



## LIST OF PATENTS.

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending May 1, 1849.

To R. H. Emerson, of Portland, Me., for Locomotive with driving axle above the Boiler. Patented May 1, 1849.

To William W. Boggs, of Southborough, Mass., for improvement in Ships' Cabins. Patented May 1, 1849.

To William M. Haines, Rochester, N. Y., for improvement in Calculating Machines.—Patented May 1, 1849.

To W. M. Shaw and Ezra Gould, of Newark, N. J. for improvement in Printing Paper Hangings. Patented May 1, 1849.

To Abijah Smith, of New York City, for improvement in Trusses. Patented May 1, 1849.

To Henry Lawrence, of Philadelphia, Pa., for improvement in Artificial Teeth. Patented May 1, 1849.

To Edwin Allen, of Windham, Conn. for improvement in Education Tables. Patented May 1, 1849.

To W. H. Jeanson, of New York City, for Self-adjusting Filtering Diaphragms. Patented May 1, 1849.

To Livingston, Roggin & Adams of Pittsburgh, Pa. for improved right or left hand Lock. Patented May 1, 1849.

To Lewis Jennings of New York City, for improved Gold Washer. Patented May 1, 1849.

To J. A. Gridley of Southampton, Mass. for improvement in Churn Dashers. Patented May 1, 1849.

To Hodgman & Wyckoff, of New York City, for improvement in Machinery for making Mats, &c. Patented May 1, 1849.

To William, Mix, of Prospect, Conn, for improved method of making wire strengthened spoons. Patented May 1, 1849.

To T. R. Scowden of Cincinnati, O. for improvement in valve seats, &c., for Water Mains. Patented May 1, 1849.

To Isaac Van Kuran of Rochester, N. Y. for improvement in Cast Iron Car wheels. Patented May 1, 1849.

To Augustus Clark, of New York City, for improvement in Easy Chairs. Patented May 1, 1849.

To J. N. Bolles & H. G. Knight, of Providence, R. I. for improved method of turning the drill in rock drilling machines. Patented May 1, 1849.

To John Fowler, of New York City assignee of Henry Jones, Bristol, England, for improvement in the preparation of Flour for Bread Making. Patented May 1, 1849.

To Charles Mowry of Elbridge, N. Y. for improvement in Jointing and Cutting Staves. Patented May 1, 1849.

To Samuel F. B. Morse, of Poughkeepsie, N. Y. for improvement in Electric Telegraphs. Patented May 1, 1849.

## RE-ISSUE.

To John Thomas, of Elizabethtown, N. J. for improvement in Floating Dry Docks. Patented December 20, 1837. Re-issued May 1, 1849.

To Charles F. Tuttle, of Williamsburg N. Y. for improvement in Hot-air Registers. Patented Jan 23, 1849. Re-issued May 1, 1849.

## National Importance of Health.

Health and strength are a nation's best possession in peace, and her surest defence in war. In both, the power of making great, rapid, and continuous efforts is, at least, as important as the possession of ingenious machines and powerful artillery; and the time, perhaps, is not far distant when the cost of provisions and mechanical skill and dexterity shall be so nearly equalised, that superiority shall mainly turn on the strength and power of endurance of the mechanic and soldier; and that nation which has best husbanded its living resources shall be most prosperous in peace, and most certainly successful in war.

## Correspondence of the Sci. American.

PANAMA, March 24, 1849.

MESSRS. MUNN &amp; Co.

GENTLEMEN.—I promised when I left you to communicate such facts as I might deem interesting to the many readers of your valuable journal. Our company arrived here safe, after having experienced an indescribable amount of sea sickness, so much so, that we had no choice between life and death, except that perhaps the latter would have been a welcome messenger of relief from the horrible feelings that are consequent upon this dreadful sickness. Well, "here we are," and yesterday I supposed we might remain for a month to come, but our nerves were quieted in a great measure by the unexpected arrival of a vessel from San Francisco.

Of all the abominable trips a man can make commend me to the one from Chagres to Panama. A concise and innumerable quantity of mud holes with the small cavities at the bottom filled with small rocks so admirably rounded, that a juggler would find it difficult to keep on top of them, then imagine miniature precipices and precipitous steeps with an occasional attempt at level ground that always proves a failure, and then on top of all that, place a beautiful, soft, slippery loam, and you have my idea of the road from Gorgona, to Panama. In connection with all this we have swarms of mosquitoes, ants, flies, and other interesting specimens of "American vermin" and you may well suppose that a lazy man will gain great credit for his industry in contending against these antagonists. The mules (the Lord forgive me for even such a partial libel upon flesh as is included in the erection of these animals) are lazy, weak and puny things, but one great virtue however is their sure footedness—if they cannot get along they are sure to lie down. I bought a noble beast at Gorgona about 5 feet by 3, and nearly all head like a tadpole, paying for the beauty (or the beast) \$10. He brought over the road nearly 100 lbs. and fainted on the way; having no *sal-volatile* on hand we were obliged to wait patiently until he came to us of his own accord.

