the service rendered, and shall be paid by those who profit by it, the grant of Letters Patent takes precedence of any arrangement hitherto made, and of every proposition yet advanced.

WHAT IS MATTER?

The author of "More Light: A Dream in Science," has published a treatise purporting to answer that, in our opinion, never-to-be-humanly-answered question, "What is Matter?" We have always denounced speculation upon topics which we believe to lie beyond the boundary of physical inquiry; believing that scientific methods cannot be applied to such investigation, if that may be called investigation, which is nothing more than either conjecturing what may be the causes of existing facts, or deducing a system from a basis of conjecture. Such speculations are generally a patchwork of guesses, with new names for old facts, which only transfer the mystery surrounding the ultimate causes of things.

The best illustrations of this statement we could possibly give are some short quotations from the work in question.

The universe is filled with centers of force; each center the center sphere; each sphere a compound of two spheres, having the same center, one a sphere of attraction, the other a sphere of repulsion.

* * * * *

It is by the separation of these two spheres of attraction and repulsion, and therefore by the calling forth and exercise of their powers by each, that we have the different modifications of matter.

The Divine Mind caused a certain immense, but yet finite, portion of space to be marked off from His immediate presence as a center—a great sphere—of space. This, by some manifestation of His power and presence, was filled with centers of force, the seeds, as it were, of that which was to be known as matter, round each of which two forces, attraction and repulsion, were in abeyance.

If the reader is not disgusted with the absurd and visionary character of these propositions, he will perhaps be interested in their analysis. The propositions may be thus restated. *Matter is force. Force has a Divine origin.* The latter proposition may be considered as foreign to the purpose of the work, which is to tell us what matter is, not from whence it originated.

But somehow the idea that matter is force does not seem satisfactory. We do not get a very good notion of it by calling it force, a term which is as mysterious as was matter before our author had poured upon it the brilliant light of his powerful intellect.

He would doubtless tell us were we to ask "What is force?" that force is—is—in fact—is matter, which would be perfectly intelligible and satisfactory. We should then have got to the ultimatum, and further inquiry would be superfluous.

We are not surprised at the severe lashing this book has received from the reviewers. Dreamers in science are out of place in the present age. The world does not need or want them. Dreaming and speculation are not just now in favor. There is too much work to do, to waste time and thought in such futile occupations.

DIVERSITY OF SPRINGS AT SARATOGA---NEW DISCOVERIES.

The visitor for the first time at Saratoga invariably expresses surprise at the great number of springs he finds there, and the variety of mineral ingredients analysis shows the waters of the different springs to contain. For many years waters from the Congress and Empire springs have been very widely known for their medicinal qualities, and an extensive business in bottling and shipping to all parts of the world has been profitably carried on. But how few, except visitors at Saratoga, have ever heard of the score and more of other springs within a radius of two miles, each possessing chemical ingredients in every case, varied in quantity, and generally very unlike in quality. Within a few yards of each other one spring produces a cathartic water, and the other gives a water having astringent properties. In the first no iron can be detected by chemical analysis, in the other particles of the oxide are seen by the naked eye. Every year new discoveries are made and new springs developed. Last year quite a sensation was produced by the discovery of a sulphur spring, and a commodious bathing house, erected after last season closed, has been extensively patronized this year. In removing some rubbish on the site of a barn, which was burnt last summer near Congress Hall, a new spring was discovered, which has been named "Hathorn Spring," after the proprietor of the hotel, by whom it is owned. It has been a favorite water this summer, and is believed by many to be the best cathartic spring yet discovered.

Mr. C. R. Brown, the enterprising jeweler on Broadway, opposite the Congress Spring grounds, has recently discovered a spring which he has named "Crystal Spring," on a valuable plot of ground he recently purchased, between his store and the Columbian Hotel, which he is about to have tested, and by next season the public will be invited to try its medicinal merits.

An analysis has just been made by Prof. Chandler, of the School of Mines in this city, and his report indicates the water to contain some valuable properties not to be found in like proportions in any of the many other springs at Saratoga.

