

Scientific American.

NEW-YORK, AUGUST, 25, 1855.

Scientific American Anniversary.

Another year in the history of our journal has almost rolled around, and the time has come for us to enter upon a new campaign. Two issues more, and the tenth volume of the SCIENTIFIC AMERICAN will be complete, henceforth to stand among the records of the past. To us it seems as if the wheels of old Time were advancing with a steady increase of pace, for as each year draws to a close, its duration appears to have been less than its predecessor.

But however brief the past twelve months have been, we derive some satisfaction in believing that our labors during this period have not been wholly thrown away; that useful results have, to some extent, attended them; that the number of our friends and patrons have in nowise diminished. This latter fact affords us substantial encouragement for the future, and fills us with increasing desire to merit their continued approbation, by deeper study and more extended explorations in their behalf, into the realms of knowledge.

In reminding our subscribers that the period has come for the renewal of their annual subscriptions, we take occasion to say, that if they have enjoyed any benefit or satisfaction from the pages of our journal during the year now past, they may count upon an increase in their pleasures, from the same source, throughout the year to come. It will be our constant aim to make the SCIENTIFIC AMERICAN more attractive, more useful, and more valuable to every class of readers than it has ever been before.

But all our efforts are, of course, more or less dependent upon the countenance and co-operation of our friends. This year we make a special appeal for their assistance, and we hope the response will be hearty and effective. Thus supported, we shall be rendered strong, and be enabled to go forward in the discharge of our peculiar duties with renewed confidence and augmented ardor.

Will not each of our subscribers cast about a little in the locality of his residence, and see if there is not at least one person of his acquaintance to whom the SCIENTIFIC AMERICAN would be a welcome visitor? Will not each of our friends exhibit the prospectus, show our paper, and try to send us at least one new subscriber with his own name? We not only ask our readers to do this as a personal favor—which we assure them will be appreciated—but we base our request upon broader grounds.

The influence of the SCIENTIFIC AMERICAN is good. Its tendency is to counteract and destroy every species of error and vice, by attracting the human mind away from evil towards the consideration of useful, absorbing, and delightful subjects. Whoever increases its circulation, even by a single copy, renders a good service to humanity.

For those who are willing to devote a portion of their time exclusively to our service, by canvassing extensively—of course we cannot expect all to do so—we have prepared a list of liberal cash premiums, which are duly set forth in another column. It will be observed that all clubs, societies, and canvassers, are entitled to receive the paper at club rates, which are very liberal; and in addition to this they may take a prize. The crops this year are abundant, money every where is plenty, and business of all kinds is on the increase. Our friends will have no difficulty in sending us large lists of subscribers.

Experiments with the Blades of Paddle Wheels.

A valuable paper on the above named subject has been contributed to the last number of the *Journal of the Franklin Institute*, by B. F. Isherwood, Chief Engineer U. S. N. The proper number of paddles for a wheel has been a matter of some dispute, and the question has been discussed by Mr. Ewbank, in his essay on propellers. Those who assume the position that too many paddles are generally employed, base their opinions on the assumption that "every blade, according to its thickness, forms part of a solid rim, and detracts from the propelling efficiency of the wheel," hence they insist that the number of paddles generally used on paddle wheels should be reduced. The

paper referred to throws light on this very point, and seems to settle the question. The experiments to test the question were made on the U. S. steam frigate *Mississippi*, during her cruise in the Mediterranean, in the years 1849, 1850, and 1851, under the direction of the Chief Engineer, Jesse E. Gray. The frigate had occasion to make a considerable number of short trips between Spezzia and Leghorn, a distance of 37 1-2 geographical miles. These passages were made in fine weather—light breezes and a smooth sea—and the dip of the paddles was about equal in all cases. Eight passages were made with the usual number of paddles—21—on each wheel, and the number of revolutions taken with a counter. Every other paddle on each wheel was then removed, reducing the number to 11 (leaving two for the odd number,) in their former position, and one voyage was made with the wheels in this state, and the number of revolutions was also counted. This last performance was not repeated, for the concussion of the paddles on their entrance into the water was so great as to cause an excessive vibration and shaking in every part of the vessel, the paddles struck the water, as if acting upon a solid instead of a fluid substance. "This was the more remarkable, as with 21 paddles in each wheel not the slightest vibration of the hull had ever been experienced from the action of the machinery, the *Mississippi* being noted for solidity and steadiness." When 21 paddles were again restored to the wheels the vibrations and shaking of the hull of the frigate ceased, and all was smooth, steady, and pleasant as before. With the eleven paddles the frigate's wheels made 3536 revolutions in the 37 1-2 miles, while with the 21 paddles she only made 3011 that being the mean of eight passages. The amount of slip with the 11 paddles was 25.74 per cent; with the 21 paddles 12.79 per cent. The slip therefore of the lesser number of paddles was twice as much as the greater number. The paddles at the periphery of the wheel—when 21 were used—were 4.338 feet apart; with the eleven 8.676 feet apart. This relationship of the paddles, and the different results produced by them are scientific data of very great importance.

