NEW YORK, DECEMBER 23, 1848.

Poets and Inventors.

On another page will be found a beautiful article from the pen of Thomas Ewbank, in which he justly institutes a comparison between poets and inventors. The comparison is not regarding their merits or their works, but the similarity of their mental composition—the intense, the burning concentration of thought which distinguish the two in pursuit of their objects. The comparison in many respects is a correct one, although the majority of mankind are apt to suppose that inventors are mere plodding, unimpassioned, calculating beings. There never was a greater mistake. Sir David Brewster, in his Martyrs of Science, justly estimates the power and uses of imagination to the man of science in the great discoveries made by the renowned Kepler. The inventor must not only possess imagination but he must be endowed with a reasoning mind—a far greater attribute of mental strength, we believe, than to possess but the quality of ideality, and in this opinion we are backed by unquestionable authority.

In the Essays of John Sheppard there occurs the following sentence, attributed to Professor Playfair; "The physical wonders of creation far transcend the boldest and most hyperbolic imaginings of poetic minds—the reason of Newton and Galileo took a sublimer flight than the fancy of Milton and Ariosto."

Mr. Ewbanks in his article demolishes the *recent* discovery of ornamenting wood by the punching down parts of it with dies and then planing or turning the projecting wood off, and raising the depressed parts by soaking the wood in water. This invention would no doubt make some very ornamental kinds of wood work, and this reminds us of an article published in the Transactions of the Society of Arts in 1825, describing the same process as having been invented by a Mr. J. Straker. It is identical in its nature and operation with the one described in John White's collection in 1684. This shows us that there are a great many re-inventions. This is to be expected, but in cases where the re-inventor had no knowledge of a previous invention, he is entitled to as much honor. There is not a new discovery or invention, however simple, but costs the inventor much study, anxiety and labor.

Flying Machine.

Flying Machines and Perpetual Motions are very old and unfortunate acquaintances. No people have invented so many as the Germans, and many a poor fellow has lost his life by his fool hardy confidence in some machines he had invented to ride upon the winds, yet for all the accidents that have taken place to *high flyers*, from the Dutch Doctor at Ratisbone in 1692 to the unfortunate Englishman who perished a few years ago in London when descending by a parachute, there are still to be found new flying machines coming out every few months. An Austrian made quite a fine display in Cremone Gardens, London last winter, by taking several long jumps with a steam flyer. Since that we have heard no more about it, and presume it has met the fate of its illustrious predecessors. But the end of flying machines is not yet, and here we insert the description of a new and an original one certainly, taken from the Jacksonian published at Pontiac, Michigan, and sent to us *marked* for particular inspection by the author we suppose, who communicated the same to the columns of the Jacksonian. After describing how wings had been tried to beat the lark and eagle, he says:—

"As wings then, have failed, and balloons been attended with no better success, men have begun to think that the end is unattainable, and that flying is a victory which man can never achieve.

The art of flying simply consists in the suspension and motion of a heavy body in a lighter. Although this may appear contrary to the nature of things, it is what takes place every day, and is seen exemplified in the case of every insect and bird that flies—all of which are heavier than the air. A bird is a species of flying machine, heavier than the air, but moving about independently, and yet as safe and as certain to remain suspended as an inflated balloon would be. If a condor, which weighs many million times as much as a mosquito, flies with ease and rapidity, why should not some still more huge machine traverse the air with equal facility?

To accomplish the end desired, we have but to keep in view the cause of a bird's flight. It is simply this philosophical axiom—that, circumstances being the same, a greater force must overcome a less. If the weight of a bird be as 1, and its mechanical appliance for counteraction be as 2, the bird will rise from the earth when its powers are exerted. Herein is all the mystery of flying; and if a bird or machine weigh ten tons, and have mechanical apparatus for acting upon the air with a power of twenty tons, the machine must certainly rise. This is the only condition requisite, and so long as it is kept in view, and the resistance of the air in bodies of different velocities ascertained, the capability of heavy bodies to fly may be made a subject of mathematical certainty.

