been found in considerable quantity in the potters' field, of New York city, which has been removed to satisfy the neces sities of our rapidly increasing population.
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. 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 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 o a man. The specimen received from $\mathrm{Mr}^{\text {. Northrup, whic }}$ suggested this article, no doubt originated from the body
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 In stitute, 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 print ed 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 figranged on the periphery of a wheel. As in the former arranged on the periphery of a wheel. As in the former
machine, the type are operated by a set of keys as in a piano machine, the type are operated by a set of keys as in a piano
forte: by pressing down either key the corresponding letter forte: 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 thei
construction and advantages explained by their inventors. bridae butiding.
Mr. Blanchard read a paper on this subject therein propos ing an easy and practical solution of the mathematical question involved, and suggesting a readier way of arriving at the old results and one better adapted to the capacities of me chanics than the formulæ laid down by engineers. He began by considering the whole span from pier to pier to be dividedinto such a number of shorter spans, that each may be cov
ered with sufficient security by a single length of simple ered 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 build ing. 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 ten sion, as in the suspension cables, or a combination of both as in the truss lridge. 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 an gles 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 represent 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 deter mined loy regarding each point as maintained in a state ot mined ly regarding each point as maintained in a state ot
stability by three or more contending forces that neutralize stability by three or more contending forces that neutraize
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 strain uponstraining beams which it is necessary to intrcduce 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 increase by regular additions from the center to the ends of the
bridge. The top and bottom cords perform the secondary bridge. The top and bottom cords perform the secondary
part of holding the braces in position, the former being the part of holding the braces in position, the former being the
agyregate 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 coun terbraces when the load is unevenly distributed, illustrating 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.

1. To Sllver Glass.

Then 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 hor zontal position and as much of the solution is poured on as it can sustain. Or the solution may be putinto an earthen or glass dish and the glass immersed in it. The silvering is completed in half an hour or more.
CaOTIons.-The operation should be carried on in a room warmed to about $70^{\circ}$. 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 ful sunlight the process goes on better. But all the preliminary preparations should be made in a feebler lighi.
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 prodnced on the bright silver by deposition of more silver by the battery ; but this will no show itself through the glass.
Prof: Wheatstone's Telegraph is operated by drawing through the sending instrument a strip of paper perforate beforehand with the proper characters of the despatch. The perforations give the connections, and are prepared with an nstrument 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 ingeniousinstru ment by the same inventor, is used by the Emperor of the rench for secret despatches. The words, sent in cypher, of hich the sending operator knows nothing, are translated in o 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 etter 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 meihod for trial. Cut choice buds just ready to open, with a good stem, say three inches long, the end of which to be immediately covered with sealing wax. Dry the buds artially in the air, and wrap each in a piece of soft paper wanted, take them at night, cut off the sealed end of the 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. Whitner, 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 all your transactions with us. We have sold the state of ence with a large number of persons negotiating sales of counties in different parts of the United States. Illustrating counties in different parts of the Unit
and advertising in your paper pays.

## zectut $\mathfrak{c}$ gmertan aun forcigu zextuta


Vent Peg or Valve.-Stephen Bourne, Headstone Drive, Harrow, Eng This invention relates to a valve or vent peg for beer casks, etc., and con
dats in making the valve or vent peg of inda-rubber and with one or mo penings in such a manner that by the elasticity of the rubber or other ma erialthey will be held closed while by the extension of the rubber the
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 consfats forming loops at each end of the hoops composing the skirt by bending uch end over and then securing it to the main portion, by means of
which hooploops a rellable and durable connection is established between the oop and their sllding tubular fastenings or the tapes of the akirt, as the case may be.
Look.-E.P. Porter and G. W. Hallett, Waterford, N. Y.-In the look em 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 sald catches from the bolt by suitable key ; the bolt is then free to be drawn in.
Adtomatro Boilere Frzd.-Henry O. Demarest, New York City.-This in
vention relates to a boiler feed which consists principally of two chambers which osclllate on a sultable rod, their ends being pared off and groun steam tight against seats which are formed by the end pieces of a suitable
trame. Suitable channels in the eeats and chambers allow said chambers to trame. Sultable channels in the seats and chambers allow said chambers to
all 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 bobler and if the water in the boiler is below the deaired level steam
1s admitued to sail chamber and the water contained in it sinks down into admitued to said chamber and the water contained in it sinks down int he boiler, and while one chamber discharges the other fills and an anto no further attention.
Corn Planter.-A. m. Corbet, Bethlehem, Iowa.-This invention consists ha novel manner of constructing and aranging the slldes in the seed box quanity required to be sown. The slldes are furthermore provided with siots or perforations in such a manner that the seed mas pass from one slide to the other withont clogging up; the hole in the lower silde being closed
while the seed passes through the scrapers to the ground. Pouncing Hats and Hat bodrrs.--John L. Lablanx, Newark, N. J.-This
nvention relates to a machine on which hata and hat bodies of varions size and shapes may be pounced with the greatest rapidity and ease.
A Poup, Daniel Carpenter Peekekill, N. J. This
An air pump of novel construction which ts to be applied for the relates to oreating 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
especlal value for long journeys on ships, but also for many other purposes

