Scientific American.

NEW YORK, SEPTEMBER 16, 1854.

Our New Volume.

Volume ten of the SCIENTIFIC AMERICAN, commences with this number, under more than usually peculiar circumstances. Severe and extensive droughts and conflagrations in many parts of our country, as well as a stagnation in commercial affairs, present a somewhat gloomy aspect to the public mind. We hope, however, that many dark anticipations will give place to cheering hopes resting on a solid foundation. During the past year, owing to the great advance in the price of labor and paper, and in fact, all printing materials, our expenses have greatly increased. These things call forth renewed efforts, and greater exertions for the extension of our circulation among mechanics, inventors, manufacturers, and lovers of scientific information. At such times as these, however, many of our mechanics find themselves in more than ordinary straightened circumstances, and they may be more reluctant to become subscribers than in other and more prosperous times.—But we trust that none will delay for a more favorable opportunity to present itself, for assuredly the small amount of subscription for half a year, or a whole year, is not beyond the reach of any one who has a wise will. We have never known an instance of a working man who became eminent for skill and intelligence, who was not distinguished for economy in small useless things, in order to save means to purchase knowledge. No money is invested so well as that which is saved from useless expenditure, and applied to the purchase of sound knowledge; the taking of a good paper, for an example.

The illustrated history of reaping machines which we shall publish in this volume, will be of great interest to all our agriculturists, as the information which we shall present, and the machines we shall illustrate, cannot be obtained from any other source. The new inventions which will be illustrated in our columns, and the discoveries in science and art which we shall continue to publish at the earliest dates, will be of interest to every class of our citizens. Our facilities for obtaining information on all subjects relating to science, art, machinery, and patents, both at home and abroad, are widely extended, and possessed by none others, to an equal extent, in this country. These facilities have been greatly extended recently, and our readers may depend upon it, that as every succeeding volume of the SCIENTIFIC AMERICAN has surpassed its predecessor, our best efforts will be continued to make volume ten more worthy still of the support and esteem of our 30,000 patrons.

Scoundrelism in Patent Agents.

We have been shown some correspondence which passed between an inventorresiding in Houston, Texas, and a pretended patent agency concern doing business not far from the Patent Office in Washington, which shows the manner in which honest men are thimble-rigged out of money in payment for services never performed. We will briefly state the facts—omitting real names. Peter Simple makes an application for a patent, and entrusts his business in the hands of responsible agents in New York. After his application is duly filed into the Patent Office the SCIENTIFIC AMERICAN announces the fact, and gives a brief description of the invention, together with the inventor's name and residence. No sooner is this made public, than Gouge & Co., of Washington, send on to his address their gas inflated circulars, extolling their great success in "getting through rejected cases." Simple is amazed, and comes to the conclusion that his application is rejected, since from the fact that Gouge & Co. reside in Washington, near the Patent Office; their circular speaks particularly of rejected cases, and they, of course, *never* saw his address in the public newspaper which they take, and must, as a matter of course, derive all their information from the Patent Office direct.—Considerable correspondence ensues—Gouge & Co's. letters are for the most part endorsed by Hon. Mr. Stoolpigeon, M. C., hence it has about it an air of the real live official.

Simple remits $30, for having his case attended to, without consulting his regular agents, and his patent, in due time, is received, as he supposes through the intervention of Gouge & Co.

Now, mark the sequel. During all this time Simple's case laid in the Patent Office awaiting its examination, and when the class to which it belonged came up, it was examined and passed, without a word of objection.—Simple's regular agents are probably let into a knowledge of this operation by a note, that in future he shall employ Gouge & Co., who have manifested so much ability and integrity in the management of his *supposed* rejected case; and when informed that Gouge and Co. probably never saw his application, he begins, as the old saying is, "to smell rat." This is the history of a cool, well calculated swindle, and the parties engaged in it should be dealt with "according to law," and Simple himself shingled for his stupidity.

This class of "Agents" are known, when known at all, as lazy, worthless fellows, never retaining the confidence of an honest employer; they congregate within the vicinity of public offices, and watch from behind a screen for the unsuspecting, and entrap their victims by the most foul and contemptible means. All cities are infested with these pests, who gouge the credulous and bring suspicion upon honest and faithful agents, and the public press is untrue to its duties if it fail to hold up such acts to the public gaze.

