NEW YORK, SEPTEMBER 30, 1848.

Scientific Associations.

The American Association for the advancement of Science has been sitting in Philadelphia during this and part of last week. Some of their proceedings will be found on another page, and will be of interest to many of our readers. We are proud and happy to see such associations among us—they do much for the advancement of civilization. In Britain there is an association of the same kind which has done wonders not only in advancing science, but in elevating man—by bringing together eminent men from all nations, and spreading among them a generous feeling to one another—making them feel that men of science are the property of the whole human family. Our American Association has the same broad and noble views and objects. We see that Professor Agassiz, an eminent foreigner was among the most conspicuous of the members. That is right. We would like to see America the centre of the scientific world and we will live to see this, we hope. Our people have just one course to pursue to bring about this desirable object, and that course is, the encouragement of men of genius and worth, men of solid, and not superficial attainments. In a few instances, we have honored men of literary and men of scientific attainments, but the cases are few and far between. France above all countries—much as has been said against her—has always honored literary and intellectual worth. Her philosophers, her literati, and men of science, have always been honored and encouraged. No other nation can say this much, and perhaps no other nation is more blameable than our own free and happy land, which above all others should be distinguished for the encouragement of science, and honoring the worthy. Instead of doing this, we have generally pandered to the anti-liberal spirit of partisan warfare — This should not be.

Among all the many good associations for which our country is distinguished, our eye has looked in vain for one that might refresh many of its weary wanderings—that Association is one of practical mechanics, engineers and artists, for the promotion of the useful arts. A society of this kind would do more for the cause of practical science than twenty associations composed of men, however distinguished, who are devoted only to the abstract—seeking out the causes of phenomenon and arranging them into harmonious systems. This practical association would, as has been done in England by the Engineers' Association, bring out more new discoveries than any other. The greatest and most important discoveries that have effected the greatest reforms in the social condition of our race, have been made by practical men.—While Professor Black of Glasgow was discovering and arranging in system the theory of steam, an humble mechanic, James Watt, employed to repair the philosophical apparatus of the College, made those improvements in the steam engine which have led to such gigantic reforms in commerce and the arts.—When the paper of the printer Franklin, describing his discoveries in electricity, was read before the Royal Society, the wise savans of that body heard it with shouts of laughter.—When George Stevenson was perfecting the locomotive, the sages of Oxford were adding some new theorem to Euler. We do not speak thus to glorify the mechanic, or artist, at the expense of those men or institutions, that have (too reverently we must say) been held up as the fathers and cycloids, of knowledge. We only claim the due share of honor for men whose occupations, somehow or other, are held to be collateral evidence of ignorance, because their hands are blackened with oil and oxide, instead of ink.

While saying so much in favor of the mechanical classes, we must tell them that we always will expect more from them for the promotion of the useful arts than from any other class. They have to learn by iron experience, and they are compelled in the very struggle for an existence to manufacture and improve in competition for the market. Therefore we would desire to see a strong, solid and powerful American association of mechanics, engineers and artists, for the encouragement and promotion of the useful arts, and ornamental design and decoration. Voluntary associations of great men think much of the title F. R. S.—let us in this country rear up an Institution of the people and have an order of merit for those who peculiarly distinguish themselves for discovery—nothing else—and let the honor be as impartial as the sun that shines for all. A sincere desire for the honor of our country and the glory of her people has prompted us at this time to give utterance to the foregoing remarks. We hope they will not fall like water on the arid sands, but on good soil to fertilize and bring forth an abundant harvest at some day not far distant, and our hearts be made to rejoice in beholding the establishment of such an association which will become famous in story "beloved at home, revered abroad."

The Best Form for Strength.