Manofaionina Mator Splints.-Emry Andrews and Wilham 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 are strung on wires with washers interposed between them in such a manner
that the match splints can be frmme clamped between the slats and the principalstrain is thrown on the wirres. The rack is fed down by a compensat-
ing feed composed of a feed bar which moved down against the action of prings by means of cams on the driving shaft and which is so constructed that tt 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 pened by suitable wedges so that the match splints can readily enter be-
ween them. The cards are driven againat the knives by a toothed feed
. plate thich. The carde are driven against the knives by a toothed feed
pplints clear through the knives. Sall knivcs are armly secured on two screws supporting the ends thereof and they are kept part by washers interposed between them. A portion of the knives are placed in the rear of the others so that they do not all cat 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 wherebr a drawing cut is produced each way from the center of the card and he knife is leas lable 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 inven
 herefrom and replaced without trouble.
Clothespin.-William M. Doty, New ForkCity.-The object of this inven ner, and to construct it so as to be strong and easily applied to or r emoved rom a clothesiline as may be desired.
Ironing Madine.-P. O'Thayne, New York Citv.-This invention relates to a machine for ironing clothes or articles of any description, said machine belng composed chlefly of a movable flat or segmental board in combination with a amoothlug iron whlch is heated by a gas flame and which ls so ar-
ranged that it can be depresed on the board and that it can be revolved if it hould be desirable.
Convertina Motion.-Wm. H. Hurlbut, Elgin, ill.-This invention conhe crose the employment or ase ofa spiral flanged ca m in combination with he crosshead of a steam engine, or other equivalent part of anotier motor
and with a shaft to which a revolving motion la to be imparted. in anch 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 conthe reciprocating motion of an equivalent part or another motor is con-
verted in a continuous rotory motion of the shaft said epiral-fanged cam acting as a substitute for the crank.
Drille for Oil $\Delta$ nd other Wells.-Washington Tingley, New York City.-The object of this invention is to improve the construction of drills rapidity, ream out the bore as the drill advances into the rock, and keep he bore at ite full diameter, and also gather within itself the detritus pro-

Belinga Polley.-Moses Lewfs and Samuel Miller, Greenville, Conn.-
Thisinvention consists in constructling palleys upon shafts running at right nisinvention consists in constructing pulleys upon sharts running at right
ang 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 marbe cpened and reclosed with ease, and still be at all times airthe sa
tight.

Presc - David King, Aberdeen, Ohio.-Thisinvention consists in construct
 or run down may by turning the lever by means of a rack and pinion, be
elevated rapidy to us saving the time of running the screw ap and down in

