Scientific American

NEW-YORK, JUNE 4, 1853.

The Progress of Inventions and Inventors.

What some call "great discoveries" are not produced every day, week, nor year, and yet the progress of invention is as steady as the march of time itself. It is certainly true that the boundaries of human knowledge are constantly extending, and this never could happen if new discoveries were not continually unfolded. A new discovery is something brought to light which had not been observed before, and a new invention is its application to a useful purpose. We are liable to overlook the progress that is continually making in science and art, and to forget the benefits which inventors have conferred and are conferring upon community. It is our duty to call in our wandering thoughts from time to time, and not forget the debt of gratitude which we owe, (and which is continually accumulating upon us) to the inventors who are living and acting among us. We cannot allude to and name all the men who are now thinking and working out plans and improvements, but the number is not small, and they all deserve to be highly esteemed and rewarded. We now see a message sent from one end of our continent to another in a few seconds; a few years ago it required more weeks than it now does moments to accomplish the same feat. Here we see a dangerous whirlpool destroyed by the electric spark and a few canisters of gun powder, and there we behold an iron tube thrown across a strait of the sea for the iron horse with his huge train to thunder through it. A short time ago an ingenious inventor discovered a method of sinking iron foundations for bridges by the simple operation of an air pump, and now we see the same principle applied in our cities for the most useful and sanitory purposes. In one place an inventor makes a loom and weaves the most intricate and beautiful patterns; in another place an inventor constructs a machine which performs the most delicate needle work, and at once relieves woman from the most tedious and confining household drudgery. We might mention many other important inventions which are now conferring blessings upon community, but our object principally, is to direct attention to their merits, as particular information can be obtained respecting their nature and operations by examining the columns of the Scientific American. What we hope from community is not to forget living inventors; let them have their reward while they are with us. It is too often the case that nations raise monuments to men when they are dead after having allowed them to suffer and die in penury. It is exceedingly easy to pass complements to deceased benefactors, because such praise costs nothing. Men have starved in garrets who have had statues erected to their memory. We hope the like will never occur again. In this age, with a free press to make hidden things public, we conceive it to be our duty to tell the community from time time, of their duty, to be just and generous to those living benefactors of our race—discoverers and inventors.

The New York Crystal Palace.

This building is very far from being ready to receive goods for exhibition, although it is more than a month after the period when its managers solemnly promised to the world that it should be open for visitors. It is well known to our readers that we opposed the scheme of holding an Exhibition of Industry here so soon after the Worlds' Fair in London, and by a private company whose object was gain, not honor to our country. The reason we opposed it we have given before, namely, that after four, five, or six years, we might be able to have a grand national exhibition, not sectional nor for private gains, but eminently cosmopolite in its objects, yet national in its arrangement. Our sentiments were not dictated by any motive but the love and honor of our country, and the benefit of mankind. It has been said by some connected with the New York Crystal Palace, that we had other motives in view than those we have expressed, but we had not; what personal objects could we have for uttering such sentiments? None. We also expressed our opinions respecting the manner in which the building was projected, and we predicted that it would cost more and give the managers greater trouble than they anticipated, also that we sincerely believed it would not be completed at the time promised. What we predicted has come to pass. The very papers in our city that kindly lent their influence to speak favorably of the Crystal Palace Company, have been obliged to speak in the severest terms respecting the want of good management among its conductors, and the violation of the promise made by them to the whole world to have it ready on the 2nd of last month. There are many people in this city now who came from distant parts of our own country, and from other countries, to witness the opening of the Exhibition, and the probability is, they will have to wait at least four weeks longer, for that eventful day. Two government vessels with Commissioners, we understand, left England two weeks ago, for the Crystal Palace, and vessels from other foreign countries, with goods for the Exhibition, have been lying at our port for more than two weeks. Is this not reflecting some disgrace upon our country through the managers of the Exhibition? It is; for these people have received the erroneous impression that this is a national not a private company's project. The London Palace covered 20 acres of ground; the New York Crystal Palace will occupy only about one-eighth of that space, and yet the former only took eight months in its erection, and was opened on the day promised, while the New York Crystal Palace will not be open for two months after the day it was promised to be ready. It is indeed humiliating to our goaheaditiveness to think that neither the energy nor punctuality of the English, has been displayed in the erection of this comparatively little structure. The Association has been the means of drawing hundreds to this city at a too early period, thus involving them in great expense, and all because things have not been well managed. Under good and proper management, such a building could have been erected and ready for exhibition more than two months ago. The eminent engineers who were called in from various parts of our country to give the managers of the Association their advice respecting the different plans proposed, found that they were called upon to give merely a formal opinion; hence they at once resolved to have nothing to say in the matter. The Association took their own council, and have suffered for it in more ways than one. We have no doubt if the Exbition had opened on the day promised, but the managers would have drawn in $50,000 by this time, as no less than 100,000 strangers were in our city during the anniversary weeks.

