Scientific American.

in such relation to each other and to the eyes of the wearer that the lenses when the eye glasses or spectacles are adjusted on the nose, will have a proper relative position with the eyes.

COMBINED GRAIN DRILL, ROLLER AND PLANTER.—T. S. Mills, Kendleville, Ind.—This invention relates to a new and improved combined grain drill, roller and planter, and consists in a novel construction and arrangement of the parts, whereby several advantages are obtained over other similar combined implements now in use.

Berry Box.—Truman Mabbett, Jr., Vineland, N.J.—This invention is designed to supersede the small baskets and boxes now used for conveying berries and small fruit to market. The invention consists in a novel construction of the box, whereby the berries are effectually prevented from being bruised or injured in their transit from place to place, a free circulation of air allowed therein when a series of boxes are packed within a case and the boxes rendered capable of being manufactured at a very moderate cost.

MACHINE FOR POINTING PICKETS.—W. W. Johnson, Nashville, Tenn.—The object of this invention is to point the ends of pickets or fence palings and cut circular sides or edges on other wood work.

Horse Collar.—Thomas Moore, New York city.—This invention relates to an improvement in the construction of horse collars.

ANIMAL TRAP.—James P. Wigal, Henderson, Ky.—This invention has for its object to furnish an improved self setting animal trap which shall be simple in construction, convenient, and effective in operation and not liable to get out of order.

ATTACHMENT FOR HARNESSES.—W. W. Beebe, Dubaque, Iowa.—This in vention relates to an attachment for either single or double harnesses, the object of which is to overcome and cure in a horse all inclination to be balky when driven, whether such horse is in single or double harness.

IRON FOR HARNESS PADS.—Heber R. Ridgley, Mansfield, Ohio.—This in vention relates to an improved method of forming the frame iron of harness pads, and the attaching of the pad thereto.

GATE.—Ralf Adams, Ottawa, Ill.—This invention is a gate which can be opened from a vehicle or the saddle. It has a rack operated by levers, the rack engaging with a pinion on the bottom of the post of the gate, with other devices berfecting the whole mechanism.

MOVABLE BARREL STAND.—P. J. Skinner, Oswego, N. Y.—This invention, as its name imports, is a movable barrel stand for use in groceries or liquor stores where many barrels are employed and set in rows.

WORM FENCES AND PENS.—John Will, Bryan, Ohio.—This invention relates to an improvement in worm fences, and consists in a fence di vided into panels or sections, composed of rails or boards bolted together by upright cleats and having notcher at either end, the notches at one end being on the under part of each board and atting into notches between two cleats on the npper part of the boards of the adjoining panel.

CHURN.—A. J. Heavner, Time, 111.—This invention relates to an improvement in churns, and consists in a dasher constructed in two parts, one part working within the other, the two dashers being operated by two cranks working simultaneously.

SAFETY PLUG FOR BOILERS.—T. G. Eiswald, Providence, R.I.—This invention consists of small furible plugs placed at the low water level of boilers, and provided against being prematurely blown out by being located in concal seats. When the water level passes below the plugs they are melted out, and thus announce the state of the water.

CARPET STRETCHER.—Alexander L. Dunbar, Sheldon, Ill.—This invention relates to a novel and useful implement or device for stretching carpets when to be laid or put down by tacking or otherwise, upon floors, which implement is so constructed that it can be applied to the carpet, and suitably operated to stretch it and there hold it.

COMBINED CATHETER AND SYRINGE.—Dr.N. B. Sornborger, Northampton Mass.—The combined catheter and syringe embraced in this invention is provided with a collar on its body or cylinder, susceptible of adjustment at will, and thus through a stem or rod connecting it with a collar arranged to slide upon the discharge tube or passage of the syringe.

BAGGAGE CHECK.—Edward Flather, Bridgeport, Conn.—This invention relates to an improved baggage check, and consists of a slotted arm or bar revolving on a screw set in a circular disk on which the names of various places or numbers are marked. The name of the place desired to be indicated is seen; through the slot in the arm which is secured in place by a pin attached to the arm and fitting into a hole in the disk. Or the required number may be indicated by the pin being set into the hole opposite thereto.

