Refining or Decoloribing Sugar and Sirup.-E. Beanes. Oct. 12, 1866 . Refining or Drcolorisirg Sugar $\Delta$ nd Sirop.-E. Beanes. Oct. 12, 1866.
In performing this invention the patentee submits sugar, in a dry or moist
state, or in solution, to the action of ozone, cither with or without preseure, state, or in solution, to the action of ozone, cither with or without prezeure, to the desired point. Pure ozone mas be obtained by passing dry oxygen gas tbrousb an ozone tube or generator in connection with an induction coil and
galvanic battery, or by various other means. The inventor orly finds it negalvanic battery, or by various other means. The inventor only inds in necessary for his oblect to pass atmospheric air, by preference previously dried,
instead of oxygen, through the ozone pipe or generator. as above explained, and from which the ozone is conveyed by a pipe to a vessel containing
sugar, sirup, molasses, or other saccharine solution to be acted upon.
sugar, sirup, molases, or other saccharine solution to be acted upon.
Detecting Apparatus, eto -J. E. Buerk. Oct. 12, 1866. This invent Detrcting Apparatus, eto -J. E. Buerk. Oct. 12, 1866. This invention
consists chiffly in the combination with the ordinary parts of a watch or form impressions or perforations upon dials or indexes of card paper, of other similar materinl, the exact time at which each impression is formed being shown by ffgures or other characters
the hours and other usual divisions of time.
Ment Cotter.-W. M. Miller, Tulpehoccan Pa.-The circular meat block has a rim, and rotates on a vertical axis upon the bench, by means of cors on its apriphery which are engaged by a spiral flange on a drum: this derive
its motion by a band from the axis of the wheels whose cogs lift the spring Its motion by a band from the axis of the wheels whose cogs lift the spring ing block beneath.
Evaporator.-Samuel Paye, McAllisterville, Pa.-In this evaporator an
adjustable plate or bottom is arranged beneath the receiving or skimming pan in such a manner that the heating flue of the latter may be enlar fed or controlled so as to increase or diminish the heat as occasion may require.
The Gnishing pan rests upon the walls of chamber arrancect at one side of the main flue. and a novel arrangement of dannpers controls the heat within said chamber, or excludes it entirely theretrom, as may be desired.
Shackle blanks.-J. B. Clark, Plantsville, Conn.-T. - invention relate
to the construction of a carriage shatt sbackle from sol blanks, and to the to the construction of a carriage shatt sbackle from sol blanks, and to the
shape of the dies for forming the same, so that with the lenst amount 0 labor and power, the said shackle may be gradually formed into the re quired shape.
Ventiliating fundel-Frederick Catin, Wateriown, conn.-This inven-
tion consists in connecting the funnel with a st ini, and in arranging a yalve tion consists in connecting the funnel with a st ind, and in arranging
in its throat, and also providing for thoroughly straining the liquid.
Oil Cor.-T. Lankenheimer, Cincinnati, Ohio.-This invention consists in Oil Cup.-T. Lunkenheimer, Cincinnati, Ohio.-This invention consists in
the peculiar con truction of the cup whereby it is adapted to the use of tal.
low and other lubricating material, and whereby the chamber which conthe peculiar con-truction of the cup whereby it is ada
low and other lubricating material, and whereby the
tains the oil or lubricating material, is made arr-tight.
Mowing Machine.-Caleb Lee, Sandy, Obio.-This invention relates to
important and valuable improvements in mowing machines, and consists in important and valuable improvements in mowing machines, and consists in
providing a double joint at the forward end of the drag bar in line wth the providing a double joint at the torward end of the drag bar in line wth the
crank shatt. It alsoconsists in the ane of a jointed brace, also on line with