Electrical Science and Light.

We perceive by some of our cotemporaries that Paine's Electric Light is again making some noise at Worcester, Mass. We have also received a letter from a correspondent, in which he states, "there can be no doubt but that water is decomposed with great rapidity by Mr. Paine's machine." For the information of our new subscribers who may not be acquainted with the nature of this alleged new discovery, we would state, that it simply consists in decomposing water by a current of electricity generated by mechanical action, then carbonizing the hydrogen of the water, and burning it like common gas. The common and most simple method of decomposing water by electricity, is to generate a current by chemical action, that is, by a galvanic battery composed of zinc and copper plates, the zinc or positive plates being acted upon by an acid. The mechanical method is embraced in what is called the "magneto-electrical machine," which consists of one or more permanent magnets, and one or more soft iron armatures, covered (excepting the curved parts) with insulated copper wire, and made to revolve rapidly on an axis, so as to bring each pole of the permanent magnet or magnets near the ends of the soft iron armatures. The soft iron of each armature becomes alternately magnetized with opposite polarity, and currents flowing in a contrary direction are induced in the copper wire. If a closed circuit be formed, by connecting the ends of the copper wires in such a manner as to produce *a continuous current in one direction*, the current can be made powerful according to the number of magnets employed. By the information we have received from our correspondent, we learn that all which is supposed to be new in Mr. Paine's machine, is the production of a continuous current in one direction. This is not new; it has been done long ago, and water has also been decomposed by it.

Water is composed of the two gases—oxygen and hydrogen—these, when burned on a piece of lime, produce the "Drummond Light." Hydrogen mixed with carbon forms the common gas burned in our street lamps. The hydrogen of water must also be carbonized to produce a good light. This can be done by passing it through camphine or naptha, or benzole, but in our opinion, good light cannot be produced so economically by decomposing water, (especially by the action of a machine,) and then carbonizing it, as by the distillation of coal in producing the common gas now used for illumination. Any new discovery in science for producing light and heat, at less expense than by present modes or substances employed for such purposes, will be hailed as a great boon for the benefit of the human race. Every statement however, of such a discovery being made, should be accompanied with a description of its nature; if not, it should be condemned as an attempt to impose on the public.

The French Industrial Exhibition.

It is well known to our readers that another "World's Fair" is to be held in the city of Paris next year, and it will no doubt be a grand affair; the buildings for the purpose are now being erected; the principal one will be in extent about 50,000 square yards, occupying a space of ten acres. In addition to that the French government are erecting a supplementary building on the banks of the Seine, which will occupy a space of about 35,000 square yards, and present a frontage to the river of about three quarters of a mile in length. The government are at present engaged in completing the Louvre, and the new portion of the building is to be occupied by the works of living artists, consisting of paintings, statuary, drawings, photographs, &c. With respect to the principal building itself, it is not such as was erected in London, the one at Sydenham, or the one in this city; it is of the Corinthian order, built entirely of stone, and is to be covered in with a glass roof of three circular compartments. A peculiarity in the construction of the building is the circumstance of all the staircases being formed outside, by which the appearance presented inside is that of a great unobstructed square. The pillars, which are of immense thickness, give a feeling of confidence as to the security of the building; and the water which is collected on the roof passes down the inside of these pillars, and is conveyed into the common sewers. The building is got up by a joint stock company, who are to have its use for thirty years, at the expiration of which period it reverts to the government. The whole affair is under government patronage, and is strictly national. With that taste for decoration and arrangement for which the French are justly famed, we have no doubt but the display will exceed that of the London Crystal Palace. We do not know how many, if any, of our countrymen are making arrangements for becoming exhibitors in France next year. We hope the number will not be small, for assuredly the sons of old Gaul made a noble display in our Crystal Palace. We ought to return the compliment so far as we can. Americans are highly esteemed in France, and our countrymen may rest assured of cordial, kind, and honorable treatment there, probably better than they received from the Managers of our own Crystal Palace.

The Arctic—Steam and Stame.

