

Scientific American

NEW YORK, NOVEMBER 9, 1850.

Commissioner of Patents' Report.

Last week we set forth the amendments suggested by the Commissioner, to be made to the Patent Laws. Since that time we have read a letter in the Washington "Republic," and by its tone we would infer that the Report has been the subject of some late hostile attacks. The letter referred to is a very weak production, but somewhat truthful. It is wrong to make uncandid attacks upon any man, or the production of any man, but in reviewing a public document, it is as certainly wrong not to give free and candid expression to opinions, whether favorable or unfavorable to the sentiments expressed in the subject under review.

The Report is the best printed and does more justice to inventors, whose contributions sustain the Patent Office, than any Report previously issued, and we will take pleasure in presenting the substance of the same from time to time, which will be found of great interest to the majority of our readers.

There are four Chief Examiners in the Patent Office; each has charge of a certain department, for the examination of a certain class or classes of subjects: Charles G. Page, M. D., has charge of the department embracing philosophical instruments, such as electric and telegraphic machines, &c.; stoves, &c.; musical instruments; fine arts, embracing painting, maps, drawings, &c., and surgery, embracing all connected with this art and dentistry; and to this is attached a part of manufacturing processes, such as attaching hooks and eyes to cards, and also atmospheric churns, &c. Before the increase of Examiners in the Patent Office, all the subjects were divided between two—Prof. Page and Mr. Fitzgerald. About two years ago, two more Chief Examiners were added to the Office, viz., Mr. Renwick, of New York, and Prof. Gale; the former never was in the Patent Office before his appointment, but the latter was in the capacity of Assistant Examiner under Dr. Page. The classes of subjects are now divided among these four, but they are not yet well arranged: out of twenty-three classes, Examiner Page has seven classes, a synopsis of which, as covering his labors for 1849, we will now present, and take up the reports of the other Examiners regularly in other numbers:—

EXAMINER PAGE'S REPORT.—In 1849 a valuable machine was patented for separating magnetic iron ore by revolving electro magnets: this was Ransom Cook's invention, and was illustrated in the Scientific American. A number of patents were granted for telegraphs, and the famous contest between Morse and Bain was settled, by which a patent was granted to each claimant, and the decision of the Patent Office reversed, as we predicted, and away and behind all this—both of these patents—we can assure the Patent Office that we know something of another chemical telegraph. This case is stated to be the first trial of appeal from the Patent Office, in open court; the whole case has been faithfully reported, and contains a great deal of information useful to inventors. A railway telegraph, to tell the traveller the place he is passing, was patented, and it seems to be identical with the one published in No. 1, Vol. 4, Scientific American, and is now free, we believe. The Calculating Machine, illustrated and described on page 388, same volume, was patented, and the nature of its construction and operation is particularly described in the Report. A patent was granted for measuring distances by observation, and is said to measure a distance of 40 or 50 miles. A patent was granted for a self-igniting lamp, which was lighted by pulling a string, when a friction match, by machinery, was ignited and carried forward to the wick of the lamp.

The most singular case, or rather cases, of all, was a patent which was granted for a species of atmospheric churn, and before the Patent Office, two other inventors claimed the same improvement; one was from Ohio, an

other from Illinois, and a third from Vermont. An interference was declared, and no sooner was the decision made (which was in favor of the patentee) than three other inventors claimed it,—all living at a distance from one another. The improvement consisted in having a hole through the entire length of the common churn dasher, with a valve opening downwards, to admit air from above, but which would allow no cream to come up from below. A knowledge of this case is important to inventors—all these six men were no doubt original inventors. Whenever an important improvement is made, application should at once be made for the patent, for no secret use of an invention can prevent another man getting a patent for the same thing.

The American Institute.

The name of this Association is a glorious one. To distinguished foreigners, it conveys the idea of being the moral centre of all that is noble and distinguished in American Science and Art; but the name is too good for the faculty who seek shelter for their stunted acquirements beneath the magic of its significance. If any person has the least idea that the American Institute fairly represents American Science and Art, he is greatly, very greatly mistaken. With but three or four exceptions, we think there is not a man who is connected with its management, or who has any influence in its actions, that is the least distinguished in any department of Philosophy or Art. We should indeed feel ashamed of our glorious country if the Institute enfolded all Americans, who were distinguished for scientific and mechanical attainments, or that it was looked upon as the mirror which reflects upon other nations the semblance of American mind. There are many far younger, weaker, and smaller institutions, in our land, whose managing members stand far higher than those of the A. I., in every acquirement which should belong to managing members of such associations.