the crank the crank shaft, and in constructing and locating the crank siart box so as to strike the rame and cause the outer end of the cume
the elevating lever is forced down, for elevating the same.
Shaft Coupling.-N. H. Shaw, Swanton, Vt. Patented May 14, 1867.-
The shaft coupling embraced in the present invention, is made in two parts or sections, placed one apon the other and both turning at one end upon or sections, placed one upon $\begin{aligned} & \text { one end of the bolt, stirrup or encircling the statit and forming the } \\ & \text { means of fastening the coupling thereto; while at other ends between the }\end{aligned}$ means of fastening the coupling thereto; while at other ends between the
car pieces at such ends, is hung, by its T -shaped cnd, the strap or bar secured car pieces al such ends, is hung, by its T-shaped cna, the strap or bar sec
to the carriage axle, thisconstruction of the coupling cabaling the wea
the shaft strap to be compensated for or taken up, from time to time. Grain Sieve.-H. S. Townsend, Greenvale, Ill.-This invent in the application of an additional, shoe, oatatide of and above the ordinary
grain shoe of a fanning mill or thrashing machine, whereby the sieve is prolonged, and the grang or seed passed over a larger perforated surface
Thereby the complete separation of the fine from the coarse grain or seed will be effected. The invention also consists in the use of strong wire sup will be effected. The invention also consists in the use or strong wire sup-
ports, which are arranged under the wiro netting, to keep the same flat, and
prevent it from sacking. ports, which are arranged
prevent it from sacking.
Hay Gatherer.-J.F. Swinnerton, Marion, Ohio.-This Invention has for
its object to turnish a machine for hauting and delivering hay at a stack, its object to ournish a machine for hauting and delivering hay at a stack,
stmple and durable in construction, easily operated, and which will take slmple and durable in construction, easily operated, and which will take
the hay from a windrow, rendering the labor of previously cocking it wholly unnecessary.
Elevated Street Rallway.-T. A. Williams, Clovesville, N. Y.-This in
vention relates to a new anduseful improvement in elevated street railway vention relates to a new anduseful mprovement in elevated street railways
its object being to so arrange and construct the posts or pillars, by which the ralls are supported, that they do not occupy more space on the sidewalk of the street and are in no manner more inconvenient, than the common
lamp posts; sn that a railway constructed on this improved plan would be lamp posts; se that a railway constructed on this improved plan would be
no inconvenience to the pedestrians on the side walks or to the vehicles on no inconve
the street.
Planting Hoe.- Augustus Williams, Sebec, Me.-This invention relates to a new and
the same.
STEAM Boilere.-Henry McDonough, N. Y.-This invention consists in the
arrangement of valves at the ends of a tubular steam boiler in such a man arrangement or valves at the ends of a tubular steam boiler in such a man detained in their passage to the chimney, and thereby compelled to par with thefr caloric.
tion relates to a novel manner of constructing boxes of that kind, which are tion relates to a novel manner of constructing boxes of that Kind, which are and which are so arranged, that they can be fulded together, when to be
transported back, empty to the farms or places, whence they were sent transported back, empty to the farms or places, whence they were sent
Although these hoxes will be slightly more expensive to construct.than those now in use, the reduction of return fre
more thantwice repay the difference.
Machine for Mafing butt Hinges.-Adrian Rais, Waterbury, Conn.This invention relates to an improvement in machinery for bending rhe
knuckiles of butt hinges, by means of a single die at one operation, instead o $t$ wo distinct operations with separate dies, thereby simplifying the mechan ism and manufacturing hinges more raptily and economically.