In regard to power, taken in connection with the space occupied, there is no form of artificial wing equal to the screw or propeller wheel. While the wings of a bird alternately draw in and strike out, the power of a screw is constant and unvarying. The power with which a given diameter of screw wheel, making a certain number of revolutions per minute, will act upon the air, can easily be determined by experiment, and the elevating force of any number of wheels can thus be ascertained. Having accomplished this, we shall know exactly how much weight can be raised, and can construct and load our machine accordingly.

Let us suppose a machine to be constructed resembling a long railway car, with arms projecting at certain distances from the roof and floor, appearing like the long axles of a wagon wheel. At the extremities of these arms the axles of the screw wheels or wings are inserted, which thus work parallel to the earth, instead of perpendicular, as in a vessel. At the stern of the car are from two to four wheels, to serve as propellers, the side wheels being merely to elevate and suspend the car. In the interior of the car, at the centre, is the steam engine, with the fuel and water, while the extremities are reserved for passengers and baggage. The wings are moved by independent bands connected with the internal machinery, so that the whole or a portion of them may be used at once, for the convenience of ascending and descending.

Unlike the heavy railway car, the frame should be constructed of wrought iron, and the roof, sides and floor be covered with thin sheet iron or copper, suitably supported by light frame work where necessary. The wheel wings should be constructed in the same manner—strength combined with lightness being always kept in view. Steam engines are now constructed of great lightness and power, and we have not arrived at the precise epoch when the great feat of navigating the air can be accomplished." Aha!

"This machine instead of having two wings like a bird, will have from four to twelve, according to the length. The forward end should be built sharp, to offer less resistance to the wind. Having more wheels than are necessary to its elevation, no danger can occur from any accident that may occur to one or two of them. The machine can be guided by some kind of rudder, or by stopping one or two of the stern wheels, which are attached to each side of the stern.

At first sight, such a machine as this may appear the production of a visionary, but the same would have been said fifty years since had any man described a locomotive engine and a railway. Every step towards the construction of this machine can be based on mathematical principles The air furnishes a vast fund of power for the use of mankind, although as yet they have only used it to propel ships and wind-mills. We live in an age of great discoveries and improvements, and among these will certainly be ranked the navigation of the air. The most distant voyages, overland may be accomplished with expedition and little cost by these machines, all that is necessary being wood and water, which are abundant on this continent.

A car forty feet long, with five wheels on each side, eight feet in diameter and three smaller propellers at the stern, would certainly appear a novel object, when roaring along through the air. If a certain breadth of wheel be not sufficient, try broader ones—if the velocity be too slow, increase it. Let those who have capital and science devote their mite to the cause, and a great victory will be accomplished."

We must say that we have not a mite to contribute to this cause, as we think that the comparison between the musquito and condor is altogether in favor of the former, and beside the art of flying by "the mechanical appliances for counteraction" as explained, is altogether different from our notion. Every artificial object that can float in the atmosphere must be lighter than its bulk of the atmosphere, let the mechanical appliances be as curious as they may, and beside the law in this respect is, that bodies according to their greater lightness than the atmosphere will only ascend in proportion to their magnitudes, that to the cube of their diameters, and this minus of your coal and all such terra firma gimcracks. We would greatly have preferred the paddle wheel to the screw, in the atmosphere, as we certainly do for navigating the Atlantic or Hudson, being fearful that if we tried the propeller on an ærial voyage, we might get into a worse place and get some harder knocks than the Great Britain in Dundrum Bay. We however wish the inventor success—but before he proceeds to construct his machine we hope he won't forget the law that was discovered by the great Newton in the falling of an apple.

Perpetual Motion.

There are some men who pursue this subject with wonderful perseverance, and tenacity of purpose. This passion is not confined to the ignorant, as too many sternly practical men are apt to suppose but it is pursued by many men of much erudition and scientific attainment. We do not despise such labor, we admire the enthusiasm that can pursue a subject with unabated zeal from day to day and from year to year, as when the gifted Boyle made it his study for many long years, and if we have but little hopes of it ever being accomplished, still, we cannot sneer at those on whose minds it has become

"The star of hope that shines alone
To cheer their mental burning zone."

