the frame.

The frame, D, is hinged to the outer case, A, so that it and the clutch may be raised. When the clutch is in contact with the shaft, C, the frame and clutch are prevented from passing below a level by lugs on the side of the case near the pivot by which the frame and clutch are supported. The shank of the clutch is encircled by a spiral spring intended to yield sufficiently to the swing of the rotating cylinder, but also to check it to prevent it from gyrating beyond a certain limit. The tension of this spring and its consequent bearing against the shaft, C, is regulated by a nut on the end of the clutch shank.

The inventor of this improvement claims that by its use the expense of an attendant is avoided; the forked bar or clutch preventing the violent shocks and vibrations, which occur when the cylinder is unevenly loaded, and an unyielding bearing is employed. During the time of charging the machine the shaft is most liable to gyrate, and the forked rod is most needed, and the latter being of inconsiderable width and occupying but a small proportional space, does not interfere with the operation of charging.

Patented by Robert J. Barr, August 4, 1868. Letters may be addressed to him at 618 S. Delaware Ave., Philadelphia, Pa.

Inproved Method of Preserving Wood.

Patented April 14, 1868, by Theodore William Heinemann, New York city.

I first boil the wood in a weak solution of carbonate of soda or any other alkali, or muriatic acid (pure, crude, or waste materials will answer equally well, but of the pure, one part in fifty to two hundred of water is strong enough), until the liquor ceases to abstract color from the wood, which then is free of nitrogenous matter, and consequently no longer subject to spontaneous decay, and after drying in the usual way, if intended for use where it will not be exposed to the inroads of water, insects, etc., needs no other treatment. But if it be intended for railway sleepers, or purposes where it may be much exposed, or come in contact with nitrogenous or fermenting substances, I subject it to a second treatment in a close boiler, of suitable size and shape, strong enough to bear a very high pressure, conveniently fitted with an air-tight door, also with horizontal cross bars, which serve as braces to strengthen the boiler, and at the same time keep the wood from floating, with a safety valve, discharge cock, pressure-gage, and thermometer.

Into this boiler I put the wood, and with it enough rosin, when liquefied, to cover it, and sufficient water to fill, when converted into steam, the whole of the remaining space in the boiler. I then close the door tightly, and heat the boiler gradually until the thermometer shows the contents to be at about 306° Fah., when the rosin is as liquid and penetrating as boiling water, and the steam, being of a very high pressure, forces the rosin through all the pores of the wood. I keep the same temperature up just long enough to have the wood evenly heated all the way through, the time varying according to the thickness of the pieces treated. After that I lessen the heat gradually, until the thermometer shows the mass inside the boiler to have cooled down to about 200° Fah., when I suddenly raise the temperature again, and as soon as the rosin has become sufficiently liquid, I open the discharge-cock and allow it to drain off. The wood may then be taken out, and on cooling will be found very compact, hard, elastic, impervious to water, even if left in it for a long time, not subject to shrinking, warping, or the attacks of insects, and indestructible except by fire.

If it be desirable, however, to make the wood effectually resist even the power of the last-mentioned agent of destruction, I substitute soda or potash water-glass instead of the rosin, in the process last described, and after thoroughly impregnating it, dry it and allow it to lie for some time in muriatic acid or some concentrated solution of a metallic salt, which will make an insoluble silicate.

New Bridge at Niagara Falls.

They are building a new suspension bridge at Niagara close to the Falls, for carriages and foot passengers. On the American side the towers are within a few hundred feet of Falls, and the cables are already swung across to corresponding towers close to the Clifton House. In some respects this bridge is more remarkable than the other. In length it exceeds it 450 feet, being 1,250 feet in the span. The towers are 105 feet high, and are built 13½ feet apart. Unlike the heavy stone columns of the lower bridge, they are light wooded trestles, twenty-eight feet square at the base and tapering to the top. When finished they will be roofed and weatherboarded.

