There are circumstances however in which a body buried by itself may change into adipocere. Probably all the conditions are not well understood, but it is certain that the change has been brought about in bodies which had been buried in running water.

As might be supposed, the formation of adipocere is not limited to the human body. The fact is that the bodies of very many of the larger animals have been found changed into it, and without doubt the body of an ox or a cat would in like circumstances be changed in the same way as the body of pleted in half an hour or more. a man. The specimen received from Mr. Northrup, which suggested this article, no doubt originated from the body of a sheep.

As to the chemical nature of adipocere, it may be considered an ammoniacal soap. In the decomposition of the animal substances of the body, the solid fat acids, manganic, stearic, etc., combine with ammonia, to form adipocere, which being a permanent compound remains after all else is dissipated.

-----GLEANINGS FROM THE POLYTECHNIC ASSOCIATION.

The regular meeting of this branch of the American Institute, was held on Thursday evening, March 21st, Prof. Tillman presiding.

A new portable printing machine was exhibited designed for general use not only for printing of circulars, bill heads, etc., but to be employed by the business man for transacting his correspondence, it being claimed that letters can be printed by its use more quickly they than can be written with pen or pencil. A machine of somewhat similar construction for stereotyping, was then shown. In this machine the letters, figures and some of the most frequently recurring words are arranged on the periphery of a wheel. As in the former machine, the type are operated by a set of keys as in a pianoforte: by pressing down either key the corresponding letter, figure or word is in the one case printed or, in the latter machine, is pressed into the plastic material from which may be cast a stereotype plate, ready for printing. A steam plow having the great recommendation in its favor that the spaders assist rather than retard its progress : and an improved ventilator for chimney tops, were also exhibited and their construction and advantages explained by their inventors.

BRIDGE BUILDING.

Mr. Blanchard read a paper on this subject therein propos ing an easy and practical solution of the mathematical ques tion involved, and suggesting a readier way of arriving at the old results and one better adapted to the capacities of mechanics than the formulæ laid down by engineers. He began by considering the whole span from pier to pier to be divided. into such a number of shorter spans, that each may be covered with sufficient security by a single length of simple beams. The points of division between these sub-spans may be called "bearing points" and the erection of a structure containing these bearing points is what we call bridge building. As in the consideration of the circle, we make the curve as a polygon of an indefinite number of sides, so in the arch it is necessary to reason from point to point of the curve in straight lines. The bearing points of the bridge can only be supported by oblique supports acting from the ends of the structure and may act by compression, as in the arch, by tension, as in the suspension cables, or a combination of both as in the truss bridge. It is a theorem in statics that when a body is held in equilibrium by three forces acting from different directions, these forces are relatively equal to the three sides of a triangle, each side of which is drawn at right angles to the direction of the force it represents. From this it follows that if a body in equilibrium is acted upon by any number of forces, the relative magnitude of each is represented by the sides of a polygon each side of which, as before, drawn at right angles to the force it represents. By an application of this law the proportions of the timbers or irons that form the supports of the bearing points may be determined by regarding each point as maintained in a state of stability by three or more contending forces that neutralize each other. The weight of the load, a vertical force, is to be resisted by oblique supports acting from different directions. The greater the inclination of the braces the greater the strain, while the more upright they stand the less the strain becomes. By resolving the strain into thrust and weight the strain upon the tie rod at the bottom is obtained; also the

To Silver Glass.

1. Dissolve 10 grains of nitrate of silver in 1 oz. of water. first produced is cleared up.

2. Dissolve 10 grains of Rochelle salt in 1 oz. of water.

These solutions may be kept apart for any period. For use they are mixed and filtered. After mixture they must be used as soon as possible. The glass must be carefully cleaned; any foreign matter leaves streaks. The glass is placed in a horizontal position and as much of the solution is poured on as it can sustain. Or the solution may be put into an earthen or glass dish and the glass immersed in it. The silvering is com-

CAUTIONS .- The operation should be carried on in a room warmed to about 70°. Any vibration of the glass or liquid crused by wagons in the street or machinery in the workshop is fatal to success. If the liquid and glass be exposed to full sunlight the process goes on better. But all the preliminary preparations should be made in a feebler ligh.

This plan gives only bright silvering. To secure a mat surface seen through the glass silver leaf or paper should be used. A mat surface may be produced on the bright silver by deposition of more silver by the battery ; but this will not show itself through the glass.

PROF. WHEATSTONE'S TELEGRAPH is operated by drawing through the sending instrument a strip of paper perforated beforehand with the proper characters of the despatch. The perforations give the connections, and are prepared with an instrument as rapidly as in the usual mode of telegraphing, by any number of assistants which the pressure of business may require, the line being occupied only by the rapid draw ing through of the prepared despatches. An ingenious instrument by the same inventor, is used by the Emperor of the French for secret despatches. The words, sent in cypher, of which the sending operator knows nothing, are translated into intelligible print by a proper arrangement of effects in the receiving instrument; and yet the attendant of the latter is asignorant as the former, for the printed telegram is reeled off into a locked box, as fast as printed, without allowing a letter to be seen.