IMPROVEMENT IN GATES—Lewis Essig, Clinton, Ohio.—This invention relates to a new and improved method of hanging and operating the gates of farms, plantations, &c., whereby the same are easily opened by a rider, without alighting for that purpose.

IMPROVED AIR CONDENSER.—H. J. Bailey, Pittsburgh, Pa.—This invention relates to a new and improved apparatus for condensing air for various purposes, but more particularly for forcing liquids; and the invention consists in an arrangement of vessels, which communicate with each other by pipes or tubes—such communication being controlled by valves or cocks, which are operated by floats and governed by hydranlic pressure, whereby the apparatus is made automatic or self acting.

IMPROVED ANNEALING FURNACE.—W. R. Thomas. Catasauqua, Pa.—This invention consists in the construction of a furnace for annealing car wheels whereby the hubs of the said wheels may be raised to a high temperature without injury to the hardened or chilled rim or tread of the wheel; and also in placing rings of metal between the wheels, as they are placed in the iurnace for the piotection of the rims.

IMPROVEMENT IN WATER WHEELS.—William Snodgrass, Cold Spring, Wis.—This invention is to so construct a water wheel that the full or nearly thefullper centage of power may be obtained, which is due from water under a given head; and the invention consists in providing for a free escape of air from the buckets or floats, and in bringing the full pressure of the water to act upon a given point of the wheel, in a manner similar to the action of water on the piston of a water engine.

IMPROVED ARGAND GAS BURNER.—George Mooney, Providence, R. I.—This improvement relates to the manner in which the burner is formed, and to the method or regulating the flow of the gas; and the invention consists firstly, in forming the burner of one piece of metal; secondly, in forming the gas jet apertures without drilling, and thirdly, checking and regulating the

IMPROVEMENT IN CRUTCHES.—James C. Rhodes, Stillwater, Minn.—This invention relates to a new and improved device for preventing the end of a crutch from slipping on ice or other slipping places; and it consists in arranging an adjustable spur or point in the end of the crutch.

IMPROVEMENT IN CULTIVATORS.—James B. Sexton, Pella, Iowa.—This invention has for its object to furnish a simple, cheap, convenient and durable cultivator.

INSTRUMENT FOR DRAWING AN ELIPSE.—Franklin Bowly, Winchester, Va.—This invention relates to an improved instrument for describing elipses of various diameters, and consists in a marking rod, on which is a graduated scale for fixing the major and minor diameters of the elipse to be described, which marking rod is connected with two sliding rods that govern its eliptical motion around a common center pin.

BLOCKS OR SUPPORTS FOR THE KEEL AND BILGE TO VESSELS IN DOCKS.— Joseph T. Parlour, Brooklyn, N.Y.—This invention more particularly relates to a block for supporting a vessel by its keel or bilge when laid up in a dock for repairs, which block is made in parts or sections for adjustment, either in a higher orlower plane, as may be desired.

MANUFACTURE OF PENS.—Edwin Wiley, Brooklyn, N.Y.—The present invention relates to that class of pens commonly known as the "Union Pens," and which are made with their nib of gold, and their heel or body of silver or other inferior metal.

CORN HUSKING MACHINE.—H. W. Knowlton, Saratoga Springs, N. Y.— This invention relates to a new and improved machine for stripping Indian corn from the stalks, and taking the husks from the ears. The invention coneists of a pair of stripping vollers, one of which is a uned with stripping

blades, in connection with a series of husking aprons arranged to work over rollers, whereby the ears of corn may be broken or detached from the stalks, and the husks removed from the detached ears with the greatest facility.

STREAM OR RIVER FENCE.—H. A. Kephart, Fletcher, O.—This invention relates to a new fence to be placed across rivers and streams. The invention consists in a novel construction and arrangement of parts whereby due provision is made against the passage of cattle or animals around the ends of the fence when the stream or river is low, and provision also made for the passage of drift wood over the fence without the liability of the same beinginjured thereby. The invention also consists in a novel construction and application of the fence at the central or deep part of the river or stream whereby said portion of the ience may be readily put up or adjusted, and not be liable to be injured by drift wood or floods.

