## 

## For the Soientifio American．

Tanning－Practical Remark
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 sur face of the sole－a laborious operation．The roller is of brass， $4 \frac{1}{2}$ in diameter and 8 inches long，cast．over a steel gudgeon projecting at each end $1 \frac{1}{2}$ inches．It runs in brass boxes inlaid into two jaws of iron，which extend ap the sides of the vibrator，and are firmly secu－ red 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 feetlong，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 con－ nected 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，up－ on a vertical shaft about 100 per minute．Be－ neath 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 bed－ piece，of the hardest wood that can be obtain－ ed，corresponding to the circle of the vibrator， and bolted firmly to a tier of timbers laid hori－ zontally（up to，and muking part of the face of the table），which in turn are supported by vertical timbers to the foundation of the build－ ing．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 pres－ sure 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not，at the will of the operator，until the whole surface is smoothed alike，when the pressure is taken off，and the side withdrawn and laid upon the floor，in his rear．Previous to the rolling，the side is spread upon a spong－ ing table，on the side of the loft，opposite to the rolling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 doub－ lings flattened out when it is folded，and laid in a pile convenient to the roller．Sometimes 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 relling，for 24 hours；when it is nearly dry，it is taken down and rolled a se－ cond time，and packed down for 12 hours more， in square piles，fiesh up，and as heavy a pres－ sure 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 besu－ tiful change it produced，he exclaimed，＂it covers up a multitude of sins．＂He never ful－ ly approved of it，－and Guest，the old leather dealer in Albany，would never，＂＇tis said，＂ buy a side of rolled leather while he lived．At the present time，and for twenty years past，no sole leather is marketable until it has been 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 cen－ tage of soles are saved which were lost in parings before．Like many other inven－ tions，the time secured by this patent was well nigh expired before it was generally adop－ ted，and the present generation are reaping its unrequited benefits
In concluding these remarks，we would ob－ serve that some tanners heat their bark by steam，either by a boiler erected for the pur－ where that power is used．Steam is supposed
to increase the quantity of liquor and reduce the strength in proportion，while the heaters increase the strength by evaporation，making less in quantity．It will readily be perceived that this business requires constant care and watchfuiness
Four patent
Four patents at least have been used bring forward the business to its present per fection，none of which have been profitable to the inventors．The hide mill，the heater，th roller，have stood every test，and are one or all fornd in every tannery．Justice to that min and genius who invented them，now in th shades of life，would loudly demand a renewa of the patents；and like justice in extension of the time secured by old patents，（as is th copyright）to twenty－eight years，and wehop a movement of this kind by the inventors of America，may yet obtain such an amendmen 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 an work before．The articles have been furnished by a practical tanner，of great experience，and scientific knowledge－who can reason on caus and effect，He carries on a very extensive bu siness，and has generously written for the purpose of spreading abroad useful knowledge There are a few errors in the articles，

## hich we refer．

Erata．－1st Art．，page 184，for＂living na ture＂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 increas es，＂also read＂current＂instead of＂amount＂ of air，and＂casts＂them inte the pool，fo ＂carts，＂\＆c．
Art．3rd，page 208，for＂hemlock bark only 3 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，an their＂for those．
－Art．5，page 224，for vats＂ $5 \frac{1}{6}$ feet deep，＂ read＂ 5 feet deep．＂
These are all the errors－very few indeed for proof uncorrected by the author．As the ar ticles are standard，all the errors require to b thus pointed out．

History of Propellers and St．eam Navi gation．
［Continued from page 240．］
the inclined plane steamboat． Fig． 36.


This boat has novelty，but greatly lacks the grand essential－practicability．Itis 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 farthe off，so that in working alternately up and down they pass each other freely．These planes projecting from the vessel＇s sides will be ob jected to，but as this is merely a trial，improve ments of course were to follow．2， $2,4 \& c$ ．the planes，each of which are fastened to the par allel bar by their respective swivels．D，D， and E E，are working beams that raise and 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 B B；the rod， H ，connects two working beams in the manner represented in the figure，so that both ends of the parallel bars by this communica tion，pise and sink alike．There are two rock ing beams that run across the boat to the oth er side，where there is the same machinery as on this side，only there is no occasson for more than one connecting rod， H ，as this one is suf ficient for all．Now，the piston rod of the en gine，by working a lever upon one of the rock－ ing cross beams，sets the whole in motion ing cross beams，sets the whole in motion
crank，a few connecting rods and levers were crank，a few connectin
all that was required．
In this boat we have two sets of paddles working below one another，on each side of the boat，something which has not been pre－ sented in any other engraving in this History of Propellers．The inventor had the object principally in view of safety．The general pinion 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 steam－ boats were safer than sailing vessels，and would yet usurp their dominion on the ocean， he would in all likelihood be looked upon as a madman，expressing opinions good enough ior a＂fresh water sailor．＂
The above inclined plane paddles，are total． y unfit for propelling－they never would an－ wer for a steamboat navigating the ocean No propeller will answer the purpose，however scientific the ideas embraced in its construc－ tion，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＂An－ nales des Sciences Naturelles，＂Paris，a curi－ ous fact，which some of our readers may like to amuse themselves in verifying．He says that，twenty years since，he made the obser－ vation 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，clap－ ping the hands，\＆c．－and yet，provided these soundsare not of a nature to convey vibrations， by shaking the ground，as when we strike the oor with a haminer，the animal will remain perfectly indifferent．If，however，there is the smallest spot or shade of black，brown，grey， ed，\＆cc．，on the coat ；or if the iris，instead of being blue or grayish－blue，is yellow，or par－ takes of some deeper color，then will the au－ ditory functions be found in their normal state This blue color of the iris is indeed rather rare， and generally found only in very young ani－ mals ；and when，in the progress of age，it be－ comes exchanged for a deeper color，though the white skin yet remain，hearing becomes established．
［Paris is the most wonderful city in the world for prodigious developements．The range of observation of her savans is the most won－ derful，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 bot－ tle，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 ap－ pointment of Mineralogist from the Sultan of Turkey，is now on his return home，having ful－ filed his engagement with the Turkish Govern－ ment．D uring his absence，hehas been active ly employed in making explorations through－ out Turkey and Syria，and his labors have been distinguished by many very interesting and valuable discoveries in science．

A Disaster Averted by Disclpilme．
The stéamer Alex．Scott had a narrow es－ cape from distruction by fire during a recent trip to New Orleans．She had among her car－ go a lot of baled hemp which was stored in the engine or deck room．Justbelow Natchez a deck passenger，either designedly or by acident，set
and the cry of fire caused the utmost conster nation among the passengers．The captain and his gallant crewhowever did not waver for an instant．The boat was headed for the shore and tbe 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 strip－ ped of blankets，and each of the crew seized a blanket and with their mate at their head rush－ ed 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 es－ caped uninjured．The author of the accident was put ashore at the next wood yard，and when the boat arrived at New Orleans the ac－ cident 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 Matrrial Univerbe．－A little work purporting to give a description of the manner of the formation of the earth，and events connected therewith，has just been laid upon our tahlo 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 earth was in a fluid state．

## rom

Trial of Prof．Webbter．－By the favor of C．b． Norton，Esq．，we are enabled to acknowledge the re－ ception of Phillips，Sampson \＆Co．＇s edition of the man．The book contains 315 pages，and is probably man．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 no good
thera．
＂The Mistake of 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 un－ precedented 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， tion．S．French， 151 Nassau st．，（late 293 Broadway， tion．S．French， 151 Nass
N．Y．is wholesale Agent．


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