PUTTING UP FLOWERS FOR WINTER .- Some of our fair friends, when about canning fresh fruits for winter store, may perhaps like to put up a few fresh flowers. We give them a newspaper method for trial. Cut choice buds just ready to open, with a good stem, say three inches long, the end of which is to be immediately covered with sealing wax. Dry the buds partially in the air, and wrap each in a piece of soft paper, clean and dry, and fasten them up in a tight dry box. When wanted, take them at night, cut off the sealed end of the stem, and put them into water containing a little niter or salt. The next day or thereabout, the buds may be expected to expand.

MR. WHITNEY, of Effingham, Ill., whose engraving of a Coffee Roaster" was recently published in these columns, in acknowledging the receipt of his engravings, model, and patent, adds: "Thanks for the promptness you have exhibited in all your transactions with us. We have sold the state of Indiana, and probably Kentucky, and are now in correspondence with a large number of persons negotiating sales of counties in different parts of the United States. Illustrating and advertising in your paper pays.

Becent American and Loreign Latents.

Under this heading we shall publish weekly notes of some of the more promi nent home and foreign patents.

VENT PEG OR VALVE.-Stephen Bourne, Headstone Drive, Harrow, Eng -This invention relates to a valve or vent peg for beer casks, etc., and consists in making the valve or vent peg of india-rubber and with one or more openings in such a manner that by the elasticity of the rubber or other ma terialthey will be held closed while by the extension of the rubber they will be opened and thus a communication established between the inner and outer faces of the valve.

HOOP SKIRT.-August Fellheimer, New York City.-This invention consists in forming loops at each end of the hoops composing the skirt by bending such end over and then securing it to the main portion, by means of which hooploops a reliable and durable connection is established between th hoop and their sliding tubular fastenings or the tapes of the skirt, as the case may be.

LOCK.-E.P. Porter and G. W. Hallett, Waterford, N.Y.-In the lock embraced in this invention a series of spring catches are so arranged with re gard to the bolt that when the bolt is out they will interlock with the same and will hold it in such position when releasing said catches from the bolt by a suitable key ; the bolt is then free to be drawn in.

MANUFACTURING MATCH SPLINTS.-Emry Andrews and William Tucker, Portland, Me .- This invention consists in a rack arranged with slats which are strung on wires with washers interposed between them in such a manner Then add strong ammonia drop by drop till the cloudiness at that the match splints can be firmly clamped between the slats and the principal strain is thrown on the wires. The rack is fed down by a compensating feed composed of a feed bar which moved down against the action of springs by means of cams on the driving shaft and which is so constructed that it moves the rack for the thickness of one slat for each stroke of the head which pushes the cards against the knives. The slats of the rack are opened by suitable wedges so that the match splints can readily enter between them. The cards are driven against the knives by a toothed feed plate which drives the splints clear through the knives. Sali knives are firmly secured on two screws supporting the ends thereof and they are kept apart by washers interposed between them. A portion of the knives are placed in the rear of the others so that they do not all cut simultaneously and the wood is relived of a part of the compression which it would receive were all the knives in a line. The cutting edges of the knives are concave whereby a drawing cut is produced each way from the center of the card and the knife is less liable to follow the grain of the wood than it is when made with a rectilinear cutting edge.

> TOOL HANDLE .- William Runde, New York City.-The object of this inventionis to so arrange a tool handle that all kinds of shoemakers' and saddlers' tools may be easily held therein, and that they may be easily removed therefrom and replaced without trouble.

> CLOTHESPIN.-William M. Doty, New York City .- The object of this invention is to make a clothespin or fastener in the simplest and least costly manner, and to construct it so as to be strong and easily applied to or removed from a clothesline as may be desired.

> IRONING MACHINE.-P. O'Thayne, New York City.-This invention relates to a machine for ironing clothes or articles of any description, said machine being composed chiefly of a movable flat or segmental board in combination with a smoothing iron which is heated by a gas flame and which is so arranged that it can be depressed on the board and that it can be revolved if it should be desirable.

> CONVERTING MOTION .- Wm. H. Hurlbut, Elgin, Ill.-This invention consists in the employment or use of a spiral flanged cam in combination with the crosshead of a steam engine, or other equivalent part of another motor and with a shaft to which a revolving motion is to be imparted in such a manner that by the action of the crosshead or other equivalent part on the spiral-flanged cam the reciprocating motion of the piston of a steam engine or the reciprocating motion of an equivalent part of another motor is converted in a continuous rotory motion of the shaft said spiral-flanged cam acting as a substitute for the crank.

> DRILLS FOR OIL AND OTHER WELLS .- Washington Tingley, New York City .- The object of this invention is to improve the construction of drills foroil and other wells, so that they will penetrate the rock with ease and rapidity, ream out the bore as the drill advances into the rock, and keep the bore at its full diameter, and also gather within itself the detritus produced by the action of the drill after the manner of a sand plow.

