



LIST OF PATENTS
ISSUED FROM THE UNITED STATES PATENT
OFFICE,

For the week ending October 17, 1849.

To Nelson Goodyear, of New York, N. Y., for improvement in Elastic Cords for Suspenders. Patented Oct. 16, 1849.

To Hannibal Mathews, of Cincinnati, Ohio, for improvement in Cooking Stoves. Patented Oct. 16, 1849.

To Benjamin Scyler, of Franklin Co., Pa., for improvement in Plows.

To Charles P. Carter, of Ware, Mass., for improvement in Apple Parsers. Patented Oct. 16, 1849.

To Harmon Hibbard, of Henrietta, N. Y., for improvement in Tanning Leather by Tannin and Acids. Patented Oct. 16, 1849.

To Peter Von Schmidt, of New York, N. Y., for improvement in Ore Washers. Patented Oct. 16, 1849.

To Henry Burden, of Troy, N. Y., for improved machinery for drawing out and compressing heated iron. Patented Oct. 16, 1849.

To Matthew A. Crooker, of New York, N. Y., for improved journals for oscillating propellers. Patented Oct. 16, 1849.

To Benjamin Livermore, of Hartland, Vt., for improvement in Boot Crimps. Patented Oct. 16, 1849.

To Newman W. Smith, of Shutesbury, Mass., for improvement in Accoucheur's Chairs. Patented Oct. 16, 1849.

To Ashbel B. Haile, of Norwich, Conn., for improvement in instruments for arresting hemorrhage from internal organs or cavities. Patented Oct. 16, 1849.

To Joseph Reynolds, of Providence, R. I., for improvements in Looms for figured fabrics. Patented Oct. 16, 1849.

To Thos. G. Clinton, Geo. H. Knight, and Edward H. Knight, of Cincinnati, Ohio, for improvement in Cooking Stoves. Patented Oct. 16, 1849.

To Cornelius Kingsland, of Allegheny, Pa., for improvement in Grate Bars. Patented Oct. 16, 1849.

To James A. Crever, of Pittsburgh, Pa., for improved method of attaching knobs to doors. Patented Oct. 16, 1849.

To Thomas J. Green, of Jamaica Plains, Mass., for improvement in the Rockers of Gold Washers. Patented Oct. 16, 1849.

To Abner Follet, of Windham, Conn., for improvement in Bog-cutting Machines. Patented Oct. 16, 1849.

To Edwin B. White, of Nashua, N. H., for improved double cylinder Spike Machine. Patented Oct. 16, 1849.

To William Criswell, of Butler, Pa., for improvement in machines to manufacture Horse Collars. Patented Oct. 16, 1849.

To John C. Parry, of Pittsburgh, Pa., for improved method of giving a rotary motion to the milled iron in casting chilled rolls. Patented Oct. 16, 1849.

DESIGNS.

To Edward B. Finch, of Peekskill, N. Y., for Design for Stoves. Patented Oct. 16, 1849.

Great Patent Case.

We see it stated in the Boston papers that the great case on the infringement of Blanchard's patent has been decided for the present. The parties were Blanchards vs. Kimball. The most eminent counsel were employed, for plaintiffs, C. G. Loring and M. S. Clark; for defendant, R. Choate and B. R. Curtis. The case occupied the Court ten days and much evidence was produced upon both sides touching the capacity of the respective machines, to make irregular forms, such as lasts, &c., in exact conformity in all respects to a given model and the time occupied by each machine in doing so.

The defendant has built a machine for the

same purpose, in many aspects, as the plaintiff's, and which the plaintiff alleged embodied the spirit and substance of his invention, under a mere change of form. The defendant admitted the building of the machine, and the use of it, but denied that it infringed upon the plaintiff's patent. Under this issue many subordinate questions of the fact and law were raised, respecting the true limits of the plaintiff's invention, and whether the defendant had infringed upon them.

Judge Woodbury after explaining to the jury the principles of the plaintiff's patent, instructed the jury generally, that if the defendant's machine embodied the substance and principle of the plaintiff's invention, as described in his specification, however much it might be changed in form, it was a violation of the plaintiff's patent. The jury were not able to agree, the foreman stated that the jury were very nearly agreed upon all points, except the amount of damages, and were discharged. It would appear then that they had agreed in regard to the infringement of the patent.

Trial by Jury in Patent Cases.—No. 6.

(Concluded from page 38.)