It is not long since that a gentleman named Ritchter in Madison Co. Geo., constructed a machine which his neighbors considered to be the *finale* of perpetual motion, and they had a grand demonstration says the Family Visitor in honor of the inventor, with a display of fire works and shouting aloud "long life to Charles W. Ritchter the inventor of perpetual motion." No man who is acquainted with the principles of Mechanics, the composition of forces and the law of gravity, can see any hope, indeed there is none, for any machine propelling itself by mere mechanical force. "It is not easy to tell what may yet be done by the application of electricity as a motive power, but all the motive power worth speaking of that has yet been derived from electricity, has been by the voltaic battery, and consequently it was a chemical as well as mechanical combination." There have been so many machines invented of a perpetual motion character, "which have sunk to rise no more" that the public has become somewhat quizzical upon the subject and not until a perpetual motion full, complete and applicable to useful purposes, is exhibited and in operation for years, will the public believe that such a thing has been accomplished, and it will be long before we see this, that is as a propelling power for large machines; as applied to clock work, the electric clock is as near an approach to perpetual motion as we require, but those who think to create a perpetual motion by the expansion, and contraction of fluids, by the heat and cold of the atmosphere—accumulating and dispensing power thereby, have never given the subject a complete examination, nor persued the experiments of Perkins and yet there are many who suppose that by this means they will yet discover the grand unknown. It is but a few weeks since we had a communication on this very way of making a perpetual motion. To those of our friends who are looking to the same means to accomplish this object, we can only quote Ephesians chap. 2, v. 10, "No hope."

To electric science alone can we look with any hope for a perpetual and powerful motive power—and we confess that our hopes are weak.

Patent Case.

On the 15th inst. before Judge Kane, in the U. S. Circuit Court Philadelphia, was tried a case for the infringement of a patent for alleged improvements in machinery for breaking and screening coal. The complainant was Mr. Battin, defendant Mr. Clayton. This was a trial in which much interest was felt in the mining districts.

This case was on trial about six months ago and the new trial was granted at the instance of the plaintiff, who asked leave to change the pleadings. Upon the first occasion the claim made was to "a combination" of two known machines, (a pair of breaking rollers and a circular screen) by which a certain result was done in one movement that had heretofore been done by two movements. This, the Court ruled, is not patentable.

On the present trial the plaintiff varied his claim from the combination of rollers and screen, and claimed for a new mode of arranging the breaking rollers, "so that the teeth of one shall work into the spaces between the teeth of the other."

The Judge ruled that as this alleged improvement produces no new result, it is also not patentable.

The plaintiff then declined going on, and a nonsuit was entered, by agreement, of the following nature.

And now, Dec. 15th, 1848, nonsuit is entered, the Court reserving for consideration upon a motion to take off the nonsuit, the several points ruled during the trial with leave to the plaintiffs, (if the Court refuse to take it off) to elect either that the nonsuit shall stand or that a verdict be entered for the defendants as if the jury had found such verdict, in order that the plaintiffs may have the benefit of their bills of exceptions, which are now tendered by them and sealed by the Court to the several rulings and decisions of the Court during the trial; so that the opinion of the Supreme Court in error may be had thereon in like manner as if there had been no nonsuit.

American Iron.

Birmingham in Missouri, is said by H. King M. D., Geologist, to possess great advantages for the manufacture of pig iron. The iron ore is abundant and so is the best cannel coal which can be delivered for three cents per bushel, it is so easily mined. It is estimated that iron can be manufactured there for at least $10 per ton less than the foreign. It will no doubt be some time before they can do this. The grand facilities for the manufacture of iron are, coal, iron ore, and lime lying in the bosom of one another, as is the case in the iron districts of England.

Coal in Massachusetts.

It is reported that a coal bed has been discovered in the town of Weston, Middlesex Co. Mass. In digging a trench pieces of coal were thrown up, which upon examination proved to be bituminous, burning as freely as Cannel coal.

THE
SCIENTIFIC AMERICAN.

Persons wishing to subscribe for this paper have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY,

Publishers of the Scientific American, New York City.

TERMS.—$2 a year; ONE DOLLAR IN ADVANCE—the remainder in 6 months.

Postmasters are respectfully requested to receive subscriptions for this Paper, to whom a discount of 25 per cent will be allowed.

Any person sending us 4 subscribers for 6 months, shall receive a copy of the paper for the same length of time.

© 1848 SCIENTIFIC AMERICAN, INC