#### 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 address the correspondent by mail.

SPECIAL NOTE.—This column is designed for the general interest and in struction of our readers, not for gratuitous repties to questions of a purety business or personal nature. We will publish such inquiries, however, when paid for as advertisemets at \$1 00 a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

- J. G., of Canada.—The oil used by woolen manufacturers is either that known as gallipoli, an inferior sort of olive oil, or paim oil, neither of which are very expensive.
- J. A. G., of Pa.—We do not know of any chemical which could be mixed with light varnish to make paper water proof. The ordinary varnish to coat maps, however, which you probably require is prepared by pulverizing 1 oz. sandarac, ¾ oz. mastic, ¾ oz. elenir, dissolving them in ¾ oz. of venet. turpentine, and adding to it a solution of 4 oz. shellac and 3 oz. oil of lavender in 12 oz. alcohol.
- J. B., of Ky.—In reply to your inquiry as to the manufacture of crucibles, you will find in one of the first numbers of this journal of 1867, in an article, "Plumbago and its use," some remarks on the manufacture of plumbago melting pots which perhaps may be useful to you.
- G. A. H., of N. Y.—The difficulty you encounter in forming analloy of platinum and copper may have its reason in different causes, of which we are not aware, not having witnessed your operations. Platinum we suppose you know, can only be melted before the oxy-hydrogen fire. You will find much information about the melting of platinum in referring to the articles of M. Deville, in the back numbers of the "Annales de chimiest physique.
- J. W., of Mass.—Phenylic alcohol (carbolic acid) in the proportion of about one per cent after having been previously dissolved in water will undoubtedly be an excellent means of preventing mold in flour paste.
- C. H. G., of Tenn.—" What cheap material can be mixed with plaster of Paris that will leave it as hard or harder no matter what color it will produce?" Most anything will depreciate the quality of plaster of Paris, which should consist of nothing but sulphate of lime. We remember that at the late fair of the American Institute in New York a premium was refused to an exhibitor of that product because the judge of the group happened to find some carbonates in it.
- E. W., of Mass.—Oil when put on boots will scarcely have any protective influence against cold. . . . In painting the outer coating of a Leyden vial you will insulate it. Electricity in the Leyden jar resides on the glass as is shown by the experiment with the three separable pieces (vide Sillimann's "Principles.of Physics," chapter, Accumulated Electricity), but we close the mouth of the jar, as the air itself is a conductor of electricity, particularly when moist. For the stuffing of the rattle snake you speak of we recommend to you crude naphtalin; it is preferable to arsenic soap.
- A. P., of Ky.—For the detection of sulphur or better, sulphur compounds in water, heat it in a test tube while holding a strip of paper impregnated with sugar of lead over the orifice. It sulphur is present the paper will be govered with a brownish film. Lime will show itself by adding oxalate of ammonia to the liquid. The iron in the water you speak of must be present as a protoxide and then a blue color will be produced by adding red prassiate of potassa. The sulphur may either be present as
- B. C., of N. H., asks if the subjection to smoke, as in the baconing process, would have a preservative effect on stakes to be driven into the ground and what substances in burning produce a smoke of the strongest creosoting effect? Mere exposure to smoke will never do to the preservation of stakes, especially if employed for agricultural purposes. For such and other purposes we recommend as the cheapest and best material the so-called pitch or dead oil. Heat the oil in an iron pot and fill a tight barrel to the hight of about two feet and leave the stakes in it for two and a half or three hours. The pitch or dead oil is obtained in the distillation of benzole and other light hydrocarbons and can now-a-days be purchased in every large city.
- G. F. W., of Mass.—Provence oil is the oleum olivarum otim of the Pharmacopæia and is obtained from the pericarp or fleshy part of the olive before perfect maturity.
- J. L. D., of Mass., asks how to put quicksilver on the back of a looking glass. The coating of a mirror is made by spreading tin foil smoothly on a stone table, rubbing a little mercury (containing tin) over it to amalgamate the surface, pouring a large quantity of mercury on it, pushing the clean glass plate on this, beginning along one edge, pressing it with weights and giving the table top gradually an inclined position to drain off the excess of mercury.
- V. D. W., of N. Y., adds to the information given on page 391, Vol. XVII., to "C. S., of Minn.," who asks how to fin a worn copper lettle., the following: A thick coating may be obtained by preparing a finning solution of zinc dissolved in hydro-chloric or muriatic acid, making the solution as thick or heavily charged with zincas possible. adding a little salamoniac. Clean the inside of the kettle, place it in a charcoal fire until a piece of block tin placed inside melts, then rub the melted tin, with some of the tinning solution quickly on the copper surface by means of a ball of oakum and a little powdered resin; the tin will readily adhere. Wrought iron and steel may be tinned in the same manner. We know of no effectual method of tinning cast iron.
- E. A. L., of Mo., asks if there are any clocks made which are specially designed for use on locomotive engines and calculated to keep time notwithstanding the jars of the machine. We thinks such clocks are quite common. They are what are called "spring clocks." We lately saw a steam fire engine with one attached, and a fire steamer is subject to as many and as severe joits as a locomotive.
- S. A., of Iowa, says he has cleaned his steam boilers with soda and asks if its use is detrimental to the iron. We reply, it is not.
- R. S. B., of N. Y., referring to the communication of "C. B.," page 35, current volume, on harmonizing church bells, asks why the plan cannot be introduced insleigh bells, and recommends the manufacture and arrangement of the "merry sleigh bells" so asto produce concord rather thandiscord. We have seen several sleigh teams so ornamented, but the owners themselves were compelled to make a selection from many "strings." They were not arranged to hand.
- W. W. T., of Mass., asks what sort of a filter he shall use for purifying the water flowing from a spring into his trout hatching boxes. We recommend passing the water through a filter of charcoal and gravel. A little manual entitled "The House," published by G. E. & F. W. Woodward, 87 Park Row, New York city, has an engraving and description of such a filter as W. W. T. needs.

