

Scientific American

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To Our Readers.

This number completes the first six months of Vol. 8, Scientific American, and we return our sincere thanks to our friends for their liberal and hearty patronage. Our circulation has greatly increased, and had we commenced the present volume with printing five thousand more copies than the number we have issued, we would have found subscribers for them all. We hope that those of our subscribers whose half-yearly term now expires, and who have not renewed their subscriptions, will do so at the earliest opportunity, in order that they may have all their numbers complete. Every article is finished in this number, and the next half of the volume will be commenced with new articles, so that new subscribers will have an excellent opportunity of beginning with a number, the first of 26 that will form a half volume complete in itself. As the Crystal Palace will be open this summer, our pages will be embellished with many beautiful engravings of interesting machinery displayed there, and our columns will be furnished with information which no mechanic, artisan, or man of science can well do without, and be posted up with the progress of the age. To secure future numbers, we urge upon our readers to send in their subscriptions early, as it has been a subject of regret to us that we had to say to so many, "all our back numbers are gone." As our circulation has increased we have improved the Scientific American, and this onward course and policy we shall always pursue. We shall print an extra quantity of our next number in order to meet new demands, and with honesty and truth for our mottoes; a desire to be severely correct in the information we obtain; and with energy, means, and enterprise, to obtain the most reliable and earliest information about inventions and scientific matters, we trust that before another year passes away we will be able to say, "the Scientific American has 30,000 subscribers." We ought to have this number now, considering the amount of our population; and with the influence and kind interest of our readers among their friends, we hope to obtain it. If every subscriber would get a new subscriber the result would be accomplished. We believe such a result (while we confess it would greatly benefit us,) would also benefit our people, as the information we present is really useful and elevating, not only instructive for a day but for all generations.

What of the Railroad Prizes?

It seems to us that all the public bodies about town are "tarred with the same stick." Our Common Council, owing, as some say, to our dirty streets—the worst kept and best paid for in Christendom—have got themselves deep into the mud, and the American Institute, not a whit behind, has fallen as deep into the mire. All our readers know what fine prizes were offered by F. M. Ray, through the American Institute for certain railroad improvements, and how so many very excellent inventions were presented at the last Fair of that foggy Body, to the no small loss of time, money, and skill to many inventors, and yet not a prize has been awarded, and not a report yet made on the subject by that dignified Pound of a corporation.

We think it is high time for the Examining Committee of the Institute to make a report. You gentlemen certainly have had enough of time to sleep, eat, drink, and talk over the subject since that notable day when the Fair closed. Do you call yourselves true Americans, and dilly dally in this manner about the business entrusted to you. Uncle John Bull, gouty old gentleman, would have run round the world in the same time. You have usurped the name of "American Institute," for your acts are not characteristic of the American character. Report yourselves lost, or something or other, only give us a report, and let us know whether or not it is time to write your epitaph.

We hope the Institute will soon put out its circular for holding its next Fair,—it will be a pleasure to read some of its new promises.

Railroad to the Pacific.

A railroad to connect the Atlantic with the Pacific Oceans by steam, so as to unite the Eastern with our extreme Western States, is certainly something much desired by all our citizens. Various plans have been proposed to effect this object. A few years ago Whitney's plan for a railroad to be constructed by himself from a grant of land made by the government, created a great deal of excitement throughout the Union. The projector of it, with much energy, travelled through the various States, and was the means of getting (we think) a majority of the Legislatures to pass resolutions favorable to his scheme. One or more committees appointed by Congress reported in favor of it. Yet, for all this, as a scheme to be adopted, it never really received the serious attention of any Session of Congress. A memorial was presented last year to the Senate by Robert Mills, C. E., of Washington, who proposed a plan and route entirely different from that of Mr. Whitney. The Committee on Public Lands, Senator Borland chairman, made a report on said memorial, and by it a Bill was presented for the construction of a railroad to the Pacific, which bill was the subject of warm discussion in the Senate. The proposed centre of this railroad in the States, was Memphis, Tennessee, but the appropriations for the construction of the road through existing States was met with objections of unconstitutionality. The Bill was amended, to provide only for its construction by government through Territories, and finally, it has come down to an appropriation for a survey, and no more. It certainly does appear to be reasonable that the route should first be thoroughly surveyed and reported upon before money is voted to construct the road. In all likelihood there will be much contention among some of the States west of the Mississippi for the advantage of being the "heart" to the great veins and arteries of railroads in these United States—Atlantic and Pacific. Be that as it may, there can be no doubt of the necessity and advantages of such a railroad being constructed, and the sooner it is constructed the better. Lieut. Maury, in a letter on the subject, in answer to inquiries made by Senator Dodge, of Iowa, respecting the advantages we would have over the English by such a railroad, in our trade with China, says, "the California route, as it will be with a railroad hence, and a line of steamers on the Pacific to Shanghai, in comparison with the English routes as they now are, will give a difference in our favor of twenty-five or thirty days." To this great fact we wish to direct the attention of our people. We do not say how the road is to be constructed, nor do we propose what shall be the route, (who can do so correctly?) but we do say that such a road should be built as soon as possible. Will this be done? if not, let us say but little about our enterprise and sagacity.