The bridge will be sustained by two cables, which were swung last winter when the ice filled the river below the Falls. The lower bridge is sustained by four cables. Those of the new bridge are composed of seven strands of twisted steel wire, each mustering two and three-eighths inches in diameter, which form a cable about nine inches thick. The ends are fastened by the new shackles invented by Mr. Hewlett, of Niagara, in a manner very different from that formerly adopted. The strands of the cable are untwisted at the ends, and hang separately from the tops of the towers. Each is secured to a separate shackle, which looks something like a pulley with a fixed wheel. These are grooved so as to hold the cable by means of friction, independent of the fastening at the ends, if necessary. The shackles are of various lengths, so as to divide the strain as much as possible, and are secured to a base firmly planted in beds of masonry eighteen feet square. This will probably hold the weight of the bridge against any ordinary pressure; and unless the slight towers are racked and weakened by the lateral motion caused by the high winds of the winter season, it will probably last as long as the other. The inside measurement of the bridge will be ten feet in the clear. As this will barely enable carriages to pass each other, it is a wonder that an additional two feet were not added when the cables were swung.

Novel Application of Asphalte.

The repellent property of asphalte bitumen with regard to water, which is so characteristic that samples of natural asphalte, though they contain much mineral matter, scarcely ever yield any moisture to analysis, has already led to its use for lining water tanks and cisterns which are not required to hold boiling water. Now, however, it is proposed to use it for canals as an economical and very desirable substitute for the ordinary puddling. But we need scarcely observe, it is only the best description of Seyssel asphalte that would answer the purpose in a satisfactory manner, and remain water

tight for any length of time Instead of a great thickness of argilaceous material, called puddle, which is not always at hand, and only applied with great labor and expense, the bed of the canal would have to be lined with Seyssel asphalte to the thickness of about one inch and a quarter.

The application of asphalte to canals would doubtless help to keep the water they contain in a pure state, and do away with that stagnant mud in which water weeds of the coarsest description flourish and impede the progress of the barges, while it in hot weather gives rise to fœtid emanations as soon as the water sinks a little below its highest level.

For this purpose the artificial asphalte, which is nothing more than gas tar mixed up with calcareous grit and sand, would not be found adequate, as it cannot be expected to afford a durable or an even surface The necessity of employing natural asphalte for this and other purposes, instead of various artificial mixtures intended to imitate it, has been recently insisted on by an eminent engineer, who states that economy and durability are "only assured when the asphalte has a natural source like that shipped to London in large quantities from the mines of Pyrimont Seyssel, in the Jura mountains." These mines have been worked by the Seyssel Asphalte Company since the year 1838, the period at which the late Captain Claridge introduced their product to England, and are still, we understand, far from being exhausted. —*Scientific Review.*

Electric Clock in London.

A remarkable clock has been erected for public use at the top of the offices of the Liverpool and London and Globe Insurance Companies, at the junction of Cornhill and Lombard streets, where it forms one of the most conspicuous objects to be seen in the city. The *Mechanic's Magazine* contains the following description of it: "The object of the Electric Clock Company, by whom it was erected, was to make the 'globe' do duty as a clock face; some of its convexity has, therefore, been sacrificed, but the result is a novel and beautiful object, the interest of which is only exceeded by its utility. The globe is surrounded by gilt stars which indicate the hours, and by the shape of the dial so much light is thrown upon them that they are visible by night and by day, while the pointers contribute greatly to the general effect of the design. The clock requires no winding up. The dial is illuminated by Schaeffer's patent double burners; and by an ingenious apparatus the gas is turned off every morning and evening two minutes earlier and two minutes later every day as the days are lengthening or shortening, and it is adjustable as well for the foggy days of November as for the light nights of summer."

The Chinese Woman's Telegraph.

During the recent visit here of the Chinese Ambassadors, one of them stated in reply to the inquiries of a physician, that it was not customary in China, except among the lower classes of the people, for the doctor to see or touch female patients. In order to ascertain the pulse of the sick woman, a string is tied around her wrist and extended outside the window to the doctor, who holds the string between thumb and finger, and by this sort of telegraph is enabled to count the pulsations. This seems a ludicrous plan; but it is far less mischievous than our custom of admitting men doctors to the private apartments of females. The opportunities for the medical education of women in this country are yearly increasing; and we hope the day is not far distant when the ladies will be able to rout the men from the sick room, and compel them to stand out in the cold, under the window sill. In China only women nurses attend during child-birth.