- H. H. C., of N. Y., inquires for a method of determining the required amount of ap on a slide valve to cut off at any given point, the stroke of the valve not being known! We cannot furnish the information desired.
- W. P. G., of N. H.—Potassium and sodium melt below 212 degrees, the temperature of boiling water. Silver requires 1,873 degrees Fah., for fusion while cast fron requires 2,786 degrees.
- T L. S., of Me.—The enamel of iron hollow ware is made of powdered flints, ground with calcined borax, fine clay, and a little feldspar. This mixture is made into a paste with water and brushed over the pots after they have been scoured with diluted sulphuric acid and rinsed clean with water. While still moist they are dusted over with a glaze composed of feldspar. carbonate of sodium, borax, and a little oxide of tin. Thus prepared, the pots are gradually dried and then the glaze is fired or fused under a muffle at a bright red heat. Oxide of lead, although increasing the fusibility of the glaze, impairs its efficiency as it will not resist the action of acids in cooking.
- P. J., of Pa.—It is a mistake to suppose that water will not affect the composition of glass. At a high temperatuae water acts upon glass very rapidly. Turnersuspendedplate and window glass in the steam of a high-pressure boiler, and infour months the specimens, one-fourth of an inch thick, were complately decomposed. Faraday found that flint glass under similar circumstances was still more rapidly acted upon.
- B. A. B., of N. J.—The kaolin or porcelain clay used in the manufacture of fine "China" ware is furnished by the decomposition of a granitic rock, the constituents of which are quartz, ieldspar, and mica.

#### Business and Lersonal.

The charge for insertion under this head is one dollar a line.

A Large Marble Factory to rent on the Hudson River. Address Davis' Machinery Yard, 124 Hudson st., Jersey City.

Parties in want of Fine Tools or Machinists' Supplies send for price list to Goodnow & Wightman, 23 Cornhill, Boston, Mass.

Patent Office Reports.—Persons desiring Patent Office Reports can be supplied at low prices. Address Samuel C. Jones, Box 773, New York City P. O.

Wanted—Parties to build the Geiser thresher and separator at Racine, Wis., ground for shops will be donated. Address W. W. Dingee,

Parties having shoe lace tagging machinery for sale, new or second-hand, address postpaid, box 106, Toronto, Ontario.