AMALGAMATOR.-J. B. Forissier, New York City.-This in vention relates to an amalgamating apparatus in which several baths of mercury are employed
in order to obtain a large area of amalgamation. This object is obtained by in order to obtain a large area of amalgamation. This object is obtained by pans containing mercury, and the water with the ore falling rom one pan to pans containng mercury, and the water wh e center of the stationary pans,
another. The water falls alternately from the
and irom the circumference of the revolving pans upon the pan below, thas ant irm the circumference of the revolving pans upon the pan below, thas
passing in a zig-zag line from top to bottom of the apparatus, and comes.in passing in a zig-zag line from top to bottom of the apparatus, and comesing
contact with the whole surface of themercury in each pan, tbereby striking contact with the whole surface of the mercury in each pan, tbereby
a larger area of mercury than is done by any apparatus now made.
Wasima Mading.-M. McEnernev, Birmingbam, Ct.-This invention
consists in a machine for washing clothes, rags, etc., by means of consists in a machine for washing clothes, rags, etc., by means of
two circular corruated plates or disks, between which the clothes are Wwo circular corrugated plates or disks, between which the clothes ar
placed, said plates or disks being arranged and hung so that the one can be
revolved, and in contact with the other, which is stationary, and therebs revolved, and in contact with the other, which is station
-produce the desired rubbing or scouring of the clothes.
Pril Machine.-W.V.V.Wilson, Savannah, Ga.-This in vention consists in
the arrangement of adjustable rails on the sides of the board of a pill mathe arrangement of adjustable rails on the sides of the board of a pill ma-
chine, insuch a manner that said rails can be raised or lowered to correspond to the diameter of the pills to be produced, whereby the rolling of the dough
is materially facilitated. is materially facilitsted.
Sherp Ferd rack - Joel J. Smith, Barnesville, ohio.-This invention re lates to a sheep rack and feeding trough combined in such a way as to facilitate the feeding and economize the feed, and consists of a rectangular box
periorated to admit the sheeps' head. The bottom consists of a pair of doors turning on pivots, for convenience in clearing out the rack. The troughs re inside the rack, and when feeding restupon the bottom, but when not in
use are elerated out of the Fay a a simple lerer arrangement by Fhich
hey are carried into a position just over the pertorations in the rack, and
beneath two pivoted shields which serve to protect the trougus and the teed and prevent the latter from being spilled when being placed in the troughs. Caster.-James T. Barnes, Hudson City, N. J.-This invention relates to a
new and useful improvement in a caster, for which Letters fatent were new and usefut improvement in a caster, for which Letters fatent were
granted to this inventor, bearing date Oct. 30, 18f6. The invention consists granted to this inventor, bearing date 0ct. 30, 1866. The invention consists
in having the shank of the caster at one side of the axis of the wheels, whereby the caster 18 allowed to turn, so that the wheels, when the article to which they are applied is moved, may adjust themselves in line with the
movement of the article. The invention also cons: sts in a novel manner of movement of the article. The invention also cons: sts in a novel manner of
securing the metal socket or sheath in which the shanis of the caster is Itted, securing the metal socket or sheath in which the shank of the caster is itted,
in the leg or bottom of the article to which the caster is applied, whereb the socket or sheath
the greatest facility.
Toilert Glass.-Albert Ober, Beverly, Mass.-This Invention relates to new and improved toilet glass, whereby the back part of the head may be
seen. The invention is more especially designed for the use of ladis to seen. The invention fs more especially designed for the use of ladies to aid
them in a rranging and adjusting the hair at the back of the head. The in vention consists substantially of two mirrors, one of which is hung on pivot in a frame, and the latter connected by hinges or joint to a se 1es of frames mirror; all being so arranged that the two mirrors may be adjusted in such
relation with each other, that a lady, for instance, by looking into the mir relation with each other, that a lady, for instance, by looking into the mir
ror which is hung on pivots, may see distinctly the back of her head, and be enabled to arrange, adju
with the greatest facility.
With the greatest facility
Wire Fenge.- Lacien B. Smith, Keat, olido--This invention relates to a
improvement in the construction of a wire fence, improvement in the construction of a wire fence, especially adapted to us
in the prairies of the Western States where timber is scarce, and fires fre quently sweep over them, destroying every thing that is combustible.
 ry dining table, and consists in connecting weights to hang under the bed the table, with the sliding supports usually employed to ho:d the lenves whe they are raised, which weights draw upon the supports at the time
are raised, and throw them out under the leaves to support them.
SAw Mill.- Joseph Hubbell, Zanesville, Ohio.-This invention relates to new and useful improvements in saw mills, and consists in devices and ar
rangements for operating the head blocks, and setting the logs for a saw with perfect accuracy, to cut boards of unitorm thickness.