The spring is located in a most central position, within a few feet of Broadway, and is more accessible to most of the hotel visitors than even the Congress. We hope the owner's sanguine expectations as to the value of his newly-acquired possession may be fully realized, and from its location and the analysis of the water, we have no doubt of the great value of the property. A stock company will probably be formed before many months for carrying on the business of bottling on an extensive scale. Any one desiring an analysis of either of the new springs can procure printed copies by inclosing ten cents and addressing Mr. Huling, office *Saratogian*, Saratoga Springs, N. Y.

HINTS ON THE BURNING OF ANTHRACITE COAL.

The burning of anthracite coal requires appliances quite different from those used for the burning of wood, or bituminous coal, but the reasons for these differences, are not well understood by the mass of people who use anthracite, and as we are constantly receiving inquiries suggested by imperfections in the construction of stoves, furnaces, and heaters, we deem it timely to give some hints on this subject.

In doing this we shall necessarily be obliged to repeat in substance much that we have said in former seasons upon the same and kindred subjects, but the importance and practical nature of the topic must be our excuse.

The temperatures at which different kinds of fuel ignite, vary greatly, and as anthracite is the most difficult to kindle of all the fuels in use in this country, novices in its use often find trouble in lighting it. This can only be done by the use of some more easily kindled fuel, wood or charcoal being generally employed for the purpose. Anthracite coal being a much more dense material than the other fuels named, requires a concentrated and powerful heat to raise it to the temperature at which it will commence to combine with the oxygen of the air. A common fault with those unaccustomed to it, is to use too coarse wood for kindling, and too much of it. This, while it generally succeeds in lighting the coal, leaves a bed of ashes below the coal which interferes with the draft unless raked out; an operation which always retards the combustion of partially ignited coal.

The wood should be of some rapidly burning variety which gives a quick and high heat, and should be split fine. It should be so placed that the coal will remain on the top of it and not fall through to the grate, leaving the kindling on the top of any part of the coal. The amount of kindling wood required depends much upon the size of the coal. A common mistake is to use too large sized coal. A good rule, where stoves or furnaces have a good draft, is to use coal as small as can be used without inconvenience from its sifting too freely through the grate.

Grates should have their bars closely set for stoves that are cleaned out daily, and have fires lighted in them each morning, while those which are intended to have fire kept in them continuously for days or weeks will not admit of fine grates, on account of the accumulation of ashes and small "clinkers."

There is much difference in coal in regard to the formation of clinkers. These are nothing but vitrified, or partially vitrified earthy matters, and only can form when a high heat is maintained; they are apt to be troublesome when there is too great draft. A coal stove or furnace should therefore be so constructed that its draft can be perfectly controlled. The bottom draft should admit of being closed air tight, as nearly as is possible to make it, and there ought always to be provision made for a top draft. If, however, the draft of a chimney should be so strong, that air in too great quantities is drawn in at the bottom when the dampers are closed, a damper in the pipe which will close it partially must be employed, though in sluggish chimneys such a damper is apt to force the gases of combustion into the room, and therefore it ought always to be avoided when possible.

The practice of putting ashes on the top of a fire to keep it, is very productive of clinkers, although it answers the purpose very well in other respects. Damp coal screenings are better, and may be economically burned in this manner.

If a coal fire gets very low, the quickest way to extinguish it, is to rake it at the bottom. To preserve a fire under such circumstances, a little coal should be placed on the fire, and when it has caught more may be added, and the raking deferred until it has got well ignited.

When the fire bricks have become burdened with clinkers which have fused and adhered, they may be cleaned by throwing oyster or clam shells into the fire box when the fire is very hot, and allowing the fire to go out. The clinkers will generally cleave off without the use of much force the next morning. From two quarts to one-half a peck, will be sufficient for most stoves, and the operation can be repeated if some of the clinkers still adhere.

In a subsequent article we shall say something on the proper regulation and adjustment of apparatus for warming buildings by hot air

GAS FROM THE LIGHT HYDROCARBONS.

We notice a description of a new(?) gas machine in the *Mechanics' Magazine*, of Aug. 6. This machine is described as being of any size desired, within certain limits, and the journal alluded to, considers it as an improvement upon anything hitherto known or employed in this direction.

