The Mineralogist.---The description and locality of every important Mineral in the United States.

(*Continued.*)

GOLD.

Occurs amorphous, crystalized, and in long tortuous, hair like portions, or masses having tree like appearances. Colors, golden or orange yellow. When fractured, it presents sharp protruding points. Malleable and soft; metallic lustre. Fuses under the blowpipe; dissolves in aqua regia, which solution colors the skin an indelible purple. Specific gravity 14.85 to 19.35. The auriferous mines range along the eastern slope of the Apalachian chain: but are mostly confined to Virginia, the Carolinas and Georgia. The gold district of California begins near the mouth of the Sacramento in lat. 39 N. and long. 122½ W. beingabout 100 miles N.E. from the San Francisco Bay, and extending northwards up the valley, and into several valleys on the east.—Its malleability will distinguish it from pyrites and yellow mica.

GREEN EARTH.

Occurs in masses, or in lining cavities. Color, greenish. Yields to the nail; fracture earthy; adheres to the tongue; slightly unctuous. Fusible. Specific gravity 2.5. Found near Boston and Deerfield, Mass.; on the Hudson, N. Y.; near Imlaytown, in Paterson, N. J.

HELIOTROPE. (BLOODSTONE.)

Color, deep green, interspersed with colored spots. Translucent on the edges. Lustre, resinous. Specific gravity 2.63. Infusible.—Found near Troy, N. Y.

HORNBLENDE.

Occurs massive and in prismatic crystals, of a dark green color. It has a shining lustre, and grayish green powder. Yields to the knife. Easily fusible. Specific gravity 3.15 to 3.38. Found at Franconia and Jericho, Vt.; Brunswick, Me.; Litchfield, Ct.; Cumberland, R. I.; Chester, Mass.; Newton, N. J.; Amity, Willsborough and Edinsville, N. Y.; Schuylkill River, Pa.

HORNSTONE.

Occurs massive and modular, of a yellowish or grayish white color, with shades of brown or green. It hasa glimmering lustre, and specific gravity of 2.6. Infusible. Found at Orwell, Cornwall, Bridgport, Middlebury and W. Haven, Vt.; Albany Co., Saratoga Springs, Bern and Bethlehem, N. Y.; W. Goshen and Newlin, Pa.; west side of Blue Ridge, near Baltimore, Md.

HYPERSTHENE.

Occurs in masses of a dark green or brown color dark greenish gray powder; and lamellar structure. It scratches glass, and yields to the knife. Fuses with difficulty. Found at Hingham, Mass.; Warwick and Essex, N. Y.; on Brandywine Creek, Pa.

ICHTHYOPHTHELMITE (APOPHYLLITE.)

Occurs in crystals, of a whitish, greenish or reddish color; pearly lustre; foliated structure; and specific gravity of 2 5. Scales off and finally melts into a glass, under the blowpipe. Flakes in aquafortis. Occurs near Saybrook, Ct.; and Lake Champlain, N. Y.

IDOCRASE (VESUVIAN.)

Occurs crystallized and massive, of a greenish, reddish yellow, or blackish brown color. Translucent and fusible. Scratches feldspath. Found at Worcester, Mass.; Cumberland, R. I.; Salisbury, Ct.; Amity, N. Y.; Newton, N. J.

INDICOLITE.

Occurs in crystals of a dark blue color.—Found at Bellows Falls, Vt.; Hinsdale, N. H.; Goshen and Chesterfield, Mass.; and Harlem Heights, N. Y.

ARSENICAL IRON.

Occurs in crystals and masses of the color of tin with a shade of yellow; metallic lustre; granular fracture; of the odor of garlic when struck; specific gravity of 6.5. Hard and brittle; gives fire with steel. Fusible. Found in Paris, Me.; in Franconia, N. H.; Chatham and Munroe, Ct.; Worcester and Boston, Mass.; Warwick, N. Y.

To render Paper Hangings Washable when up.

Give the paper two or three coats of size, and then varnish over, with good spirit varnish, it will then bear washing with soap and water

Blanchard's Patent.

(*Continued.*)

Opinion delivered by Judge Kane in the United States Circuit Court in the case of Blanchard *vs.* Eldridge, on a motion of attachment because of a breach of injunction—for an infringement of Blanchard's Gun Stock Turning Lathe as applied to turning Shoemakers' Lasts, March 8th, 1849.

The patent right of Mr. Blanchard has been the subject of examination before me in two trials at law, the present defendent being a party. Although no verdicts were rendered, I was fully satisfied by the evidence, that the patent was a highly meritorious one, of ancient date, and that the defendant had violated it. I did not hesitate, therefore, to grant an injunction against him, upon the proper proceedings being instituted in equity. This injunction being still in force, the defendant has devised a new machine, and is now using it,—as the complainant asserts, in violation of the injunction. The question is thus presented, whether the new machine of the defendant infringes the complainant's patent right.

