

Scientific American.

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The Inventor of Purifying Molten Crude Iron Without Fuel an American.

In the two preceding numbers of the SCIENTIFIC AMERICAN we have described and commented on the process claimed by H. Bessemer, of London, for rendering crude pig iron malleable without fuel—using only a blast of cold air in a close chamber to make the molten pig metal purify itself. We have good reasons for believing that this discovery is not Bessemer's, but J. G. Martien's, one of our own countrymen, formerly of Newark, N. J., who is a practical metal-worker and who has been residing for some two years in Europe, engaged in introducing new improvements in the manufacture of malleable iron direct from the ore. He informs us that he worked the invention in the presence of a number of witnesses, long prior to the date of Bessemer's provisional specification; one of these witnesses—John Christopher, of Newark, N. J.,—now resides in Pittsburgh, Pa. He operated upon 2000 pounds of crude molten iron in a chamber constructed like the one described by us two weeks ago, and tapped it off in six minutes after it was let in. The result was a refined carburet of iron, some of which was very malleable. The process was exactly the same as that described and claimed by Mr. Bessemer. He told his patent attorney in London of this, and requested him to include the discovery in his application for a patent. The principle he claimed was "the application of air in a natural or heated state under pressure, to fluid iron, from a blast or melting furnace, and in such a manner as to penetrate and search every part thereof, not confining himself to the kind of receiver in which the operation may be performed."

His attorney in London did not describe the invention in the manner desired by Mr. M., but the reason why he could not then divine. It now appears that this attorney is greatly interested in Mr. Bessemer's success, and hence the reason for not strictly complying with Mr. M.'s wishes becomes evident.

Mr. Martien obtained his patent in England Sept. 5th, 1855, for improving the manufacture of iron and steel, "consisting of the application of atmospheric air by mechanical pressure, or steam for the better purification of the liquid metal below the surface of the said metal as it comes from the smelting furnace, or refinery, the air and steam to be applied separately or together, as may be desired, and in such manner as to completely penetrate and search every part of the said metal as it comes, or after it has flowed from a blast or smelting furnace, and prior to the congelation of the melted metal." This is an extract from his provisional specification, and it embraces the same process as that claimed by Mr. Bessemer, whose patent in England bears date 7th December, 1855—three months after Martien's was issued. This proves conclusively who is the original inventor.

Some persons may attribute these remarks to prejudice in favor of an American citizen, but we ask them to look at the dates of these patents; and if they go to the legal documents themselves, as we have done, they will become convinced that Mr. Martien's process is the same as that claimed by Mr. Bessemer, and that the former is the first inventor. We hope that all the attempts made to deprive him of the benefits of his invention in England and elsewhere will end in failure.

Long articles have appeared in quite a number of the English newspapers flattering Mr. Bessemer highly, and praising his discovery. From the tone of these, and the peculiar sameness of ideas contained in them, it is evident to us that he far surpasses Mr. Martien, our countryman, in his knowledge of the properties of the hot and cold blast, in its application to the British Press.

Mr. Martien is supported in his claims by some powerful English iron manufacturers, and they will be pressed and secured in the United States at a proper time, the papers having been lodged by us for that purpose some time since in the Patent Office.

In the last number of the London *Mechanic's Magazine*, August 30th, received by us, C. Sanderson, of Sheffield, Eng., an old and experienced practical metallurgist, while he admits that the decarbonizing of pig metal without fuel is an improvement, he positively asserts that iron so manufactured will not admit of being drawn under a hammer, or rolled into a bar. He also asserts that the steel so made is not cast-steel; that it cannot be made into a boring tool, or fashioned under the workman's hammer.

In our next number we will illustrate the invention, and present some other interesting information concerning this alleged wonderful discovery.

Resignation of the Commissioner of Patents.

Hon. Chas. Mason, who has so long and faithfully presided over the Patent Office as Commissioner, has, we regret to state, sent to the President his resignation. The Executive, we understand, is reluctant to accept it, and up to the time of our going to press had not done so, and we hope will persist in declining, until Mr. Mason shall be induced to withdraw his petition. It would be a calamity to our inventors to have Judge Mason withdraw from the post of Commissioner, and we trust the causes, whatever they may be, which have induced this step on his part, may be removed, and that he may continue in the Office at least through the present administration.

The causes which have led to this sudden step, on the part of Mr. Mason, have not been made public, but if rumor is correct, it is attributable to the unjustifiable interference of the Secretary of the Interior with the duties of the Commissioner.

The appointment of Mr. Mason was universally regarded as an excellent one, and events have fully justified that opinion. Under his admirable guidance, the Patent Office has risen to a prosperity and efficiency never known before.

The Scientific American Prizes.