That the Fairs for the exhibition of works of art and ingenuity do good, no one doubts; but the object of doing good is only secondary, the principal object of the managers being the best way of making the most money, and the easiest way to please all the influential exhibitors. Just look at five gold medals awarded for five planing machines—all first best, too, and then what is the conclusion? Not a very favorable one, surely. That some prizes are rightly awarded, no one will doubt; it would be a miracle were it to happen otherwise; but that a prize granted to one machine, work of art, &c., and not to another, is to be taken as an evidence of the superiority of the one, in all cases, and the inferiority of the other, is all nonsense—no one in New York looks upon the prizes in this light. Trashy things get prizes sometimes, and things of utility and beauty are often overlooked; this is owing to the incapacity of the judges; they listen to the best story—a modest man, however meritorious his invention may be, stands a far worse chance of being distinguished than one who, with "words of wondrous length and thundering sound, boasts of his ware, his merchandise and skill."

As an advertising medium, the Fair is a good institution, and as such it is to be recommended, but in nothing more, excepting in bringing ingenious men together—men who are mostly outsiders. As for scientific emanations proceeding from the Institute, whoever heard of such things. It may well be said about it what a benighted Hibernian said about a certain dingy lighted city, "one thing is very clear, this town is very dark."

Improved Saw.

Since we noticed an improvement on saws, a few weeks ago, (page 28) Mr. Tuttle has been bored with quite a number of communications on the subject—almost every one claiming to be the original inventor. Not one, however, seems to understand the improvement thoroughly. Mr. Tuttle does not claim his third tooth, as therein mentioned, because it is straight, but because it is a plane. He used the third tooth himself, just like some of his correspondents, some years ago. In every case a correspondent should pay his postage.

Captain Taggart's Propeller Balloon.

On Thursday, last week, we went over to Jersey City to see Capt. Taggart make an ascension in his propeller balloon. The place selected was a very bad one, viz., the dock behind what is termed the "Thatch Cottage." The most contemptible means were employed by hundreds to shirk the payment of the admission fee, and when the time for ascension arrived, we suppose that there were five within the enclosure who had not paid, to one who had. The balloon was not very well managed we think: there was too little hydrogen gas in it, and the attendants did not appear to be well acquainted with their business; and beside this, the crowd was allowed to press close up to the apparatus. At 4 P. M. the captain got into his car, and although it was not quite buoyant enough to lift him freely upwards in a vertical position, yet he thought that by turning one of his guiding wings, he should shoot upwards out of the reach of all ground obstructions. The rope was then cut, and the balloon, with the gallant little Captain in it, went off—but not in the way he desired. The strong south breeze carried him against the little bridge; his propeller wing was broken, and he was dragged through the canal and then against the tall trees of the garden; this arrested its progress, when the Captain got out after some trouble, and a rope being attached to the apparatus, it was dragged from the trees across the bridge by a roaring set of on-lookers, and then (as it appeared to us) the rope designedly parted, when the balloon and broken car went off, up and away, like a rocket—lost to the Captain forever.

Many people in our city, when they saw the balloon passing over them, supposed the Captain to be riding on the clouds, but he was safe on terra firma.

If ever we needed confirmation to our often expressed opinions respecting the impossibility of aerial navigation, according to the present state of science, we need it no more. The Captain's propelling apparatus is the best that we ever saw. If ever we had sympathy for any man, it was for him: we could not get the thought of him out of our mind during the whole of that night. The crowd, the majority of whom neither paid to see, nor had sense to make due allowance for unfortunate circumstances, abused the Captain with their tongues, shamefully.

We have heard that he intends to build another balloon; we hope he will be more successful than with his last. His loss and expenses have been very great, and when we consider that he made two previous ascents in Massachusetts, and that he was totally unacquainted with ballooning before that, he certainly deserves praise for his nerve and enterprise, and we hope the public will not neglect to be generous to him. We don't like humbug inventors—we despised the tricks and exposed the sham of the California balloon in 1849, because it was a project to make money and gull the public, but Captain Taggart is a sincere and an honest-looking man, and a complete enthusiast in the utility of his invention, which we deeply regret, knowing the dangers of his adopted profession, but on that account he surely deserves a greater supply of popular sympathy.