Some of our American inventors will have a hearty laugh over this, when they read the description of the apparatus, the principle of which has been unsuccessfully tried over and over again in this country, in various forms, including the one described. The machine is stated to be "cylindrical in form, having a space between an inner cylinder which receives the charge of rock oil and the outer case. From the charge cylinder the oil exudes slowly into the space referred to, at the bottom of which it is absorbed by a layer of wool. The vapor rising from this oil in the saturated wool furnishes the essential element in the gas to be produced; the only other element is atmospheric air, with which the vapor is diluted. The air, which is only introduced into the machine when the consumption of gas is going on, is regulated in its admission by a piece of machinery actuated by a spring barrel movement, similar to that of a spring timepiece. The pump, which admits the atmospheric air, and the machinery with which it is connected, are put in motion as soon as gas begins to be drawn off, and the process of manufacturing the gas, the mixture simply of the atmospheric air with the vapor of the oil, at once commences and continues self-acting, as long as the charge of oil lasts, and gas continues to be drawn off. The process is beautifully simple, the gas being made instantaneously, without the application of heat, or any labor or attention whatever."

That the action of this machine is a repetition of the experience of many American inventors is evident from the following quotation from the journal referred to.

"The gas, as we saw it produced, was not very brilliant, but experience as to the qualities of the oils used, and practice in the use of the machine, will probably lead to the production of as high a quality as can be desired. According to the inventor's statement, a gallon of oil at 2s. 6d. will produce 1,000 cubic feet of fifteen-candle gas, and a charge of 3½ gallons will burn for 750 hours through an argand burner. The apparatus is adapted for use in houses, shops, theaters, churches, or other public buildings."

It might have been added, that its adaptation to the above purposes yet remains to be demonstrated, and we can promise, that when the oil becomes impoverished by the evaporation of its more volatile portions, or when its volatile character is decreased by a low temperature, the light will be still less brilliant than when exhibited to the editor of the *Mechanics' Magazine*.

Such experiments have had their day in this country, and it is well understood, that the principle upon which they are based is wholly inadequate. Eight years ago we experimented with and tested a large number of similar devices. The results of our investigations were the following conclusions. First, only the lightest of the hydrocarbons will volatilize at, say, 50 degrees, with sufficient rapidity to supply even a few burners with air saturated with hydrocarbon vapor in the proper proportions for illuminating purposes. Second, the oils, even if sufficiently light at first, rapidly become heavier by the consumption of their more volatile constituents, so that only a small proportion can be consumed ere the light begins to deteriorate. Third, if heat be applied to any machine of this construction, even admitting the safety of such an application, the amount of condensation in the service pipes will soon generate a train of evils well known to those who have been "through the mill," and which it is, therefore, unnecessary to specify here.

These difficulties have compelled the abandonment of the principle, and with its renouncement, to the adoption of better plans for utilizing the valuable illuminating properties of the light hydrocarbons.

One of these improvements was recently illustrated and described at length in these columns, and something which shall admit of adjusting the flow of the air to the volume of vapor generated, so that recondensation in pipes can be obviated, will be found an absolute essential to the success of any device for manufacturing gas from the distillates of petroleum.

STARCH AND ITS ADULTERATIONS.

This substance, which is of great importance in the arts, more especially in printing and finishing cotton and linen goods, is often adulterated, and in other respects may be of such a quality as to disappoint the manufacturer. Some inquiries which we have recently received upon this subject will be concisely and fully answered in the following extract from O'Neill's "Dictionary of Dyeing and Calico Printing:

"Starch is a widely-diffused vegetable product; it exists in a vast number of plants, fruits, and trees, and seems to be one of the fundamental bodies of organic life. Its composition is very similar to that of sugar, being a compound of carbon with hydrogen and oxygen, in the proportions requisite to form water. It is extensively used in printing and finishing, but does not in either case exercise any actions of a purely chemical nature; as a thickening it is only a vehicle for conveying the color or the mordant to the fiber; as a finish it is only to give stiffness or fulness to the cloth. But its actions in many cases involve the play of chemical affinities, and should be minutely known. Pure wheaten starch, when closely examined under the microscope, is found to be composed of very small globules. In commerce it is found in a peculiar state of aggregation, incorrectly said to be crystallized; the quality of the starch is often judged and determined by the appearance of these columnar masses called crystals. No other starch but that from wheat takes the same form in drying. It is not prudent, however, to depend too much upon this as a test, for I believe the crystalline character can be communicated to other starches, and that it is not an essential character of wheaten starch, but rather an accidental one, due to a partial decomposition and breaking up of some of the globules, which communicate a gummy nature and adhesive character to the remainder, or to a residue of unremoved glutinous matters. Starch does not dissolve at all in pure water when cold, it mixes up, but then settles down, leaving the liquid clear; it dissolves in hot water, swelling out to a great extent; it begins to dissolve, or the particles to burst, at about 150° F., but color cannot be well thickened at this heat, it must be boiled to get a good result. Starch boiled with acids, or acid liquor, thickens at first but afterwards becomes thin, owing to the destruction of the starch and its conversion into sugar; colors should not, therefore, as a general rule, be boiled until they begin to grow thin again—although in special cases this is prescribed, and is an advantage, but it is usually unnecessary, and likely to injure the color.

"A good wheaten starch is white and clear, has a sweet taste

on the tongue, or at least an absence of bad taste, and, before dissolving in the mouth, shows an adhesiveness to the tongue; when mixed with water it should give a white milky fluid, without any particles of dirt floating on the top, and should settle down quickly, forming a solid hard mass at the bottom of the fluid. As a trial for its thickening powers a quantity may be boiled with water in the usual manner; two proportions should be taken, one thicker than is generally required, and another thinner—for instance, one trial at one pound to the gallon, and both boiled with the usual precautions. The manner in which it behaves on boiling, as well as its appearance when boiled should be observed. A good starch will thicken gradually and evenly throughout, not in lumps; it will keep smooth all the time with only a moderate amount of stirring, and when boiled will be of a clear, transparent, gelatinous appearance—not milky and opaque, nor breaking off short when lifted with a stick. At two pounds per gallon it ought to be pretty stiff while hot, to pour out slowly, and for the most part adhere to the sides of a gallon mug, when this is inverted for a short time; at one pound per gallon it should flow smooth and oily, without appearance of water or breaks in it. When cold, the thick trial should be very stiff, and feel tough and solid in the hand; the skin should be of a tough leathery nature, and no water should be floating about—it will not be so clear as when hot, but still should be partially transparent; the thinner trial should be also of increased consistence, and not show any water; it should be smooth and not containing lumps. There are besides these characters a great number of others, too minute to record, which are combined in forming the opinion as to the quality of a sample of starch. It is a practical question, and nothing but a number of trials, upon all kinds of starches, will enable any one to form a correct opinion upon this matter.

"Starch is sometimes adulterated with mineral substances, as gypsum, sulphate of baryta, or mineral white, China clay, etc. The existence of these substances make a starch boil rough and opaque; they can be discovered by burning some of the starch in a proper manner—if much earthy matter be left as a residue, it will be a sign of adulteration. It is sometimes understood that starch for finishing contains mineral matters, and a proportionable reduction in price is made, but oftener there is only one party cognizant of it; at any rate a starch containing added mineral matter ought not to be used in mixing colors, however good it may be as a finishing starch. Inferior qualities of starch, under the names of seconds, slimes, and hair powder starch, are extensively used in the trade, and may be economically and easily employed in numerous cases; for it is not necessary, in making colors, that a starch as pure as is required for domestic purposes should be used; what is required is a good sound article, free from adulteration, not injured by acids or fermentation, and, if otherwise good, it does not matter whether it be in powder or in crystal, perfect white or a little grayish. Starch is sometimes injured by some of the gluten or the flour being left in it. Such a starch does not keep well, soon goes watery, or putrefies, emitting bad smells. By scattering a little of this kind of starch upon a red hot iron plate the gluten makes itself apparent, by giving off a disagreeable animal smell, like burning woolen, or leather, or the hoofs of horses. This kind of starch has never a good color, and, if in crystals, has a flinty hardness. Good starch does not contain more than ten or fifteen per cent of water; the latter is the largest quantity it should lose in drying, at moderate temperatures."

THE EXHIBITION OF THE AMERICAN INSTITUTE.

