Scientific American.

Scientific Auseum.

For the Scientific American. Tanning-Practical Remarks. Concluded from page 240.)

The rolling machine produced a great change in the appearance and quality of sole leather. It was invented about the year 1810 by Col. William Edwards. Previous to that period, the hammer and lap stone, smoothed the surface of the sole-a laborious operation. The roller is of brass, 41 in diameter and 8 inches long, cast over a steel gudgeon projecting at each end 14 inches. It runs in brass boxes, inlaid into two jaws of iron, which extend up the sides of the vibrator, and are firmly secured to it by bolts. The vibrator is of hard wood, 4 by 8 at the lower end, and 4 by 5 above the jaws-about 10 feet long, secured to a spring pole, 20 feet long and 7 by 7, by a noddle pin. The spring pole is secured firmly at one end, and rests over a fulcrum about 8 feet from the vibrator. The vibrator is kept in its place by guides on each side, and is connected with the moving power by a pitman about 10 feet long. The motion is usually given by a crank 12 to 14 inches in sweep, upon a vertical shaft about 100 per minute. Beneath the roller is a table 19 feet long by 8 wide, 2 feet 8 inches high, of two inch plank, well supported, and under the sweep is a bedpiece, of the hardest wood that can be obtained, corresponding to the circle of the vibrator. and bolted firmly to a tier of timbers laid horizontally (up to, and making part of the face of the table), which in turn are supported by vertical timbers to the foundation of the building. The natural position of the roller is about two inches above the bed piece. The side of leather is spread on the table, the back to the operator, the grain up, and is drawn under the roller when in motion. The roller is brought down upon the side by a compound lever attached to the spring pole by iron rods, by a foot of the operator at pleasure, the pressure supposed to be equal so 5 tons.

The side is moved while the lever is down or not, at the will of the operator, until the whole surface is smoothed alike, when the pressure is taken off, and the side withdrawn and laid upon the floor, in his rear. Previous to the rolling, the side is spread upon a sponging table, on the side of the loft, opposite to the rolling table, and water is applied by a woolen cloth to any dry part of the surface, to temper the whole alike; the curls and doublings flattened out when it is folded, and laid in a pile convenient to the roller. Sometimes a little oil is added to the water, when the grain of the leather is dry and husky.

The leather is hung up by one end upon hooks, or nails, in any vacant part of the dry ing loft after rolling, for 24 hours; when it is nearly dry, it is taken down and rolled a second time, and packed down for 12 hours more, in square piles, fiesh up, and as heavy a pressure put upon it as any convenient dead weight will give. It is then ready for market.

When the rolling was first introduced, old prejudices were strong against it. The late Jacob Lorillard, of New York, made a journey into Massachusetts to see the machine operate on the leather, and after witnessing the beautiful change it produced, he exclaimed, "it covers up a multitude of sins." He never fully approved of it,—and Guest, the old leather dealer in Albany, would never, "'tis said," rolled. The surface of the leather is extended beyond the power of the lap stone and it is cut up so economically that a larger per centage of soles are saved which were lost in parings before. Like many other invenwell nigh expired before it was generally adopted, and the present generation are reaping its er side, where there is the same machinery as unrequited benefits.

In concluding these remarks, we would observe that some tanners heat their bark by steam, either by a boiler erected for the purpose, or by the waste steam from an engine,

to increase the quantity of liquor and reduce crank, a few connecting rods and levers were and the cry of fire caused the utmost consterthe strength in proportion, while the heaters | all that was required. increase the strength by evaporation, making less in quantity. It will readily be perceived that this business requires constant care and watchfulness throughout, neglect in the early stages is fatal.

Four patents at least have been used to bring forward the business to its present perfection, none of which have been profitable to the inventors. The hide mill, the heater, the roller, have stood every test, and are one or all found in every tannery. Justice to that mind and genius who invented them, now in the shades of life, would loudly demand a renewal of the patents; and like justice in extension of the time secured by old patents, (as is the copyright) to twenty-eight years, and wehope America, may yet obtain such an amendment to the Patent Laws of the United States.

