

# Scientific American.

MUNN & COMPANY, Editors and Proprietors.

PUBLISHED WEEKLY

At No. 37 Park-row (Park Building), New York.

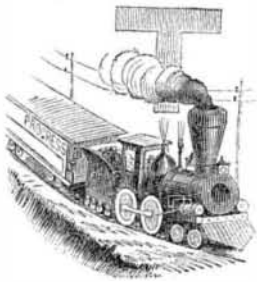
O. D. MUNN, S. H. WALES, A. E. BEACH.

TERMS—Two Dollars per annum.—One Dollar in advance, and the remainder in six months.  
Single copies of the paper are on sale at the office of publication, and at all the periodical stores in the United States and Canada.  
Sampson Low, Son & Co., the American Booksellers, No. 47 Ludgate Hill, London, England, are the British Agents to receive subscriptions for the SCIENTIFIC AMERICAN.  
See Prospectus on last page. No Traveling Agents employed.

VOL. I., No. 24.....[NEW SERIES.].....Fifteenth Year.

NEW YORK, SATURDAY, DECEMBER 10, 1859.

## COMPLETION OF OUR FIRST VOLUME.



THE first volume of the new series of the SCIENTIFIC AMERICAN will be finished by the issue of two more numbers, the last of which will be dated Dec. 24. The fourteen years during which our paper has been published have witnessed a more rapid advance in science and art than any

other fourteen years since the world began. It is a law resulting from the nature of the human mind, that its steps in the acquisition of knowledge shall be moving with perpetually increasing velocity. All accumulations of knowledge facilitate the obtaining of new truths; the more a man knows of any subject the more easy it is for him to learn any further fact in relation to it; a man familiar with machinery will easily understand the devices of a self-operating mule from five minutes inspection, while it will require several hours study by one wholly unacquainted with mechanism to fully master these complicated contrivances; the learning of a new language is an easy task to the philologist who is master of a dozen tongues, compared with the labor required for the same purpose on the part of a person who is acquainted with but one. The same law holds in every department of knowledge, and is applicable to the race as well as to the individual. The modern student of nature has the advantage over his predecessors, not only from the possession of superior instruments of observation and measurement, but also from the great mass of information which has been accumulated by those who have gone before him. The establishment of this law justifies the inference that the progress of man in his knowledge of the forces of nature, and the properties of matter, and consequent mastery over them, will continue to increase in rapidity and extent throughout the future, as it has throughout the past history of our race.

It is not only in the number of new discoveries that we find cause of congratulation, but also in their character. From the earliest ages the great intellects of the world have been turning their attention more and more to those facts which might promote the happiness of the human race. The philosophers of ancient Greece disdained all useful knowledge, as unworthy of their attention; while the principal service which Bacon performed was the able, clear demonstration that this is the very kind of knowledge which is most worthy the attention of a philosopher. It is with a sentiment of national pride that we are able to make the boast, that in this kind of discovery our own country is pre-eminent above all the other nations of the earth. Leaving the consideration of metaphysical abstraction to the dreams of the old sleeping nations, the minds of our people, stimulated to intense activity by the life of our democratic institutions, are teeming with countless new devices for facilitating the operations of industry, and multiplying the means of human enjoyment. It has fallen to our lot to be the principal medium for collecting and disseminating these new ideas. Situated in the center of American life, we receive from our innumerable correspondents, scattered from Maine to California, and from Minnesota to Texas, the first crude suggestions which occur to their thoughts; and when these have been elaborately adapted to the properties of matter, and to the wants of the age, and have, through the matchless facilities of our fraternal government, received the protection of law, we proclaim their

merits and send them forth to their beneficent work, giving strength to the arm or speed to the foot, and bestowing in one day a reward for the labors of many.

Our journal has recorded, during the brief period of its existence, the discovery of the use of ether for preventing pain in surgical operations, the greatest of all discoveries for the relief of human suffering; the introduction of the electric telegraph, and its extension all over the civilized world; the invention of the sewing-machine, which has done more to improve the condition and elevate the character of the better half of the human race than any other invention ever made; not to mention the reaping machine, the vulcanizing of india-rubber, and thousands of other improvements, which are now performing an important part in the daily life of the world, and contributing immeasurably to the convenience and happiness of mankind.

We are now entering on a new period, and casting our thoughts forward to discoveries which the next fourteen years will bring forth. Though it is difficult to realize it, we confidently predict that these will not be less numerous and important than those of the corresponding period past. What they will be, of course, no man can foresee; perhaps some ideas now dimly suggested may be developed to perfection, and very likely, many things now wholly undreamed of may come forth to startle the world, more even than any of the brilliant discoveries of the last two decades. Whatever discoveries the future may produce, the readers of the SCIENTIFIC AMERICAN may be sure of receiving the earliest and fullest account of them, rendered intelligible by the only mode in which such things can be rendered intelligible, that is, by ample illustrations. While we shall continue to firmly maintain the practical character which our paper has always had, the increased space in our new series enables us to make a brief mention of new discoveries in every department of science, confining ourselves, however, principally to facts, and not cumbering our pages with improved hypotheses; and thus to make it a complete cotemporary record of the conquests of the human mind—its conquests over the darkness of ignorance, as well as over the universe of matter.