The return trip, with no ballast to steady him was altogether too much for his energies and he laid himself down on the road side, there to die, "not a drum was heard, not a funeral note" reads the burial of Sir John Moore, for the requiem of poor Plug. We all accomplished a feat of pedestrianism unsurpassed by Gildersleeve in his palmiest days,—and slept as soundly as a good man with a quiet conscience. Twenty four miles of such a road is no fool's job, though it may be often walked by such. It is almost impossible for me to describe Panama on account of the difficulty in drawing a proper comparison.

I should say that if you took about 300 "Pennsylvania Stone Barns" with balconies, and cut off the cupalo's without adding chimneys, and then enclose them by a stone wall, putting them as far apart as you pleased, you would get a very correct idea of this place.

The people too are very singular, instead of carrying baskets and cans of water in their hands they put them on their heads, thrusting both hands into their pockets trudge along perfectly independent, and if they wish to pass a Sunday in an agreeable and *Christian* like manner they go to church in the morning, worship devoutly, and attend a *quiet social* sort of a cock fight after dinner, a practice not uncommon here. They have also their *fandangos*, another agreeable method of passing away the small hours. We are all pleasantly situated here, having six rooms for twelve of us and living *very high*,—in the third story. Our fare is *very unfair* in price and quality—the best bread we have is a sea biscuit, which is worth *only* 20 cents per pound, but the last lot we purchased they threw in the mould, and expectant worms, rightly premising I suppose that if we eventually must become food for them, we had better anticipate their attack by making them food for us. We have engaged a man to go to California with us, a Dutchman who is a sort of nautical admirable personage, and does every thing required of him but fight,—this part of the business we have contracted for, and shall not let out the job.

We board ourselves and do our own wash-

ing,—the latter is generally taken by the natives, but as they are in the habit of *taking* in those who hire it done at the rate of two or three dollars per dozen, we prefer not to patronize them.

Being among Spaniards, I am picking up a little Spanish but do not succeed well. Water in Spanish is *agua*; what brandy is I don't know but have seen some Americans who can tell, I am confident.

I wish you could see the soldiers here; unlike the old saying they are easier described than imagined, because there is so little to describe, Barefooted and with no superfluity of clothing, they roam where the "darkies are seen, sucking the juice of the sugar cane green."

I think a good smart American could whip about six at sun rise, and after a slight repast finish Company A, before night, and thus go through the regiment in 10 days. I merely offer my own opinion, without wishing to engage in the experiment. It costs very high to cross the Isthmus, and the journey is far from being pleasant, still we are willing to undergo any sacrifice while feasting upon the anticipated results of the Eldorado. I shall forward you communications at every opportunity and hope to hear of your success.

Yours truly,

C. W. H.

## A Criticism.

Our worthy contemporary the "Farmer and Mechanic," give us credit in last week's number for Mr. Froelich's rail road brake to prevent collisions. Our friend indulges in some misgivings about its qualities, well we like to see the criticism and the credit. But why was there nothing said about Mr. Gladney's new water wheel, taken from the Scientific American, also the article on the effects of steam on timber, which was translated for and appeared first in our columns.

TO COLOR COTTON BLACK.—Put clear cold water into a tub, sufficient to cover the goods, then put into it two and a half ounces of chloride of lime, then put in the goods a half an hour—take out and wring, then fill a tub a second time with clear water, put into it two ounces of the sulphate of iron, put in the goods ten minutes, then take out and wring; then put the sulphate of iron water into your dye kettle, and as much clear water as will cover the goods; then put in four ounces of the extract of logwood, one and a half ounce of the sulphate of copper, then boil in the goods from fifteen to thirty minutes.

NOTE.—After coloring, dip the cotton goods two or three times in the chloride of lime water, then wash well in hot strong soap suds and warm water.