Coltivator and Cotron Plant Thinner.-Geo. W. Chambers and Ieham
Washam, Talladega, Ala.-This invention relates to an improved machine for thinning and cultivating cotton plants.
Prookss for Extrating and Separating Grease and Oils fro
animal and Veartable subbtanoes.-Joseph Bebso, Philadelpha, Pa. This invention relates to an improved process for separating and extracting or other animal and vegetable substances whereby wool especially is thor oughly cleansed and purided, and the oul it may contain ts separated and
uti ized with great economy, instead of being wasted and lost at greatt cost in the ordinary method of washing and cleansing wool with soap.
Confrotion.-E. C. Maltby and Edward Smith, Northford, Conn.-This invention con918ts in preparing the meat of the cocoanut so that the
be preserved and kept an indefnite period, and used at any time.
Tram $\Delta$ nd Self.Centrering Dish Staff.-Samuel Mills and J. R. Mc
Irvin, Clinton, ill.-This invention relates to a new and useful imple device for centering hubs and scribing the circumference of wheels, and also for dishing wheels, which implement I term a tram and self-centering
dish staff, and by which wheels of any desired size may be scribed precisely dish staff, and by which wheels of any desired size may be scribed precisely
from the centre of the hub and the exact dish given a wheel as may be re from the
quired.
anti-Collision and code signal lamp.-Joseph Wall, New York City -This invention relates to a new and improved anti-collision and code sig plete method of communtcattng infermation of any description betwee vessels at nigbt.
Sheep Rack.-John D. Munson, Tyre, N. Y.-This invention has for its object to furnish a simple and convenient rack for feeding sheep with hay or
grain, and which can be readily taken apart for storage. dy taken ror sorge.
FRAME FOR STRETCHNG Wer LEATHER.- -Ichabod W. Dawson, Newark,
N. J.-This invention has for lts object to furnish an improved frame upon which hides may be extended for drying, which shall be so constructed that the hides anter being extended upon the frame, may be stretched so as
bring out all the wrinkles, folds, etc., leaving the surtace of the leather bring out all the wrinkles, folds, etc., leaving the surtac
smooth and better prepared for the subsequent operations.
Gatr.-J.B. Powell and S. II. Everett, Macedon, N. Y.-This invention has forits object to furnish an improved gate, so constructed and arranged that
it may be opened or closed by the driver without getting out of the carriage. Stley Plow.- Israel Wing, Earlville, Iowa.- This invention has for its
object to furnish an improved sulky plow, so constructed as to be easily operated, and the plows of which can be easily brought nearer together pread further apart as may be required.
Potato Digarr.-Joel E. Glles and Charles S. McRobert, Meads Mills,
fich.-This invention has for its object to furnish an improved machine Mich.- This invention has for 1 ts object to furnish an improved machine, by
means of which potatoes may be readily and conveniently dug and separated trom the soil raised with and adhering to them.
Extransion STar Laddra.-Henry T.STmith, Brooklyn, N. Y.-This inven. arranged that it may be extended as desired to adapt it for use in rooms with
and different hight of celling, and so that one part may be extended independ ently of the other to adapt it for use upon a stairway
GOIDA FOR CARDDNG MaOHiniss.-F. W. Albertine and E. T. Albertine, Hanover, Conn.-This invention has for its object to furnish an improved
guide for carding machines, by the une of which the carding will necessarily Suide for carding machines, by the use of which the carding will necessarily
be done all over the cylinder, so that the tunnbler, cylinder, and fancy, will be worn even, and not in creases, rendering it unnecessary to grind so otten,
wearing the carding clothing evenly, and doing better work.
Machine for Softrining or Dressing Leatrer or Sifiss--F. J. Burch and effective machine for softening or dressing leather, particularly buck skins, calf.skins, kide etc., but equally applicable to other kinds of skins,
whether having the.bair on or off. Shovel Plonw.-Daniel Gilbert, Carbondale, IIl.-This invention bas for it object to so improve the construction of shovel plows as to increase their
strength and steadiness in workinz, and so as to adapt them to all hinds of strength
Machina for Unearnivg Hides.-Judson Schultz, Ellen ville, N. Y.-This which aides may be unhaired, nnd leather scrubbed, scoured, or washed con veniently, thoroughly, and rapidly.
Machine for Uniarnirg Hidis.- Elias Brock, Ellenville, N. Y.-This
invention has for its object to farnish an improved imachine for unhairin ides, and scrubbing, scouring, and washing leather ache fortly, rapidly and thoroughly.
Washing Maobine.-James M. Noble, Delhi, Iowa.-This invention has for its oblect to farnish an improved washing machine, simple in construc ion and operation, not liable to zet out of order, and combining
self many of the utensils ordinarlly employed in washing clothes.
handle attaonment for blaciene bozes.- ibomas o. Robilbon, Ne York City-This invention is desizned to sapersede the different bolder now manufactured to receive and hold blacking boxes while the same are hand of the opsrator being soiled by the blacking while charging the brusb with the same.
Whencin.-J. V. H. Seeor, New York City.-Ths invention relates to a new
nd improved wrench of that olash whieh are provided with a sliding jaw