## DEATH OF WASHINGTON IRVING.

A great and good man has gone to his rest. Washington Irving is now sleeping in "the narrow house appointed for all living." His decease took place in his residence, at Sunnyside, near this city, on the 28th ult. He had been in his usual health during the day, and had spent the early part of the evening in cheerful conversation in the bosom of his brother's family; but on retiring to his bedroom, he suddenly fell forward and the wheel of life ceased its revolutions forever. He was born in New York in April, 1783, and had therefore lived nearly 77 years. His life appears to have been more happy than that of most literary and distinguished men. In disposition he was cheerful, loving and kind; he had many true and pleasant friends, and his years passed sweetly along from youth to the day when his eyes closed on life evermore. Great were the changes which he had witnessed in the character of our Knickerbockers and the face of the country during his life, and of these he has left a record in his "Sketch Book," which made him famous throughout the world. No name is more endearingly familiar to our people than that of the author of "Sleepy Hollow"—his master-piece of mental painting. Old Rip Van Winkle—that strange character which his magic wand awoke from the slumber of a past age—is known to every child in the land. Having spent the sunny days of his youth among the old Knickerbockers, he delighted to dwell upon their simple and honest ways. He has been called the Goldsmith of America, and assuredly he was the most national of all our authors, for he has left us some of the most droll, unique and exquisite pictures imaginable of the old New Yorkers. Their quaint customs, their honesty and sturdy conservatism, he has made immortal. As a writer he was sweet, humorous and elegant. His wit was broad, but never vulgar—his touches are all chaste and classic. When young and engaged in mercantile transactions in Europe, he was suddenly thrown upon the resources of his mind and pen to earn a livelihood. In such circumstances he found the London publishers cold and backward. It was then that his friend, Sir Walter Scott, secured for him that attention from publishers which he deserved, and the kindness of the "Wizard of the North" he never forgot. As a writer of biography his "Life of Columbus" is not

surpassed, and all his literary works (of which there are quite a number) bear the marks of a master mind. He was of a handsome person and very fascinating in conversation. Genial in disposition, and deeply sympathetic in his feelings, his presence exerted a happy influence wherever he went. In the village where he resided he was the Nestor and peace-maker. Being loved and respected by all classes for his gifts and virtues, the nation mourns his departure, as a noble and great countryman, and his personal friends as one they "ne'er shall look upon his like again."

## ALMANACS.

Who is not interested in almanacs? Many an old lady in the country finds them the principal source of her reading, and even in this enlightened land not a few turn to the almanac prognostications in regard to the weather, with a lingering half faith in their fulfillment. In the last generation, a famous quaker preacher, Elisha Thornton, who lived in the north part of Rhode Island, used to publish an almanac every year, and, though the cardinal virtue of the worthy old man's religion was truthfulness, he inserted in his almanac the usual predictions concerning the weather. At one of the quarterly meetings of the "Society," an elderly friend from a distance took Elisha Thornton to task for the non-fulfillment of his prophecies. He said: "I looked in thy almanac on the fifth day of the ninth month and it said 'rain,' but it did not rain that day; it was fair." The old saint heard him through with the patience characteristic of his people, and quietly remarked: "Is thee so simple as that?"

In the last century, in England, the monopoly of the trade in almanacs was enjoyed, by virtue of royal Letters Patent, by the two great Universities of Cambridge and Oxford, and by the Stationers' Company. The books were all stamped with the license of the Archbishop of Canterbury. With all this academical, royal and ecclesiastical authority, what does the reader suppose was the character of those works? The most impartial native historians inform us that they were characterized by extreme ignorance, imposture and obscenity. A reform has since taken place, and now there are almanacs of the very highest character, in England, Scotland and Ireland. The English "Nautical Almanac," especially, has a world-wide reputation, and has been exclusively used by our own navigators until very recently. A few years since, Capt. C. H. Davis, U. S. N., embarked with great ardor and energy in the enterprise of producing an American nautical almanac. Through the powerful aid of Professor Peirce and of the late Sears C. Walker, he succeeded. The first volume, for 1855, appeared in 1853, Nautical almanacs are always published in advance, in order that they may be taken to sea for long voyages. The American "Nautical Almanac" is pronounced by competent judges to be equal, and in some respects superior, to the nautical almanacs of either England, France or Germany.

The old "American Almanac," which contains 357 pages, and has reached its 28th year, is crowded with information, useful and interesting to the great mass of the American people. It contains tables of the officers of the general government, and all the state governments, with their salaries and terms of office, for the year; tables of the exports and imports of all the principal articles of commerce; very full astronomical and meteorological information; obituary notices of eminent Americans; and a vast mass of other facts in relation to the country. The old "Farmer's Almanac" has been published in Boston for 68 years. We notice that the number for 1860 presents the same general appearance which this publication has borne ever since we can remember. There is one omission, however: the figure of a man with an indication of the constellations relating to different parts; this is one of the superstitions borrowed from the old European almanacs, and which has disappeared with the spread of intelligence and consequent elevation of this department of popular literature. Indeed, the history of almanacs during the last 200 years furnishes the most striking proof of the very rapid progress which the mass of the people, throughout the civilized world, are making in intellectual and moral elevation.

We hope none of our readers will fail to read the interesting series of articles, entitled "Important Hints on Ventilation," written by E. M. Richards, C. E., and commenced in our last issue. They are worthy of the careful perusal of every one.