The \$10,000 Reward for a Marble Sawing Machine.

Two weeks ago we published a proposal from Mr. M. M. Manly, of Vermont, in which he offered a reward of \$10,000 for the production of a machine which would saw, on a taper, both sides of a block of marble at once.

Since that time we have had submitted to us quite a number of devices for doing the work, accompanied with requests for our opinion as to their probable effectiveness and patentability, which we have given. We have also learned some further particulars as to the requirements which will be expected in the invention. Satisfactory information has likewise reached us relative to the responsibility of the party who offers the prize.

Mr. Manly we are pleased to learn, is a gentleman of great respectability, extensively engaged in the marble business, and of undoubted responsibility. In offering to pay ten thousand dollars for the patent right for an invention which will accomplish the purposes named, he means what he says.

There seems to be a prevailing impression that the invention and construction of a machine that will saw two tapering sides of a marble block at once, is an easy affair, requiring but very little study or labor. We have reasons to believe that this is erroneous. Mr. Manly is, as we have stated, a practical man, and has himself tried many different devices for doing the work, but thus far without the desired success. He, for one, is satisfied that it is no easy job. A machine, to be successful, must do the work cheaper and quicker (all things considered) than it can be done by the single saw. It must, withal, be simple, easy, convenient in handling, and adapted to all the various changes of dimensions required in marble cutting. It must also have been patented. These are the main requisites.

In our previous announcement we cautioned inventors against boring Mr. Manly with letters declaring themselves to be discoverers of the improvement, and demanding the reward before ever they had secured their right, or

practically tested their improvements. Circumstances require us to repeat this caution. Time thus spent is worse than wasted. Those who feel satisfied that they have found out the secret, and are willing to risk a few dollars' expense in securing the same, should seek the protection of the Patent Laws without delay. An individual may make ever so good a discovery, but in the present instance, if any one else should patent the same thing before him, he stands a chance of being in an unpleasant predicament. The invention may be very good, but if the right cannot be secured, it is not worth a farthing. Mr. Manly, probably, will not be so foolish as to advance money on an untried and unpatented device.

The improvement now called for is one of an important nature, and is well worthy of the careful study and attention of all inventors. We advise none to be discouraged under the idea that a good many individuals may all be looking in the same direction at once. All stand an equal chance. Those who fail cannot be otherwise than benefitted by making the attempt.

We shall be happy, as always, to consult with inventors, either personally or by letter, respecting the novelty of this and all other improvements. For such consultations and advice we make no charge; but we expect them to send a stamp to prepay the reply. If by any service of this kind, whether personally or through the influence of our paper, the aforesaid invention can be called out, we shall consider ourselves well repaid, for we shall have done a good deed for some one.

The French Industrial Exhibition.

We had hoped that the distressing wail of anguish which has been emanating from the neighborhood of the French Crystal Palace, for several months past, on account of the poor show of goods made by American citizens, would ere this come to an end. But it appears these hopes were not destined for so easy a realization.

M. Vattemare, (whose name we honor, and to whom we intend no disrespect,) has lately published a long manifesto at Paris, excusatory, on the one hand, for what our citizens have come short in the Exhibition; and laudatory, on the other, for the miserable little display we do make.

M. Vattemare talks about the disappointment experienced at the London Exhibition, financial hard times, stupor of the North, lack of government aid, difference in language, great distance to send, &c., as constituting the chief reasons why our show is so diminutive.

These apologies are uncalled for. It is well known hereabouts that our countrymen are proof against all such cobwebs. No trouble, difficulty, labor, expense, or distance, ever prevents them from carrying out a purpose:—neither the heights of Arctic ridges, nor the depths of Indian seas, present barriers to their advance. Wherever a palpable object is to be gained, Americans are always on hand. They believe in the proverb, "Where there's a will there's a way."