The annual exhibition of this association is to be held in the Empire City Skating Rink Building, corner of Sixty-third street and Third avenue, New York city. The building was opened for the reception of articles and machinery to be exhibited on the 1st September, and is now well stocked with a large variety of things, comprised under the following departments, which will be more fully noticed in subsequent issues of our paper.

1. The Department of Fine Arts and Education, consisting of paintings on canvas, glass, etc., engraving, lithographs, photographs, sculpture, musical instruments, specimens of printing and bookbinding, philosophical instruments, etc.

2. The Department of the Dwelling, comprising apparatus for warming, lighting, cooling and ventilating, cooking stoves, kitchen utensils, carpets, oil cloths, tapestry, cabinet furniture, table furniture, ornaments for parlors, building accessories, mantels, grates, etc.

3. The Department of Dress and Handicraft, including wearing apparel for both sexes, sewing machines, artificial limbs, wigs and hair-work, jewelry, trunks, umbrellas, etc.

4. The Department of Chemistry and Mineralogy—soaps, toilet preparations, acids, leather, furs, india-rubber and gutta-percha preparations, paints, dye stuffs, sugars, confectionery, minerals, ores, apparatus for making gas, natural stones used in building, etc.

5. The Department of Engines and Machinery—machines for making wood, metal, and all tools used by artisans or in factories, not otherwise provided for.

6. The Department of Intercommunication, containing locomotive engines, cars, carriages, wagons, sleighs, models of ocean or river vessels, electric telegraphs, etc.

7. The Department of Agriculture and Horticulture—specimens of plants and flowers, fruits, vegetables, butter, cheese, plows, cultivators, mowers, reapers, churns, cheese presses, hemp, flax, cotton, etc.

Each of the above departments is to be divided into seven groups, articles of like nature being kept together. In addition to this there is the display of the National Association of Wool Manufacturers.

The main building is 350 feet in length by 170 feet in width, giving an area of 59,500 square feet. A new building has been erected at the easterly end of the Rink, 200 feet long by 50 feet wide, for the exhibition of machinery driven by steam. Two engines, of 90-horse power each, furnish the motive power for the machinery on exhibition, among which there are pumps, engines, a file cutter, lathes, planing machines, Merrill's tilt and atmospheric hammer and drop press, spinning machines, steam hammers, a Bullock printing press, Lyall's positive motion loom, and many other of the newest inventions for divers uses. The steam boilers for driving this mass of machinery are located in the rear of the new building. A large blacksmith's forge of new invention is also placed here, and is in constant operation. There are also many minor mechanical improvements on record, which will be noticed more in detail hereafter.

The exhibition is likely to prove a very successful and interesting one, and will doubtless be largely attended.

Editorial Summary.

WARMING CHURCHES BY GAS.—The following method has been patented in England. A brick chamber is made beneath the floor of the building, and a grating is placed over it to allow of the passage of hot air. Beneath this chamber an air flue in connection with the flooring, and covered with an iron grating, is introduced. By these means a current of air is made to pass into the building, and this air is brought into contact with a ring gas burner, which is supplied by an ordinary main by means of a spanner, by which the amount of heat can be regulated. Underneath this ring-burner is placed a small cistern made of fire-clay, filled with water; the heat from the gas burner acts upon the water, steam arises, and this is passed through pumicestone contained in a cylinder above the cistern; the use of this vapor is to moisten the atmosphere contained in the reservoir. Around this is a circular cylinder made of fire-clay, to contain heat. The whole is covered with a dome of fire-clay. This dome is worked by a lever for the purpose of lighting the ring-burner. By these arrangements, it is said that a pure heat, free from smell or smoke, is obtained, and that with a very small consumption of gas.

A NOVEL NUT CRACKER.—Two inventors in England have taken out a patent for cracking palm nuts, in order to remove the shell previously to submitting the kernels to the action of the press for extracting the oil; but it may also be used for the purpose of cracking any other kind of nuts that are required to be cracked in large quantities. A revolving fan is used for producing a blast of air which throws the nut with sufficient force against an iron or metal target to crack them without injuring the kernels. The fan is inclosed in a sheet of iron, or other suitable case, having an entrance passage, provided with a hopper for the introduction of the nuts, and a discharge pipe through which they are driven by a current of air, and discharged against the iron target, by striking which they are broken.