In my charge to the jury on the other side of this Court. I spoke of Mr. Blanchard's machine as follows:—"It is a turning machine, capable of producing with rapidity from the rough material, by a single operation, an irregular form, similar or proportional in all respects to a given model. It consists essentially of a model, revolving in contact with a friction tracer, while the rough material revolves, with the same velocity, in like contact with a rapidly moving cutter wheel;—either the model and material, or else the friction tracer and cutter wheel, having a progressive lateral motion, so that by the revolutions of the model and material all the points of their respective surfaces are presented in succession to the touch of the friction tracer and the action of the cutter wheel respectively; that is to say, all the points of the surface of the model successively to the touch of the tracer, and the corresponding points on the surface of the material to the action of the cutter wheel. Its value consists in this, that it combines the accurate imitation of a slowly revolving model with the rapid action of a cutter wheel. Its principle is the combination of the cutter wheel, model, and friction tracer, with the arrangement for effecting the lateral motion."

Between this and the respondent's present machine, there appears to be but a single point of difference.

"The peculiar novelty of the respondent's machine, according to the report of the Commissioner, William W. Hubbell Esq., appears to be in the formation, suspension, and manner of propelling the cutting instrument, to shape the last from the rough block, without finishing. The cutting instrument consists of a double edged curved knife of about the same curve or periphery as the friction column; it is bolted to a perpendicular iron bar, about an inch square, which plays up and down between and through two iron straps, fastened to the main transverse carriage. This cutting instrument receives its motion from a pitman, attached to a crank, put in very rapid revolution, and thereby with great velocity moves the cutting instrument in a straight perpendicular line up and down, which being sharp on both the upper and lower edges, in passing the rough material, cuts it both in its ascent and descent. Attached to the crank shaft are a fly wheel and balance weight.

The two machines then, have the same object; and they attain it by the same means, operating in the same manner, except that Mr. Blanchard's cutters are set on the periphery of a wheel, and act in the curved line of its motion, while in Mr. Eldridge's, the circular motion is transferred to a shaft, and the cutters being affixed to this, with an alternating movement in a right line.

It is not contended that the shaft is an improvement on the wheel, that it is more economical of structure or use, or that it does its work more effectively or rapidly. On the contrary, it is evident that, if well made, it must be more costly at first, that it must exact the expenditure of more power of working, must do the work less rapidly and less perfectly, and must be less durable. The only question to be decided is whether it differs in principle, or by a modification of details merely, a substitution of equivalents,--whether, in a word, it is or is not an evasion of the complainant's patent.

I have heretofore spoken of the principle of the patented machine, as involving the combination of a cutter wheel with certain other parts. This language was sufficiently accurate, perhaps for the purposes of the occasion, since there was then no controversy regarding a machine without a cutter wheel. But it was rather a description of Mr. Blanchard's machine as in use, than a definition of its principle. The patentee evidently had a broader view of his invention. In his specification he says, "Moreover the cutters may be made sharp on both edges, and the cutter wheel may be made to turn a quarter of a circle or less, backward and forward, and so the cutters be made to cut by both edges; but the continued circular movement is believed to be preferable to any other."

(*To be continued.*)

Dyeing Home Made Clothes.

WINE COLOR.—One half a pound of camwood is required for one pound of cloth. The camwood is to be boiled in water twenty or thirty minutes. Then put in the cloth and keep it thirty minutes scalding hot; take it out and air it, put it in again and keep it in thirty minutes. Then put into the dye a teaspoonful of copperas and a table spoonful of vitriol; boil and skim the dye. Put in the cloth, and stir it for fifteen or twenty minutes while scalding hot.

TO COLOR BLUE.—For nine pounds of yarn dissolve three-fourths of a pound of alum in water in a brass kettle. Keep the yarn in this solution two hours. Boil three pounds of logwood in an iron kettle two hours. Also boil, in a seperate iron kettle, three bushels of purslain, at the same time. Strain the liquid from the logwood and purslain, and mix it together. Put the yarn into this, and keep it boiling two hours; then wash it in soap suds, and rinse it clean.

MADDER RED.—The following articles are required to color one pound of yarn or cloth, viz: one-half pound of madder, three ounces of alum, one ounce of cream tartar, and one-half a n ounce of stone lime.