INDIGO BLUE.—Pulverise two ounces of indigo; put in eight ounces of sulphuric acid, in a pitcher; put the indigo into the acid—a little at a time, and keep stirring it with a stick until all the indigo is in the acid. Let this mixture stand eight hours before you color, then boil water sufficient to cover the goods. Put in the mixture of indigo and acid, then your goods immediately afterwards—let them boil five minutes. This is designed for woolen or silks.—*Farmer and Mechanic.*

Useful receipts are valuable, if correct, but if they are not correct they may be the means of doing much mischief. We copy the above receipts to point out their errors as some of our readers may chance to read them, and be led astray thereby. There are a great many receipts of a like character, which we see copied into various papers, just because they are receipts. The reason of this is, that there are not many who are sufficiently versed in practical chemistry to detect and point out unscientific errors.

1st.—The above receipt, will not color cotton black. The chloride of lime is not used for any purpose in the way of dyeing, it is only used by Physicians and Chemists, in frigorific mixtures to produce intense cold by mixing it with snow.

The way to dye black in cotton is this;—Boil your cotton goods in clear water, then wring them, then let them steep twelve hours in sumach liquor, at the rate of 2½ pounds boiled or scalded for every 10 pounds of cotton goods. After this wring them out of the sumach and handle them evenly in lime water, (hydrate not chloride of lime) for 15 minutes, wring them out of this and handle them

well for 15 minutes in a solution of copperas, (sulphate of copper,) at the strength of one pound of copperas to ten pounds of cotton, wring them out of this and air them well, then run them through a weak solution of lime water (very weak) and afterwards wash them well, and wring them—they are then ready for the logwood. A solution of warm boiled logwood, at the rate of 4 pounds (of the kinds now to be got,) should be allowed for every ten pounds of the cotton goods, if yarn. In this liquor they should be handled for half an hour and afterwards dried.

We warrant this receipt to dye a good black on cotton goods, but there are some little things that can make it much faster, but the previous receipt is a burlesque on practical chemistry. Whoever heard of any person boiling cotton goods to dye a black, and then washing them in hot soap suds. Why the whole receipt is a compound of bleaching and dyeing mixed up together, producing the same effect in Chemistry as it would in practical mechanics to work an engine by raising the steam and then letting it escape without going into the cylinder.

2d.—The Indigo blue produced by the sulphate of indigo (chemic of the dyer,) is a fugitive color, it will not dye cotton, but by neutralizing the acid with chalk, but we warn every person from using it in the manner directed above, no silk goods should be boiled, in dyeing it would spoil the lustre of the silk.

The receipt which we have given for black will be valuable to many of our readers who have small jobs of coloring for home made clothes.

## Cohesion.

Is that species of attraction which, uniting particle to particle, retains together the component parts of the same mass; being thus distinguished from adhesion or that species of attraction which takes place between the surfaces of similar or dissimilar bodies. The absolute cohesion of solids is measured by the force necessary to pull them asunder. Thus, if a rod of iron be suspended in a vertical position, having weight attached to its lower extremity till the rod breaks, the whole weight attached to the rod, at the time of fracture, will be the measure of its cohesive force, or absolute cohesion.

The particles of solid bodies, in their natural state, are arranged in such a manner, that they are in equilibrium in respect to the forces which operate on them; therefore, when any new force is applied, it is evident that the equilibrium will be destroyed, and that the particles will move among themselves till it be restored. When the new force is applied to pull the body asunder, the body becomes longer in the direction of the force, which is called the extension; and its area at right angles to the direction of the force, contracts. When the force is applied to compress the body, it becomes shorter in the direction of the force which is called the compression; and the area of its section at right angles to the force, expands. In either case, a part of the heat, or any fluid that occupies the pores or interstices of the body, before the new force was made to act upon it, will be expelled.

## The Upas Tree.

While Mr. Brooke, the Sultan of Saranah, was making geological examinations in Borneo for coal, he with his friends discovered an isolated Upas tree, nearly forty feet high. Its trunk was almost straight, its head a dense mass of dark green glossy foliage. The ground beneath its shade is crowded with tombs, yet vegetation flourished luxuriantly around its roots.

In tapping it, no bad effects were experienced from the effluvia. But on cutting it to obtain a portion of the wood, bark and juice, a man was so much stupefied that he was obliged to desist. It is ascertained that the bread fruit tree, the mulberry, and cow tree of South America, belong to the same natural order as the deadly Upas.

Swarms of Locusts, or grasshoppers, have appeared in Texas, literally covering the ground in some places, and devouring the wheat and corn. In other parts of the State the corn and cotton have been much injured by cut worms.