STEAM ENGINEERING AT THE FRENCH EXPOSITION.—We are indebted to the courtesy of William S. Anchincloss, C. E., Honorary Commissioner to the French Exposition of 1867, and author of an able work on "Link and Valve Motions," recently noticed at length in this journal, for a copy of his report on Steam Engineering, as illustrated by the Paris Universal Exposition of 1867. An extract entitled Transmission of Power, published in another column, is one of the many good things we find in this interesting work. It is to be regretted that so limited a number of copies of this report have been published, as the information it contains is of high value to American Engineers. We shall make some other extracts from this valuable report.

TARPAULIN.—A new method for making a durable and useful tarpaulin, consists in boiling gas tar, one hundred, weight, until it becomes hard, and at the same time boiling in a steam-jacketed pot fourteen gallons of Stockholm tar spirit, ten pounds of American resin, and one gallon of resin oil. When these ingredients are completely dissolved, they are mixed together, and in about ten minutes after, two ounces of oil of vitriol are added. This compound is found to preserve tarpaulins, sail cloth, and other fabrics. By the addition of proper pigments it can be made to receive different tints of dark colors, such as reds and browns.

TOOTH BRUSHES.—There has lately been introduced into the market a porous form of vulcanized india-rubber, called india-rubber sponge. It is proposed to substitute this material for bristles in the manufacture of tooth-brushes. A piece of india-rubber sponge is fixed to a handle of bone or ivory, and ridges are formed on the surface of the spongy material. Other brushes are made in a similar manner by fixing spongy-vulcanized india-rubber to a rigid back or handle; or, in some cases, as for horse brushes, a rigid back only is required. In some cases, the spongy india-rubber is checkered or cross-grooved.

POISONING BY CORALLINE.—M. Landrin has reported experiments to the French Academy, tending to show that pure coralline does not exert any poisonous action on the human skin. M. Tardieu rejoins, that the coralline-dyed stockings which he examined, and which did produce such effects, did not contain arsenic, lead, mercury, or other mineral poisons, but he cannot say whether or not the stockings were colored with coralline only. So the question stands in a position of uncertainty as to the real cause of the mischief imputed to this pretty dye.

NEW GAS BURNER.—A new French invention is a gas-burner, the object of which is in part to do away with the flickering of the flame, so as to render the light steady, also to cause a more perfect combustion of the carbon. It consists of a metal piece having several openings, through some of which gas issues, and through the others atmospheric air, which mixes with the gas. It appears to be a modification of the ordinary Bunsen burner.

STEEL FISHING RODS.—It is proposed by an English inventor to make fishing rods of iron, steel, or German silver, instead of pliable wood or cane. He constructs the rods as follows—either in one or several pieces, connecting them together by joints in the usual way or by any other means better adapted for the purpose. He uses either solid or tubular metal with the view to obtaining lightness and flexibility.

NEW PUBLICATIONS.

THE AMERICAN ENTOMOLOGIST, for August, completes the first year and the first volume. It has been admirably conducted, and is worthy of the most extensive support. The present number contains a fine colored plate of the Royal Horned Caterpillar and Moth, life size, together with about twenty other engravings. Commencing with the new volume the work is to be enlarged from 24 to 32 pages, the price remaining the same; namely, $1 a year. Monthly. R. P. Studley & Co., Publishers, St. Louis, Mo.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

The quarry property at Cromwell, Conn., is now valued at $100,000. Three years ago it could be bought for $30 000,

Ground has been broken at Portland, Maine, for the construction of the Portland and Ogdensburgh Railroad.

The Supreme Court of Nevada has decided that the telegraph is a branch of commerce, and, as such, is under the control of Congress.

The navigation regulations of the Suez Canal state that the canal will be open for vessels of all nationalities with a draft of less than 24·6 feet.

The quantity of amber lately found at the Kurische Haff in Eastern Prussia, is said to be so great that the market price of the article has fallen.

The new iron bridge over the Cape Fear river, to connect all the railroad lines centering in Wilmington, North Carolina, was opened on the 28th of August.

The Imperial Insurance Company of London has paid $100,000 losses for the whiskey destroyed at the late Philadelphia First street fire, and will soon pay $200,000 additional.