Charcoal Crucibles.

Mr. Gore communicates to the *Philosophical Magazine* an excellent way of making charcoal crucibles, etc. He first shapes the articles out of wood, and he finds that lignum vitæ, kingwood, ebony, and beech answer best. After the vessel has been formed, the wood is carefully dried in a warm place. The articles are then enclosed in a copper tube retort having two exit tubes for the escape of gas. This retort is heated slowly at first, and finally for some time to bright redness, to completely carbonize the wooden vessel. It is necessary, Mr. Gore says, to turn the retort continually, and so distribute the heat, that none of the tarry matter evolved may condense upon the articles; otherwise, he tells us, their shape and dimensions may be curiously altered. The heating is to be continued until no more gas is evolved, and care must be taken not to heat too rapidly, or the article will fall to pieces Charcoal made in this way from lignum vitæ is remarkably hard, and the texture is so close as to make it apparently quite impervious to liquids; even after immersion in the strongest hydrofluoric acid the surface had no acid taste. Rods made of this lignum vitæ charcoal, conduct electricity admirably, and would probably, Mr. Gore says, answer well for pencils for the electric arc.

FORTY MILES OF SNOW SHEDS.—The Pacific Railroad Company are now engaged in erecting sheds over the cuttings and other exposed points. They are of heavy timber framework, with pointed gable roofs, and look as if they could withstand almost any pressure of snow. Nearly forty miles of the track will have to be thus covered, and the quantity of timber required will be enormous. Not less than twenty-two saw-mills, most of them worked by steam, are run night and day, employing nearly two thousand men; and yet they do not work up to the needs of the Company. It is estimated that it will require no less than eight hundred thousand feet of lumber to construct a mile of sheds So great is the demand that the country on both sides of the track is being rapidly denuded of its forests.

Editorial Summary.

WHITE GUNPOWDER.—A correspondent writes us upon the subject of white gunpowder. The drift of his communication seems to be that it is not suitable for blasting. We agree with him that it is too costly, and makes too much smoke, which is annoying to miners; but we can scarcely see how our article, which was intended to be a general review of the subject, as discussed in scientific journals of this and other counties, could justify the opinion that we supposed it adapted to mining or quarrying. We even took ground against its use for heavy artillery, and only admitted the possibility of its adaption to small arms. The fact that it is apt to explode, during the operation of tamping, is to be inferred from the directions we gave for its use, and its cost should be compared only with that of fine gunpowder, and not with coarse and cheap blasting powder with which we had no intention of comparing it

RECIPE FOR TOMATO KETCHUP.—Remove the skins by pouring scalding water over the tomatoes in a pan. Simmer the fruit at least one hour (a longer time will not injure); using sufficient water to keep from scorching. When cool wring the mass through a piece of coarse cotton or linen cloth wet in cold water. To each gallon of liquor add 2 tablespoonful whole black pepper, one-third teaspoonful of pure cayenne pepper (ground), and 1 tablespoonful of cloves. Boil the whole until reduced one-third. Add 2 tablespoonfuls fine salt to every gallon while hot, and when cold strain out the spice and bottle. No vinegar is used. Will keep for years; but if scum rises at any time re-boil and add a little more seasoning.

THE BRITISH PATENT OFFICE.—In 1867, 2,284 patents were passed, and 2 253 specifications were filed. 2,528 applications for Letters Patent lapsed or were forfeited by neglect to proceed for patents within the six months of protection. The fees received in the year 1867 (by stamps) amounted to £112,843. The fees paid to the Attorney-General and Solicitor-General, and their clerks amounted to £11,115; and the salaries and expenses of the office, compensation annuities, printing, and other expenditure, with the payment of the revenue stamp duty of £20,820, left a surplus income for the year of £42,840. The Commissioners—the Lord Chancellor, Master of the Rolls, Attorney-General, and Solicitor-General—renew their representation of the need of a suitable building for the Patent Office.

