Miscellaneous.

Great Dam at Hadley Falls.

We learn from the Springfield Republican that the Great Dam, at the new city of Hadley Falls, is completed, and the Connecticut River bravely breasted, by one of the most stupendous works in this or any other country. The length of this Dam is 1000 feet and 30 feet high, on an average, and it has a base of 90 feet, we believe, in width. On Monday the 22d ult., the gates were closed, of which there were 44, each 18 feet long and 18 feet wide. They were closed in sections, and the water rose slowly at the rate of one foot in 40 minutes. A rough calculation of the amount of lateral pressure which the dam will be obliged to sustain, gives nearly twenty-nine million pounds, while the vertical pressure is about three times that amount. There have been used in its construction nearly four million feet of lumber. In the construction of the abutment, guard gates and lock wall, at the head of the Canal, there have been used 10,000 perches of stone, (25 cubic feet in a perch.) The engineer is a Mr. Anderson, who has earned a great character for himself, inasmuch as it is well known that a dam had been built there before (last year) and was swept away like a broken reed. From the time the gates were closed till the water went over the dam, was nine hours and sixteen minutes. Many believed that it would meet the fate of its predecessor, and we believe that a considerable amount was bet upon the result. We hope that it will long stand as a monument of engineering skill, and manufacturing enterprise.

Boot and Shoe Convention.

A Convention was recently held in this city at Judson's Hotel for the purpose of forming an association on the old plan of manufacturing, but the Chairman J. R. Pidken, Esq., stated that having heard of a new system, introduced into Massachusetts, he was induced to enquire into it, and the result was, that they concluded to pospone the starting of the company till they were able to begin right, and upon a broader scale. The plan proposed was that of manufacturing by "teams," that is upon the well established principle of division of labor, which has been so successful in England. Instead of having one man to make an entire shoe, there will be 15 makers to each, every man having his own department. One man cuts out the sole the shape of the foot by a single stroke of an instrument, and by another stroke the edge is pared, another man puts on the van, another drives the pegs, and so on. There was one boy, 12 years of age, in the establishment of Bigelow & Co., Marlborough, Mass., who commenced to peg in April, and from the 1st to the 14th of June he earned at the rate of $12 per month, and on the 15th he earned at the rate of $15 and his board, having pegged 35 pairs in a day. He knew an instance of another boy, in New Haven, who pegged 11 pairs a day for his schooling and boarding, and on Saturday when there was no school, he pegged 30 pairs. In one of these factories a Frenchman was able to earn $35 per month and board, by putting in the vans. One house was manufacturing $250,000 worth a year, another $500,000 worth, and in Mass. there were $18,000,000 worth manufactured annually; yet the demand was greater than the supply, and there was an ample field in New York for the investment of capital and the enjoyment of the surplus labor—hence the American Union Association was set on foot.

We believe that the brothers Bigelow, of Marlborough, Mass., have commenced the manufacture in this city, and there can be no doubt of their success, owing to the ingenuity and enterprise enlisted in the business.

New Variety of Railroad Subscriptions.

At the late election in Ohio, votes were taken in several counties on the proposition to make county subscriptions for various railroads, as the Pennsylvania and Ohio, the Central, and Scioto Valley road. Some refused and others voted to subscribe almost unanimously. The Cincinnati Gazette thinks the Scioto Valley railroad is secure by these subscriptions, and if made, will constitute an entirly new route between the Ohio river and the lakes. That paper says on this subject:

"County subscriptions is a new variety of credit, applied to the erection of public works. Some persons think unfavorably of them. We are of a different mind. We believe there have been no bonds issued to the public more stable, more sure to be paid, and more worthy of the confidence of capitalists, than those of counties. Were we buying public credit in the markets, we should prefer the bonds of a county to those of either State or City; and that for this reason the counties all have property. The tax necessary to pay the interest is but a light one. It is voted by the people on the spot, understandingly. The bonds are offered for property which can be sold to pay them. In fine, there is every element of sound credit, in county bonds, offered for railroads."

Commerce of the Great West.