Machinery for Turning Irregular Forms.

MESSRS. EDITORS:—In your paper of Sept. 7th an article was published that proved injurious to me, and I wish you to correct the error. I had made a model of a machine; with a stationary pattern and material:—two of the gentlemen interested in Blanchard's machine called on me, and after an examination of my model, Mr. Lindsley, of Newark, said he had been under the impression that the pattern rotated, but that he never had seen a machine like it. Mr. Howard, of Philadelphia, stated afterwards that he had a conversation with Mr. Lindsley, and was better satisfied than if ten men had given their opinion and that he could not see any part of my machine that interfered with the Blanchard Machine; I never received a notice of a suit as stated by your Philadelphia correspondent, as I never had a machine except the model—but I have since commenced one. I wish you

to examine the model submitted and you will oblige me by publishing the above with your opinion of my machine. JONATHAN RUSSELL, No. 3, Cherry st., Philadelphia.

Oct. 30th, 1850.

[We publish the above in justice to Mr. Russell. The article to which he refers was a communication from Philadelphia. We know nothing about the case only as represented in the communication referred to, and by Mr. Russell's own statement. The model referred to above, has no rotating pattern, nor does the rough material revolve. Two rotary cutters and two tracers are employed, which turn or cut out the form of the pattern on the rough material in sections. The cutters and tracers are set nearly opposite to one another, and move longitudinally along the frame, but only one section of the pattern is cut out on the rough material during one longitudinal movement from end to end, of the cutters and pattern tracers. As a whole, we do not think that it is as good a machine as Mr. Blanchard's, and we cannot see how they can be similar in principle.

Jenny Lind's Concerts at Tripler Hall.

The concerts of Mademoiselle Jenny Lind continue to attract hosts of admirers of the art vocal; we are not surprised at this, for no one, after hearing the sweet strains which flow from her lips—however incapacitated they may be to criticise—can wonder at the generous enthusiasm which attends her whenever she appears.

The new Hall (splendid in design and execution,) is well adapted, in every respect, to give a full and legitimate effect to her voice, and so far her triumph has been sufficiently brilliant to gratify the highest expectations she could have conceived. New laurels have been added to her resplendent fame, by the concerts at Tripler Hall, and to such of our citizens as have not heard her, we would advise them, by all means, to seize upon the present opportunity.

There are, however, a large number of industrious mechanics in this city who are desirous of hearing her, and feel themselves unable to pay the present prices. If we mistake not, Mr. Barnum, with his accustomed liberality, aided by Jenny's whole-souled benevolence, will afford them an opportunity to do so at reduced prices, before she finally leaves us. Castle Garden would hold a number sufficient to pay well at \$1 to all parts of the building.

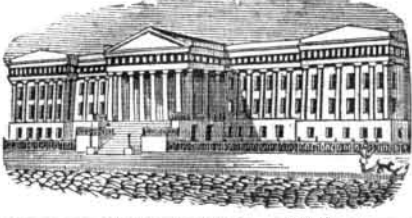
Fall of a Suspension Bridge.

A suspension bridge built on Dredge's principle, across the river Leven, at Balloch, Scotland, recently fell while a flock of sheep were beginning to pass over it. On examination it was found that the cause of failure was owing to the previous breakage of a small iron rod, only one inch in diameter. One thing singular about it was the dropping of one half of the bridge, and that not the one the sheep were on, but the opposite half. Does this show that, from the abutment, the weight on the bridge acts throughout the whole length of the bridge upon the long end of the lever, and not from the apex of the arch.

An Important Paragraph.

To preclude our subscribing friends the necessity of writing for the back numbers of the Scientific American, we shall forward to all new subscribers the back numbers of Vol. 6, dating their subscriptions from the commencement unless they instruct to the contrary when they remit. We shall pursue this course of sending the back numbers issued on this volume until No. 13, and after that time the names will be entered from the date of the reception of orders, unless the writer expresses a wish to receive the back Nos.—in that case they will be promptly forwarded.