Hoibting Apparatub.--George L. and Wm. M. Howland, Topeham, Me. 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 ralising or lowering, and consists
also in making the connections between the lower pawls more fiexible, by so in making the connections between the lower pawls more fiexible, by the application of one more link,
less amount of power required.
Tool por Cotiting boiller Tobis.--Peter Hoffman, Jersey City, N. J.This inventionrelates to a toolfor catting boiler tabes which is composed
ofa split or sectional bar, one end of which is made to fit the tabe to be cut, of a spit or sectional bar, one end of which is made to fit the tabe to be cat,
whiletits other end, which carries the cutter, is open to recelve a wedge in such amannerthat when the cutter bar is inserted in the tabe to be cut and
the wedgeis placed in it s alotted end, the point or teeth of the cutter catch thewedgeis 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 In the innersurface of the tube and by tarning the wedge and catter bar and driving sald wedge in grainually, the tabe is cut in
out producing the least Jar in the joints of the boiler.
Wagon Brakr.-B.B. Scofield, Woodhull, Ill.-This invention furnishes an improved brake for
fective in operation.
Wira Pointina.-John Lockwood, Wilton, Conn.-This invention con ists of a simple and convenient machine for pointing wire for drawing. Loors.-Chas. Gschwine, and Chas. Reichard, Union Hill, N. J.-The ob-
Ject of this invention is to arrange a lock in anch a manner that it cannot be anlocked, unless the position ofthe 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 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 unlocsing the spindle is pressed through the upper end of the key hole. Fibi Aru- Thom Retell, London, England-This invention rela certain Improvements in breech-loading needle guns which are so con-
structed that they serve also as canes and which are operated in an easy and structed that the
simple manner.
Lock..-.L. s. Chase, New York Citv....This invention relates to a lock in
which the bit of the key acts on a series of pins or spring stops which are in Which the bit of the key acts on a series of pins or spring stops which are in-
serted in a revolrung disk and whioh correspond in numberand position to a serted in a revoling disk and whioh correspond in numberand position to a
similar number of ping inserted in suitable cavities in the lock plate. Said milar number of pins inserted in suitable cavities in the lock plate. Sald
revolving disk to provided with a olrenilur ward which extends clear up to theinner 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
on the tumblers but the bolt is thrown by a nose projecting from the circumon the tamblers but the bolt
ference of the velocity disk.
Hot blast por Furnace.-Job Froggett. Youngetown, Ohio.-This invenion consists in a novel arrangement for
Chunn--Daniel c. Merrill, South Faris, Maine.-This Invention consists of the standard adjustable, so that it mas be extended or con racted to accommodate different izized churns; In combining an adjustable sllde or socket with the balance wheel tor the reception of the end of the adjustable slid-
Dress Improver.-John Stademann and Henry Sanerbler, New York City. -Thisinvention relates to a device to be applied to male and female garments Tor the purpose of giving it fullness. It is more especially designed tor giv-
Ing fullness to the chest of male wearers and to aupersede 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 ganzedivided into two parts and con-
nected when necessary by hooks and eqes, slides or elastics, so that they may nected when necessary by hooks and eges,
be attached to or inserted in the garment.
Meter attachment.-Ibaac 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 bere-distilled, and has paseed tbrough the still, will be made known or indicated to a government offclal or detective, so that the government cannot be defrauded of revenue
by an Inaccurate statement of the amount of 1ow spirits, or that below by an inaccurate statement of the amount of 1ow spirits, or that below proof, produced by any distillation or series of distillations.

WAgor.-Benjamin Ryder, Jr., South Orington, Me.-The object of this in
vention is to obviate the necessity of employing so many wagons for the vavention is to obviate the necessity of employing so many wagons for the va-
rious 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.
Prat Machine.-Thomas J. Welle, St. Anthony, Minn.-This invention re ates to a new and improved machine for grinding peat and pressing it into
molds, so thatitmay be used forfuel. The invention consists of two rotary onical grinders, one revolving at a greatar speed than the other, and placed ithin a autable case, and
discharge end of the case of the grinders, and provided with plungers.
Stramboats for Protrction agatisst Fire.-Abraham. G. Polhameus,
Nyack, N. Y. -This inveation relates to an improvement in the construction fsteamborts to protect them against danger of fire, and consista in the con struction of an fron tank or reservoir of water, as a foundation for the教
Detaohing Boats from Davits.-Johann A. Libbertz, Hamburg, Ger-many.- 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 purpose, and one which may be operated with the greatest faculity
Hand Power Looy.-Deen, Bolding \& Perry, Wassonville, Ohio.-This invention consists in so constructing and arranging the mechanism of a hand of the harness, the necessary motions of the picker staffs to insure the effectiv all times under the full control of the by the
Sprina for Vehicles.-J. B. Stuart, Bunker Hill, Ill.-This invention restes to a spring for carriages and other wheel vehicles. The object of th 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 ompanying braces.
Hrap brakr.- Simeon Sherman,Weston, Mo.-The hemp is passed betwee reaking rollers, and thence is carried forward by and between endless car eaters above and below whose teeth strike it in concert between the inte vals of the bars of the carrier.
Stram Gang Plow.-W. H. H. Heydrick, Chestnut Hill, Pa.-The Invention onsists of an ar:angement of devices by which the plows are caused serially
enter the ground on a given itne at right angles to the course of the ma chine, and to be withdrawn in a similar manner, so that although they ar arranged in a recading serise obliquely to the line of motion, they shall begin their furr
securine teeth to the stoele bars of harvibters.-c. S. Williamson. Covert, N. Y.-This invention has for its object the attaching of teeth to ached when necessary, for the purpose of belng ground or to have new ones pphed, and also reany atlached to the sichle bas
Hoisting $\Delta$ ND Cantise.- James Tracy, Brewer's Village, Me.-This in vention relates to improvements in machinery to be connected with a gang pon the table ot a circular sam tor edging the plank. This operation pon the table of a circular saw for edging the plank. This operation application of mv improved machinery the manual labor is saved and the peration is performed with great dispatch.
Flove asd Grain Elefvator.-Henry Stanley, St. Johnsbury, Vt.-This nvention consists in an improved mode of constructing a reservoir or air
Hoop Silid.-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 entangleent 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 harre 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 mench a manner that they may be made to gear into each other like toothed