From experiments it has been deduced, that the strength of any material depends chiefly on its depth, or on that dimension which is in the direction of its strain. A bar of timber of one inch in breadth, and two inches in depth, is four times as strong as a bar of only one inch deep; and it is twice as strong as a bar two inches broad and one deep, that is, a joint or lever is always strongest when laid on its edge. Hence it follows, that the strongest joist that can be cut out of a round tree is not the one which has the greatest quantity of timber in it, but such that the product of its breadth by the square of its depth shall be the greatest possible. Again, from the same experiments it is found, that a hollow tube is stronger than a solid rod containing the same amount of matter. This property of hollow tubes is also accompanied with greater stiffness. Hence we find the bones of men and animals are formed hollow, which renders them incomparably stronger and stiffer, gives more room for the insertion of muscles, and makes them lighter and more agile, than if they were constructed of solid matter. In like manner the bones of birds, which are thinner than those of other animals, and the quills in their wings, acquire by their thinness the strength which is necessary, while they are so light as to give sufficient buoyancy to the animal in its flight to the aerial regions. Our engineers and carpenters have, of late, begun to imitate nature in this respect and now make axles and many other parts of machinery hollow.

Nature is the best rule to guide the mechanic and engineer in selecting the best forms to combine strength with lightness of material.

Important Patent Cases.---Morse vs. O'Reilly.

On a motion for an injunction on the Electric Telegraph used by Henry O'Reilly, as an intringement of Morse's patent, a most interesting examination into the merits and priority of Morse's invention was had and a decision made on the 9th inst, awarding an absolute injunction.

The trial was had in Frankfort, Kentucky, and eminent counsel were engaged on both sides. The utmost range of objection was taken by O'Reilly's counsel, some of which displayed not a little meanness, such as the objection that "part of the improvement claimed had been in use prior to a patent being secured, with the consent of the patentee." There is nothing that fills us with more indignation than an attempt to nullify the exclusive right of an inventor to his own invention, by the objection of "*using*" it before it was patented.

Evidence was adduced which proved Mr. Morse to have invented the telegraph as early as 1832, and perfected and exhibited it in 1836. The principal objection of the defendant was this, "that the instrument which they used was not an infringement; that it was a different machine invented by Messrs. Barnes & Zooks, and named the Columbian Telegraph." The judge (Monroe,) decided that it was the same in principle as that of Professor Morse. A number of objections were made to re-issues of Morse's patents, interpolations, &c., but the judge decided upon the principle of priority of invention, and suffered not small technicalities to nullify the rights of the inventor, so all objections were overruled.

Infringement of a Patent for a Machine to Saw Irregular Shapes.

On the 23d of last month there was decided by trial of a special jury before the Lord Chief Baron, in London, a case on the complaint of Hamilton versus Cochran, for infringement of his patent. The case was a singular one, both plaintiff and defendant are natives of the United States, and the defendant is somewhat known to the public as the young American who had met with some special notice by the British Board of Admiralty. and not long ago secured a patent for the United States for sawing irregular shapes. It seems, now, however, that Mr. Hamilton is the older inventor, having a patent for America, England and France—this patent was secured in England in 1843.

The Chief Baron summed up the evidence with great care—the principal witness on the side of the plaintiff being Mr. Carpmael, the famous Reporter of law cases to the Repository of Arts, and the partner of Moses Poole, so well known. There were four points submitted to the jury for decision. 1. Whether the English Agent of Mr. Hamilton was sufficiently possessed of the invention at the time he took out the patent. 2. Whether the machine of Hamilton was different from another for which a patent was granted in England in 1834. 3. Whether the invention was new and useful; and 4thly, whether the defendant (Cochran) had borrowed any part of the plaintiff's invention.

The jury retired and in fifteen minutes brought in a verdict for the plaintiff on all of the four points.

The four points submitted are worthy of the reader's attention.

Oat Meal.

The Journal de Quebec, speaking of the great abundance of the oat crops this year in Lower Canada, says that the present very low price of this article is not likely to be of long continuance, it having been proposed to export considerable quantities in the shape of meal to Ireland, as a subtitute for the failing potato crop. It contains much more nutritious matter than the potato, and was, before the introduction of wheat into many parts of Scotland, the principal food of a large number of the inhabitants.

There was a time when oat meal, milk, butter, cheese, venison and fish, constituted the whole food of the Irish and Scotts. They were then both a healthier and hardier race than they are now, but the times were different, the people were the defenders of the soil, now, the landlords consider them incumbrances.