A correspondent of the Concordia Intelligencer, asking the attention of Congress to the condition of the great Western rivers, on the ground of their national importance, remarks, that they water thirteen States, and half as many embryo territories. Their commerce is equal to that which floats on the ocean, in American bottoms, between our seaports and foreign countries. It is made up of the produce, manufactures, and imports of one-half the States of the Union. The great number of these States have direct interest in commercial facilities offered by the rivers, while the rest have a strong collateral interest in the same. Seven hundred steamers having an aggregate tonnage of 140,000 tons, navigated by 25,000 men, ply upon them. The steamers are worth not less than $12,000,000, and are navigated at an annual outlay, not short of $10,000,000, while the value of the merchandise transported by them, may be roundly estimated at $250,000,000, annually.

The Poetry of Railways.

Hon. James Gadsen, of Charleston, S. C., in a recent letter on the projected railway to the Pacific, calls it "the Iliad of the American Railway system." We quote a passage or two, which shows how he has been inspired by the poetry of the subject:—

Railroads are the perfection of highways. In security, rapidity, certainty of performance they have never been equalled. In speed there has yet been found no limit—sixty and seventy miles per hour have been accomplished, and one hundred is equally attainable; bringing Memphis within seven hours of Charleston. Among all the inventions of human ingenuity, however, so slow has been the progress of railways, and "so divided the merit of engineers to whom we owe them, that no individual has been bold enough to claim it for himself," while all unite in the tribute that it came, as it were, like an inspiration from the head of Medusa, which may, in the progress of similar inspirations, be perfected, but can never be superseded.

Sailing on the Mountains.

An iron steamboat is now building in this city to run on Lake Titiaca, which lies in the bosom of the Andes, in Peru, five miles above the level of the sea. It is to be made in sections, to be transported from the sea on the backs of mules, to its lofty native element, and there it is to be put together by mechanics sent out for that purpose. The owners of the boat is a South American Company, who design to drive a trade with the hunters and woodsmen along the borders of the lake, which has a length of about one hundred and forty miles—amply sufficient to establish a very respectable "coasting trade," in those upper regions of the world, with the aid of this first steam enterprise ever thought of for such a purpose. The trade of the new vessel will consist mainly in the freightage of furs, wool, and lumber, which will probably be brought down from the head waters and upper portions of the lake to its foot, and thence despatched on muleback down the mountain, to clothe and warm the inhabitants of the "lower regions."

New Well of Gas.

Our country presents a great number of natural curiosities, and among them all none seem to be more common than streams of subterraneous gas. We see by some of our Ohio exchanges that about 14 miles from Cleveland a great number of gas issues have been discovered on the farm of a Mr. Faulkner. It is said that about an acre of ground is covered with cracks, from which the gas escapes, and by placing a tube over one of the cracks, and applying a match, a most brilliant but yellowish flame bursts forth, which will burn steadily for any length of time. The proprietor made an excavation some twelve feet deep at one of the gas openings, and flung in burning hay. Quite an explosion followed, the hay was scattered in the air, and a blaze issued several feet high. It continued to burn until the ground caved in and smothered the flames. The ground from which the gas escapes never freezes, and nothing will grow upon it, although the soil is rich. The existence of the gas has been known there for a dozen years or more, and the quantity escaping, which is large, seems to be increasing rather than otherwise.

New Cotton Factory in Mobile.

A new factory is about to be erected at Mobile, the foundations of which are already laid—and will make a noble structure. The main building is to be 180 feet long, 54 wide, and three stories high; the boiler and engine house, 71 feet long, 54 wide, and two stories high—all to be made of the best Mobile brick. All the machinery has been contracted for at the "Mattewan Works," Mr. Leonard's, not far from New York. It is calculated for 5000 spindles and 186 looms, to be propelled by two engines of fifty horse power each. The goods manufactured will be principally four-quarter cotton fabrics, though a portion of the machinery will be allotted to three-quarter osnaburgs, stripes, &c. The Mattewan machinery has a most excellent character.

South Carolina Shirtings.

Shirtings and drills manufactured by the Graniteville Factory, in South Carolina, under the superintendance of Mr. Gregg, were exhibited in this city during the Fair, and we must say, that they cannot be surpassed in quality. The material of which they are composed, we think, is better than goods of the same number of picks that are made at the North.

American Shawls.

Some beautiful shawls of American manufacture, are now to be seen for sale in this city, and are coming into general favor. They are manufactured by the Bay State Mills, (Mass.), and are made in the Scotch style, very chaste in the patterns, and nearly rivalling the foreign manufacture.