Thribrle Switce por Railzoade - James Tillinghast, Buffalo N bject of this invention is to avoid accidents by a wrong ajuastment of the whereby thribble switches are employed.
Safety atrachment for Poceret Boons.-Simon b. Parker, New York
City. This invention relates to pocket books, whereby the same cannot be illegitimately abstracted from the pocket
 Pittsburg, Pa.-This invention has for its oy Ject to furnish a runner, so constructed 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 dapt them for use as sleds on skating ponds, and from whe
removed without injury to the legs of said chairs or stools.
Riding Saddlz.-Samuel S. Spurgin, Jacksonville, ill.-The elastic membrane which is strained between the pommel and cantle and supports ihe Handinga Grats.-Fayette Clark, Marcellus, N. Y.-This invention conexpedite the handing of grail.
Har Loading Waton.-EEli Sweet, Whitney'a Point, N. Y.-This invention relates tonew and improved devioes to be attached to wagons for loading hay or fodder in the feld or barn, and consists in the combination of a crane with a brake on the forewheels, in such manner that by the sllding of the ame time chock the wagon by the astion of the brake, the whole draft being very light and the operation convenient.
Cavisinga and Polverizing Clods of Earti.- John Caster. Corsica, Ohio. This invention relates to improvements in a machine for oruabing and pulverizing clods of earth after the ground has been plowed.
Flotr Siftrr.-James A. Sinolair, Woodstield, Ohio.-This invention has for its object to furnish an improved machne or sitting fio ing grapes, cherrles, berries, eto.
Stove-pipe Damprr.-Thomas K. Anderson, Hornellsville, N. Y.-This in vention consists in an improved selfadjusting stove pipe damper so con-
struoted and arranged that the draft of the stcre shall regulate the damper structed and arranzed that the d
so as to maintain a uniform flre.
Metreand Sbparator.-Ibaac P. Tice, New York, City, - The object of chis invention is to obtain a simple and efflcient device by which the amount of whikikey produced in a distillery may be ascertained by government off-
clals with positive accuracy. It ts well known that a large amount of whis. Key is distilled in the United States for which the government recelves no returns in the way of revenue tax, and this invention will effectually prevent
that fraud being practiced. The suoceseful operation of a device for this purthat fraud being practiced. The suocesaful operation of a device for this pur nection of the worm with the meter. Second, An accurate measuring or
weighing mechanism with an indicator or register connected therewith ac weighing mechanism with an indicator or register connected therewith ac
cessible only to the government inspector or offcial. Third, A separater by cessible only to the government inspector or offcial. Third, A separater
which the high spiritsor thata bove a certain grade which does not require Which the high spiritsor that above a certain grade whith does not require
to be ron through the still a seoond time may be eeparated from the low grade which requires a second distillation.