Parties having patterns for cast brass ferrules for chisel handles will receive orders by sending address to S. F. Gold, Cornwall,

Manufacturers of shingle machines please send circulars and price list to A. J. Shotwell, Montgomery Station, Daviess Co., Ind.

Wanted—A small plainer (bed 5 or 6 feet), new or second-hand, it in good order. Address J. & B. S. Ayars, Greenwich, N. J., with price and description.

Allen's Catalogue of Agricultural and Household Implements and Machinery, Seeds and Fertilizers.—Messrs. R. H. Allen & Co., 189 and 191 Water street, New York, who conduct the largest business in Agricultural and Horticultural Implements, of all American houses engaged in general dealings of the kind, have just issued a new edition of their very complete and handsome Catalogue for the current and coming season. It fills 225 pages, illustrated with nearly 400 engravings, and is sent to applicants for \$1—less than the actual cost of production, and this amount is deducted on the receipt of orders from those who have paid it.

# EXTENSION NOTICES.

Morris Mattson, of New York city, having petitioned for the extension of a patent granted to him the 4th day of April, 1854, for an improvement in enema syringes, ior seven years from the expiration of said patent, which takes place on the 4th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 16th day of March next.

Carmi Hart, of Bridgeport, Conn., having petitioned for the extension of a patent granted to him the 4th day of April, 1834, for an improvement in machine forcutting veneers, for seven years from the expiration of said patent, which takes place on the 4th day of April, 1838, it is ordered that the said petition be heard at the Patent Office on Monday, the 18th day of Marchnext.

James McCarty, of Reading, P.L., having petitioned for the extension of a patent granted to him the 4th day of April, 1854, for an improvement in heating skelps for the manufacture of wrought from tubes, for seven years from the expiration of said patent, which takes place on the 4th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 16th day of March next.

L. Otto P. Meyer, of Newtown, Conn., having petitioned for the extension of a patent granted to him the 4th day of April, 1854, for an improvement intreating caoutchouc and other vulcanizable gums, for seven! years from the expiration of said patent, which takes place on the 4th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 16th day of March next.

Samuel J. Parker, of Ithaca, N. Y., having petitioned for the extension of a patent granted to him the 11th day of April, 1854, for an improvement in sewing machines, for seven years from the expiration of said patent, which takes place on the 11th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 28d day of March next.

James L. Cathcart, of Georgetown, D. C., having petitioned for the extension of a patent granted to him the 18th day of April, 1864, for an improvement in attacking propellers to the driving shaft, for seven years from the expiration of said patent, which takes place on the 18th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 30th day of March next.

James Buell, executor of the estate of James McGregor, Jr., deceased, of New York city, having petitioned for the extension of a patent granted to the said James McGregor, Jr., the 11th day of Abril, 1854, for an improvement in the construction of tea and coffeepots, for seven years from the expiration of said patent, which takes place on the 11th day of April, 1868, it is ordered that the said petition be heard at the Patent •files on Monday, the 23d cay of March next.

Julia M. Colburn, administratrix, de bonis non, of James H. Stimpson, deceased, who was executor of James Stimpson, deceased, of Baltimore. Md., having petitioned for the extension of a patent granted to the said James H. Stimpson as executor aforesaid, the 17th day of October, 1854, and antedated the 17th day of April, same year, for an improvement in vessels for holding liquids, for seven years from the expiration of said patent, which takes place on the 17th day of April, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 30th day of March next.

StepHen Bazin and James A. Bazin, of Canton, Mass., having petitioned for the extension of a patent granted to them the 25th day of April, 1854, for an improvement in machinery for laying rope, for seven years from the expiration of said patent, which takes place on the 25th day of April, 1863, it is ordered that the said petition be heard at the Patent Office on Monday, the 6th day of April next.