The "Practical Remarks on Tanning are now completed, and we must say that no such information has ever been published in any work before. The articles have been furnished by a practical tanner, of great experience, and scientific knowledge—who can reason on cause and effect, He carries on a very extensive business, and has generously written for the purpose of spreading abroad useful knowledge.

There are a few errors in the articles, to which we refer.

Erata.—1st Art., page 184, for "living nature" read "living creature."—2nd Art., page 196, for "usually 4 to 6 hours" read "2 to 4 hours," and for "when the openings are closed the heat decreases," read "the heat increases," also read "current" instead of "amount" of air, and "casts" them into the pool, for 'carts," &c.

Art. 3rd, page 208, for "hemlock bark only 33 to 6 per cent." read "to 4 per cent.," and instead of "200,000 trees destroyed," read 800,000."

Art. 4, page 216, for "work with a round, and those sizes," read "week" for work, and "their" for those.

Art. 5, page 224, for vats " 54 feet deep," ead "5 feet deep."

These are all the errors—very few indeed for proof uncorrected by the author. As the articles are standard, all the errors require to be thus pointed out.

History of Propellers and Steam Navigation.

[Continued from page 240.]

THE INCLINED PLANE STEAMBOAT.



This boat has novelty, but greatly lacks the grand essential-practicability. It is 24 years old, and is the invention of a Mr. Thomson, of Scotland.

A A, and B B, are two parallel iron bars, to which the planes are fixed, the one being close to the side of the boat, and the other farther off, so that in working alternately up and down, they pass each other freely. These planes projecting from the vessel's sides will be objected to, but as this is merely a trial, improvements of course were to follow. 2. 2.1&c. the planes, each of which are fastened to the parbuy a side of rolled leather while he lived. At allel bar by their respective swivels. D, D, the present time, and for twenty years past, no and E E, are working beams that raise and sole leather is marketable until it has been depress the planes. The ends, D, and D, working close to the boat for the bar, A A. while the other end reaches out for BB; the rod, H, connects two working beams in the manner represented in the figure, so that both ends of the parallel bars by this communications, the time secured by this patent was tion, rise and sink alike. There are two rocking beams that run across the boat to the othon this side, only there is no occasson for more than one connecting rod, H, as this one is sufficient for all. Now, the piston rod of the ening cross beams, sets the whole in motion :

In this boat we have two sets of paddles working below one another, on each side of the boat, something which has not been presented in any other engraving in this History of Propellers. The inventor had the object principally in view of safety. The general opinion about steamboats (especially those with paddle wheels), about twenty-five years ago, was an "unfitness for sea navigation." The old tar used to say "oh yes, they are good enough for carrying landsmen up and down a river in a sunny day." Had any sea captain been told, thirty years ago, that steamboats were safer than sailing vessels, and would yet usurp their dominion on the ocean, he would in all likelihood be looked upon as a a movement of this kind by the inventors of madman, expressing opinions good enough for a "fresh water sailor.'

> The above inclined plane paddles, are totally unfit for propelling-they never would answer for a steamboat navigating the ocean No propeller will answer the purpose, however scientific the ideas embraced in its construction, if it is not perfectly and firmly built in all its parts, without hinges, and such like things.

Curlous Fact.

Dr. Sichel has communicated to the "Annales des Sciences Naturelles," Paris, a curious fact, which some of our readers may like to amuse themselves in verifying. He says that, twenty years since, he made the observation so carefully, and for such a period of time, as to become perfectly assured that cats which have perfectly white coats (that is, with not even a spot of another color) and blue eyes, are invariably deaf. We may make, as close to them as we will, any noises that usually terrify them, such as the cracking of a whip, imitation of the barking of a dog, clapping the hands, &c .- and yet, provided these sounds are not of a nature to convey vibrations, by shaking the ground, as when we strike the fioor with a hammer, the animal will remain perfectly indifferent. If, however, there is the smallest spot or shade of black, brown, grey, red, &c., on the coat; or if the iris, instead of being blue or grayish-blue, is yellow, or partakes of some deeper color, then will the auditory functions be found in their normal state. This blue color of the iris is indeed rather rare, and generally found only in very young animals; and when, in the progress of age, it becomes exchanged for a deeper color, though the white skin yet remain, hearing becomes

Paris is the most wonderful city in the world for prodigious developements. The range of observation of her savans is the most wonderful, minute and comprehensive. From men with tails to cats without a black spot in them, nothing escapes their notice, except it may be "probability."