> BELTING PULLEY .- Moses Lewis and Samuel Miller. Greenville. Conn .-Thisinvention consists in constructing pulleys upon shafts running at right angles in such a manner that the belt being at a half turn or twist the strain is equal from one belt to the other.

> PAINT CAN.-Herman Miller, Hoboken, N. Y.-The object of this inven tion is to so arrange cans, in which ready made paint is kept for sale, that the same maybe cpened and reclosed with ease, and still be at all times airtight.

> PRESS - David King, Aberdeen, Ohio. - This invention consists in construct ing a screw press in such a manner that the screw after it has been turned or run down may by turning the lever by means of a rack and pinion, be elevated rapidly thus saving the time of running the screw up and down in the nut.

> HOISTING APPABATUS .-- George L. and Wm. M. Howland, Topsham, Me. This invention consists in the use of a third pawl, where by the notched bar may be raised two or more teeth at a time, which pawl can be easily thrown out of gear to test the device, operate for raising or lowering, and consists also in making the connections between the lower pawls more flexible, by the application of one more link, whereby the operation will be easier and a less amount of power required.

> TOOL FOR CUTTING BOILER TUBES .- Peter Hoffman, Jersey City, N. J .-This invention relates to a tool for cutting boiler tubes which is composed of a split or sectional bar, one end of which is made to fit the tube to be cut, while its other end, which carries the cutter, is open to receive a wedge in such a manner that when the cutter bar is inserted in the tube to be cut and the wedge is placed in its slotted end, the points or teeth of the cutter catch in the innersurface of the tube and by turning the wedge and cutter bar and driving said wedge in gradually, the tube is cut in a short time and without producing the least jar in the joints of the boiler.

> WAGON BRAKE.-B. B. Scofield, Woodhull, Ill.-This invention furnishes an improved brake for wagons, carriages, etc., simple in construction and effective in operation.

> WIRE POINTING .- John Lockwood, Wilton, Conn.-This invention consists of a simple and convenient machine for pointing wire for drawing.

> LOOKS.-Chas. Gschwine, and Chas. Reichard, Union Hill, N. J.-The object of this invention is to arrange a lock in such a manner that it cannot be unlocked, unless the position of the key is reversed. The invention consists in so constructing the spring catch and the bolt, and combining them with a dog, or pawl that the bolt cannot be unlocked, unless it is first pressed back by the dog. The latter can in turn only be operated by placing the spindle of the key into the lower end of the key hole, while for locking and unlocking the spindle is pressed through the upper end of the key hole.

> FIREARM.-Thomas Restell, London, England.-This invention relates to certain improvements in breech-loading needle guns which are so constructed that they serve also as canes and which are operated in an easy and simple manner.

> LOCK .--- L. S. Chase, New York City .-- This invention relates to a lock in which the bit of the key acts on a series of pins or spring stops which are inserted in a revolving disk and which correspond in number and position to a similar number of pins inserted in suitable cavities in the lock plate. Said revolving disk is provided with a circular ward which extends clear up to the inner lock plate and prevents the feeling of the lock, and a bridge in this ward protects a portion of the tumblers and pins. The bit of the key acts

strain uponstraining beams which it is necessary to introduce between the heads of the braces when more than one is em ployed.

In a truss bridge the braces near the center of the bridge transfer their strain to those next nearer the ends, which have this strain in addition to their own to carry : this load is then transferred to the next, thus the strain constantly increases by regular additions from the center to the ends of the bridge. The top and bottom cords perform the secondary part of holding the braces in position, the former being the aggregate of all the straining beams placed between the heads of the braces to resist the inward thrust, while the latter is the aggregate of all the rods with which are connected the feet of each pair of braces to prevent the outward thrust. Mr. Blanchard then explained the necessity for using counterbraces when the load is unevenly distributed, illustrating his views with numerous diagrams and models. The able and interesting article by Dr. Stephens, read at this meeting, we shall refer to again at some future time,

A COATING FOR FLOORS, fire-proof, durable and ornamental, might be applied from a strong solution of soluble glass, Water of course could not be allowed to remain on it,

AUTOMATIC BOILER FEED.-Henry O. Demarest, New York City.-This in vention relates to a boiler feed which consists principally of two chambers which oscillate on a suitable rod, their ends being pared off and ground steam tight against seats which are formed by the end pieces of a suitable trame. Suitable channels in the seats and chambers allow said chambers to fill and discharge alternately each chamber when full being made to descend by its own gravity and in descending it opens the communication with the steam boiler and if the water in the boiler is below the desired level steam is admitted to said chamber and the water contained in it sinks down into the boiler, and while one chamber discharges the other fills and an automatic boiler feed is obtained which when once properly adjusted requires no further attention.

CORN PLANTER.-A. M. Corbet, Bethlehem, IOwa.-This invention consists ina novel manner of constructing and aranging the slides in the seed box which are so made that the flow of seed may be regulated according to the quantity required to be sown. The slides are furthermore provided with slots or perforations in such a manner that the seed may pass from one slide to the other without clogging up; the hole in the lower slide being closed while the seed passes through the scrapers to the ground.