Those desiring volume 5 of the Scientific American are informed that we are able to furnish a few complete volumes, (bound,) at \$2.75 each. Also, we can send by mail sets complete, minus No. 1, for \$2. We would also say, that whenever our friends order numbers they have missed—we shall always send them, if we have them on hand. We make this statement to save much time and trouble, to which we are subjected in replying, when the numbers called for cannot be supplied.



Reported expressly for the Scientific American, from the Patent Office Records.

#### LIST OF PATENT CLAIMS

Issued from the United States Patent Office.  
FOR THE WEEK ENDING OCTOBER 29, 1850.

To Bartholomew Bemowski, of London, England, for improvement in Printing. Patented in England Nov. 19, 1846.

First, I claim marking on the shank and foot of types, by any convenient means, such as writing, engraving, casting or electrotyping, the same letter or character which is formed on its upper surface, and also the method herein shown and described, of casting the intaglio letters on the shank and foot of the types at the same time that the type itself is cast.

Second, Making typehaving in combination with the usual letters in relief on the face of the type, intaglio letters on the foot thereof, for the purpose of serving as matrices from which to obtain a polytype plate, while the types themselves will serve for printing.

Third, I claim casting spaces on the sides of ordinary type for the purposes above mentioned as above described.

Fourth, I claim the peculiar mode herein shown and described, of poly-composing either from the ordinary cases, or from what I call the authoriton.

Fifth, I claim the process and apparatus herein shown and described, for facilitating the sorting and distributing of types and spaces, and making part of them of wood and iron, so that the wooden portion may be separated by means of water, the iron ones by a permanent or temporary magnet and the others into three several receptacles by hand, the workmen being considerably assisted in this operation by the type being marked on their sides.

Sixth, I claim the apparatus which I denominate the "Authoriton," and also of the use of copying-sticks, for the purpose of facilitating composition, by which the above described types are brought into a convenient space for composing from as hereinbefore described.

To C. S. Bulkley, of Macon, Ga., for improvement in Electro Magnetic Enumerators for Signals in Hotels, &c.

I claim the manner in which the signal bell and any one of the signal plates can be simultaneously acted upon at a distance from the enunciator, through the medium of the galvanic battery, the series of electro-magnets, and the four wires connected with each other, with the insulated point and the shank of the knob located within the walls of the different rooms, and with the bell and signal plates of the insulator, substantially in the manner herein set forth.

L. G. Goshon, of Shireleysburgh, Pa., for improvement in Winnowing Machines.

I claim the combination of the additional bottom board with the elevated fan and fan case, for the purpose of diminishing the space between the discharging board and screens, for concentrating the blast beneath and in contact with the screens, for the purpose described.

To Nathan Haskins, of Hillsborough Co., N. H., for improvement in Car Couplings.

I claim the improvement whereby the cars are connected or disengaged under the above named circumstances, or, in other words, I claim the combination of the suspended extension pin, with its weighted pin or arm, or any mechanical equivalent therefor, the hinge and buffer socket to which they are applied, the same being constructed and made to operate substantially as set forth.

To Richard Montgomery, of New York, N. Y., for improvement in Corrugated Boilers.

I claim the employment of corrugated plates of metal for forming the curved arches of fire chambers and shells for steam boilers, the corrugations running in the direction of the curves, substantially as described.

To John Morrison, of McArthurstown, Ohio, for improvement in Bedstead fastenings.

I claim the construction and application of a triangular or forked plate of iron made in such a manner as that it can be secured to its place and draw the rail and post firmly together by means of an eccentric or cam, substantially as above described.

To Dan Pease, of Troy, N. Y., for improvement in Rotary Grain Screens.

I claim the construction of a roller screen consisting of a large and fine, and small and coarse part in combination with conductors to carry the grain from the large to the small part for the above mentioned purpose, and substantially as above described.

To Bennett Potter, Jr., of Templeton, Mass., for improvement in machinery for pressing hats.

I do not claim merely so arranging the smoothing irons that they can all, by a single movement be simultaneously brought over the block, I only claim this when the irons are also at the same time and by the same movement, brought into the requisite contact with the top and sides of the crown and with the brim of the hat, to smooth and compress the same, substantially as herein specified.

I likewise claim the devices herein described or their equivalent for rendering the crown iron self-adjusting with respect to the brim-irons, so that the pressure of the crown iron will be co-etaneous with that of the brim-irons without affecting the relative degree of pressure with which they respectively bear upon the surfaces to be smoothed by them, substantially as herein set forth.