We hope the New York Crystal Palace Managers will make amends for past ills, but to retrive lost estimation, they have a Herculian task to perform. Whatsoever good they do, and whatsoever is honorable, happy will we be to give it circulation, for the honor of our country and the advancement of the arts; but hitherto we have not been able to say, in honesty anything favorable or of good report.

Leather and its Interests.

The leather business of the United States is very extensive: not less than a million and a half of hides are imported into our country every year, made into leather and used for different purposes. The capital invested in the tanning business has been represented in some statistical tables as amounting to $19,000,000; there are about 6500 tanneries in the different States, in which no less than 12,000,000 sides of leather are tanned every year, the value of which amounts to $33,000,000. Any business in which such an amount of money is invested, and in which so many persons are engaged as employers and employed, has strong claims upon our attention, in presenting information which may be useful, or even that which may be claimed as useful. The best articles ever published in any paper in our country, on tanning appeared in Vol. 5, Scientific American. They were written by one of the most experienced, and perhaps the most learned tanner in our country. Since that time a very excellent work on the subject by Campbell Morfitt, has been published by H. C. Baird, Philadelphia, and respecting which our readers can become more fully acquainted by perusing the same. He describes no less than twenty-six different tanning processes, some of which are very curious, some ridiculous, some good, others bad. The work contains Hibbard's patent process, but not that of Eaton, which has been patented since, and by which very excellent leather has been made, we have been told, in ten days. The old methods of tanning were exceedingly tedious, and the grand object with tanners, has been to shorten the process and obtain as good leather as by the old plans.

We learn by the "London Mechanics' Magazine" that a new patent process, named "Prellers," has lately found much favor in London. After the hides or skins are unhaired in the usual manner, they undergo a partial drying, and receive a uniform coating of a peculiar paste composed of various vegetable and saline substances. The vegetable substances employed contain a large proportion of starch, such as barley, rice, or wheat flour, a little gluten, some butter, or oil and grease, some common salt, and some saltpetre. The hides are laid upon tables and smeared on the fleshy side, with the said paste, and in that state are put into the interior of large drums, which receive a rotary motion, and by which the hides are greatly agitated, and the paste (by pegs in the inside of the drums), is forced into the pores of the hides or skins, or rather they are kneaded along with the paste for two or three hours, after which they are drawn out. They are then found to be in a partial dry state, then hung up and aired for two hours, and again laid upon the table, where they receive another dose of the same paste, and are again returned to the drums a second time, when the same operation as that described is again performed. After this they receive a third smearing with the paste, and are kneaded in the drums, after which they are taken out and hung up to dry, and are then fit for the currying process. The leather thus produced is stated to be much lighter than that produced by oak or other tan barks, but is much stronger and will wear much better. It is asserted that for machinery bands it is twice as strong as oak-tanned leather, and that sheep and goat skins are rendered very tough and durable. It is said that calf skins are tanned by this process in about three hours, and the thickest ox-hide in three days.