Large Paper Mill.

The largest paper-mill in the world is said to be the great mill at Darwin, in Lancashire Eng. It cost $750,000, was worked by five hundred horse power, of steam and water; had nine paper making machines, besides all others connected with the trade, and had a reservoir of filtering water which cost $100,000.—Nine years ago this mill yielded a profit of from $60,000 to $85,000 per annum. At that time alterations were made in levying and collecting the duties, and, during the nine subsequent years, the mill was worked at a loss of $25,000 per year—the owners became embarrassed, and finally failed, and over six hundred persons were thrown out of employment.

New Stove Polish.

Messrs. Quarterman & Son No. 114 John st., this city, have exhibited to us a new composition for blacking and polishing stoves. which commends itself at once as the best article of the kind that we are acquainted with. It is made up in neat tin cases, and is applied in the same way as blacking is applied to a boot. It gives a fine polish, has no smell, and resists heat for a long time.

Corn Meal and Flour.

The excellent corn meal and flour, referred to in No. 6, is manufactured by Hutchinson & Floyd, Maine Mills, Cleveland, Ohio, and is a very superior article.

The Philadelphians are talking about establishing a line of steamers to Europe.

To Manufacturers, Mechanics and Inventors.

We publish an edition of 25,000 copies of the Scientific American this week, and circulate gratuitously 11,000 copies in the New England States among the Manufacturers, Mechanics and Inventors. It is hoped that all non-subscribers who chance to receive a copy of this week's paper, will be induced to remit us a dollar and have their names entered as subscribers for six months at least, and after that time has expired, if they are not satisfied that they have received a full equivalent for their money advanced, if they will return us the numbers in a good condition, their money shall be refunded.

We desire that every Manufacturer, Mechanic and Inventor should become familiarly acquainted with the "Scientific American," and then if they are not satisfied that it is a publication of merit, and one that ought to be liberally supported by all who feel an interest in the advancement of the causes which it advocates, then we say, discontinue it.

We desire that every Manufacturer and Mechanic should try the "Scientific American," and if they are not satisfied that they receive a dollar's worth of information from the work in 26 Nos., we will willingly refund the money on receipt of the papers. Try it. See Prospectus on the last page. The regular weekly circulation of the Scientific American is larger than all the other publications of its kind *combined* in the United States.

Washington, N. C., Oct. 30.

Messrs. Munn & Co.—*Gents*:—Enclosed I send you the amount of another year's subscription to your valuable journal—money better spent than any that I ever laid out before except when previously subscribing for the "Sci. Am."

I am the possessor of a treasure in your journal; from the first number of the first volume to the last number of the present volume that has been issued—and though they have cost me but a fraction over $12, including binding, postage, &c., I would not now be deprived of them for $100.

I think I have read every number—and they have been valuable to me beyond comparison. I frequently find information in one paper that I would not part with for the cost of the volume, if I was not sure of getting it again. I am carefully preserving these papers for those in my family who may come after me. Hoping that your paper will receive that liberal patronage it so justly merits,

I am Yours, Respectfully, *** C.

[The above extract we publish from a business letter, received from one of our valued subscribers in North Carolina. The author will please accept our thanks for his generous testimonial. We have also to thank the old and new subscribers for their prompt remittances for the present volume, and also for their generous assistance in extending the circulation of this journal.—[Eds. Sci. Am.

The Camera Lucida.

This beautiful instrument, an advertisement of which may be found in another column, we continue to manufacture, and would inform the public that we are able to supply orders for any quantity.

By the simple arrangement of a mirror and lenses, in a beautiful case 14 inches long by 10 inches wide at its base, and about 12 inches high—a most perfect and correct drawing can be taken of any machine or building, and it is particularly adapted to landscape sketching.

The only manufactory of the above instruments in this country is at the "Scientific American" Office, and those desiring to purchase will please address the publishers, Munn & Co., (*p.p.*) The instruments are securely boxed and shipped without extra charge.—Price $6.

American Slate.

Some of the first qualities of slate for roofing are now found in Vermont. It equals the Welsh, and somewhat resembles it. We see by Arkansas papers that a valuable quarry of it has just been discovered in Eagle Town, in the Choctaw country. The slate is in two hills, about a hundred feet high, which, it is said, are composed wholly of slate.