We continue to receive from every quarter the most gratifying evidences of the popularity of the SCIENTIFIC AMERICAN. From the long lists of subscribers that we are daily receiving, it would almost seem that the enthusiasm, in some localities, for our paper, has thrown all forms of political excitement into the shade. Our liberal offer of \$1000 in cash prizes, to those who would exert themselves to make up clubs of subscribers to the SCIENTIFIC AMERICAN, is having its due effect. An honorable competition has sprung up, and the results thus far are highly satisfactory. Some towns which gave us last year large numbers of adherents, have already doubled their former strength.

It may be interesting to those who are engaged, or propose to engage, in the noble strife, to be posted up as to who were the successful competitors last year, and how large their rolls of subscribers were. We accordingly subjoin the list as given by us in January, 1856.

LIST OF COMPETITORS FOR THE SCIENTIFIC AMERICAN PRIZES, JANUARY, 1856, SHOWING THE AMOUNT PAID TO EACH, AND THE NUMBER OF SUBSCRIBERS ON THEIR RESPECTIVE LISTS.

No.	Name.	Residence.	Prize.	List.
I.	J. CANT.	Hamilton, C.W.	\$100	172
II.	M. M. GREEN.	Louisville, Ky.	\$75	132
III.	J. F. LONCRAFT.	Rochester, N. Y.	\$65	94
IV.	W. C. GRANT.	Detroit, Mich.	\$55	82
V.	J. L. MITCHELL.	Jackson, Mich.	\$50	75
VI.	J. L. DICKINSON.	Dubuque, Iowa.	\$45	71
VII.	G. C. HYATT.	Adrian, Mich.	\$40	66
VIII.	J. S. BARBER.	Waukegan, Ill.	\$35	61
IX.	J. N. GARST.	Dayton, Ohio.	\$30	55
X.	H. S. BABBITT.	Newark, Ohio.	\$25	46
XI.	C. BIERSTADT.	So' Dedham, Mass.	\$20	45
XII.	L. LYMAN.	Quincy, Ill.	\$15	45
XIII.	B. RANKIN.	Louisville, Ky.	\$10	45
XIV.	R. SKINNER.	Princeton, Ind.	\$5	45

It will be observed that some of the competitors sent the same number of subscribers. In these cases the amounts of the prizes their due, were, by consent, equally divided.

Our friends should bear in mind that the sum total of the prizes last year was only \$450, while this year it is increased to \$1000. To one and all we say, work hard! Let the list of honor, to be published in January, 1857, show a great increase of effort over 1856.

Franklin.

The good people of Boston have erected a statue to Franklin, who is acknowledged to have been one of the greatest philosophers that ever lived; the inauguration took place on the 17th inst.—Franklin's birthday. There was a very large procession on the occasion, and a highly appropriate one in many respects. There were exhibited a new and beautiful locomotive and tender named Benjamin Franklin, mounted on trucks, and drawn by eighteen horses; the House and Morse telegraph instruments; the electric fire-alarm; Franklin's old printing press, on which was struck off and scattered to the crowd a *fac simile* of his newspaper, dated 1723; immense structures on wheels, representing school-rooms, filled with scholars at the desks; and a vast number of other novel and interesting features, made up one of the grandest displays ever witnessed. The Mechanics' Charitable Association, and numerous other charitable societies of Boston, and mechanics and other societies from the adjoining cities and towns were out in full force. Also, the Franklin Medal Scholars, children of the public schools, &c.

Franklin took a deep interest in the education of the people of his native city, and left one hundred pounds to be invested, and the interest applied to purchasing silver medals—Franklin Medals—as honorary annual rewards for the encouragement of scholarship in the free schools. Who can estimate the amount of good these have accomplished in stimulating the genius of Boston youth?

Franklin was a noble representative of the American mechanic, inventor, and philosopher. He invented a number of improvements in the printing press; he invented the stoves which still bear his name; and made one of the most important discoveries in electricity—he proved its identity with lightning. From his youth to the closing years of his eventful life he thirsted after knowledge, and he lost no opportunity of acquiring it. He was 40 years of age before he saw a single electrical experiment performed—this was while on a visit to Boston in 1746, by Dr. Spence, who had recently arrived from Scotland—and soon afterwards he distanced all others by new discoveries in this science. He had a most happy tact in planning experiments and conducting them. He was distinguished for great common sense—not such a common commodity, but we know well what it means, namely, a sound judgment, great powers of observation and reflection. He was of a very cheerful temper, and loved his business, in which he was diligent, and stood before kings, the greatest of them all. His life presents a strong example to our mechanics for imitation.—Franklin left no male descendants to perpetuate his name; but on his grandson, Prof. Bache, has fallen his scientific mantle.