he wrench, whereby the former may be readily moved on the shank and
djusted to the nut to be turned, and Alrml'secured in position, after being hus adjusted, and while operating upon and turning the nut.
back Saw.-Edward H. Roe, Jersey City, N. J.-This invention relates to new and useful improvement in what are commonly termed by joiner backsaws, and has for its object the straning, by a simple.means, of the sal termed, so that it may be brought in a plane and bave a straight cutting edge, or one fres from lateral bends or kinks. These back saws have their plates, as they are used for fine work, the cutting of tenons, etc., and the plates are consequently very liable to become bent or kinked, so much so as
to frequently render it difficult to use them and make a smooth kerf or cut.

## Gusivers to Correspouxlenty. <br>  <br> 

F. A. W., of Miss.-Supposes that the moon's atmosphere E. J. B., of Wis.-" Why is it that an apple, scion, produces quality? I do not assume to know anything about it, but would like to understand it." So would we.
C. M. S., of N. Y.一To make whitewash which will not rul F. F. L., of Pa , has failed lately to get a japan varuish for smallarticles of iron which gives a good gloss. He ought to try anothe G. A. S., of Mass.-Shellac and rubber have the property of toughening fusible cements, also they render them less fluid when meltod.
We cannot answer you more deflitely until you give us farther details of We cannot answent.
the use of the cement. J. W., of N. Y.-The questions you send belong to ordinary mensuration and we refer you to any good treatsen
solution.
R. B. N.. of Me.-The simplest way to determine the hard ness of water, is to observe its cffect on soap. The soap test is in fact gen erally used by chemists. Tbe so
plete evaporation of the water.
T. R., of N. Y.-We do not understand the construction of pegging machincs sufflciently to explain tbe method of finishing the
cams. . . Jessop's, or Sanderson's are excellent brands of tool steel cams. . Jessop's, or Sanderson's are excellent brands of tool steel.
Some American steel is also recommended. . A set of ten taps such Some American steel is also recommended. .. A set of ten taps suca
as you desire from one quarter to one and a half incles, s worth six or seven dollars.
E. C. H., of N. H.-The iron pavement you speak of as having been used in Court street, Boston, bas been tried bere, and remains of it are still to be seen in Cortiandt street, this city. It is not satistactory.
being displaced easily and breaking. We do not think your plan of mak. Ing the sections of axtremely bard iron would improve it.
E. W. N., of Mass. - Your rule for ascertaining the area of a circle where diameter and crcumference are known, by multiplying one
half the diameter of the circumference by one-hale the diameter is only half the diameter of the circumference by one-half the diameter is only
another way of stating the rule given oy Rowland Hill on page 876 , of No. another way of stating the rule given by Rowland Eill on page
at, Vol. XVI. Either of twem are suffciently correct for ordinary praaH. M. C., of Pa.-This correspondent wishes to drive a circular saw by one man's power which requires four horse power now to
d ive it! He proposes 2 was d ive it! He proposes a wooden ny wheol 50 foet in dlameter having on its
shaft a pulley to ran the saw, and aska if he can gain the necessary sower by turning the concern with a arank by the bands of one man, We
peply by asking another question: If pover can be zained by the use of reply by asking another question: If pover can be zained by the use of
a fly wheel where to the limit, and what is the necessity of steam power for any purpose?
J. C. S., of Iowa.-Of course it is the duty of steamboat men as pilots, engineers, etc., to inform themsolves as to the laws that govern
steam vessels. We have no space to publish the laws on this subject; they W. H. H. H., of Pa.-If we understand your query it is this, when simplifled: "Can I get more power to overcome obstrustions-as
unevenness of surface on land-with a traction engine, double cylinders, 7 . to 15 revolutions ( 1.9 on the main shaft of my machine, than I could by using a cylinder of nine times the area-nearly 21 inches-same length of stroke, pressure of steam, etc., and attaching connections directly to
cranks on the machine sbaft, which must, of course, make only fifteen cranks on the machine sbaft, which must, of course, make only ifteen
turns per minate." We reply that for the purpose intended a " plowing machine"-we tinal the driving parts to assist in surmounting occasional obstacles.
J. B. R., of Pa., says he was on board the U. S. sloop of war Dale in 1857 and that it was a common practice to rub a greasy rag around
the muzze of the guna betore fring asilutes, in order to secure well formed moke rings. The greasing process was very offective and certaln
L. G. G., of N. C. The mineral sent by you is iron pyrites.
The prites of your Stato always contains gold.
T. M. Jr., of O.-The popping of corn is explained by the expansion of air or cas contained within tre kennel; it is a oase of explosion.
Thesubstance of the kernel at the lnatant of the explosion appears to be tough and plastic.