#### Improved Automatic Taper Lathe.

The rapidity with which many kinds of wood turning can be done by the automatic machinery now so extensively used for this purpose is somewhat surprising, the patentees of the lathe represented in the accompanying engraving, claiming to turn at the rate of from 1,000 to 2,000 running feet per

The power is applied on the cone pulley, A, into which is be of glass, to render this apparent, and the diaphragm will smallest size, without gearing, and a vertical section of the

screwed the cutting head having cutters running in the shavings Jox. B. The cutter head and cone form a hollow mandrel. A belt, C, leads from a pulley on the cone arbor to the shaft under the bed of the lathe, thus giving motion to the feed cone, D, and saw shaft, E. In turning handles—broom handles for instance—the sawed stuff is piled upon the rack. F. when a cam draws forward the frame, and the saw cuts off the sticks to the required length, while, at the same time, a gimlet at each end bores holes through the sticks. The frame then recedes and the mallet, G, operated by a cam, strikes the lower stick, driving it into the feed rollers, H, which are fluted, and draw the stick into the hollow mandrel, whence it passes, after being turned, to a second set of rollers, I. The rollers are adjusted to the size of the stock to be turned by set screws. The taper, swell, or other irregularity on the work is given by a pattern cam operating the upright lever, J, which actuates the ring case that governs vibrating arms in the cutter head. The connecting rod, K, through which the mallet, G, is,

length of stuff, and the foot of the lever which holds the mallet can also, be moved as aid to the same result.

The regular size of the lathe turns from five-eighths of an inch to one and a half inches diameter. By having extra heads this limit may be greatly increased. The manufacturers say that one man, with this machine, can do at least the work of four men with the ordinary lathes. It is capable of turning nearly all sorts of handles, chair stuff, billiard cues, map rollers, etc., giving the work an excellent finish.

Patented April 17, 1866. All communications relative to this latter should be addressed to Finley & Co., Geneseo

## Picric Acid and Its Properties.

In a lecture delivered before the Society for the Encourage ment of National Industry in France, Dr. Calvert, F. R. S. spoke of a curious application which has been made of the explosive property of its salts. During these last few years, the picrate of potassium has been employed in great quantities by Mr. J. Whitworth, for charging the bombs for destroying the iron plating of ships. When the projectiles thus prepared strike the iron masses, the enormous propelling force with which they are expelled from the gun is instantaneous Iy converted into heat, and to such an extent that the ball becomes red hot, the heat decomposes the picrate of potash, and a violent explosion ensues, owing to the enormous quantities of vapors and gases which are thus produced in an instant of time.

Whilst the alkaline picrates are endowed with such formidable properties, they also possess others which are useful for the alleviation of human misery. Picric acid is an efficacious remedy in intermittent fevers. Persons affected with such types of fever, upon whom quinine has lost all its beneficial effects by continuous usage of it-and this is the case with some of our soldiers who return from India-derive, I am glad to say, wonderful benefit from the use of picric acid and picrates, as Dr. Aspland has proved to be the case at the military hospital at Dukinfield. The knowledge of this fact may be useful in districts in which poor populations exist, for it affords them a cheap febrifuge; and, moreover, picric acid is not dangerous, as arsenical preparations are, nor does it derange the stomach like quinine.

### Diffusion.

Some very elegant and simple methods of exhibiting the phenomena of diffusion are given by Herr Merz in a recent number of the Journal für Praktische Chemie. A portion of the shell of an egg having been removed by the action of hydrochloric acid, leaving the membrane exposed, the egg is to be suspended in water from the arm of a balance, a counterpoise being placed in the opposite scale. In about half an hour the weight of the egg has sensibly increased, as the position of the balance beam will show, in consequence of the passage of water through the membrane If, how, alcohol be substituted for the water, and the weights readjusted, so as to bring the beam horizontal, it will soon commence to move in the opposite direction, showing that the egg has become lighter by the diffusion of water into the alcohol. The diffusion of vapor may be exhibited by tying a diaphragm of India rubber-a portion of a small toy balloon will answer not only for perforating sheet metals, but latterly for finishin communication, by means of an elastic tube, with a vessel diminish the amount of hand work necessary to produce a

