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"The Rise, Progress and Influence of the Scientific American."

We spread before our readers, in this issue, several illustrations, accompanied by somewhat voluminous details of the rise and progress of the SCIENTIFIC AMERICAN, and also of the American & European Patent Agency Offices connected therewith. We think there are few of our readers, whatever may be their occupations or tastes who will not find in these details something of interest and profit. There has been a question in the minds of some, as to the propriety of connecting these two departments of business in one establishment. This doubt will be dispelled at once, when it is considered that they very naturally unite themselves. In thus combining two professions, we were but imitating the practice of *England* and other European scientific journalists—for example, in England, *Newton's London Journal of Arts and Sciences*, the *Repository of Patents*, the *Mechanics' Magazine*, the *Artizan*, &c.; and in Paris, *L'Invention* (by the late lamented M. Gardissal), *Le Genie Industriel*, &c., all of which are under the care of editors who are well known to be the ablest and most reliable patent-solicitors in Europe. If the scientific journalist is industrious, and at all competent to the discharge of his duties, his researches into the various fields of scientific literature and of mechanical art and invention are necessarily more extended than those of any other person; and hence his greater familiarity with "things new and old" in these branches.

In narrating the history of the SCIENTIFIC AMERICAN, we shall be compelled to refer more or less to ourselves, but we shall endeavor to do so in a manner not offensive to good taste. Our time, our talents, our energies, and our capital, for fourteen years past, have all been unceasingly devoted to the building-up of an establishment which has become almost, as it were, one of the fixed institutions of the country. We will not attempt to conceal the fact that we have an honest pride in contemplating the results of our labors—a pride which is equivalent to that which the patriot has towards his country, the father in the well-being of his children, and the right-minded ruler in the success of all good schemes for the prosperity and improvement of the people placed under his care.

Our reflections naturally revert to Volume I. of the SCIENTIFIC AMERICAN. On the 28th day of August, 1845, there issued from a little "7 by 9" office, No. 11 Spruce-street (within a stone's throw of where we are now sitting), the first number of what was destined to be an important feature in American literature, namely, a popular and enduring scientific journal. It was a folio sheet, 20 inches by 15, and in making its modest bow to the public,

its first column contained a scientific rhyme running thus:—

"Attraction is a curious power
 That none can understand;
 Its influence is everywhere—
 In water, air, and land.
 It keeps the earth compact and tight,
 As though strong bolts were through it.
 Ah! what is more mysterious yet,
 It bids us mortals to it!"

Rufus Porter was the founder and first

editor of the SCIENTIFIC AMERICAN; he was a man of eccentricity of genius, and by no means destitute of qualities of originality, as the contents of the first volume of this journal will abundantly testify. Most of the illustrations of peculiarly unique inventions, and the theological discussions that appeared weekly under the pictorial heading of "The Ark," prove

that he was not only a man of science but also a christian philosopher. But he was evidently designed for another epoch, and he retired long ago from the editorial chair; and when last we heard from him, he was engaged in the great and laudable enterprise of getting up a joint-stock company to build an aerial chariot according to a plan illustrated in



VIEW OF THE "SCIENTIFIC AMERICAN" OFFICE, NEW YORK.

Volume I., No. 4, having the shape of a revoloidal spindle or, in other words, a winged Winan's steamer.

The engraving on the first page of Vol. I., illustrates an improved railroad-car which, although well executed for that time, now looks rather coarse by the side of those which now adorn our pages. A picture and description of the *Great Britain* steamship (the *Leviathan* of her day) and many interesting articles and *faits* fill up the remainder of the paper. The editor, in his first public address, sets forth in plain terms the intention and purpose of the journal. He says:—"We have made arrangements to furnish the intelligent and liberal working men, and those who delight in those beauties of nature which consist in laws of mechanics, chemistry and other branches of Natural Philosophy, with a paper that will instruct while it diverts or amuses them, and which will retain its excellence and value when political and ordinary news-

papers are thrown aside and forgotten. In conducting this publication we shall endeavor to avoid all expressions of sentiment, on any sectional, sectarian or political party subject; but we shall exercise a full share of independence in the occasional exposure of ignorance and knavery." This was the standard the present editors were pledged to follow; and we think that one grand element of our present success is owing to the fact that, throughout thirteen years and a half, we have earnestly striven to preserve that pledge inviolate. "Come good report or ill report," our course has been onward; telling plainly our honest convictions and giving our reasons therefor; none being more ready to confess their errors than ourselves whenever convinced that we were in the wrong. When the paper arrived at the age of forty-five weeks (the office having just previously been removed to No. 128 Fulton-street), it passed entirely under the control of its present editors; and the