POUNCING HATS AND HAT BODIES .- John L. Labiaux . Newark, N. J.-This invention relates to a machine on which hats and hat bodies of various size and shapes may be pounced with the greatest rapidity and ease.

AIR PUMP.-Daniel Carpenter, Peekskill, N. J.-This invention relates to an air pump of novel construction which is to be applied for the purpose of creating a vacuum in boxes or vessels, which are to be used for preserving meat, vegetables or any other article. This invention will prove to be of especial value for long journeys on ships, but also for many other purposes proof, produced by any distillation or series of distillations.

ference of the velocity disk.

HOT BLAST FOR FURNACE .- Job Froggett, Youngstown, Ohio.-This invention consists in a novel arrangement for heating the air which is forced into furnaces for smelting and other purposes.

CHURN.-Daniel C. Merrill, South Faris, Maine.-This invention consists principally in the construction of the dasher, in making the horizontal arm of the standard adjustable, so that it may be extended or contracted to accommodate different sized churns; in combining an adjustable slide or socket with the balance wheel for the reception of the end of the adjustable sliding arm attached to the dasher handle.

DRESS IMPROVER.-John Stademann and Henry Sanerbier, New York City. -This invention relates to a device to be applied to male and female garments for the purpose of giving it fullness. It is more especially designed for giving fullness to the chest of male wearers and to supersede the use of padding in the upper part of the fronts of vests and also to give prominence to the waists of ladies' dresses in front of the breasts. This result is attained by having the swaged wire cloth or wire gauze divided into two parts and connected when necessary by hooks and eyes, slides or elastics, so that they may be attached to or inserted in the garment.

METER ATTACEMENT.-Isaac P. Tice, New York City.-This invention consists in applying a plurality of meters to a still in such a manner that the amount of low grade spirits, or that which requires to be re-distilled, and has passed through the still, will be made known or indicated to a government official or detective, so that the government cannot be defrauded of revenue by an inaccurate statement of the amount of low spirits, or that below

vention is to obviate the necessity of employing so many wagons for the various purposes of the farm and road, and it consists in adapting one wagon by a proper arrangement of parts to all or nearly all the various uses for which a common wagon is required.

PEAT MACHINE.-Thomas J. Wells, St. Anthony, Minn.-This invention re lates to a new and improved machine for grinding peat and pressing it into molds, so that it may be used for fuel. The invention consists of two rotary conical grinders, one revolving at a greater speed than the other, and placed within a suitable case, and also in reciprocating molds arranged with the discharge end of the case of the grinders, and provided with plungers.

STEAMBOATS FOR PROTECTION AGAINST FIRE.-Abraham. G. Polhameus Nyack, N.Y.-This invention relates to an improvement in the construction of steamboats to protect them against danger of fire, and consists in the construction of an iron tank or reservoir of water, as a foundation for the boilers and furnaces.

DETACHING BOATS FROM DAVITS .- Johann A. Libbertz, Hamburg, Germany .- This invention relates to a means for detaching boats from davits, and of that class which admit of both ends of a boat, being detached simultaneously by the manipulation of a single lever by one person. The object of the invention is to obtain a simple, efficient and economical device for the purpose, and one which may be operated with the greatest facility.

HAND POWER LOOM .- Deen, Bolding & Perry, Wassonville, Ohio.- This invention consists in so constructing and arranging the mechanism of a hand power loom that the operation of the treadles, and the consequent shifting of the harness, the necessary motions of the picker staffs to insure the effective throw of the shuttle shall be governed by the action of the batten, and be at all times under the full control of the weaver.

SPRING FOR VEHICLES.-J. B. Stuart, Bunker Hill, Ill.-This invention relates to a spring for carriages and other wheel vehicles. The object of the invention is to obtain an axle spring which will be strong and durable, pos sess a requisite degree of elasticity, and still hold the body of the vehicle firmly so as to prevent all side surging and a backward and forward play or movement, and render unnecessary the use of a perch or reach with its accompanying braces.

HEMP BRAKE.-Simeon Sherman, Weston, Mo.-The hemp is passed between breaking rollers, and thence is carried forward by and between endless carriers where it is exposed to the breaking and loosening action of oscillating beaters above and below whose teeth strike it in concert between the intervals of the bars of the carrier.

STEAM GANG PLOW.-W. H. H. Heydrick, Chestnut Hill, Pa.-The invention consists of an arrangement of devices by which the plows are caused serially to enter the ground on a given line at right angles to the course of the ma chine, and to be withdrawn in a similar manner, so that although they are arranged in a recoding series obliquely to the line of motion, they shall begin their furrows and terminate in a line at right angles to the course of the machine

SECURING TEETH TO THE SIGKLE BARS OF HARVESTERS .- C. S. William son, Covert, N. Y.-This invention has for its object the attaching of teeth to the sickle bars of harvesters, in such a manner that they may be readily detached when necessary, for the purpose of being ground or to have new ones applied, and also readily attached to the sichle bar.