[^0]purpose of enabling government offciala to ascertain with positive accuracy the amount of whiskey or other spirits distilled therein, and at the same tlme rated and paid on "proof" spirits or that having a grade of $50^{\circ}$ by hydrometer. The object of the invention is to prevent the stupendons frauds now
perpetrated on the part of a large number of distillers against the governperpetrated on the part of a large number of distiliers against the
Window sabi Fabtener.-Orville M. Ridgway, La Porte, Ind.-This in ention 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 curely at any point to which it mar be raised.
Corn Colitivator.-H. P. Kynett, Sisbow, Iowa.-This invention relates to an improved construction of a cultivator for indian corn
Obtaining Griatre Hrat from Prrmanent inflammable Gabrg.-Simon Stephens.-For this parpose, these gases are mixed with steam before ofll the spaces where the heat ts to be volited orthename, soas to cause passed into the gas pipe, or may be used to canse an increased draft of air to act on the flame; and the mixture of gas and steum may be used in con
junction with ordinary solid fuel. The inventor applies the flame so ained to the production of a llme light, etc.
the Solution and Treatment of various Gumb, Rebing, btc.-Ed und Hunt.-This oiject is obtained hy the use of some acid or alkaline subcid, carbolic acid, etc., answer for solvents ; but the selection must be deermined by the cost. Waste pieces of vulcanized india-rubber may be o small particles before being subjected to the gum, etc., should be reduce and agitation are applied to hasten solution, and the solvent should be satuated. Different gums 5 equire different treatment.
Prierevation of animal Substances.-Henry Medock and william Bailey.-This is effected by dissolving ordinary commercial gelatin in boil ng 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
basulphite of lime, having a specifie gravity of about 1070. While the ure is still warm, the meat, poultry, etc., which is to be preserved, is dipped n , or brushed over with it two or three times. When the mixture of gela in 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 consider soledistance, theinterior of the box, etc., containing it should be brush the coat their inner surface with the mixture. When animals are treated in this way, the viscera and blood must be re:noved, and their interiors also coated with the mixture. The latter may be removed by soaking in water
Refining Parafrine Wax.-J. Leach, St. James' street, Hatcham.
Dated 23rd July, 1866.-This invention consists in the more speedy, effectaal, Dated 23rd July, 1866.—This invention consists in the more speedy, effectual, and aconomical method of treating crade iparaffine, so as to render it white,
hard, and more suitable for the purposes for whio: it 1 s employen. The proara, and more sultablefor the purposes ior whic it 1 employed. The pro ess, with a solution of caustic alkali, which has the effect of precipitating the oll with which the paraffne is combined. The precipitated oll is then re moved by washing. The parafline is then submitted to the action of animal
charcoal, after which it is filtered and pressed. It is then re-melted, washed charcoal, after which 18 is filtered and pressed. It is then re-melted, washed, and again subjected to the purifylng power of charcoal, atter which it to again
filtered and treated with about five per cent of naphtha and pressed. To remove more oompletely any impurity that may still exist, it is re-melted. washed, treated with charcoal, and flltered.
 Q. L. Loverside, Manchester. Dated 23rd June, 1866. - This invention relates
o an improved method oftaning by the employment of valonia and oas bark. In conjunction with American pearl ashes, and which, as is well under tood, consists essentially of carbonate of patash, whereby a considerable leather or tanned hide or akln of a superior equality io obtsined. In, ase where it is advisable to give a yellowish color to the leather, turmeric mas be used with the valonia or valonia and oak bark.

## Suswers to dorrespoutents



A. G., of Wis.-Aluminium may be deposited by the battery from a fused mixtare of anhydrous chlorides of aluminium and sodium.
We consider it doubtful if aluminium has ever been deposited by the battery from an aque
J. S. P., of $\mathrm{Pa} .-$ Black band ore, especially that containing fornaces, The tan tast free oarbon may be smelted proftably in smal fan does not give ecosommically over one lb. pressure, while in iron smelt ing upwards of two 108. pressure is desirable. We know of nothing better
C. S. M., of O.一The ordinary working effective pressure in the Ericoson and other air engines we understand bo be to 8 lbs.
H. H. W., of Mass., wants to know the best way of extingulshing a lamp, as he is warned arainst blowing down the chimney. Our blow down the ohimney.
blow down the ohimney.
N. G. T., of N. Y.-" Will the pressure on a slide valve be Increased by enlarging the parts, the pressure in the steam oheat remain
C. D. M., of Pa--Any salt of copper introduced into a flame will give it a green oolor. The green color of fire works is due to sulphide
and other preparamons of copper. The best way of produclng mono-
chromaticlight for indoor exhibitions is to surround the flame with colored glass. At the theatres the lime light and colored glasses, have supersed glass. At the theatres the lime light and oo
A. S., of Mo.-There is no electric light which can yet compete with the lime light, for use with a traveling stereoptican exhibition would be needed; and a sufflelently powerful magneto eleotric machine would weigh tuns, and the strength of more than one man to operate it Yet we have little doubt that electric light will some day come into fabhion
and be oheap enough. As long as we know that light represents or 1 and be oheap enough. As long as we know that light represents or equivalent to a very small amount of electriotty or , mechanical foroe W with as ittle labor and trouble as we now grindooffee.
G. W. S., of Pa.-" What mineral if any is contained in the enclosed sample of rook ?" The sample of rock weighs about ten grain and is mainly sulphide of zinc. Such ore is often called by miners "black Jacts" and is one of the important sources of zinc.
H. C., of N. Y.-The sample of "stuff" which you say was phide of iron. Did you think it was gold 9
J. D., of Idaho, informs us that the cultivation of beets for . E., of Pa.-We do not think there is any material which can be long used in the solld formas a float in a ateam boiler. Wood
ordinarily considered to be lighter than water. Hut ita apparent light ness io dre so top porosity. Wben Wood fo for a long time kept under wate