We are not aware that any such process for tanning is described in any work on the subject, or has been practiced in our country. It is our opinion that it may make excellent uppers for boots and shoes, but not so good sole leather as oak bark. It is stated that the brains of animals is also used in the paste, and that the salt and nitre are only employed to preserve the animal and greasy matters from putrifaction. The process has some resemblance to that employed by many tribes of our Indians for tanning their skins for moccasins and other purposes. They use the brains of animals, mixed with lye made of the wood ashes of their fires, and knead the skins and rub them with the pasty mass, upon the same principle as that employed in the "Peller process." When the tanning of the skins is completed according to their notions, they are finished by drying them, or rather smoking them, in a pit in the ground, which is covered with bark and some earth. We have seen very good brown leather made by this process. We are not able to give the exact proportions of the paste used by Preller, but this does not make much matter, for some of our tanners can surely make up a paste with flour, ox brains, and oil or grease, &c.; and give it a fair trial, by kneading a skin or two in a tub, with a beetle, so as to test the principle of the process. There is nothing like giving every thing (unless it is manifestly absurd) which is set forth as an improvement, a fair trial, and this is the reason why we have presented the foregoing information, in order that it may be tested by some of our tanners to see whether it has any merit or not.

A company having a million of capital, is forming at Baltimore, to build a line of English steamers.

Events of the Week.

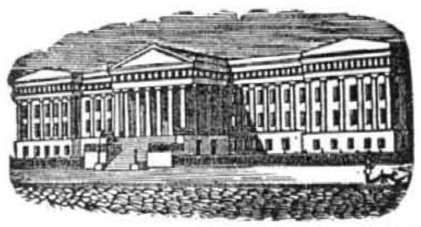
A Bronze Statue.—A very fine bronze statue of De Witt Clinton has been on exhibition at our City Hall during the past week. It was continually surrounded with a crowd of admirers from the moment it was erected on its pedestal. The statue is 10½ feet high and the pedestal 8½, making the altitude 19 feet. The artist is H. K. Brown, of Brooklyn, N. Y., who has done honor to himself and the art by this noble work. We do not like to see huge statues on low pedestals, but this work is so majestic, there is so much spirit in the whole, the face being truly fine; so much thought and genius sitting on the brow, fire in the eye, and bold determination in the firm compressed lips, that it at once commands and rivets admiration. The dress is the old-fashioned short clothes—knee-breeches, long stockings, and slippers, with the folds of a mantle gracefully swelling around it.

The casting was done at Ames' foundry at Chicopee, Mass., and does credit to those engaged in the minor manipulations. We wish that our citizens would erect such a statue to Robert Fulton; we like such testimonials to the memory of departed worthies far better than tall shafts or huge piles of masonry. This work to the memory of Clinton, we believe, is strictly private; this is no credit to the people of this State, nor this great city, which has been so greatly benefitted by that work of which he was the chief promotor—the Erie Canal—which united the Atlantic Ocean and Lake Erie together. It was hoped by many that the people of this State, or those of Albany city, would have at one time erected a public monument over his grave, but there did not appear to be enough of spirit or gratitude in the people to do this; hence his remains were removed by his relatives, a few years ago, and interred in Greenwood, in the family burial plot, where this noble work of H. K Brown's genius is to be erected, and which will remain for centuries to let future generations know where De Witt Clinton sleeps.

Curing Small Pox.—Dr. A. Kendall, of this city, has advertised in the "Times," that he can cure small pox in two or three days, and that he is willing to go into any Hospital along with Commissioners appointed for that purpose, and prove what he asserts he can do to their satisfaction. He also says that he can learn any person to do what he does, in the course of a few hours. Let the skill of Dr. Kendall be tested in some one of our Hospitals, under Commissioners appointed by the City Fathers.

Hats and Tables Moving.—By the late news from Europe, it seems that the table moving is exciting a most extraordinary amount of attention both in Germany and France. Jules Jannin has written a wonderful article on the subject, and three members of the Academy of Sciences have published an account of several successful experiments of table moving made by them. It is stated that a circle was formed on a hat, and it soon began to spin round like a top. It is also asserted that some students in a medical college in Germany, formed the circle with a *maniken*, and it soon began to move and spin round, and at last made the experimenters take leg bail for their impertinence. This latter story, and that about the hat, however, need confirmation, but there can be no doubt but that many people in Paris are now convinced from the table movings, that perpetual motion has at last been discovered.