HOISTING AND CANTING .- James Tracy. Brewer's Village. Me .- This in vention relates to improvements in machinery to be connected with a gang saw mill for canting and hoisting the timber after it has been cut into plank upon the table of a circular saw for edging the plank. This operation is usually performed by hand by several men with great labor, whereas by the application of my improved machinery the manual labor is saved and the operation is performed with great dispatch.

FLOUR AND GRAIN ELEVATOR.-Henry Stanley, St. Johnsbury, Vt.-This invention consists in an improved mode of constructing a reservoir or air chamber for cooling flour or grain by exposure to atmospheric air.

Hoop SEIRT .- Louis Fellheimer. New York City.- The object of this invention is to provide a hoop skirt which will overcome the ojection heretofore experienced by ladies on entering and leaving carriages from the entangle ment of their feet in the skirts. Another object is to provide a hoop skirt which will fit either stout or slender females.

HARROW .- Caleb Bates, Kingston, Mass. - This invention relates to a harrow of that class which are arranged with a revolving toothed portion, and are commonly termed revolving harrows. The invention consists in the application of swinging blades to the revolving portion or portions, whereby said portions are made to rotate under the draught movement of the imple This invention also consists in constructing two revolving portions in such a manner that they may be made to gear into each other like toothed wheels, so as to insure a simultaneous movement or rotation of both portions

THRIBBLE SWITCH FOR RAILROADS .- James Tillinghast, Buffalo, N. Y.-The object of this invention is to avoid accidents by a wrong adjustment of the switch-acontingency of not unfrequent occurrence, especially in those cases whereby thribble switches are employed.

SAFETY ATTACHMENT FOR POCKET BOOKS .- Simon B. Parker, New York City.-This invention relates to pocket books, whereby the same cannot be illegitimately abstracted from the pocket.

ADJUSTABLE RUNNERS FOR CHAIRS, CAMP STOOLS, MIC .- W. H. Stroup Pittsburg, Pa .- This invention has for its object to furnish a runner, so con structed and arranged that it may be attached to chairs, camp stools, etc., to adapt them for use as sleds on skating ponds, and from which they may be removed without injury to the legs of said chairs or stools.

RIDING SADDLE .- Samuel S. Spurgin, Jacksonville, Ill .- The elastic mem brane which is strained between the pommel and cantle and supports the seat, is fastened to and upon the springs whose ends rest upon the side plates

HANDLING GRAIN.-Fayette Clark, Marcellus, N.Y.-This invention con sists of a scoop having a handle at each end, and is intended to facilitate and expedite the handling of grain.

HAY LOADING WAGON .-- Eli Sweet, Whitney's Point, N. Y .-- This invention relates to new and improved devices to be attached to wagons for loading hay or fodder in the field or barn, and consists in the combination of a cran and single pulley rope with a nitchfork and a sliding tongue in connection with a brake on the forewheels, in such manner that by the sliding of the tongue, when it is tripped, the horses hoist the fork with the hay and at the same time chock the wagon by the action of the brake, the whole draft being very light and the operation convenient.

WAGON.-Benjamin Ryder, Jr., South Orrington, Me.-The object of this in- purpose of enabling government officials to ascertain with positive accuracy the amount of whiskey or other spirits distilled therein, and at the same time effect a separation of the " proof" from the low grade spirits, as revenue is rated and paid on " proof" spirits or that having a grade of 50° by hydrome ter. The object of the invention is to prevent the stupendous frauds now etrated on the part of a large number of distillers against the govern perp ment, false returns being rendered on the amount of spirits distilled.

> WINDOW SASH FASTENER.-Orville M. Ridgway, La Porte, Ind.-This in vention consists in the combination of a metallic spring and rubber block. with the opposite edges of the window sash for the purpose of holding it se curely at any point to which it may be raised.

> CORN CULTIVATOR .- H. P. Kvnett, Sisbow, Iowa,-This invention relates to an improved construction of a cultivator for Indian corn to work with a double beam on both sides of a row of corn at the same time.

> OBTAINING GREATER HEAT FROM PERMANENT INFLAMMABLE GASES .- SI non Stephens.-For this purpose, these gases are mixed with steam before reaching the burners, which increases the volume of theflame, so as to cause it to fill the spaces where the heat is to be applied. The steam may either be passed into the gas pipe, or may be used to cause an increased draft of air to act on the flame; and the mixture of gas and steam may be used in coniunction with ordinary solid fuel. The inventor applies the flame so obtained to the production of a lime light, etc.

> THE SOLUTION AND TREATMENT OF VARIOUS GUMS, RESINS, ETC .- Edmund Hunt.-This object is obtained by the use of some acid or alkaline substance which is an oleaginous fluid at any temperature below 300° Fah. Oleic acid, carbolic acid, etc., answer for solvents; but the selection must be de-termined by the cost. Waste pieces of vulcanized india-rubber may be utilized by this means ; also ebonite, etc. The gum, etc., should be reduced to small particles before being subjected to the action of the solvent. Heat and agitation are applied to hasten solution, and the solvent should be saturated. Different gums Lequire different treatment.