name of "Munn & Company" first appeared in the imprint. At this time it had less than three hundred paying subscribers. Thus during the whole of the first year its progress had been very slow; but at the close of the volume, the skies seemed to brighten somewhat and we felt encouraged to enlarge the paper and to commence a new volume in its present "quarto" form. The illustrations improved in excellence; and as we grew better acquainted with the tastes of our readers, we were better able to supply them with a scientific dish more palatable and digestible. Before the close of the second volume the inventive genius of the country began rather to concentrate its confidence in our humble office; so much so that, on page 369 of that volume, we published a very modest announcement that we would undertake the preparation of specifications and drawings and otherwise attend to the prosecuting of applications for Letters Patent. This notice laid the foundation of

the Scientific American Patent Agency, which now has branch offices in New York, Washington, London, Paris and Brussels. In reference to this particular department, its success will be made to more fully appear hereinafter, as well as in the article entitled "Stubborn Facts," which will be found in another column.

We consider it pertinent to enquire, here, what has been the influence of the SCIENTIFIC AMERICAN upon the arts and sciences? The fact cannot be ignored that it has done essential service in these interesting fields of exploration—these exhaustless mines for human research; for, from its origin up to the present moment, its career has been marked by a most rapid development of our national resources, a vast increase in the number and value of inventions, and a wonderful advance in mechanics, chemistry and all branches of industry. Apart from presenting any facts in support of such statements, it is self-evident that a periodical devoted to the dissemination of information on peculiar subjects must excite the minds of its readers and stimulate them to perform actions which they never otherwise would have contemplated. That such has been the influence of the SCIENTIFIC AMERICAN is beyond all question; many new and useful inventions, and which have become permanently important to our country, were nourished into existence by its teachings. Take for example, sewing machines, which have now become articles of both public and domestic usefulness throughout our whole wide-spread dominion, and they are now being manufactured and sold at the rate of at least 1500 weekly; and yet, in 1846, there was not a single one in operation anywhere. In that year, Mr. Elias Howe, Jr., obtained the patent for his combined needle and shuttle machine; but the public were generally oblivious of the fact until the subsequent year, when one of the editors of this paper hunted up the invention, described it, and directed public attention to the extended field opened for its application. This was the means of awakening a general interest in regard to its importance (for Mr. Howe did little to bring it into notice), and the consequence was, the minds of inventors were excited with the subject, and the latent genius of Wilson, Singer and others was thus stimulated and developed to the splendid results which have since been accomplished. We could particularize other important inventions which have had a history nearly similar but space requires us to be more general.

When the SCIENTIFIC AMERICAN was first issued, agricultural machinery was in a very low condition, and very unfavorable comparisons were made between the paucity of inventions of this class and those for manufacturing purposes. We directed special attention to this fact, and the result has been a most wonderful development in this department. A thousand reaping-machines are sold to-day for one in 1848; while hand-planters and several other entirely new machines have come into general use. No less than 561 patents were issued last year for agricultural implements, and for the number and superiority of such improvements we now surpass all other nations. It is also a pleasing fact to state that many very large fortunes have been made out of this branch of invention; the field being still inviting and prospectively increasing in importance.

The electrotyping art—so beautiful, and now so extensively practiced—was almost unknown to our people twelve years ago. It was first brought prominently to their notice by a series of illustrated articles on the subject, from the pen of one of the present editors of this paper, published in Vol. III.

Gutta-percha, now so much used for tubing, clothing, covering wires, and a hundred other useful applications, was not employed for any purpose whatever in the United States in 1846. We early became acquainted with its qualities, and published such information as, we believe, has much contributed to its general introduction.

In the year in which the SCIENTIFIC

AMERICAN had its birth, there were only 900 miles of telegraph line in operation in our whole continent: now there are more than 30,000. We published much original information regarding the principles and instruments for communicating intelligence by this wonderful system, and were its early advocates.