## Gusiutss and eetsonal.

## The charga for tanertion under tais hesat te xo cents a line.

Wanted-Parties to engage in all kinds of manufacturing at Publishers of Weekly Newspapers send specimen copies with advertising terms to Joel K. Relner, Line Lexington, Pa
For Sale Cheap-One French Pin-escapement Regulator and The United States Patent Office issued, among other Letters Patent for Sewing Machines to Josriph W. Bartlest two patents for " neto
and useful designe for sewing machines"" One of these patents is for a circular form, the same as that macisx used in the Bartlett Machines, the
other for an elongated long arm torm, tit being fonnd thet possessed advantages over the ciroolan form, giving greater spaee to the ". work," etc., and from a similarity of the Bartlett patent orirgocas form
to that of the Willcox a Gibbs. Mr. Bartlett, therefore; being desirous to to that of the Willcox d Gibbs. Mr. Burtlett, thereforo, being desirous to
give as distinct a cuaracter as poselble in the best form to his machines, give as distinct a cuaracter as poselible in the best orm
determined, some fifteen months ago, to adopt the use of the " long arm"
form form. cansed the models to be made and their manufacture began. They
are to be seen at the Genoral Omee, No. Geg Broadway, New York City

 affect or intorfere with your right to make or seli Sewing Machines in the Signed
NEWY YOAL, June 8, 1807.
WILLCOX \& GIBBS S. M. CO.

## Improved Plow Mold Boards．

The advantages claimed for this plow over others is a dim inution of side draft，a lessening of friction，ank an ease of manipulation，derived from the fact that its construction is based upon fixed and eorrect mechanical and geometrical principles．The surface of the mold board is laid out with square and compass，every line learing its exact proportion to any other at every other point．The surface of the mold is really an inclined plane，curved，with no abrupt turns nor side friction．
Fig． 1 is a perspective view of the plow and shows merely its general appearance and not its special and distinctive characteristics ；these are seen in the diagram marked Fig． 2. The diagonal longitudinal line across its face，from lower point to ureer，is a right line on which a straight edge bears perfectly the whole of its length．The cross lines present also a perfect surface from the base upward． By placing one angle of a square on th base of the block from which this diagram is taken，and moving forward the block， turning it as moved，the tongue or othe angle of the square will engage with the whole surface，point by point，in succession Of course it will be seen that the face of the mold is a true inclined plane，curving like the movement of a spiral or screw．Thus the soil is not crushed against the mold board bent nor strained，but slides gradually up the incline to a perpendicular，when a slight outward projection of the upper rear por tion of mold board inclines it to the oute side and it falls by its own weight．
It must be evident that heavy，stiff soils can be worked with great ease by a plow de－ signed on these plain geometrical princi－ ples，and experience has proved that this plow is an exccedingly easy working one． The soil will not adhere to the mold board， and，as the plow itself is parallel with the beam and not a an angle，the side draft is reduced to its minimum．


Patented Oct．30，1866，by L．P．Rider．For further particu lars address Moseley，Rahm，\＆Co．，the owners of the patent and manufacturers of the plow，Pittsburgh，Pa．The right for the Eastern States for sale．