> PRESERVATION OF ANIMAL SUBSTANCES .- Henry Medlock and William Bailey.-This is effected by dissolving ordinary commercial gelatin in boiling water, in the proportion of two pounds of the former to ten of the latter then adding to the solution of gelatin an equal volume of a solution of bisulphite of lime, having a specific gravity of about 1070. While the mix ture is still warm, the meat, poultry, etc., which is to be preserved, is dipped in, or brushed over with it two or three times. When the mixture of gelatin and bisulphate has solidified on the surface, the animal substance is to bepacked as airtight as possible; and if it is to be transported to a considerable distance, the interior of the box, etc., containing it should be brushed over with the mixed solution. To preserve hides, it is necessary only to coat their inner surface with the mixture. When animals are treated in this way, the viscera and blood must be removed, and their interiors also coated with the mixture. The latter may be removed by soaking in water.

> REFINING PARAFFINE WAX.-J. Leach, St. James' street, Hatcham Dated 23rd July, 1866.—This invention consists in the more speedy, effectual. and economical method of treating crude paraffine, so as to render it white, hard, and more suitable for the purposes for which it is employed. The process adopted is, First, to boil the crude paraffine for about two hours, more or less, with a solution of caustic alkall, which has the effect of precipitating the oil with which the paraffine is combined. The precipitated oil is then re moved by washing. The paraffine is then submitted to the action of animal charcoal, after which it is filtered and pressed. It is then re-melted, washed and again subjected to the purifying power of charcoal, after which it is again filtered and treated with about five per cent of naphtha and pressed. To remove more completely any impurity that may still exist, it is re-melted washed, treated with charcoal, and filtered.

> TANNING OF HIDES AND SEINS .- G. Mountford, Grasscroit, Yorkshire, and G. L. Loverside, Manchester. Dated 23rd June, 1866 .- This invention relates to an improved method of tanning by the employment of valonia and oak bark, in conjunction with American pearl ashes, and which, as is well understood, consists essentially of carbonate of patash, whereby a considerable diminution of the time required for the process of tanning 18 effected, and a leather or tanned hide or skin of a superior equality is obtained. In cases where it is advisable to give a yellowish color to the leather, turmeric may be used with the valonia or valonia and oak bark.

Answers to Correspondents.

- CORRESPONDENTS who expect to receive answers to their letters, must, in all cases, sign their names. We have a right to know those who seek in formation from us : besides, as sometimes happens, we may prefer to ad dress the cor espondent by mail.
- SPECIAL NOTE.—This column is designed for the general interest and in-struction of our readers, not for gratitious replies to questions of a purely business or personal nature. We will publish such inquiries, however, when poind for a advertisements at 50 cents a line, under the head of "Business and Personal."

A. G., of Wis.-Aluminium may be deposited by the battery from a fused mixture of anhydrous chlorides of aluminium and sodium. We consider it doubtful if aluminium has ever been deposited by the battery from an aqueous solution. There has been an abundance of rubbish printed on the subject.

- J. S. P., of Pa.-Black band ore, especially that containing two or more per cent of free carbon may be smelted profitably in small furnaces. The ian blast is not recommended for smelting furnaces. The fan does not give economically over one lb. pressure, while in iron smelting upwards of two 108. pressure is desirable. We know of nothing better than the blast furnade process.
- A. S. M., of O.-The ordinary working effective pressure in the Ericoson and other air engines we understand to be 5 to 8 lbs.
- H. H. W., of Mass., wants to know the best way of extinguishing a lamp, as he is warned against blowing down the chimney. Our practice has been to turn the wick down until the flame is feeble and then blow down the chimney.
- N. G. T., of N. Y.-" Will the pressure on a slide valve be increased by enlarging the ports, the pressure in the steam sheat remaining the same." Certainly, why not ?"
- C. D. M., of Pa.-Any salt of copper introduced into a flame will give it a green color. The green color of fire works is due to sulphide and other preparations of copper. The best way of producing mono-

air escapes out of its pores and it sinks. Hollow floats are commonly made of copper. What is the objection to them?

D. G. S., of Pa.—You will find coal tar and coal tar asphaltum a good covering for your wire ropes, and they are not corrosive to The "sulphur water," of coal mines is always acid and unprotected wire rope coming in contact with it is soon used up. There is probably no cheaper protective coating than some sort of tar.

E. R., of Vt.—" When a sugar maple is tapped does the sap comefrom above or from the roots." The water of sap for the most part enters, at the roots and travels upward, on its way up; in the trunk and branches of the tree the sacchariae matter is formed. When the tree is tapped the sap flows down by gravity. Below the tap there is very little saccharine matter.