The Constitution vests Congress with power to make laws for the encouragement of Science and Art. The Patent Laws, as they now exist, are legislative enactments, to protect an inventor or discoverer in the exclusive right to make, use and sell his invention or discovery, in these United States, for the space of fourteen years, upon condition that the public shall enjoy the full benefit of the same after that period. The fundamental doctrines of our Patent Laws are derived from the famous Statute of Monopolies of James the First. The said Act states that "the validity of letters patent shall be examined, heard, tried and determined by and according to the common laws of the realm, and not otherwise." After a patent is secured for any invention, and a patentee believes that a certain person or persons is infringing his patent, he generally applies to one of the Judges of the U. S. Courts to grant an injunction to restrain the person from making, using or selling what he believes to be his invention. If the validity of the plaintiff's patent is questioned (the first case,) no injunction should be granted, but the plaintiff ordered to prove the validity of his patent before a competent jury, and the defendants ordered to keep an account of his manufacture, and give security to that effect. If the plaintiff proves the validity of his patent, another point has to be settled, viz., the real identity of the defendant's to the plaintiff's machine—the infringements of the patent. If this is proven also, the jury decides the amount of damages. According to our custom the validity of a plaintiff's patent may be questioned, and form one part of the defence, in every court of law. This is not right. If in one trial the validity of the plaintiff's patent has been established, a certificate should be given by the Court to the plaintiff, and no defendant allowed to contest its validity afterwards. If there are men who still believe it to be invalid, although once established, let them be the plaintiffs, and let the 16th section of the Patent Laws be altered, so as to remove all ambiguity, and allow patents to be repealed by special suit, before a competent jury (one trial)—not otherwise. The defence to prove the invalidity of a patent, takes up far more time and is the cause of more trouble and expense to the patentee and the defendant also, than to prove or defend the plea of infringement.

The greatest trouble with patents in our country, has been among patentees—one suing the other for infringement. As we stated in our last, there should be no injunction granted on application, nor common trial at common law had upon the petition of one patentee against another. The first thing should be a motion for repeal of the invalid patent, by a trial by jury, to decide upon the matter, "whether it embraces the real principles of the plaintiff's invention, or not." This course would soon bring matters to a conclusion.

When infringement of a patent is denied, no decision appears to us so just, or will give such satisfaction, as that of a jury; therefore, when a patentee believes that his patent is infringed, the best way of protecting his rights

and the defendant's, would be an application for trial, upon the usual forms, when the judge should grant the same, demanding of the defendant to keep a correct account of his manufacture, and give security to the faithful keeping of the same. There will always be difficulties about patent rights, infringements, &c., just as there will be difficulties about other things. All that the law or country can do, is to provide a fair way to test the rights of both parties, and we sincerely desire to see a good and cheap way provided for a poor patentee to defend his rights against all that selfishly oppose them. At present this cannot be done. Able counsel is necessary, for there is a mass of knowledge to be acquired, before a lawyer can be good counsel in patent cases. There are very few attorneys who attain to eminence in managing patent cases. It is very easy for a well learned patent lawyer to discomfit his more ignorant opponent. To be a good counsel it requires skill and knowledge in scientific matters, to read the combinations of machinery and the different effects of different machines. Two machines may be nearly identical in their appearance, yet they may effect totally different objects, or produce quite different results; and two machines may present a very different appearance, and yet embrace the same fundamental principle in their action. The judges of our courts have a great weight of responsibility resting upon them, and if one makes a decision respecting one case, it too often happens that others strike the same keynote, when a similar case comes up before them, although the first may be wrong. Great wisdom, caution, and real upright, unbiassed feeling, is required in deciding upon patent cases, but we know all these qualities are not easily found united in any one body of men, assembled to decide upon any question.

Depth of the Ocean.

MESSRS EDITORS—A statement said to be from the Officers of the Coast Survey, has been going the rounds of the papers to the effect that the water of Cape Hatteras was between nineteen and twenty thousand feet deep. If I am not much mistaken it was copied into the columns of the Scientific American. I wish to ask, in what way was the fact ascertained? My own impression is that the heaviest "deep-sea-lead" would not sink to such a depth. Sir Charles Lyell in his late work says; "In fact these great ice-islands coming from Greenland seas are not stopped by the gulf stream which is a mere superficial current of warmer water flowing in an opposite direction, but are borne along from N. E. to S. W. by the force of the Arctic under-current, consisting of colder water, into which the ice-burges descend to a great depth."—Vol. 1, page 17. Now if a "lead" could be sunk to such a depth what length of line would it require making due allowance for these contrary currents? And would not a "lead" find its own density at less than that distance from the surface and float off at that level? I ask for information.