## Purification of Polluted Waters．

Pulverized charcoal has always been recognized as fur nishing a most valuable filter for clarifying water contain ing organic or inorganic strbstances．A paper was recently read before the London Institute of Civil Engineers embody ing the results of a number of carefully conducted exper ments made for the purpose of definitely determining jus how far the statements made regarding the action of this sub stance in purifying water，might be depended on
The details of four sets of experiments were given，th first on animal charcoal，of which nearly 5 lbs．new and reshly burned，and of the degree of fineness used in suga refineries，were packed in an ordinary stoneware filter．The water employed（of which a complete analysis was given）con－ taincd，in the gallon，organic matter， 10.80 grains；inorganic matter， $88 \cdot 30$ grains．The hardness of the water，before boil ing was found to be $50 \cdot 50^{\circ}$ ，and after boiling， $33^{\circ}$ ；and the oxygen required to oxidize the organic matter contained in in one gallon，amounted to 0．0116th．part of a grain Several gallons of the water were allowed to percolate slowl hrough this charcoal，and upon examination afterwards， was found that，of the inorganic matter which had originally xisted， $52 \cdot 60$ grains were removed from the first gallon；but rom each succeeding gallon less and less；so that from the welfth gallon of water that passed through the charcoa only 8.80 grains of inorganic matter were removed．Of the organic matter $48^{\prime}$ grains were removed from the first gal on ；but，with a gradual decrease，the charcoal ceased to re move any organic matterafter the sixth gallon．In fact，im mediately afterward，it commenced to give back a portion of the organic matter removed in the firstinstance，the quantity returned to the twelfth gallon amounting to 1.55 grains Thus，of the 13.54 grains of organic matter removed by the Thus，of the the first six grains were given back to the next six gallons；from which grains were given back to the next six gallons；from which
the author concluded that，had this set of experiments been he author concluded that，had this set of experiments been carried a little further，all the organic matter removed at firs by the charcoal would have been given back again
The second and third series of experiments were with wood and peat charcoal，which，however，were still less satisfactory than those with animal charcoal．The fourth set of experi ments was on animal charcoal，with water previously treated with permanganate of potash slightly in excess．After re marking that the water，in its passage through the charcoal was found to contain organic matter，apparently in the same quantity as before treating it with the permanganate，atten ion was drawn to a comparison between the first and fourth sets of experiments，to show how closely they agreed to con tradict the general statementsmade as to the removing power of charcoal，and to demonstrate how very little indeed could
be done by this filtering material，even on a small scale toward the purification of water．

The author in conclusion gave it as his opinion that，as by chemical agency bad water could be purified to a very limited extent only，the public mind should more than ever be given to the great question of supply ；and as people valued their lives，they should above all things，in their choice of a source， not be too much influenced by distance，but be willing to un－ dergo the necessary expense of securing the object of their search，not only in abundance but in the greatest purity．

Combined wood and Iron Pavement．
J．B．S．proposes a street pavement composed of square blocks of wood put together in sections on a frame of cast iron which extends about half way up the sides of the blocks； these sections to be prepared at the manufactory in sizes to


## RIDER＇S GEOMETRICAL PLOW．

suit and transported to the place where they are to be laid． He would use resinous wood or wood kyanized，uniting the joints with resinous matter．We see no real advantage in
the use of the iron．Already sections of wooden pavement the use of the iron．Already sections of wooden pavement are made in a manner similar to that proposed，except that no iron is employed．
mproved Device for Working Vise Jaws．
The object of this device is the quick opening and closing of the jaws of vises，as in no case is it necessary to turn the handle lever more than half around．In place of the screw and sheath，a bar passes through the jaws，the apertures being arge enough to allow of the reciprocating movement of the


## RALSTON＇S DEVICE FOR CLOSING VISE JAWS．

jaws．On each end of the bar，outside the jaws，is fixed a disk having an inclined face，that is a disk one edge of which i much thicker than the other，working against steel faces on the outside of the jaws．
It will be seen that as the bar with the disks is turned in one direction the spring will fore the jaws a part，and if in the other direction they will be closed firmly．Attached to one of the disks is a ratchet wheel，which by means of spring pawl secured to the vise，is held in any position．Thu he jaws can be secured to suit the thickness of the articl bar to allow the vise to open more or less，and held by a pin passing through the bar．The foot also of the movable jaw canbeset by changing its pivot to other holes in the base Not only can it be closed firmly by a single half turn of the ratchet，but it can be instantly opened by merely pressing