D. R. M., of Pa.-You ask whether it will be cheaper to use one boiler, 30 feet by 5 feet, to run an engine 14 by 30 inches, rather than two of those dimensions, the pressure of steam on the two being 30 pounds and the velocity of your engine 70 revolutions. You omit to give us the character of your boilers, whether cylinder or flue, the amount of heating and grate surface, and the point of cut-off, if any, of your engine. So we can only reply that if you can make steam enough without unduly forcing the fire, one boiler ought to run your engine with less fuel than two. Certainly if the boilers are at all what boilers should be, one should be sufficient for your engine.

R. F., of Ill.-We cannot understand your reasons for considering a cylinder of boiler iron 52 inches in diameter less able to withstand a certain pressure per square inch than one of the same grade of iron 72 inches diameter; for these are exactly the facts in the boiler to which you refer. After very careful examination of upright boilers built on the Densmore plan, we cannot conscientiously consider them as inferior in strength, from anything in their peculiarities of construction, to any other cylinder bollers. By tests which have been made it has been proved that the inner tube cylinder you suppose to be a weak part, is stronger than other portions. We consider it sate, and believe the accident you refer to is attributable to other causes rather than defects in the plan or construction.

T. S. C., of Ohio.-We have examined your diagrams and are reluctantly forced, to give an opinion against your projects. You expectto gain power by attaching an eccentric to your crank-nin and thus increase the radius of the crank motion. It is a pretty theory, but you willgain nothing from it in practice but friction. You say you can gain 20 per cent of power—or "the utilization of power will be 20 per cent—and increased friction only 5 per cent, a handsome advantage of 15 per cent." If this is so, why not increase the throw of the eccentric and make a gain of 100 per cent? Please look into this matter more carefully and closely.

... Your plan of using steam expansively isnot new and in its arrangement of the two cylinders is really abaut. A similar plan, but more cor-rect, is now in successful operation. We preserve your diagrams subject to your order. Do not get discouraged atone failure.

T. P. K.—Your combination of gearing for driving rolls is good. The power of the engine you describe as of 6 inch bore, 18 inchstroke, 90 revolutions, and 60 pounds pressure is 13.53 horse-power. The power exerted on the rolls is that, less the intervening friction. The weight that could be raised by a rope passing around or between the rolls would be as much greater than the power directly by the engine as the surface of the rolls move slower than the periphery of the driving pulley on the engine shaft, less the friction. As much greater the weight you could thus raise than that raised by the engine direct would correspond to the velocity. There is no actual gain in power but a loss by friction. From marks and your data you can easily calculate the results. these r

J. H., of N. J., sends a copy by photography of a scientific document. But the copy is greatly reduced in size from the original, and is not legible to the unassisted eye, and under the microscope is quite indistinct. We shall be pleased to consider the subject if he will send us a paper which we can read.

T. E. L., of N. Y.-You can grind and polish the speculum of a telescope as you would any other disk of hard metal by chucking it in a lathe and grinding with emery and oil, polishing with flour of emery, crocus, and rouge. Care must must be taken not to scratch it.

J. W. G., of Pa.-Crocus or Colcothar-sesqui-oxide of iron --- is used for polishing metals and glass. It is the oxide of iron remaining after the distillation of the acid from sulphate of iron.

Business and Personal.

The charge for inse tion under this head is 50 cen 8 a line.

Dayton, Allen & Co., Richmond, Va., want machinery, with cost of manufacturing 40-gallon liquor casks.

- The address of A. S. Munger is Ansonia, Conn.
- Wire and Nail Manufacturers are requested to send their addresses to Willis Weaver, Salem, Ohio.
- G. D. Humphrey, Emporia, Kansas, wishes to correspond with manufacturers of wind mills or wind powers.
- J. Shelon, Newport, Ky., enquires where he can obtain a gage to show the heat of the blast after it leaves the hot blast.

Inventions Patented in England by Americans.

[Condensed from the "Journal of the Commissioners of Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

223.-MACHINE FOR PULLING FLAX, BTC.-Samuel W. Tyler, Troy, N. Y. an. 28, 1867. Jan

331.-MODE OF ATTACHING TRETH TO SAWS.-Warren P. Miller, San Fran-cisco, Cal. Feb. 7, 1867.

379.-PRESERVING ANIMAL MATTERS WITHOUT LOSS OF FLAVOR.-Lewis H. Spear, Braintree, Vt. Feb. 10, 1867.