The statue is a beautiful bronze casting, above the life size, designed by R. S. Greenough, of Boston, and cast at Ames' celebrated works at Chicopee. It stands upon a pedestal of verde antique marble, set upon a base of granite. It represents Franklin standing in an easy attitude, with a cane in his right hand, and his old-fashioned cocked hat under his left arm, and is stated to be an admirable likeness of the mechanic philosopher.

Our Great Ships.

The *Great Republic*, the largest ship ever built in our country for the commercial marine, by Donald McKay, of Boston, was burned to the water's edge during a great fire in this city in the winter of 1853, when loaded and ready for sea on her first trip. Her hull was saved, however, and sold by auction; she was rigged anew, and sent to Europe, where she was employed by the French Government as a store-ship during the Crimean war, in which service she surpassed all others for her sailing qualities and great capacity, having carried 3000 soldiers and 400 horses, during one trip, besides heavy cannon and ammunition. Having completed her engagements with the French Government, she arrived at this port, last week, and was the object of much attention.

On the 15th inst., a new and magnificent Liverpool packet-ship, the *Ocean Monarch*, was successfully launched from the foot of Tenth street, East River, in the presence of an

assemblage of 5000 persons. Her length is 240 feet on deck; breadth 46 feet depth of hold 30 feet. She can carry 7,000 bales of cotton. Her frame is of live and white oak, and she is bound from stem to stern with angle-crossed iron straps four and a-half by 3-4 inches. She is not only the largest but the strongest merchant ship ever built in New York. A great change has taken place in the form and character of our merchant ships during the past six years. In appearance, they are entirely different from the old ships: they are larger, sharper, and more graceful in their proportions.

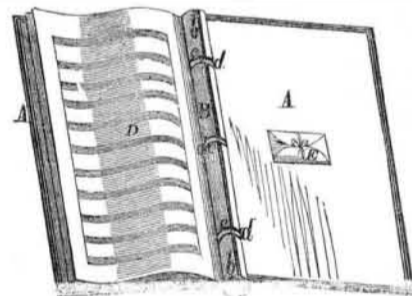
Recent American Patents.

Novel Sewing Machine.—By C. R. Gardner Detroit, Mich.—This is the cheapest and most compact contrivance of the sort that we have seen. It throws all of the cheap sewing machines that we hear of, in these latter days, into the shade. This new comer is not much larger than a pair of scissors, can be made for a dollar or so, and the inventor thinks, will compete, in quality of work, with many of the best machines now in use. Ere long we hope to present an engraving of the bantling.

Shaft Shifter for Sleighs.—By George Kenney, of Milford, N. H.—This is a contrivance connected with the forward part of sleighs, for the purpose of shifting the shafts or thills, so as to bring the horse directly in front of the vehicle, or on one side, at pleasure. It consists of a couple of small spring catches and a rod, the arrangement being such as to permit a convenient change either way, as desired. Mr. Kenney is the inventor of a number of excellent improvements relating to vehicles.

Paper Cutter.—By Hervey Law, of New York City.—This improvement is intended to assist bookbinders and others in cutting the edges of books and masses of paper. It consists of a novel combination of parts, whereby the power which operates the knife also clamps and feeds the paper. Heretofore it has been necessary to operate the clamping device separately. The invention is in use at Messrs. Harper's establishment in this city, and is said to work well.

Improved Portfolio.—By James Shaw, of Providence, R. I.—In this portfolio sheets of music, letter sheets, newspapers, engravings, manuscripts, and other papers may be successively inserted, and as substantially secured as if bound in the usual manner.



A are the covers of the Portfolio, constructed in the usual manner; B is a roller of wood; this roller is permanently attached to the back of the portfolio. Roller B has a longitudinal groove, *b*, cut in its entire length, also grooves, *c*, cut in it circumferentially. In the grooves, *c*, metallic rings, *d*, are fitted; these rings are not fitted tightly in the grooves, *c*, that is, the grooves on the exposed side of the roller are wider and deeper than the thickness of the rings, so that threads may be passed around the rings; at the back or unseen point of the roller the rings are fitted tightly in the grooves, *c*, and are attached to the roller so that they cannot turn therein.

The music sheets and other articles designated by D are secured within the portfolio by sewing them to the metal rings, *d*. A needle which is slightly curved, carrying the thread, is passed under the rings, *d*, through the longitudinal groove, *b*, then through the sheets, so as to secure the sheets to the several rings. Single sheets are inserted by folding a narrow strip on the inner edge, and then securing them the same as double sheets. E is a pocket attached to the cover, in which the needle and thread may conveniently be kept.

An important feature of this portfolio is, that in its action it is superior to the spring