Church Struck with Lightning.—On Sunday, the 22nd inst., the Congregational Church at Lockport, N. Y., was struck by lightning during divine service, and sad to relate, one member of the church—Mr. Croker—was killed, and a number severely wounded. The electric fluid passed down the steeple, and entered the gallery by two lamp wires, where it struck and paralyzed those who were in the choir. It is stated that there was no lightning conductor on the spire, and there can be no doubt but if there had been a properly constructed one, this accident would not have taken place. The lightning was seen like a ball of fire, and the shock was terrific. The building was but very little damaged, and it is supposed that all those who have been injured will recover.



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LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING MAY 24, 1853.

MACHINES FOR PULVERIZING AURIFEROUS QUARTZ AND AMALGAMATING THE GOLD—By Hiram Berdan, of New York City: I claim, first, attaching the ball or sphere, obliquely to the inclined shaft, by the pin box and sleeve, as described, in combination with the inclined shaft and inclined bowl, as set forth.

Second, in combination with said bowl, I claim the heating chamber or furnace, arranged, constructed, and operating in the manner specified.

[See engraving No. 9, Vol. 8, Sci. Am.]

GAS BURNERS—By S. R. Brick, of Philadelphia, Pa.: I do not claim passing the gas through a small, long aperture, nor a sudden deflection of it, nor a descent of it, nor any of them together, less than the whole.

But I claim the arrangement and combination of the centre conducting pipe and its capping pipe, inside of the common burner, as described.

ENGRAVING MACHINE—By John B. Blair, of Alton, Ill.: I claim, first, so combining the needle, whether sharp or blunt, with a pentagraph or other copying or tracing instrument, through the medium of double carriages, moving at right angles to each other, as that the dots or punctures of said needle may be dispersed or aggregated at pleasure, for the purpose of forming the lights or shadows, the character of the lights and shadows being indicated by a sliding scale moving before the eye, or under the hand of the operator, as described

I also claim the combination and arrangement of the sliding box on the bar, the three cords (one cord connecting the sliding box with the spring lever, and two connecting the sliding box with the spring lever and pedal), and an arm, for the purpose of moving, by means of the pedal, the wheel E towards or from the centre of the wheel F, on the face of which it works spring tight, to change its motion and give to the needle a relatively changed motion, as specified.

I also claim, in combination with the carriage and needle, the wheel, G, with its lifting piece and the cam wheel, H, or their equivalents, for changing the character of marks, lines, or dots upon the plate to be engraved at pleasure, and this I claim, whether the same be operated in connection with the pentagraph or not, as described.

KETTLE BAILS—By T. H. Dodge, of Nashua, N. H.: I claim the sliding dovetail, or other shaped piece, which slides on the bail in combination with the female dovetail or other shaped groove, cast in the flanch or ear, either on the inside or outside, for keeping the bail, permanently fixed in any position desired and for any length of time, and admitting of its being left loose, and operating, if desired, like the ordinary swinging bail.

[See notice of this invention on page 92, Vol. 8, Sci. Am.]

RADIATORS FOR STOVES—By J C. Fletcher, of Burlington, Iowa: I claim the interposition between the fire chamber and the exit pipe of a stove, of a series of concentric flues, so arranged, as that the heat of one flue shall pass through the partitions, and in whole or in part, be transmitted to the next flue, or portion of the flue, in advance, and prepare it for transmitting the draught through the series, as described.

WATER METRES—By John Hartin, of New York City: I claim the adjustable box or stop on one end of the cylinder, for the piston to strike against, for the purpose of preventing the pin in the arm from straining upon the stop in the slotted arm, after the tilting of the lever, as set forth.

CONSTRUCTION OF HARROWS—By Lewis Lupton of Winchester, Va.: I claim constructing the frame of a harrow, of double metallic bars, or of flat straps or pieces of metal and the forming of sockets thereon, by bending the metal, or otherwise, for inserting the teeth or tines, as described, and the uniting the bars, of pieces of metal, and the combining therewith, the manner of bracing or staying the same, by the rod and coupling, as set forth.

MEAT CUTTERS—By Stanislas Millet, of New York City: I claim the combination of a set of revolving knives or cutters, with the top plate and revolving dish, formed as described, and arranged, and operating so as to effect the sub-division of the matter by the action of the cutters upon it, in passing through the slots in the cover substantially in the manner set forth.