MANNER OF COLORING.—Put five gallons of water into a brass or copper kettle; put into the alum, cream tartar, and the yarn or cloth you intend to color. Boil it two hours; then take it out and rinse it well in clean water. Throw away the alum and cream tartar water, and put five gallons of clean water into the kettle. Put the madder in also; heat it moderately until it becomes as hot as you can bear your hand in it. Then put in your cloth or yarn, stir it one hour and keep it scalding hot; then boil it five minutes. Take it out and rinse it in cold water. Put into the kettle a half a pint of lime water, made with the half ounce of lime, then put in your cloth again, and stir it ten minutes, keeping it still hot. Then take it out, wash it in strong soap suds, and rinse it clean.

[The above is taken from the Maine Farmer, and as the season is now at hand when many of our readers will be preparing their wool, we presume, that they will be of some use. With regard to their ability we can confidently assert that the fullesttrust may be reposed in them. One thing should always be remembered—have the wool or cloth perfectly free from grease and dirt and well washed before it is put into the dye kettle. The wine color mentioned above would be greatly improved by adding half a pound of fustic to the pound of camwood. Half apound of camwood and one pound of fustic to two pounds of cloth makes a good brown. A little sumac and logwood with about a quarter of an ounce of copperas should be used for the finishing dip in the camwood kettle. Boil the goods well instead of mere scalding, the colors will be more permanent. The blue mentioned above is not a fast color but the madder red is, and the camwood brown or wine color, is a very durable color. The fustic gives the wine color, is a very durable color. The fustic gives the wine color a rich appearance of which it is devoid by the use of camwood alone.

The Chemical Character of Steel.

BY J. NAPIER, ESQ.

Steel is found by surrounding bars of wrought iron, with charcoal placed in fire-brick troughs from which air is excluded, and keeping the iron bars and charcoal in contact, and at full red heat for several days; at the end of which time the iron bars are found to be converted into steel. What is the nature of the change which the iron has undergone we have no certain knowledge; the ordinary explanation is, that the iron has absorbed and combined with a portion of the charcoal or carbon, and has, in consequence, been converted into a carburet of iron. But it has ever been a mystery that on analysis, so very minute and questionable a portion of carbon is exhibited. It appears that the grand error in the above view of the subject consists in our not understanding the nature of the change which carbon undergoes in its combination with iron in the formation of steel. Those who are familiar with the conversion of iron into steel, must have observed the remarkable change in the outward aspect of the bars of iron, after their conversion, namely, that they are covered with blisters. These blisters indicate the evolution of a very elastic gas, which it sets free from the carbon in the act of its combination with the iron. I have the strongest reasons to think that these blisters are the result of the decomposition of the carbon; whose metallic base enters into union with the iron and forms with it an alloy, while the other component element of the carbon is given forth, and so produces in its escape the blisters in question. On this assumption we come to a very interesting question—What is the nature of this gas? In order to examine this, all that is requisite is to fill a wrought iron retort with a mixture of pure carbon and iron filings, subject it to a long-continued red heat, and receive the evolved gas over mercury. Having obtained the gas in question in this manner, then permit a piece of polished steel to come in contact with this gas, and in all probability we shall then have reproduced on the surface of the steel a coat of carbon resulting from the reunion of its two elements, namely, that of the metallic base of the carbon then existing in the steel with the, as yet, unknown gas; thus synthetically, as well as by analytic process, eliminating the true nature of steel, and that of the elements or components of carbon.

Passage of Hydrogen Gas through Solid Bodies.

M. Louyet, states that if a current of Hydrogen Gas emanating from a capillary orifice be directed against a sheet of paper held a few millimetres from the orifice, so that the current be perpendicular to it, the paper is traversed by the gas. But the gas is not sifted through as might have been expected; it passes as a current and may be inflamed behind the paper as though nothing intervened between the gaseous current and the ignited matter; and farther, spongy platinum becomes incandescent behind the paper, in the path of the current, if the paper be three or four centimetres from the orifice, provided the metal is placed against the paper, or, at least, a very slight distance from it. The pressure under which the phenomenon is produced does not exceed from 10 to twelve centimetres of water. To M. Louyet's great surprise, he has established that hydrogen gas traverses with equal facility gold leaf and beaten silver. Thus, surround spongy platinum with several folds of gold or silver leaf, and direct against it a current of hydrogen, the platinum will become incandescent, and the gold or silver will adhere to its surface. Behind leaf tin, also, spongy platinum is, in like manner, strongly heated Through a thin membrane of gutta percha, such as is obtained by evaporation, a slight layer of it from a solution in chloroform, hydrogen also passes; but hydrogen gas does not sensibly pass through pellicles of blown glass, however thin they may be.

This is a fact for ærial navigators, many of whom are so very ignorant of chemical science.

A wheel will run without grease, and a man may do business without advertising, but it is hard work. A truer sentiment was never uttered.