Events of the Week.

MILK FOR LUBRICATING WOOL.—Before wool can be carded, spun, and woven, it is well greased with a suitable unctuous substance. Various matters have been employed as substitutes for oil, because the item for such an expense in a year in any large factory, is very large. A few years ago, a patent was taken out for the employment of steam as a substitute for it, but we believe, it has not answered the purpose. By a late English paper, we learn that the price of olive oil, the substance used for wool in the manufacturing districts, had arisen so high (\$200 per ton) that many experiments were made to get a suitable substitute, and that sweet milk was discovered to answer every purpose, when mixed along with a small quantity of olive oil; it is even asserted that it answers better than olive oil alone. Practice is the only way to test the value of any such discovery; we know that pure olive oil and soda, dissolved in water, make a composition which looks, tastes, and smells very like sweet milk. It is extensively used in dyeing and softening colored goods, and for dressing black silk. The milk cannot be such a good substance as olive oil—in our opinion—for treating wool, but its greater cheapness will enable manufacturers to use it in greater quantities.

NEW QUARTZ CRUSHING MACHINE.—The "London Illustrated News" thus speaks of a

rather singular machine for crushing quartz: "It consists of an iron chamber with safety valves on its upper part. A mortar is charged with powder and filled with quartz and is discharged into the chamber by one of the valves. The quartz is reduced to powder, and a bellows makes the powder of the silex fly out at one part, while the gold dust, by its specific gravity, like as in some of our grain separating machines, drops down into another chamber." This as described by the "News," is certainly the most novel and powerful means of quartz crushing and separating that has yet been brought before the world. We are inclined to the opinion that the process is an exceedingly dangerous and explosive one.

PHILLIPS' SUBMARINE PROPELLER.—Mr. L. D. Phillips, whose submarine propeller was illustrated on page 172, writes us, stating that he can raise and submerge his vessel rapidly simply by filling up the water cylinder with water, and he can again rise to the surface as quickly by forcing out the water through a tube in the bottom by means of the air acting upon the surface of the water, it being forced in by the air-pump. In case the force of the air is not enough, the water can be let into the cabin, and forced out with a force pump; or without discharging ballast, the action of the paddles will force the vessel up to the surface. This propeller can also be made to stand at any depth of water.

NEWELL'S WIRE GAUZE LAMP.—We have received a letter from Prof. J. R. Nichols, of Haverhill, Mass., to correct an opinion, which has gone abroad respecting Prof. Silliman having committed himself in favor of Newell's device of wire gauze in fluid lamps. Prof. Nichols says he has received a letter from that distinguished gentleman, in which he says: "in my remarks respecting safety lamps, I say if they are faithfully constructed, they are safe, and I have made no allusion to Mr. Newell as an inventor, or any other person, as it regards claims or skill. If I understand you correctly, you believe in the sufficiency of wire gauze protectors, if properly constructed and applied, and my opinion endorses nothing more." Prof. Nichols says,—"justice to Prof. Silliman and to the public will doubtless lead you to correct an erroneous impression, which places a distinguished and excellent gentleman in an unpleasant position." We always aim to get the truth—the whole truth, and nothing but the truth—to present to our readers. We are therefore always happy to present any statement in correction of an error, or to remove any wrong impression from the public mind. The letter of Prof. Silliman dated Jan. 29th ult., and which was published in the "Boston Traveller," would lead any person to infer that he had committed himself in favor of the said lamp. It concludes with these words, "The danger (explosions) may be entirely avoided by the use of Wire Gauze Protectors that have been recently introduced. It may be proper to add that I have no interest whatever in the invention."