LIFE IN THE SEA.—Two well known naturalists, Dr. Carpenter and Professor Thomson, of Belfast, are engaged in a dredging expedition, to the westward of the Faroe Islands. This will decide the question whether there are living creatures in the deepest parts of the sea. Eminent authorities (the late Professor Edward Forbes among others, according to *Chambers's Journal*) have maintained that the pressure at the lower depths was too great to allow of existence being carried on—that there was not sufficient light—and that the water contained too little air.

THE velocipede is suggested as a substitute for the horse for the rapid transportation of infantry. Celerity of movement is the desideratum; for it is a maxim that the strength of an army, like the power in mechanics, is estimated by multiplying the mass by the rapidity. Now, as to comparative speed. Recently, in France, there was a race between a velocipedist and a horseman for a distance of forty-five miles, when the latter won by only twenty-five minutes, after a run of six hours. It is stated that but for a head wind that blew all the time the machine would have won. Imagine a body of troops moving on the enemy mounted on the velocipede. It would be a great sight.

THE proposition has been made to make a canal across Southern Michigan to connect Lakes Michigan and Erie, and thus save the grain laden vessels eastward bound a voyage of about 400 miles which they are now obliged to make around the southern peninsula of the Wolverine State. Another proposition of a similar nature is a canal through Canada connecting Lakes Huron and Ontario. Both are said to be feasible, and the latter can be accomplished, the engineers think, for $40,000,000. This, however, is not so important as the route from Lake Michigan to Lake Erie, as but a small proportion of the commerce of the lakes extends to Lake Ontario.

It has long been contended that steel boilers never could be used, not being sufficiently tenacious. But this theory has been badly damaged by some recent experiments at Pittsburg where a steel boiler has withstood the most pressure that could be brought to bear upon it. The boiler is made of two plates of No 3 steel, ¼ inch thick, 6 feet long, and 38 inches in diameter. It has been subjected to several tests, the 10th trial giving it a pressure of 725 pounds to the square inch. Experiments on it continue, but up to this writing no pressure has been able to burst the boiler. It has stretched three inches since the tests commenced.

WOUNDS BY THE CHASSEPOT RIFLE.—Experiments have recently been made at the camp of Lyons on the bodies of dead horses, with the view of ascertaining the precise character of the wounds produced by conical bullets discharged from the Chassepot musket. It is said that the aperture made by the projectile at the moment it penetrates the flesh is commonly no larger than ordinary pea, but that the rotary movement of the ball revolving on its axis gradually enlarges its circles until it makes a hole into which a person could thrust both fists.

THE foreign exports of petroleum, from the United States, from January 1 to September 12, have been as follows, for the years indicated: 1868 67 921,290 gallons; 1867, 41 949,820 gallons; 1866, 39 792,292 gallons; 1865, 12.680,524 gallons. Received at New York from January 1 to September 12; 1868, 692,029 barrels; 1867, 792,507 barrels.

A NEW Russian invention is a letter-box, so contrived that when a letter is deposited, it gives the depositor a ticket in exchange, showing the date when the letter was put in the box. We are not informed whether the Government is expected to assume any responsibility not already assumed in regard to the safe delivery of letters. If not, what is the invention worth?

CATTLE PLAGUE IN RUSSIA.—The cattle plague is making great ravages in the governments of Pskof and Novgorod. The disease has also made its appearance in the environs of St. Petersburg and Moscow. One of the Russian papers remarks that the cattle plague will do more mischief in the empire than a thousand Polish insurrections.

UNDER the Ming dynasty, in China, paper money issued by the government is inscribed with the hint that it must be received as coin and that whoever refuses to so receive it shall have his head cut off. There is no premium on gold or discussion as to how the currency shall be redeemed, in China.

AN Albany mechanic has invented a process of manufacturing paper boxes by pressing the pulp in molds. They come out fit for immediate use, and can be made quicker and cheaper than from the board.

EARTHQUAKE AT GIBRALTAR.—There has lately been an earthquake at Gibraltar, the first which occurred for many years. Two distinct shocks were felt, but it does not appear that any serious damage resulted.