885.—THEATLING VEGETABLE SCHOTANCES IN THE MANUFACTURE OF PAPER PULP AND FIBERS.—Benj. C. Tilghman, Philadelphis, Pa. Feb.11, 1867. 403.-MACHINERY FOR MOLDING AND PRESSING BRICK.-Emery R. Gard, Chicago, Ill. Feb. 18, 1867.

	abnow stiplight for indeed arbibitions is to an mound the forme with colored	City, Rob 19 1908 Charles WHEAT, ITCSamuelD, Mack, New York
CRUSSING AND PULVERIZING CLODS OF EARTH.—John Custer. Corsics, Ohio. —This invention relates to improvements in a machine for crushing and pul- verizing clods of earth after the ground has been plowed.	glass. At the theatres the lime light and colored glasses, have superseded the old fashioned pyrotechnic compounds.	City: Feb. 16, 1861. 463.—APPARATUS FOR LINTTING ON AND SHUTTING OFF GAS, AND IGNITING THE SAME.—Edwin E. Bean and Wm. H. Mumber, Boston, Mass. Feb. 20, 1867. 464.—Roat DETACHING ADMARKING COMPANY COMPANY
FLOUR SIFTERJames A. Sinclair, Woodsfield, OhioThis invention has for its object to furnish an improved machine for sifting flour meal, or screen- ing grapes, cherries, berries, etc.	A. S., of Mo.—There is no electric light which can yet com- pete with the lime light, for use with a traveling stereoptican exhibition. If a battery be used as a source of the electricity 25 to 50 of Grove's cups	Feb. 20, 1987. 465FILES AND HANDLESAlfred Weed, Boston, Mass., Feb. 20, 1867. 234WRITING PAPERJoseph E. Hover, Philadelphia, Pa. Jan. 30, 1867.
STOVE-FIPE DAMPERThomas K. Anderson, Hornellsville, N. YThis in- vention consists in an improved self-adjusting stove pipe damper so con- structed and arranged that the draft of the stove shall regulate the damper	would be needed; and a sufficiently powerful magneto electric machine would weigh tuns, and the strength of more than one man to operate it. Yet we have littledoubt that electric light will some day come into fashion and be cheap enough. As long as we know that light represents or is	 286.—ATMOSPHERIC PLATES OF ARTIFICIAL TEETH.—Nehemiah T. Folsoni, Laconia, N. H. Føb. 1, 1667. 282.—STRAM GENERATOR.—Eli Thayer, Worcester, Mass., Sabin P. Pond, Providence, R. I., and Daniel B. Pond, Woonsocket, R. I. Feb. 2, 1867.
so as to maintain a uniform fire. METER AND SEPARATORIsaac P. Tide, New York, CityThe object of	equivalent to a very small amount of electricity or mechanical force we cannot give up the hope that we shall learn how to manufacture our light with a little board traphles we new grindeoffs	283-SELF-OILING SPINDLES FOR SPINNING, DOUBLING, AND WINDING FRAMES-Francis Rabbeth, Ilion, N. Y., and John E. Atwood, Willimantic, Conn. Feb.2, 1867.
of whiskey produced in a simple and enclede device by which the amount of whiskey produced in a distillery may be ascertained by government offi- cials with positive accuracy. It is well known that a large amount of whis- lorg is divided in the United States for which the government appleates	G. W. S., of Pa.—"What mineral if any is contained in the enclosed sample of rock ?" The sample of rock weighs about ten grains	NEEDLESChas. P. S. Wardwell, Gillord, N. H. Feb. 2, 1867. 816WEAVERS' HARNESSCullen Whipple, Cranston, R. I. Feb. 4, 1867. 24APPABATUS FOR DEVING YARNHugh Whitehill, Newburgh, N. Y.
returns in the way of revenue tax, and this invention will effectually prevent that fraud being practiced. The successful operation of a device for this pur-	and is mainly sulphide of zinc. Such ore is often called by miners "black jack" and is one of the important sources of zinc. H. C. of N. Y.—The sample of "stuff" which you say was	SOBORBINS IN SPINNING MACHINERYMetallic Bobbin Company, New York City. Feb. 6, 1867.
pose must possess three essential requisites:—rist, A positive or sealed con- nection of the worm with the meter. Second, An accurate measuring or weighing mechanism with an indicator or register connected therewith ac-	taken from what was represented as a bed of sulphuret of silver, is sul phile of iron. Did you think it was gold?	HOBET HORES. WID. F. GOOdWin, Washington, D. C., and Henry S. Cohu, New York City. Feb. 7, 1867. 429WATER METERRobert Westcott and Job S. Crane, Elizabeth, N. J.
cessible only to the government inspector or omciai. Third, A separater by which the high spirits or that above a certain grade which does not require to be run through the still a second time may be separated from the low grade	sngar is engaging much attention just now in the Pacific States.	453RAILROAD SWITCH INDICATORThos. S. Mall, Stamford, Conn. Feb. 19, 1867.
which requires a second distillation. METER AND SEPARATORIssac P. Tice, New York CityThis invention relates to a soluti Meter and Reporting designed for use in distillation for the	can be long used in the solid formas a float in a steam boiler. Wood is ordinarily considered to be lighter than water. But its apparent light-	BROWARDON VAPOR. AIR, AND THE HABRITURE AND COMEUSTION OF A HY R. Foote, Boston. Mass. Feb. 28, 1867. 593.—SELF-LUBRICATING AXLE FOR CARRIAGES AND COMPRET VALUES IN
terarce to a shirt meter and penarator, designed for me in distinction for the	I need to the to the porosity. When wood is for a long time kept under water	Silas S. Putnam, Dorchester, Mass. March 2, 1867,