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
iron. The "anlphris water" Iron. Pue sulphur water, or cos in tis soon nsed ap. There is probably no cheappr protect:ve coating than some sort of tar.
E. R., of Vt.-" When a sugar maple is tapped does the sap comefrom above or from theroots." The water ofsap for the most part enters, at the roots and travels upward, on its way up; in the trunk and brancles of the tree the sacchariae matter is formad. When the tree is
tapped the sap flows down by gravity. Below the tap there is very little tapped the sap flow
D. R. M., of Pa.-You ask whether it will be cheaper to use one boiler, 30 feet by 5 feet, to ran an engine 14 by 30 inches, rather chan $t$ wo of those dimensions, the pressure of steam on the two being 30 pounds na the velocity of your engine 70 revolutions. You omit to give us the and grate surface, and the point of cut-off, if any, of your engine. So we onlyreplythatifyou can makesteam enough without unduly forcing the fire, one boller ought to ran your engine with less fuel than two. Cer ficlent for your engine.
R. F., of Ill.-We cannot understand your reasons for considering a cylinder of boiler iron 52 inohes in diameter less able to withtrand a certala pressure per square iach than one of the same grade of which you refer 7 incer on the Densmore plan, we cannot conacientionsly consider bollers bull ferior in strength, from angthing in their peculiaritize of construction, to any other cylinder bollerv. By testa which have been made it has been proved that theinner tube cylinder you suppose to ve a weak part, is stronger than other portions. We consider it sate, and believe the acci-
dent vou refer to is attributable to other canses rather thadef plan or construction
T. S. C., of Ohio.-We have examined your diagrams and are relactantly forced, to give an opinion against your projects. You ex pectto gain power by attaching an ecoentric to your crank-pin and thus illgain nothing from it in pras motion. It is a pretty theorv, but you 20 per cent of power-or "the thtilization of power whil be 20 per cent-and ncreased friction only 5 per cent, a handsome advantage of 15 per cent.' 100 per cent? Please look the throw of the eccentric and make a gain .. Your plan of using steam expansively isnot new and in its arrange ment of the two cylinders is really absurd. A similar plan, but more cor rect, is now in successful operation. We preserve your diagrams subjec P. K-Your combination of gearing to good. good. The power of the engine you describe as of 6 inch bore, 18 inch
stroke, 90 revolutions, and 60 pounds pressure is 13.53 horse-power. The powerexerted on the rolls is that, less the intervening friction. The weight hatcould be raised by a rope pasing around or between the rolls would be as much greater than the power directly by the engine as the surface o he 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. Thereis no actual gain in power but a loss by frtetion. From these remariss andy our data you can easily calculate the results.
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 distinct. We shall be pleased to consider the subject if he will send us a paper which we can read.
, Y. You can grind and polish the speculum ofa telescope as you would any other disk of hard metaliby chucking it in
a lathe and grinding with emery and oll, polishing with flour of emery, J. W. G., of Pa.-Crocus or Colcothar-sesqui-oxide of iron - -is used forpolishingmetals and glass. It is the oxi
after the distilation of the aold from sulphate of fron.

## Wusiutss aud zersomat.

The charge for inse toon under this head te 50 cen 8 a une.
Dayton, Allen \& Co., Richmond, Va., want machinery, with The address of A. S. Munger is Ansonia, Conn. Wire and Nail Manufacturers are requested to send their ad dresses to Willis Weaver, Salem, Ohio.
A. D. Humphrey, Emporia, Kansas, wishes to correspond with Shelon, Newport, Ky., enquires where he can obtain gage to show the heat of the blast afterit leavea the hot blas

Inventions Patented in England by Americans. [COndensed from the "Journal of the Commissioners of Patents.
PROVISIONAL PROTECTION FOR SIX MONTHS.







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 silis $\bar{s}$.


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