The reason why our people did not compete more generally at this Exhibition, is very simple,—no sufficient inducement offered. They knew, intuitively, that it could not remunerate them for the time and trouble. They are excessively occupied in home enterprises, and have no time or money to waste on outside speculations that "won't pay." This is the true explanation of the whole matter.

But M. Vattemare also labors to prove that the American show is "some pumpkins," after all; at least that it ought to be so considered, since the few individuals who do exhibit, went through fire and water to get there. They were also compelled to sustain upon their scarce, but devoted and patriotic shoulders, the entire weight of their country's national dignity—besides carrying about in their bosoms an immense amount of "affection for France."

After some highly complimentary remarks upon the value and beauty of various American books and charts, Mons. V. notices the mechanical branch of our exhibit, and says:—

"The renown of the Americans, as constructors of agricultural and other machines is universal; the few models exposed demonstrate abundantly that they are not below their reputation. Without dwelling upon this subject I should remark that these models will be the more admired in reflecting upon the number-

less difficulties which the exhibitors have had to surmount to bring them to Paris."

[The difficulty of conveying a few models to Paris must have been appalling,—harder than sending troops to the Crimea.]

"Some of these agricultural machines come from the solitudes of the interior, and traversed lakes and mountains before reaching the port of embarkation. For example, the reaping and mowing machines sent from Illinois, and which are sold for about \$160 each occasioned a cost of transport for each of the gentlemen sending them an expense of \$3000."

What a wonderful feat in transportation, to ship a mowing machine from Chicago to New York! Traversing lakes on a steamboat and interior solitudes, mountains and all, in a freight car, is equally extraordinary. But the most singular item is the expense,—three thousand dollars for sending a mowing machine to Paris! Why, an entire ship could have been chartered for less money than that. Either M. Vattemare is joking, or else some follower of Munchausen has been experimenting on his credulity.

We trust we have said and quoted enough to show the folly of this continual blating about the "American Department of the French Exhibition." Compared with other nations, our display is insignificant, and hardly worth mentioning. The least said about it the better. Grandeur and importance there is none; the torture of high sounding words and overdrawn statements, in support of the contrary, is useless. No "whipping-around" can alter the fact. Far more creditable to us, will it be under the circumstances, if we stick to the modest truth, and drop all vain pretensions.

Activity and Progress among Inventors.

The business of the U. S. Patent Office appears to experience no falling off. Since the commencement of the present year there has been a steady increase in the number of applications made and patents granted. The indications are equally promising for the forthcoming six months. It is also observable that the character of inventions improves; they are more ingenious, more useful, and more of them are valuable than formerly. No one, we think, can examine the list of patents which we herewith publish, without being struck with this fact. Many of the claims are interesting and important. These circumstances show that the inventors of our country are progressing in knowledge and intellectual power.

It is a matter of some personal gratification to us to state that almost one half—fifteen—of the entire number of the patents whose claims we this week record, were prepared and conducted by ourselves.

Wind vs. Steam.

A Paris correspondent of the *National Intelligencer* says that the steam line-of-battle ship *Navarino* was detailed to accompany the famous American clipper ship the *Great Republic*, on her voyage from Marseilles to the Crimea, "and, if necessary, to tow her; but it appears the latter was obliged to furl all her canvas except three topsails to enable the *Navarino* to keep up with her. The French officers were utterly confounded at her fleetness."

Substitute for Money.

The SCIENTIFIC AMERICAN at \$2 a year. Tell it to your friends.

SPLENDID CASH PRIZES!

The proprietors of the SCIENTIFIC AMERICAN will pay in cash the following splendid prizes for the fourteen largest list of subscribers sent in between the present time and the 1st of January, 1856; to wit:

For the largest List	\$100
For the 2d largest List	75
For the 3d largest List	65
For the 4th largest List	55
For the 5th largest List	50
For the 6th largest List	45
For the 7th largest List	40
For the 8th largest List	35
For the 9th largest List	30
For the 10th largest List	25
For the 11th largest List	20
For the 12th largest List	15
For the 13th largest List	10
For the 14th largest List	5

Names can be sent in at different times, and from different Post Offices. The cash will be paid to the order of the successful competitor immediately after the 1st of January, 1856.—Southern, Western, and Canada money taken for subscriptions. Post-pay all letters, and direct to

MUNN & CO., 128 Fulton st., New York.

See prospectus on the last page.