On page 365 of our last Volume, we described the alterations which had been making in the Collins' steamship *Arctic*, for the purpose of using steam direct from the boilers, in combination with steam heated out of contact with the water in the boilers, by carrying it to the cylinders in pipes running through the furnaces. These alterations were completed about the first of this month, and a trial trip was made to Boston previous to the sailing of the *Arctic* for Liverpool on Saturday the 2nd inst. We understand the first trial trip was not satisfactory, some of the stame tubes in the furnaces failing to stand the intense heat. Before the test trip was made, in conversation with some very experienced engineers, the question of the *Arctic's* new arrangements came under review, and with one accord the opinion was expressed that the "stame" tubes could not stand the great heat to which they would be subjected. There was no question nor donbt of the economy in fuel by using the super-heated and common steam combined, but as we stated on the page referred to, the economy of "fuel was only one of the questions involved." The use of stame was abandoned for this voyage, and the stame pipes, having been arranged as boiler tubes, were filled with water.

Water for Jersey City.

We congratulate the inhabitants of Jersey City on the recent introduction of an abundant supply of water from the Passaic River. They have exhibited a great deal of enterprise and wisdom in what they have done. It will be the means of greatly advancing the prosperity of their city, and will add much to their comforts. The water, we understand, is taken across the salt Hackensack river in an inverted syphon, 20 feet below the surface, and is afterwards thrown up on Bergen Hill by a powerful steam engine of 300 H. P., where it is received in two great reservoirs, and from thence distributed through the city. No city can be cleanly or healthy, unless it has an abundant supply of good water. It is high time the city of Brooklyn was adopting efficient means to secure a plentiful supply. The citizens have talked about it long enough; let them now set to work and "speak in deeds."

To Subscribers—Our Prizes.

We again would direct the attention of our readers to our list of prizes. They are free and open to all, and deserve more than common attention. No person knows how much he may be able to accomplish in obtaining subscribers until he tries. Those who have heretofore obtained prizes, have assured us that they have found it an easy task to approach every person in soliciting subscriptions for the SCIENTIFIC AMERICAN.

History of Reaping Machines.

The demand upon us for publishing illustrated descriptions of a number of inventions recently patented, has been so urgent, that we shall not be able—as we intended—to commence our history of reaping machines, with illustrations, for two weeks from this date.—It will be the only complete history of the kind ever given to the public, and as the number of reaping machines is not small, there are many conflicting claims with which every farmer should be well acquainted, if he wishes to save himself money and anxiety, and make himself thoroughly intelligent on a subject so intimately entwined with his interests.

Ohio State Fair Postponed.

From several unforeseen difficulties, the Ohio State Board of Agriculture have postponed the Fair to the 17th of next month, (October,) at Newark, Ohio, instead of the 19th of this month, as mentioned in our last volume. Those who have forwarded machines to the Fair, without being aware of the change, we are assured by the Superintendent of Machinery, Joseph E. Holmes, that they will be properly cared for and protected. The Ohio Board of Agriculture hope to exceed any similar Fair yet held, in the general display of stock, farm products, implements, and machinery.

Astronomical Observations in a Coal Mine.

Professor Airey, the Astronomer Royal of England, is about to institute a series of experiments in a coal mine 1260 feet deep, with a pendulum, and also a similar set of experiments at the surface, in order to discover the peculiar action of the earth upon it, so as to determine the true weight of our planet.

$570 IN PRIZES.

The Publishers of the SCIENTIFIC AMERICAN offer the following Cash Prizes for the fourteen largest lists of subscribers sent in by the 1st of January, 1855.

$100 will be given for the largest list,	
$75 for the 2nd,	**$35 for the 8th,**
$65 for the 3rd,	**$30 for the 9th,**
$55 for the 4th,	**$25 for the 10th,**
$50 for the 5th,	**$20 for the 11th,**
$45 for the 6th,	**$15 for the 12th,**
$40 for the 7th,	**$10 for the 13th,**
and $5 for the 14th	

The cash will be paid to the order of each successful competitor; and the name, residence, and number of subscribers sent by each will be published in the SCIENTIFIC AMERICAN, in the first number that issues after the 1st of January, so as to avoid mistakes.

Subscriptions can be sent at any time and from any post town. A register will be kept of the number as received, duly credited to the person sending them.

☞ See new Prospectus on the last page.

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