A Cave Found.

The Shepherdstown (Va.) Register says that as the workmen at the cement quarry of Mr. Alexander R. Boteler were blasting on Friday week, they blew off a rock from the front of what was soon discovered to be a natural cave. The entrance is of the size of a flour barrel .-One of the men entered it the distance of a few feet, and drew out the neck of a black bottle, and also a horse shoe.

[Strange if true.

An American Mineralogist in Turkey. D. J. Lawrence Smith, of Charleston, S. C., whom, some four years since, received the appointment of Mineralogist from the Sultan of Turkey, is now on his return home, having ful-

filed his engagement with the Turkish Government. D uring his absence, hehas been active ly employed in making explorations throughout Turkey and Syria, and his labors have been distinguished by many very interesting and valuable discoveries in science.

A Disaster Averted by Discipline.

The stéamer Alex. Scott had a narrow escape from distruction by fire during a recent trip to New Orleans. She had among her cargo a lot of baled hemp which was stored in the gine, by working a lever upon one of the rock- engine or deck room. Just below Natchez a deck passenger, either designedly or by acident, set where that power is used. Steam is supposed there is no occasion even for a single wheel er the hemp on fire. The flames spread rapidly, scriptions. Post Office Stampstaken at their full value

nation among the passengers. The captain and his gallant crewhowever did not waver for an instant. The boat was headed for the shore and the passengers and others with whatever valuable they could collect, were ordered to the bow of the boat, to be ready to leap on shore. In the meantime, M. Macfarlane, the mate, called the crew together. The beds were stripped of blankets, and each of the crew seized a blanket and with their mate at their head rushed into the midst of the devouring flames, and with the blankets smothered the fire, and in a few moments had it entirely subdued. Thus, by the coolness of the officers, and the perfect discipline and obedience of her crew, a perhaps terrible disaster was averted, and the Scott escaped uninjured. The author of the accident was put ashore at the next wood vard, and when the boat arrived at New Orleans the accident was forgotten.

Law is fine buisness when confined to books. but very different when transferred to "courts."

About 52,000 bodies are yearly buried in the city of London.

LITERARY NOTICES.

ORIGIN OF THE MATERIAL UNIVERSE .- A little vork purporting to give a description of the manner of the formation of the earth, and events connected therewith, has just been laid upon our table by Messrs. Dewitt & Davenport, Tribune Buildings. The name of the author of the above pampulet has been omitted in the publication, but it is supposed to have been written by one who remembers when this earth was in a fluid state.

TRIAL OF PROF. WEBSTER.—By the favor of C. B. Norton, Esq., we are enabled to acknowledge the reception of Phillips, Sampson & Co.'s edition of the Trial of Prof. Webster for the murder of Dr. Parkman. The book contains 315 pages, and is probably the most correct edition published, but such books do no good, and we cannot recommend people to buy

"The Mistake of a Lifetime: or, The Robber of the Rhine Valley." By Waldo Howard, Esq. This magnificent romance of the mysteries of the Shore and the vicissitudes of the Sea-meets with an unprecedented sale. It is in the hands of almost every one, and those who have not already obtained it, will unquestionably get it. It sells for only 12 1-2 cents, and may be found at any periodical depot in the United States. The book was issued last week, at the "Flag of our Union" Office, by F. Gleason, who, we learn, keeps his presses running night and day, to satisfy the great demand for this splendid produc) tion. S. French, 151 Nassau st., (late 293 Broadway, N. Y. is wholesale Agent.



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