A MAN in Lynn, Mass., a few days ago made fifteen pairs of ladies' gaiters in less than ten hours, making seven dollars and fifty cents. This is the greatest feat known to be accomplished by any shoemaker.

PROF. WHITTLESEY has discovered evidences of the residence of man at the High Rock Spring, Saratoga, just 4,840 years ago, or about six centuries before the deluge.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

From January 1st to September 1st, this year, the receipts of lumber at Chicago were 659,317,000 feet, and 157,117,000 shingles.

The Detroit Car Company have a contract for 200 platform cars for the Union Pacific Railroad.

The Society of Arts, London, has offered prizes for the best improved models of railway meat-vans, milk-vans, and milk-cans.

The earnings of western railroads, as shown in the official reports, indicate a large increase in their business.

The cost of the iron bridge to be erected by the Union Pacific Railroad Company over the Missouri river will probably not fall below two millions of dollars.

The first woolen mill built in Minneapolis, Minnesota, was the North Star Woolen Mill erected in 1864. It is of stone, seventy by fifty feet, and four stories high.

Two bonded yards for railroad iron have been established at Detroit for the accommodation of the Grand Rapids and Indiana Railroad Company who are receiving large quantities from abroad.

There has been a large falling off in the business of ship-building in Maine this year. Instead of from twenty to thirty first-class ships, as has heretofore been the case at Bath, only seven ships of 1,200 tons each have been built this year.

There are 557 woolen mills in the seven states of Ohio, Michigan, Indiana, Illinois, Iowa, Wisconsin, and Minnesota. Their aggregate capital is $5,448,000.

The Taunton Machine Company is to build a pulley for its own use which, will be 30 feet in diameter, and the pit lathe in which it is to be constructed, it is said will cost over $5,000.

There are ten factories in St. Louis engaged in the manufacture of hide-covered saddletrees which are principally sold in New York, Newark and Philadelphia. The wood used is mostly hackberry and sycamore, which is very soft when green and easily worked but which hardens very fast.

Mount Vista, about ten miles from Saratoga, a bluff rising directly from some table land to a hight of 500 feet, is found to be composed of a pure white sienite granite, equal or superior to any Eastern granite for monumental or other purposes, with a grain so fine that after dressing it resembles marble.

An iron mountain, five miles long and two hundred feet high, has been found in Cobden, Ill. It is within three miles of the Illinois Central Railroad and a large part of the land belongs to that corporation. The iron crops out all along the ridge and is of extra purity.

The St. Louis bridge over the Mississippi is expected to be completed by the summer of 1871, and the St. Louis merchants are anxiously awaiting the day. Now it costs them twelve cents a barrel to send flour 1,500 yards across the river, while it costs only twenty cents a barrel to send it to New Orleans, 1,200 miles below.

The Government machine shop at Charlestown Mass., has just completed the largest planing machine in the United States, and they think, the largest in the world It will plane a piece of iron forty feet long, twenty feet wide, and twenty feet high. One of the bed pieces weighs over forty tuns. Seth Wilmarth, the master machinist of the yard, was the designer.

It is only fourteen years ago that a grand excursion was made to St. Anthony's Falls, on the completion of the Chicago and Rock Island Railroad, in celebration of the finished railroad connection of the Atlantic and the Mississippi, and yet to-day, there are no less than twenty-five railroads that strike that great river between St. Louis and St. Paul.

The grasshoppers were so thick on the Missouri Valley Railroad track as to cause the wheels to slip and delay the morning train two hours on the 14th inst. It was several times necessary to stop the train and sprinkle dirt on the track to make the wheels bite.

The Reading Railroad Company own 16.355 cars of all kinds, and 268 locomotives. Were these all placed in one line upon the track they would make up a train forty miles in length. The greatest distance yet run by any engine of the company has been accomplished by the engine Atlas, which has traveled 363,000 miles, or about fifteen times the earth's circumference.

Lynn has shipped 35.800 cases of shoes during the past three months slightly in excess of last year's shipment. The total number of pairs in this immense pile would be about 2,148,000, and the aggregate value $2, $64,000.