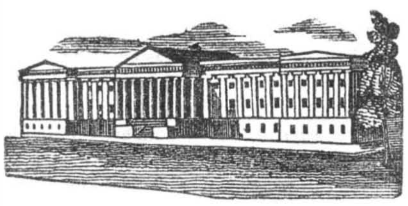

LIST OF PATENTS.

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending July 31, 1849.

To John Rich, of Troy, N. Y., for improvement in Ploughs. Patented July 31, 1849.

To Benjamin Chambers, of Washington, D. C. for improvement in moveable Breeches for Fire Arms and the Locks and appurtenances of the same. Patented July 31, 1849.

To James La Dow, of Granville, Ohio, for improvement in Machines for Pegging Boots. Patented July 31, 1849.

To Charles Caples, of Savannah, Mo., for improvement in equalizing the action of Gearing in Horse Powers. Patented July 31, 1849.

To Asa Wheeler, of Warwick, Mass., for improvement in the method of hardening Metals. Patented July 31, 1849.

To James P. Ross, of Lewisburg, Pa., for improvement in the Valves of Rotary Engines. Patented July 31, 1849.

To George Callard, of Buffalo, N. Y., for improvement in Signal Lanterns. Patented July 31, 1849.

To William Peters, of Charlestown, Mass. for improvement in Machines to beat and brush Carpets. Patented July 31, 1849.

To Julius Weed, of Painesville, Ohio, for improvement in paring, coring and slicing Apples. Patented July 31, 1849.

To Jesse Warren, of Warren County, N. Y. for improvement in Ploughs. Patented July 31, 1849.

To Justin Mulhern, of St. Louis, Mo., for improvement in apparatus for Filtering Water. Patented July 31, 1849.

To Joseph A. Dugdale, of Selma, Ohio, for improvement in Bee Hives. Patented July 31, 1849.

RE-ISSUE.

To Milton D. Whipple, of Lowell, Mass., for improvement in the Machine for cleaning Wool from burrs and other foreign matter and also for Ginning Cotton. Patented October 28, 1840. Re-issued July 31, 1849.

Limestone Rock.

Two origins are now ascribed to limestone —one, that of chemical precipitation ; the the other, which has a direct connection with our subject, ascribes the formation to the labors of the infusoria. There can be no doubt that many of the enormous beds of this substance with which we are familiar, are the results of the accumulation of innumerable millions of these tiny creatures. They swarm in all waters, indifferently in salt as in fresh ; and secreting from the lime held in solution by such water the necessary material for their enormorous aggregation, in process of time, the vast strata of which we speak. For this purpose, it is necessary that they should be capable of multiplying immensely ; and this they do by the different process of spontaneous fissuration, germination, and developement of ova. The white calcareous so common at the bottoms of bogs and morasses has its origin in the ceaseless labors of these creatures ; and the " bog-iron ore" of geologists consists of the ferruginous shields of others. Thus, as has been aptly remarked by the old Latin proverb, " iron, flint, and lime, all formed by worms," which was probably a sly sarcasm against philosophy, modern science has shown to be actually true in the history of the animalcules. The Great Pyramid of Egypt has been looked upon by men as a miracle of humam power and skill ; yet every stone in its composition is a greater far, for the limestone of which the vast structure is built was erected long ago by an army of humble animalcules more numerous than all the hosts of a thousand Pharaohs.

The Wisconsin Legislature has passed a most remarkable Temperance Law. It is very stringent against selling and drinking. It **is a step in advance of every other government.**

The Eye.

The structure of the eye is one of the most remarkable works of nature. The exterior parts of this organ are admirably defended from injury, placed in the head at a certain depth, and surrounded with durable orbits of bone, they cannot be readily hurt ; the overarching eye-brows also contribute much to the beauty and preservation of this exquisite organ, the hairs preventing dust and sweat from falling into them from the forehead. The eyelids form another security, and by closing in our sleep, they shut out the light from disturbing our repose. The eye-lashes add still further to the perfection of the eyes ; they break the force of the light which might offend us, and guard the sight from dust or any other minute body which might cause it injury.