WATCHES AND CHRONOMETERS—By Thomas Nelson, of Troy, N Y.: I claim the method of constructing watches or chronometers, of any kind, so as to permit the employment of a spring barrel, of a size that shall occupy, nearly the entire interior diameter of the watch case or frame, and which I effect; by placing the movements upon the top of the barrel and communicating the motion of the barrel to them, by means of a ring fixed on the interior of the case, or frame, with teeth on its inner edge, concentric with the barrel, into which teeth, the teeth of one or more wheels of the movements may cog, or take, as set forth.

CLOVER HARVESTERS—By J. A. Wagener, of Pultney, N. Y.: I claim for harvesting clover heads without the stalks is the arrangement of the solid or hollow cylinder, set with knives on its periphery, as described and just near enough to the fixed knife, as to the concave of the fingers, to admit space enough to allow the clover heads to pass through, without being crushed, and so that the combined action of the forward movement of the machine, and the adjustable guard plate, and the knives, the stems may be drawn in and severed close to the heads.

Second, making the teeth, so that they will spring and vibrate, towards or from each other, as described.

SPIRIT LAMPS—By A. J. Walker, of New York City: I do not claim the employment of the inner wick tubes, secured in a stationary bar, and having other tubes sliding over them, which extinguish the light, when the top of the lamp is unscrewed; but I claim the employment of the plate, which serves as a protection against the fluid rising and becoming heated and exploding; and also, as a support for the inner tubes, in combination with the spiral spring; and rod, the rod serving to connect the said plate with the top of the lamp, and the spring serving to hold the plate firmly down on the flange, and also to throw up the cap and extinguishing tubes, instantaneously, after the top has been unscrewed, the whole being constructed as described.

[See notice of this invention on page 82, Vol. 8, Sci. Am.]

PROCESSES OF DISTILLING ROSIN OIL—By Madison Page, of Williamsburgh, N. Y. (assignor to S. W. Hawes), of Chelsea, Mass.: I claim the employment, in the manufacture of rosin oils of different qualities, re-distilling the same and purifying it, substantially as set forth, the introduction of the steam into the commencement of the goose-neck above the rosin in the still so that the vaporized oils from the rosin will pass through and be commingled with said steam in their passage to the worm for condensation, for the purpose of purification, &c., as set forth.

RE-ISSUE.

REAPING MACHINES—By Cyrus H. McCormick, of Chicago, Ill. Patented Oct. 23, 1847: I claim placing the gearing and crank forward of the driving wheel, for protection from dirt, &c., and thus carrying the driving wheel further back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle-back of the axis of motion of the driving wheel, by means of the vibrating lever, as described.

And I also claim the combination of the reel, for gathering the grain to the cutting apparatus and depositing it on the platform, with the seat or position of the raker, arranged and located as described, or the equivalent thereof, to enable the raker to rake the grain from the platform and deliver and lay it on the ground at the side of the machine, as described.

DESIGN.

PARLOR STOVE—By S. D. Vose, of Albany, N. Y.

Experiments upon the use of Salt-water in Steam Boilers.