Very respectfully,
J. BOARDMAN.
Macon, Geo.

[We have no Report of the U. S. Coast Survey in our possession except one sent to us by J. W. Wampler Esq., which has nothing about the subject mentioned above in it. It would be well if the Officers of the government were a little more mindful of us, as all information of a Scientific nature, finds its way through our columns to the houses and homes of more of our people, than by any other source, so as regards the first enquiry we must remain silent.

But then we have a question to ask, "How could a sea lead not sink to that depth? It is a common opinion that water at a certain depth is very dense—that there are stratas of water at various depths of the ocean, where the "dead float about," where stones swim, and all such notions, and friend Boardman is possessed with the idea that there is a strata of water in the ocean as dense as lead. Such opinions are incorrect. What kind of substance would water be, compressed to the density of a metal like lead? If there was no bottom to the Atlantic Ocean, a piece of lead dropped into it would descend to the centre of our globe. This is self-evident to us. Suppose that a cubic foot of lead is one hundred

times heavier than a cubic foot of water, it will occupy 100 times less space. Now if at the depth of 1000 feet beneath the surface of the ocean, a cubic foot of water would be reduced to double its density, (six cubic inches,) would not a cubic foot of lead be compressed in the same ratio, and from the superincumbent weight of water alone, it would possess the same qualities (100 times the gravity,) to pass through every foot of water below it, that it had to pass through the first 1000 feet. But people greatly err, in comparing water to the atmosphere, as it regards compressibility, and a more general acquaintance with the elements of mechanics, would remove the common opinions to which we have already referred. Water is almost incompressible, and this quality is most admirably taken advantage of in the application of it to press cotton; &c., in the well known Bramah Press, where the water is submitted to a pressure of many tons, without compressing it in the least. There is one instance on record where a weight of 1,100 tons was raised 100 feet high by two Bramah Presses, the water bore of each pipe being only one half inch in diameter. This will give us some idea of the incompressible nature of water. At the depth of 100 feet the pressure on a cubic foot of water is 6,250 lbs., and the same upon a cubic foot of lead, but the difference in favor of the lead is still a superior gravity of 647 lbs., for lead weighs 709.5 lbs. per cubic foot, water only 62½ lbs.

This much we have said, treating the subject scientifically, to remove wrong opinions and spread abroad true knowledge. Now for the proof fact—Sir James Ross, the great navigator, in his voyage to the Southern seas, obtained soundings with a line of 4,600 fathoms, 27,600 feet.

For the Scientific American.
Soils.

All soils are made from the disintegration and decomposition of the rocks into earth, and then united with decayed organic matter. The inorganic portions of soil consists of what are called the primitive earths: clay, siliceous, lime and magnesia; and of certain saline and metallic compounds such as common salt, gypsum soda, potash, and the oxides of iron and manganese. The organic constituents are decomposed vegetable and animal matters, the progressive decomposition of which, in conjunction with inorganic substances, air, and water, furnish chemical compounds of humus, carbon, ammonia, etc., all of which are essential to the perfection of vegetable growth; sand, clay, and lime, are the three principal ingredients of all soils, and on the proper proportions and intermixture of these, the qualities of all cultivated lands, may be said to be depending. A soil is said to be sandy when it contains no more than ten per cent. of clay; a sandy loam it from ten to forty per cent of clay; and loam is from forty to seventy per cent. Should the clay average from seventy to eighty-five per cent. it is denominated a clay loam; from 85 to 95, a strong clay; and if no sand be present, it is pure agricultural clay. The same distinctions are made when lime is present in considerable abundance, five per cent. of carbonate of lime constituting a marl, and twenty a calcareous soil. A soil fitted for the growth of plants, must contain in a soluble form all the salts and mineral constituents which they require. These vary in different plants; their nature and quantity are determined by minute analyses of the ashes of each vegetable. The most important are: lime potash, magnesia, and iron, combined with sulphuric, phosphoric, and silicic acids, and chlorine. These salts, plants have the power to decompose and absorb. J. W. O.

Camphene.

Camphine and Pine Oil are synonymous terms, both preparations being highly rectified spirits of oil of turpentine. A new oil called the American Oil, has been patented and from the specimen afforded, it must answer the purpose of lubrication in the place of fatty oils.—It is obtained by the dry distillation of resin. Oil of a certain character has been before obtained from the destructive distillation of resin, but the inventors claimed that they have discovered a new hydrocarbon, not before known to chemists.—[Ex.] Who are the inventors?