To Nathan Starks, of Albany, N. Y., for improvements in machines for making Wrought Iron Car Wheels.

I claim the forging of solid wrought iron wheels, when made by drop and die, the use of a lower die or anvil, made to revolve, during the process of forging horizontally on a central vertical axis, either by hand or by machinery which operates to drop the ram, or hammer, substantially as set forth.

To J. P. Sleeper, of Worcester, Mass., for improvement in Reed Musical Instruments.

I claim the vibration string or strings, wire or wires (four) in their combination with the wind chest, the same being made to be vibrated by the air in its passage in or through the wind chest, substantially as specified.

I also claim the above described extension or elongation of the passage, in combination with the improved arrangement of the reed and valve opening, the said arrangement consisting in placing the reed not directly over the valve opening, but at a distance therefrom, and in said passage, substantially as specified.

To T. J. Sloan, of New York, N. Y., for improvements in machines for nicking the heads of Wood Screws.

I claim interposing a spring between the gripping jaw and the lever or cam by which it is operated, in manner substantially as herein described and for the purpose specified.

I also claim making the spring which is interposed between the gripping jaw and the mechanism which operates it so that its tension can be varied and regulated in the manner and for the purpose specified.

And I also claim causing the gripping jaw to open slightly after it has seized the blank to permit the blank to assume its proper position between the jaws before it is finally gripped, in manner substantially as herein specified.

To H. N. Swift, of Boonton, N. J., for improvements in Spike Machines.

I claim, first, the adjustable cutter when in such position with regard to the dies for holding the spike, that the rod forming the spike is both cut off and the proper bend given to it from the head at one and the same operation, during which the spike is held stationary substantially in the manner described.

Second, I claim the jaw of the swage kept open by a spring, in combination with the moving swage and the stationary swage, the moving swage having an inclined face, which, acting on a similar face on the back of the jaw, closes it for forming the point for the spike, whether placed in front of the revolver, to point the rod, or behind it to point the spike, constructed substantially as described.

#### DESIGNS.

To Laban Eddy, of Taunton, Mass., for design for Stoves.

To Wm. Ballard, of New York, N. Y., for design for Iron Railings.

What I claim is the posts, panel, and marginal grape vine base in form and design substantially and herein set forth.

For the Scientific American.

#### Our Manufactures.

It is a settled fact, that the surplus population of the Middle and Northern States must have employment. The mechanic arts in some form must be cultivated, or beggary will ensue. A great part of American capital, industry, and genius can be employed in reference to no other object. In this we follow in the train of other nations: Great Britain no longer manufactures for the world; she finds her competitors across the channel and the Atlantic. Manufactures may be said to be essential to our national independence and security, and contribute to the wealth, comfort, and embellishment of the land. This conviction is made by a consideration of its natural resources, and the enterprise and ingenuity of its inhabitants. An English manufacturer, who came to America to inspect our rising arts, upon examining specimens of mechanic inventions introduced by "the clever Yankees," into a department where his own exertions had been particularly bestowed, declared that the American market was lost to him forever.

It has been supposed that masses of people thus brought together would become nurseries of ignorance and crime. This apprehension has arisen from the acknowledged character of like establishments in England. But happily for our country, even the evils incident to the system have not been felt; the moral debasement found in the workshops of Britain is owing to circumstances which have no connection with the employment: the manufacturing districts there are decidedly more moral than the agricultural. The surplus population is large, and afflicted with oppressive taxes and neglect of morals and education. The structure of our government and our social institutions forbid such a result. No doubt it is a principle that masses are operated upon more easily for good or evil than a scattered population; but English workmen receive their character, not from the manufactures, but from British aristocracy. The leading characteristics of the English system, and chief source of all its evils, is the employment of families, and constitutes a radical distinction between our system and that: the proprietors of Lowell act on the principle, that private interest is best promoted in the long run by general intelligence and public virtue. Many operatives exhibit an extraordinary extent of acquired knowledge, soundness of judgment and refinement of feeling. In regard to the influence of our manufacturing establishments on the social character of the people, the standard of conduct and attainments is higher than in England; the health of our manufacturing villages is equal to that of the country at large; and there is in every class a disposition to rise above their station. "Wealth and a fair character constitute a title in America:" a Yankee never serves but with a view to obtain the means of becoming a master in his turn. Their influence is also favorable to the intellectual character of the people; it is by their improvements in the mechanic arts and their application to manufactures, that Europeans so far surpass other nations. In an eminent degree, then, will our nation be benefitted, since the means of instruction are accessible to all. The many vehicles of intelligence, entering every hamlet, develop talent and impart a taste for knowledge. The walls of a manufactory cannot shut out this light. Their influence on the religious character of our nation is a vital point. Great is the power of example and sympathy in compact bodies of people having a common interest. The Gospel, in its ministrations, has been signally prospered in these crowded resorts, and this principle has been seized upon by good men for the advancement of the best of causes. Many of the heads of our factories are men distinguished as promoters of religion and temperance; and most are convinced that the operation of evangelical piety is favorable to order, diligence and honesty. Large numbers leaving every year car-