A paper was real before the institution of Civil Engineers, London, noticed in the Mechanics' Magazine, which contains some interesting experiments in relation to the use of sea water in our steam boilers. There are some difficulties attending its use which are not easily provided for, but perhaps some of our many ingenious inventors may suggest a remedy. It appears by the experiments above referred to, that an increase of heat is required to generate steam from salt water, the boiling point of a solution being above that of pure water in proportion to the quantity of salt dissolved by a constant weight of water. And again there is a waste of fuel necessary to blow off the brine frem the boiler in order to prevent incrustation; it has been suggested that the condensed steam may be used, and thus avoid the accumulation of brine; this has been tried, and we believe with very good results, although at the expense of an amount of power sufficient to operate the condenser. It has been also proposed to absorb the caloric from the brine as it passes from the boiler, and retain it for use a second time; the experiments prove that the increase of temperature of brine above that of pure water was owing entirely to the salt, for the steam arising from both waters were of the same temperature under similar pressures. The loss of caloric by the use of this water was owing to the salt dissolved, which retained the heat in a latent state. The losses to be estimated for blowing off the brine were the power necessary to discharge, and restore the deficiency by feed water—the injection of feed water, and the loss of capacity for heat of the solution. Estimates were made upon two boilers of different dimensions with feed and steam of each different temperatures, from which it appeared that the most economical system was to blow out one-sixth, at intervals varying from 6 to 10 hours, working from a density of 30° to 35°. Data were obtained of the specific gravity of different waters which showed a variation of from 1026 to 1031. The water from inland seas being often more dense; the Dead Sea, for instance, had a specific gravity of 1211°; 1000 parts of sea water contained from 22 to 28 parts of muriate of soda, and from 8 to 13 parts of other salts, which were chiefly soluble at high temperatures except the sulphate and carbonate of lime, which averaged together four-tenths of a part in every 1000 of sea water. Common salt containing from 94 to 96 parts of muriate of soda, and from 4 to 6 parts of other salts in 100 of dry salt. Sea salt contained from 72 to 77 parts of muriate of soda, and from 18 to 13 parts of other salts in 100 of dry salt; in the experiments from which the results of the paper were derived, a saturated solution of common salt had a specific gravity of 1213, or 77° of the hydrometer, and 100 parts of pure water dissolved very nearly 40 parts of salt at 60°, whereas a saturated solution of sea salt had a specific gravity of 1236 or 85° of the hydrometer for the same weight (40 parts) dissolved in 100 of water—but these experiments were not necessarily constant, because the constituent parts of sea salt varied—the greater the proportion of muriate of soda the less was the specific gravity for the same weight of salt in the solution. The following were the results of the experiment:

"The per centage of salt in a solution was in direct proportion to its density. The time required to obtain a given degree of concentration was directly as the departure of the original density from concentration, the capacity of the boiler, and the relative volume of steam. And inversely as the density of the feed water, the capacity of the cylinder, and the velocity of motion.

As regarded time, it was preferable to employ a low pressure, as the time consumed in arriving at a given concentration was longer as the pressure was lower. In equal weights of salt dissolved in equal weights of water, the more heterogeneous the salts the greater was the density they exhibited in solution. The excess of temperature of the water of any solution, above that of the steam generated from it, whether below or above atmospheric pressure, was constant for any solution whatever might be the pressure and the temperature of the steam. The excess being in direct proportion to the quantity of salt dissolved by a constant weight of water. The expansion of any solution, in the excess of the expansion of pure water, was in direct proportion to the salt dissolved by a constant weight of water. It was also ascertained that the water spaces of boilers should be small and the feed water as hot as possible to save fuel, and the density of feed water should be kept as low as possible."

Recent Foreign Inventions.

MANUFACTURE OF AMMONIACAL SALTS AND MANURES.—E. Pettitt, of Kingsland, patentee. This invention relates to a new method of making ammoniacal salts from certain animal matters, also the manufacture of manure.—The inventor takes one hundred pounds of fish, and places them in a leaden trunk, and adds about five pounds weight of sulphuric acid diluted. This mixture is allowed to stand, (being occasionally stirred,) until it assumes a homogeneous pasty consistence—sometimes heat is applied to facilitate this operation. The acid liquid or pickle, after it has been in contact with the animal matter for a sufficient length of time, is drawn off and pressed out of the fish. This acid liquor is next evaporated almost to dryness to extract the sulphate of ammonia therefrom, in the form of crystal, which may then be purified in the usual way.

To obtain the muriate of ammonia, lime is added to the pasty mixture produced as aforesaid, or the acid liquor drawn from it, distilled at a great heat nearly to dryness, passing the products of distillation through a solution of muriatic acid, or muriate of iron; the muriate of ammonia may then be evaporated in the usual way by crystallization.