In the same year there were only 4,870 miles of railroad in operation: now there are 28,238. Nearly all the most valuable inventions for railroads have been illustrated in our columns and a number of reforms now adopted for their better management were first discussed in this journal.

Several very great improvements have been made in hydraulic meters; and the compact economical turbine-wheel has superseded, in hundreds of instances, the old and expensive "overshot." Our series of illustrated articles on this branch of practical science, in Vol. VI., has tended greatly to produce this result.

Again: in the year 1846 we had only two small steamers in connection with our ocean service: now we have over forty, each of which is of such magnitude that it could almost stow away any of the older ones within its coal-bunker. The SCIENTIFIC AMERICAN has long asserted that there here exists a vast field for investigation and improvement; our steam marine is but in its infancy, and there are loud demands for more economical apparatus for supplying the motive power.

In 1846 there were only 619 patents issued; in 1858 there were 3,710—a six-fold increase—a result which we know is due, in a great measure, to the topics discussed by us, and the hints we have thrown out touching the wants of the community.

Time would fail us if we attempted to crowd our experience of the past fourteen years into that amount of space to which we must confine ourselves; suffice it to say that there is not a branch of mechanics, engineering, or the useful arts, but has been improved and benefited by the influence of the SCIENTIFIC AMERICAN ever since it was first published. It has breathed upon the "still waters" of many minds, and they have been stirred to impart utilitarian influences; it has awakened emotions which otherwise would have been slumbering still; and these have gone forth carrying improvement after improvement into every corner of our land.

In reference to the present influence and circulation of the SCIENTIFIC AMERICAN, it is almost needless for us to say that it is marked and extensive. Its progress in popular favor has been steady and solid, unlike that of many journals of a light literary caste, which have come and gone like the comet. A distinguished European *savant*, in speaking of our paper, characterized it as "a magnificent illustrated panorama of the industry of both hemispheres;" and in his own journal he further said:—"Savans, manufacturers, inventors, and all persons who, from any title, are interested in the progress of the arts and sciences, have been engaged to contribute to it. This publication is a mirror wherein is reflected all the attempts, all the endeavors, all the experiences, all the results of modern inventions. The *savant* can here find the steps which genius makes each day in the paths of science. The manufacturer draws thence perfections of art, which must modify constantly the conditions of labor. The inventor there beholds clearly the discoveries already made, and is spared from useless researches and labors. The merchant, too, finds there precious documents; the public, in short, learns each week what is new in the universe of arts and industry. England has many similar publications, but no journal in the three nations has obtained or merits the immense success which has made the fortune and glory of the SCIENTIFIC AMERICAN."

Our Patent Agency Department.

One of the most interesting and attractive institutions in connection with our government is the United States Patent Office, located at Washington; it is the storehouse

and monument of the ingenuity of our countrymen, and no intelligent person would think of visiting that city without making at least one visit to that department.

The Constitution of the United States makes special provision for the protection of the rights of inventors and authors; and under its fostering care there has grown out our present almost inimitable patent law system. It is needless, here, to describe that system, as it is more fully elaborated elsewhere. Suffice it to say that, in consequence of the rigid system of examination preliminary to the issue of a patent, the conflicting interests constantly coming under the supervision of the Office, the paramount value of many of the inventions for which patents are sought, and the great necessity that the papers of the claimant should be carefully prepared, there has grown up a profession, as it were, the members of which are usually designated "patent agents" or "patent solicitors," and who have become as much a necessity for the proper transaction of business with the Patent Office as the lawyers are in our courts of justice. We are sorry also to add that in this, as in the legal profession, there are "shysters" and "suckers," who, vulture-like, watch for an inventor, mainly for the purpose of despoiling him of his honest rights and oft-times scanty means. These persons have no professional reputation, and only eke out a livelihood by a low craftiness which, to the eyes of strangers, has in some measure thrown discredit upon honorable men engaged in the business, of which there are many.