Illinois is to have a new Capitol at Springfield. The plans, specifications, and estimates of the Commissioners have been officially approved. The cost, exclusive of foundation, is limited to $3,000,000.

The colossal bust of Humboldt, which was modeled by Professor Ehiser, has been successfully cast in bronze by Howald, in Brunswick, Germany It is intended for New York and will cost about 17,000 thalers.

The English papers complain of the continued emigration of Cornish miners, which is not caused by want of work, but by the low rate of wages paid them. The men who have left are of the best class of miners.

The exhibition of the Pennsylvania State Agricultural Society is to be held in Harrisburgh, opening on Tuesday, the 28th of September, and continuing until the 1st of October. The premium list amounts to $10,000.

The oil excitement at Parker's Landing and about the mouth of the Clarion river still continues to increase. Twenty-three derricks are up on the Clarion county side, and many more on the Armstrong side of the Allegheny.

It is said that the town of Warren, Jo Daviess county, Illinois, offers a bonus of from $2,000 to $3,000 to any responsible person who will go to that town and erect and run a custom steam grist-mill, which is needed in that place.

The dome of the Invalides at Paris, is at last completed, and presents a magnificent appearance, sparkling with gold. It was gilded for the first time by Louis XIV., for the second time by the first Napoleon in 1806, and now for the third time by Louis Napoleon.

A California paper says that 50,000 tuns of wheat were lying in sacks along the banks of the Sacramento river, in Tehama, Butte, Sutter, Colusa, and Yolo counties, on the 1st of August, and that 60,000 more were to follow, making 110,000 tuns as the yield of five counties.

A crib 300 feet long, being one section of the whole length of 900 feet, to be used in the construction of a wharf at North New York, for the Harlem River and Port Chester Railroad, has been towed to its position. The balance of the crib is progressing rapidly, and a steam dredger is constantly at work deepening.

The present production of the White Pine mines is about $86,000 a week, and for the whole district about $100,000 a week. In a month or two the production will be increased to the rate of six millions a year, and the yield for 1870, it is confidently believed, will reach ten million dollars.

A Chicago paper says that there are over 20,000.000 gallons of water consumed daily in that city. It discusses the estimated future consumption and the limited facilities for supplying the demand, and contends that the lake tunnel will be inadequate to supply the city five years hence.

A heavy snow storm prevailed at the summit of Mount Washington, on Aug. 31. The telegraph wires were broken in several places by the ice, which accumulated to the thickness of two inches, or more. The thermometer stood at 28deg. The *Times* says it snowed in this city on the 1st of September.

The Ames Works, in Chicopee, Massachusetts, are engaged on the bronze fountain for the Central Park, New York. An immense bronze basin is to be cast, which will rest on sixteen columns. The whole is to be octagonal in shape, and a number of curious jets and streams will be worked into the design at various points.

From the annual report of the Street Superintendent of San Francisco it appears that city has 102 miles of paved streets and 255,829 feet of sewerage. The cost of street work from July 1, 1868, to July 1, 1869, has been in round numbers $1,520,000; and the average cost has been nearly a million a year for ten years past.

The State Line Lode, Nye county, Nevada, according to the report of the United States deputy surveyor, is a gold-bearing vein, composed mainly of ferruginous and friable quartz. In many places the entire vein is so friable and crumbly as to be easily removed with the pick alone. A working test of 600 pounds gave a yield of $176 per tun. The improvements on the mine have cost about $2,000 coin.

The following is said to be an excellent imitation of the jet black China varnish for boots and shoes. Dissolve 10 grms. of shellac and 5 grms. of turpentine in 40 grms. of strong methylated spirits, having previously dissolved 1 grm. of extract of logwood, with some neutral chromate of potassa and sulphate of indigo, in the spirits. The varnish should be kept in well stoppered bottles.

New Haven, Conn., is becoming anxious about its water supply. The water is now pumped into the reservoir by water power, wasting ten millions of gallons each day in pumping two and a half millions. The company propose to put in steam pumps, which will enable them to supply a city of two or three hundred thousand inhabitants.

A Belgian has lately had a steamer of diminutive proportions constructed in England. This craft is twenty-four feet long and six feet wide. Her boiler is about the size of a teakettle, and the engine might be put in the