Eating Without Hunger．

## This is a very foolish and injurious habit，one which almos

 every one is more or less subject to．Hunger is the signal which nature gives to indicate the necessity for a supply of food．When the system requires food and is in a condition to make good use of it，it will call for it in its legitimat way．There are some exceptions to this rule in certain dis ased conditions，but they are very few．The digestive or gans are in the best possible condition for digesting food when the sensation of hunger exists，and they can then do it far more easily，thoroughly，quickly，and with less effort than at any other time．Most people pay little attention to this hey are sure to eat whenever they are hungry if is so that they can，and they are just about as apt to eat when they are not，if it is conve nient for them to do so or they chance to see anything which＂tickles their palate．＂Espe cially is this rule－never eat unless you are hun gry－violated in sickness．In acute disturb ances of the system the sensation of hunger is seldom manifested for the simple reason tha the system does not require food．If food is eaten at such times，as it usually is，for every body thinks the patient will surelystarve if he does not eat just so much and so of ten，it be comes a burden to the system which must be got rid of，for there is no use for it，and，as it will not do to let it remain in the stomach， the vital pow，it he vial powes，whed lue the wo pon which the re move the substances which areating th disturbance．The result is that the reparativ process is partially or wholly suspended；fresh operation，and a longer time will be required （for causes of disease are added to those already in the remedial powers，）to repair damages and set the vital machinery in proper and harmo nious action．Thousands of persons have been prematurely laid in their graves simply from eating heartily when the system was not in a condition to properly digest and appropriat the food．Let this rule be observed by thos who desire health with all the untold blessing which always accompany it：whether sick o well，do not force food into the stomach unles there is a demand for it．No fears need be en tertained of starving，for a desire for food will be manifested long before the starvation point is reached．－Journal of Physical Culture．Remarks．－Many of the＂ills that flesh is
down the pawl of the ratchet with the thumb or finger，and it can be worked by either hand or foot．It is impossible for it to give away，and loosen its grasp upon the work，like a
screw vise，either from hammering，jarring，or any other in－ screw vise，either from hammering，jarring，or any other in－
cidental cause．The same vise is applicable alike to all kinds cidental cause．The same vise is applicable alike to all kinds
of work，whether heavy or light．The extent of its grasp is limited only by the length of the rod which passes through the cam disks，and by which the power is applied．
A patent was obtained for this improvement through the Scientific American Patent Agency Jan．22，1867，by James S Ralston．For further particulars address Carter \＆Ralston， Indiana，Pa．

## Platinizing Metals．

Platinum has been formed into coins，etc．，by subject－ powder as obtained by chemical treat－ melted and cast by the oxygen furnace re ferred to in another paragraph．There is also a method newly published，for coating other metals with a delicate film of plati num，and thus endowing them for practical purposes，with some of its most valuable pro perties．It is dissolved in nitro－muriatic acid， or aqua regia，forming bichloride of platinum Of this， 60 grains are to be dissolved in one ounce of distilled water，with an equal weight of pure honey．Add 量 oz．spirit of wine，and $\$$ oz．ether，and filter the solution，if neces sary，quite clear．The metallic surface to
be platinized is first washed with soda and then with water，dried and finally heated not quite to redness，and plunged for a minute into the solution above described．The color of the platinum film is a neutral grayish of the platinum film is a neutral grayish black，sometimes showing a faint irides－
cence．Gold and silver are not affected by the cence．

## process．

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[^0] heir to＂are doubtless caused by over indulgence at the flesh
pots．But it is questionable whether the rule of＂eating pots．But it is questionable whether the rule of＂eating when you are hungry，＂is the best that can be adopted．If carried into practice would it not lead to frequency，absurdity， and irregularity of meals？Would it be wise，even if you are hungry，to dine at bed－time，or breakfast whenever you hap－ pened to wake in the night？Does not experience prove that the golden rule of diet consists in regularity of hours， moderation in quantity，careful choice of edibles，complete mastication of the food？
adjustable Hanger．－In our description of the adjusta－ ble hanger，in No．25．Vol．XVI．，the device was credited to M．T．Davidson， 84 John street，this city，who are only the agents for its sale．The patent is owned and the hangers agents for its sale．The patent is owned and the hangers
manufactured by thoAmerican Tool and Machine Co．，Boston．

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