We will here state, in reference to ourselves, what no one will presume to deny, that since our first connection with the SCIENTIFIC AMERICAN, in 1846, we have examined into the novelty of more inventions than any other patent agents now living in this country. During all this time, we have never engaged in speculating in patent rights, but have made it a rule to discharge instantly from our employment any one who might engage in such speculations; and we are able to state that we have never had any necessity to enforce this rule, although some of our *employés* have been with us since we started in business. It is a difficult thing for persons unacquainted with our methods, to understand how we are able to transact so large a business, and with such great success. Rapidity, executive tact, and close application to business, are often mysteries which slow people cannot understand. Alexander T. Stewart, the most successful merchant in the United States, if not in the whole world, and doing a business of ten millions a year, is a mystery to all his competitors. Go and look at him in his mammoth mercantile palace on Broadway. You see an unassuming, delicately-framed man, by no means exhibiting marked evidence of ability; but converse with him a little while about his business, and you will find that no department escapes the scrutiny of his eye.

We will here present a brief account of the manner in which the immense business of this office is transacted. Probably not more than one in every fifty of our patrons ever personally visits our establishment. We often regret that we cannot have a more intimate personal acquaintance with them, as this would enable us to explain the peculiar *modus operandi* of our business, and our clients could also more fully elucidate their ideas in reference to their various improvements, with much more distinctness and intelligibility than can be done by letter; but as a visit is out of the question in most cases, we have prepared and distribute (gratuitously) circulars of instruction how to proceed to procure American & European patents, a careful perusal of which will enable inventors to understand what is required of them in order to present their case in a proper manner. These circulars save us a vast deal of writing, as they fully answer all the leading enquiries that usually present themselves to inventors desiring protection under our patent laws. As will be inferred from the remarks above, our business is mostly transacted

through the mails and express. The average number of letters daily received by the office is at least one hundred, and in the busiest seasons of the year—as, for instance, the beginning of a new volume of the SCIENTIFIC AMERICAN—the number has reached as high as three hundred per day. The first business of the morning, on the part of the proprietors, is to open and carefully examine the correspondence. A division is then made of this correspondence, according to its character; that portion pertaining to the business of the journal—such as subscriptions, complaints, changes of address, requests for back numbers, &c.—is referred to the Superintendent of the Subscription and Mailing Department, whose duty it is to faithfully observe and, if possible, fulfil every request. There are many little business details in this department which it is unnecessary to specify, but which are important adjuncts to the machinery of the office. Contributions intended for publication, and questions presented for answers in our column headed "Notes & Queries," are all carefully examined and properly disposed of by an accomplished editorial corps. Letters accompanied by sketches and descriptions of alleged new inventions are properly classified and then submitted to whoever in the office is most competent by long experience to decide upon their patentability; his opinion is carefully written down on a slip of paper, which is attached to the letter, and this is then handed to one of the principals, whose business it is to scrupulously supervise these opinions and then hand them over to the Corresponding Clerk, who writes a full and proper answer to the correspondent. These replies are examined and signed by one of the firm, and then dispatched to the Post Office. Thus it will be seen that it is almost impossible for a single letter to be passed by unnoticed. Correspondents sometime do not consider that their letters to us or our replies to them might have been miscarried; therefore, once in a while, we get a letter of complaint for not answering some writer with as much promptitude as we had done others. We seldom, however, encounter a correspondent whose impatience cannot be appeased by a proper explanation; and it is a most significant fact that, out of the thousands of letters annually addressed to us, we rarely receive an uncourteous one. This of itself assures us that, in our professional intercourse with our patrons, satisfaction is almost invariably given. Like all other publishers we sometimes receive letters from unknown sources, which are usually thrown into our waste basket without examination, because, as a general rule, they are regarded as wholly unreliable and unworthy of attention.

Models of new inventions are usually transmitted to us through the medium of the various expresses of our country, and are delivered to us with a dispatch and care highly creditable to the efficiency of this system of carrying. It is seldom that a model is miscarried, and we cannot remember a single instance in which we lost a model beyond recovery. The expressmen usually begin to deliver their boxes of models about 9 o'clock, A. M.; the models are put into a private room and there opened by a trusty porter, who immediately brings them to the desks of the principals, who speedily attend to their examination and disposal; and in the proper arrangement and preparation of applications for patents on models entrusted to their care, they are assisted by twelve examiners and draughtsmen of approved ability and tried integrity.

All funds remitted to us on account of applications for patents are immediately placed to the credit of the inventor to whose case the money applies; and in every issue of our journal, we acknowledge these weekly receipts by the initials of the sender. This enables our correspondents to quickly detect any detention in the proper reception of their remittances, which are usually not acknowledged by letter until the model reaches us, when the case is considered completed in our hands.