If the external structure of the eye be admirable, the internal is still more so. The globe of the eye is composed of coats, or tunicles, muscles, humors, and vessels. The exterior coat, which is called cornea, is transparent ; under this the choroid, which is full of vessels; the next, uvea, circular, and colored; there is an opening in the middle of it, which is called the pupil, and which generally appears black ; lastly, the retina, which is a fine fibrous expansion of the optic nerve.—The humors are—the aqueous, or watery, lying in the fore part of the globe immediately under the cornea ; this humor is thin, liquid, and transparent ; the chrystalline lies behind the opening in the middle of the uvea; it is the least of the humors, of greater solidity, and on both sides convex ! the vitrious so called from its resemblance to melted glass, fills all the hind part of the cavity of the globe, and gives the spherical figure to the eye. The muscles of the eye are six, and by the excellence of their arrangement it is enabled to move in all directions. Vision is performed by the rays of light falling on the transparent outward coat of the eye, which, by its compactness and convexity, unites them into a focus; they are then passed through the aqueous humor and pupil of the eye to be more condensed by the chrystalline humor, which, from its lenticular form, is finely adapted to that purpose. The rays of light, thus brought to a common centre, penetrate the vitrious humor, and stimulate the retina, upon which the images of objects, painted in an inverse direction, are represented to the mind through the medium of the optic nerve. The extreme minuteness of this picture is wonderful ; for the space of eleven hundred yards, when it is represented in the bottom of the eye, makes no more than the tenth part of an inch !

The faculty of vision is one of the most wonderful properties of human nature, and particularly merits our attention. Though the image of outward objects is painted in the retina upside down, yet we see them in their proper situation. And what is still more admirable, with such a small organ as the eye, we perceive the largest objects, and take in the whole of their dimensions. From the height of a tower, we see at a distance below us, the numerous buildings of a large city painted with the utmost exactness and precision upon a surface scarcely three times as large as the head of a pin. So many millions of rays coming through a small aperture, are re-united in the retina, which covers the bottom of the eye, without the least confusion, and preserve among themselves the same order with the points of the objects from which they are reflected. From the topmast of a vessel we see the ocean covered with a vast fleet, and waves innumerable undulating around us; yet each of these waves, small as it is, reflects a volume of rays which meet the eye. On gaining the summit of some lofty mountain, we direct our view over the distant plains, every object we notice must reflect a mass of rays upon the eye, otherwise we could not distinguish the flowery meadow, the varied drapery of the forest, or the windings of the purling stream. Rays of light not only pass from these objects to our eyes, but are transmitted to every part of the surrounding atmosphere ; hence, wherever we pass, within a certain distance, the same objects are still visible. How seldom are these things considered ! The habit of seeing, as soon as we open our eyes, causes us to consider this operation as a thing simple in itself, and easy to be comprehended : yet it is utterly out of our power fully to explain the manner in which we come to see objects.—We know indeed how the image forms itself in the bottom of the eye, and that all the parts which compose it, contribute to it; but this is not enough ; for the eye itself can have no idea what passes in it. The impression must reach the brain ; and in order to do that, the rays must paint an image on a coat woven with nerves, which correspond with those of the brain. In this way the motion, impressed by the rays on the nervous expansion, called the retina, is transmitted by the optic nerve to the brain ; but here darkness forbids our farther investigation.

Isthmus of Panama.

The productions of Central America are as varied as the climate, which, according to the level selected, may apparently be adapted to all wants. On the higher table lands wheat, barley, and the rare fruits and vegetables of Europe may be grown abundantly, as well as Indian corn, and in some parts rice. In the lower plains and valleys the soil yields annually two crops of Indian corn, and the sugar cane, bananas, mandiocca, pine-apples, cocoa nuts, sapots, and sweet potatoes are all raised or grow naturally. Indigo, cochineal, tobacco, vanilla, cotton, cocoa, sugar, and coffee, are also, according to the district, capable of the finest cultivation. Of the various small states into which Central America is now divided, Nicaragua, in point of natural gifts, is described to be the richest. Commencing the route from the Gulf of Nicoya, on the Pacific, we find that at this point pearls are fished, and that a shell-fish is found which yields a bright red dye. Here also is the mountain Aguacate, in which the few geologists who have visited Central America have asserted immense wealth lies buried, the localities of which are most evident. Passing on towards the plain of Nicaragua, the fields are " covered with high grass, studded with noble trees, and herds of cattle." Cocoa, indigo, rice, Indian corn, bananas, and cotton are here produced, and mahogany, cedar, and pine abound in the forests. Proceeding across to the eastern side of the lake there are cattle farms, on which are herds of from 10,000 to 40,000 oxen, bulls, and cows. Horses and mules are bred for riding and for burden. Sheep are reared on the up per plains, and swine are kept for flesh. Indigo can be raised for 2s. per lb. The cochineal plantations in some parts yield two crops each season. The capital of the State is Leon, near the small lake of that name, which communicates with Lake Nicaragua. The plain near this city is said to be characterised by a richness of soil not surpassed by any land in the world, yet it remains in primeval desolation With regard to the neighborhood of Lake Leon, Mr. Stephens's misgiving is that it would prove too beautiful for British or American energies not to relax beneath its influence. " It may be questioned," he observes, " whether, with the same scenery and climate, wants few and easily supplied luxuriating in the open air and by the side of this lovely lake, even the descendents of the Anglo-Saxon race would not lose their energy and industry."