Instead of making the sulphate or muriate of ammonia, the inventor takes the fishy and acid mass, and submits them to artificial heat. The fish may then be first ground up and then submitted to about 3 per cent. by weight of sulphuric or muriatic acid. The 100 lbs of fish is only an example to show the proportion of acids employed. Some kinds of fish are better than others. This manure may be mixed with swamp muck, charcoal, or superphosphate of lime. This method of making manure is different from that described on page 211, this Vol., Scientific American, and appears to be the same in principle exactly, as that for which a patent was granted to Dr. R. Hare, of Philadelphia, about two years ago.

TREATING THE FLEECES OF SHEEP.—Geo. Stuart, of Glasgow, N. B. This invention consists in using a new compound, for the protection of the fleeces of sheep in order to render wool free from moisture, and to add warmth and comfort to the animal, also to render the wool better adapted for manufacturing purposes. The old composition which was used for this purpose was a mixture of butter and tar, the new composition is simply rosin oil or colophon, in which is mixed a quantity of solid rosin. This mixture is heated up and applied to the fleece of the animal until it is uniformly coated. Our farmers would certainly look twice before they would expend the amount of money required to obtain a patent for simply treating the flocks of sheep with rosin oil.

The above are condensed from the "London Repertory of Inventions" for May, in which we see two patents granted for covering substances with vulcanized india rubber, one patent was for covering wires, and the other for sheathing ships. In America patents are denied for the mere application of old substances to new purposes; in England patents are granted, and justly too, for such new applications. It has been too much the policy of our Patent Office to find out arguments and reasons to reject applications for patents, to the great hindrance of progress in the arts. We hope a more liberal policy will now be exhibited.

Important Patent Case.

WHITE LEAD.—U. S. Circuit Court, Judge Nelson presiding.—The parties were George W. Campbell, complainant, against the Atlantic White Lead Co., N. Y. This trial lasted three days, viz., on the 11th, 12th, and 13th ult. The action was brought for the infringement of a patent granted to the plaintiff, November 20th, 1847, and re-issued August 2nd, 1852, for a machine for casting bullets, and the buckles of lead used in the manufacture of white lead. It appeared that the plaintiff's machine was very useful in saving labor and in other respects, and that he had sold a license for one to the Brooklyn White Lead Company for $1,500, and another to another company for $1,250, and that he had some negotiations about selling one to the defendants in 1851, and was offered and refused $750, and that the defendants then made and put into operation a machine which the plaintiff claimed was an imitation of his machine, but defendants claimed to be different. The Judge charged the jury that there was no question about the originality of plaintiff's invention, and no difficulty in the construction of his specification, and that they were to determine whether the defendants' machine was substantially like the plaintiff's. That the difference of form was immaterial, if the principles and idea of the machine were derived from the plaintiff's; that if they found for the plaintiff, he was entitled to damages from the 2nd of August to the commencement of the suit, November 15th, 1852; that they must find the actual damage, as the Court had the power to treble the damages; that the plaintiff is entitled to the profit made by the defendants, by the use of the machine during that time, as to which it appeared that there was a saving of labor of three men a-day and other savings. The jury found a verdict for the plaintiff, $275.

Success of Mr. Samuelson's Digging Machine.

An article is published in the "Gardener's Chronicle and Agricultural Gazette," England, in which it appears Mr. Samuelson's digging machine has proved entirely successful. This machine was first tried at the Annual Exhibition of the English Agricultural Society, at Bristol, sometime since, but proved nearly a failure in consequence of the want of a suitable provision for keeping the forks of the digger clean—as this machine works by forks instead of spades or plows. This difficulty could not well be remedied in the arrangement then used by the inventor, Mr. S., but it seems a slight change in the construction has enabled him to adopt what he denominates a cleaning comb for keeping the teeth or prongs free from clay or other adhesive matter, so that it now operates with entire success, and gets over from three to four acres per day. It requires about six horse-power to drive it. The machines are worth about $100, and are cheap considering the amount of work it will perform; it is adapted to general use, but particularly for the interval forking of the land in the system of row cultivation of grain crops. It is now at work near Banbury, Eng.

U. S. Ship Princeton.

This steamer, having completed her repairs and alterations at the Gosport (Va.,) navy yard, started down, on Thursday the 19th, on a trip to the Capes, for the purpose of testing her machinery. After proceeding as far as Old Point, the rock shaft gave way and she was compelled to remain there until Friday.