ry with them the spirit they have imbibed, and thus scatter the seed of grace far and near. Let, then, these centres of business, as fast as they rise, become each the seat of churches, and a nucleus of a widely extended evangelical influence. The day will come, and we hail the increasing tokens of its approach, when every labor of science shall be an oblation upon the altar of religion. J. W. O.

#### Shot on Iron Ships---A new Protective.

Some time ago we described some experiments made with shot upon iron ships, in England, when it was found more destructive than on wooden vessels. Since that time a new protective has been tried, and found to succeed admirably. The protective consists of a composition of india rubber and saw dust, invented by a Lieut. Walter, of the navy, and named "Kamptulicon." The experiments were made at Woolwich, on the 4th of last September:

"A target of iron, six feet square, to which the Kamptulicon lining was attached by means of a solution prepared for the purpose, was erected at a distance of forty yards from a 32-pounder. Four shots were fired with the iron surface presented, the third, which fired with a reduced charge, to represent a long range, lodged in the material; and the fourth, which, with still further reduced charge, fell without doing injury at the foot of the target. It was then turned round, with the Kamptulicon lining towards the gun, at which four shots were also fired. The first two passed through with nearly the same effect, opening the iron to a considerable extent, but the lining closed up immediately, so as scarcely to admit the insertion of a small cane at either end, the centre being quite close. The fourth shot, fired with a very reduced charge, rebounded about fifteen yards in a direct line; thus proving that a shot at a long range would not even enter a vessel so lined. It may also be presumed, from the wonderful resistance of the material, and its repellent power, that nothing under a full charge would fire a shot through the two sides. As to its adhesive nature, it occupied a dozen strong men, armed with handspikes and crowbars, a considerable time to detach it from the iron after all this battering. In small portions cut from the different targets were seen large pieces of iron imbedded, which might cause frightful wounds and even death, if scattered amongst the crew."

The inventor claims that, from its elasticity, it will "immediately collapse after the passage of a shot, so as to prevent the entrance of water, thus obviating the necessity for plugs;" and that it will "deaden the concussion caused by the striking of shot, or in firing a vessel's own guns, thus protecting the rivet-heads; that from its buoyancy it will keep the vessel afloat, if riddled with shot, or after striking upon rocks, and will enable her to carry a large supply of coals with a smaller draught of water; and that it will prevent the loss of life caused by splinters, by their retention in the Kamptulicon."

#### Tobacco Culture.

Professor Johnson, in the course of lectures delivered by him, before the New York State Agricultural society, and published by C. M. Saxton, among many valuable facts worth the attention of agriculturists, stated that Tobacco was a crop which contained much mineral matter. Suppose, says Prof. J., an acre to yield 800 lbs.; these 800 lbs. will contain about 160 lbs. of mineral matter, which is carried off by the crop, and in this way the land will soon be exhausted. In four years, 600 lbs. of mineral matter would be carried off from an acre of tobacco land. It is the duty of the farmer to supply the mineral matter, thus specially exhausted, if he wishes to sustain the soil.

#### Extent and Population of London.

The population of London is 1,924,000, the number of houses 260,000. The average number of inhabitants for each house is 7½—far less than in New York. Opposite Pall Mall 800 carriages pass every hour, and on London Bridge 1,300 every hour; 8,000,000 of horses pass over Westminster Bridge in one year.