PUBLIC VIRTUE IN PUBLIC MEN.—Alas for our country! at the present day, it has a most unenviable name for corruption in our public men. The Common Council of the City of New York stands at the present moment blackened and stained with more corruptible characters than any corporation of the rottenest Rotten Borough of Old England. The common impression on the public mind is, that the majority of public men have their price, and that many know exactly what that price is. The late Grand Jury of the City and County of New York, indicted two of the New York Aldermen for receiving money illegally, and it was perhaps owing to the refusal or witnesses to testify, that no more were included in the verdict. The whole of our Aldermen have also been found guilty of contempt, of a decree of the Superior Court, and they stand before the public in a very degraded light. Never in the whole history of our country has such a city been so disgraced by the acts of its corporate authorities. A reform of our City Charter is demanded, and large meetings have been held by our citizens to accomplish that object: but neither new charters nor penal laws can make corrupt men virtuous. Good men will enact good laws, and execute them faithfully; corrupt men will violate good laws, or make bad ones for

their own purposes. Our respectable citizens—the moral, intelligent and influential among all classes, rich and poor, are to blame for not doing their duty, in placing men of good character in power. The taxes in the City of New York, are higher than those in London or any city in the world, and yet no city is worse governed. A reform is certainly demanded, but it must be a moral one, to do any good.

Stuart's Naval and Mail Steamers of the United States.

This is a new publication, by C. B. Stuart, Engineer in Chief of the U.S. Navy, published by Chas. B. Norton, Irving House, this city; it is the companion to the previous splendid work of Mr. Stuart—"The Naval Dry Docks of the United States." In our opinion it is the most splendid work on engineering ever published in this or any other country; it certainly is a book of which the author may well feel proud. It is illustrated with 36 fine engravings, and is printed on beautiful paper. It has a beautiful steel engraving of the author, and a very fine one of the U. S. Mail Steamer Arctic of the Collins' Line. It contains an account with engravings of the "Demologos," or Fulton's first war steamer, and the history of every steamer employed and belonging to the United States Government,—with full descriptions, of construction and performance—is presented. Only 26 steamers, from first to last, have belonged to our government, and at the present moment, our navy is sadly defective in the quantity and quality of her steamships. We hope this work will be the means, of directing attention to the acquirement of a more efficient and powerful steam naval force. The old "Demologos" (Fulton the first) is illustrated, and a comparison with it and the Fulton the third, the fastest steamship in the Navy, presents as much difference between the old and new steamship, as there is between a log hut and Trinity Church. We are certainly under a debt of gratitude to the author of this work; and so are all American citizens, for it is a work on American Engineering of which they can boast. It is dedicated to E. K. Collins, the enterprising Chief of the Collins' Line of steamers, and the engines of the "Arctic" are fully illustrated and described. The illustrations are the finest engravings of machinery ever presented to our people.

In some future number we will take occasion to review, not the book, but, the progress and practice of engineering, as brought to light and recorded therein.

The Inauguration.

On Friday, the 4th instant, Franklin Pierce was sworn into office as Chief Magistrate of the United States, for four years. There was an exceedingly pompous procession escorting the President elect to the Capitol, and the president *de facto* from the Capitol. From the descriptions given of the procession, and the display made on the occasion, we cannot but think that it was altogether undemocratic except in this, that it was a voluntary affair got up by the people, and in this respect it only differed from coronation scenes in Paris and London. We believe that pomp fudge, and display are becoming integral parts of our system; we regret this. Republican simplicity, which is a just manifestation of good sense, is giving way to gaudy nonsense in our love of display—leather and prunella.

The President's Message has the merit of being short, clear, and on the whole good. What changes may take place before his administration closes, the Power above alone knows. The President has now a heavy load upon his shoulders, and very arduous duties to perform. Presidents and princes are not the most happy men. There was something in the prayer of the old Puritan, "Lord do not make me a king."

Paint for Coating Wire Work.

Take good linseed oil and boil it along with as much litharge as will make it of the consistency to be laid on with the brush. Lamp-black is also put on at the rate of one part to every ten, by weight, of the litharge; boil three hours over a gentle fire. The first coat should be thinner than the others; experience has proven this to be the correct method of applying the paint.