Leaving the lakes and descending the river San Juan to the Atlantic, each bank is covered with valuable wood of all sizes and descriptions, and the land is of prodigious fertility.—Amongst other products this river abounds with manatees, an animal between a quadruped and a fish, affording excellent food and strikingly effectual as a speedy cure for scorbutic or scrofulous disorders. " The blood is said to become purified and the virulence of the complaint, thrown to the body, quickly disappears." The length of the animal is from 8 to 12 feet, and it weighs from 500 lb. to 800 lb The harbour on the Atlantic in which the river San Juan discharges itself, is the best for large vessels on the whole range of coast. The climate of Nicaragua, generally, is considered very healthy, and there are no epidemical diseases peculiar to it.

From these details it would appear the country has but one want, and that is that it should become the seat of enterprise.

The city of Milwaukie, Wisconsin, has now a population of 16,000. In 1835, it possessed only one white inhabitant.

The Inventor of the Propeller.

The Yarmouth Herald a Nova Scotia paper, claims the invention of the propeller for Mr John Patch of that town, an engraving of whose improved propeller appeared in No. 5, this vol. Sci. American. The Herald says that he first applied the screw propeller in 1834 to a vessel about 20 tons burden. The first propeller was made of wood. Two twisting wooden fans were appended to a shaft similar to the propeller of which Loper has a patent, with the exception that Loper's has four fans. The next attempt was that of placing one complete turn of a screw about the end of the shaft which was made of wood about 25 feet in length ; and which he placed over the side of a small vessel—the end having the worm of the screw being in the water, the other placed in a bearing and turned by a wooden crank, the diameter of the screw in the water being 2½ feet.

The experiment was so successful that his friends advised him to apply for a patent in Washington, U. S. This was in 1834. While on his way thither, being in New York, by the advice of a friend he called on Mr. Stephens, who had the reputation of being an engineer of talent; but Mr. Stephens would take no notice of the invention or inventor, considering the whole thing impracticable. Much discouraged, he proceeded on to Washington where parties assured him that it would be a waste of money to make his contemplated application for a patent. He, however, could hear of no patent at that time being granted for any thing of the kind. He did not therefore apply ; but returned home, and though laughed at and derided as a visionary, he persevered in experimenting.

In 1844, he conceived the idea of a double action Propeller, which consists of four spiral curvilinear tapering fans, set at an angle of forty five degrees to the shaft, two on each side united at the top. By this arrangement all parts of the propeller are made to act in unison, in applying the power to the purpose intended ; and at the same time avoiding the drawback of dead water. This was tried in this place, and found to transcend in power and velocity his most ardent anticipations.

Mr. Patch is at present in Boston pursuing investigations relating to the general laws of mechanics. He has exhibited models of this improvement on the original invention to a number of the scientific and practical mechanics and engineers of the United States, who concur, without a dissenting voice, that for power and speed combined in the smallest space, this last improvement is superior to any plan for a Screw Propeller now in use, and must eventually, when brought fairly before the attention of the public, supersede all others.

Mr. Patch is also the inventor of a number of improvements in Steam Engines, and improved modes of regulating the dip of paddle-wheels ; but like most men of mechanical genius, his pecuniary means have been inadequate to give practical efficiency to his own inventions. The prospect, however, at present is, that this last Propeller will ultimately place him in a position to devote himself, exclusively to subjects that are congenial to his habits of thought and action.

The Darling of Genius.

Authors and artists, who possess the enthusiasm peculiar to genius, in daring to deviate from the common road, are not always preserved from violating the proprieties observed by those " whose sober wishes never learnt to stray ;" but who while they were not destined to attain the elevation awarded to excellence have yet been preserved from encountering the perils of a higher flight ; and been content to find their indemnity in the loss of superior fame, by the consciousness of security in the more humble mediocrity. Such, however, was not the high resolve of Shakspeare, Milton, or Michael Angelo.

Never too late to Learn.

Some people scorn to be taught ; others are ashamed of it, as they would be of going to school when they are old ; but it is never too late to learn what it is always necessary to know ; and it is no shame to learn so long as **we are ignorant—that is to say, so long as we live.**