As there is considerable of the phospate of lime in oats, it is an excellent food to harden and form the timbers of the human frame.

The Miners of Pennsylvania.

The Miners of Pennsylvania are preparing to solicit from the legislature, a law which shall give them a lien upon the coal mines until their labor is paid for. They are at present exposed to severe losses by the dishonesty of delinquent "master lumpers," and justice to honest industry, certainly demands the protection of such a law as they propose. Our New York mechanics have a lien upon all buildings which they aid in constructing. The principle is of universal application in all departments of industry, and should be a part of the common law in every state. Labor being the first great source of wealth, should rank next to life, in our laws and legislation.

There is no act so mean, contemptible and avaricious, and shows less of the man, than to rob the laborer of his hire, yet it is not a very uncommon vice among many of our people.

The patent case of Nevins vs McCollum, about a Cracker Machine, was neglected at this term of the Court by plaintiff's attorney.

What our Contemporaries think of us.

SCIENTIFIC AMERICAN.—No paper in the Union has accomplished so much for the cause of useful Science, and particularly, in the department of Mechanical Philosophy, as this most valuable journal has achieved. It is to this department, perhaps, more than to any other, that America owes her glory and her prosperity. And it is for this reason that we take delight in pointing out, in our humble sphere, to such of our readers as are ambitious of mechanical knowledge and improvement, an inexhaustible source of instruction. That source is to be found in the Scientific American. Whether we consider the beauty and accuracy of its diagrams, or the logical and mathematical clearness with which they are explained, we shall have fresh cause for continual admiration of the triumphs of skill and ingenuity. We are confident, that if our farmers, mechanics and machinists were once in the habit of taking this standard periodical, (which is remarkably cheap,) they would learn to think, that they could no more do without it, than they could dispense with the implements of their industry. For particulars of its characteristic features, see the advertisement of Munn & Co., in this paper.—*Litchfield, Conn., Republican.*

Sculpture and Monuments.

There is no display of works of taste and art that exhibit a kindly and grateful nature so well, as the erection of tablets and monuments to the well beloved departed. How many associations crowd upon the memory as we wander or sit by the tomb where sleeps some one enshrined in the affections of the heart. We like to see neat and beautiful *forget me nots* erected to the memory of departed friends. Last week we stopped at the Marble Yard on the corner of Bowery and Astor Place, to admire some beautiful and chaste sculpture (a favorite pastime with us,) and we were not a little gratified at the discovery of an old friend, Mr. Swezy, who has lately commenced and is now doing a thriving business there. For beautiful, chaste and appropriate work, those who employ him will not be disappointed in the faithfulness of execution and honesty in the performance of engagements.

Reduction in the Price of Gas.

The Commissioners of the Northern Liberties, Philadelphia, passed a resolution lately, inviting the directors of the gas company of that quarter to lower the price of gas. In consequence of this, the price for private consumers was reduced 50 cents per 1000 ft. That for public consumption, is for the present rated at $1,75 pr 1000 ft.

If the Gas Companies in this City had any fear of the future or love for the present race, they would go and do so likewise.

Please send me the first half of Vol. 3.

Many of our subscribers who commenced taking the Scientific American at the middle of Vol. 3. have sent to us requesting the first half, or Nos. from 1 to 26. To save answering all those requests by mail we hereby inform them and all others who may hereafter order that we cannot furnish the first half of Vol. 3, unless they order the last half also.

We have extra sets of the last half from No. 27 to 52 vol., 3 and can furnish all who may wish at the subscription price one dollar, or the whole volume complete for two dollars. Bound Vols. 3 also for sale at the office, price $2,75. All money received to pay for the first half of Vol. 3, will be credited to the continuation of Vol. 4.

THE
SCIENTIFIC AMERICAN.

Persons wishing to subscribe for this paper have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY,

Publishers of the Scientific American, New York City

TERMS.—$2 a year; ONE DOLLAR IN ADVANCE—the remainder in 6 months

Postmasters are respectfully requested to receive subscriptions for this Paper, to whom a discount of 25 per cent will be allowed.

Any person sending us 4 subscribers for 6 months, shall receive a copy of the paper for the same length of time