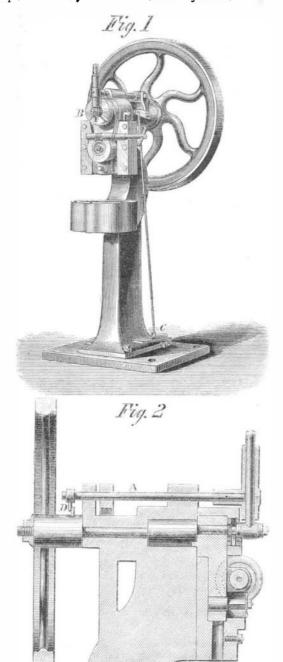
ether, which, however, the diaphragm is not to touch, the of an ordinary clutch which necessitates such a jar and jolt vapor of this fluid will pass rapidly into the funnel, the air to the driving power as seriously to interfere with the equabeing observed to escape in bubbles in the water at the small | ble action of the machine. The clutch is at any time and unend. Remove now the vessel of ether, and the operation will be reversed, the vacor passing through the diaphragm into and its use is avoided, as much as possible, by mechanics. the atmosphere. In order to fill the vacuum thus created, the water will rise in the tube, the lower part of which should

WEST'S PATENT LATHE FOR TURNING UNEQUAL DIAMETERS.

structive, and are within the reach of every one. The bal- est position, an advantage of no little moment, as all ma ance may be extemporized by means of a light bar of wood.

# WILDER'S PATENT PUNCHING PRESS.

The power press has become a common tool in our machine shops. As usually built it has serious objections. It is used



the purpose—over the mouth of a funnel, the other end being ing the surfaces of forged pieces to give a better surface and of water. The funnel being inverted over a dish containing | good finish. The common power press is actuated by means | pair the colors or appearance

der any circumstances a very poor mechanical contrivance,

The engravings accompanying this article show a prospective view of one of Wilder's Patent Punching Presses of the

> upper or working part. Fig. 1 is the perspective, and Fig. 2 the sectional view. Mechanical perfection is not to be expected, but this machine seems to be capable of no very radical improvement. It is so designed that any size of press required can be made without any considerable change in the construction of the parts.

Fig. 1 is a perspective of the press, which, it will be seen, is of pleasing proportions. The power is applied to the wheel by means of a belt, and actuates the plunger in the usual manner, by cam or eccentric. The stop motion is very simple and smooth in its action. It is a sliding bar, A, at the top of the machine-seen drawn on a larger scale in the vertical section, Fig. 2—carrying a dog, which, when the plunger is at work, locks into a mortise in the revolving disk, B, Fig. 1. This stop motion adds no strain to the press when the machine is working, the strain or wear being no more than if there was no stop motion attached. It is held in a locked position by the foot on the treadle. C, and so long as the treadle is pressed down the press will operate, but if the foot be removed

operated, is coupled so as to be adjusted to any required | be curved inwards. These experiments are particularly in- | the plunger will instantly stop and always in the highchinists know. By removing the foot from the treadle as soon as the plunger begins its downward movement, it will make but one stroke and will be unlocked by the dogs, D, Fig. 2, on the shaft and slide. The length of stroke is adjusted by the horizontal worm shaft seen on the front of the machine, and the stroke may be lengthened or shortened when the press is in motion as well as when at rest.

Patented May 28th, 1867. G. & C. Place, 222 Pearl street, New York city, are the agents for this press. Communications respecting the machine should be addressed as above, or to Moses G. Wilder, patentee, West Meriden, Conn.

### Artificial Meerschaum.

Vegetable ivory has long been known, but vegetable meerschaum, vegetable horn, or vegetable coral, as they may with strict propriety be called, are late acquisitions, brought before the public for the first time during the late Exposition. The mode of preparation of these substances is as follows: Common potatoes are peeled and macerated for about thirtysix hours in water acidulated with eight per cent of sulphuric acid. After this operation they are dried in blotting paper, and then in hot sand for several days on plates of chalk or plaster of Paris which are changed daily; being compressed at the same time, an excellent imitation of meerschaum, answering well for the carver, or any purpose not requiring a high temperature, will be obtained. Greater hardness, whiteness and elasticity will be produced, if water containing three per cent of soda, instead of eight per cent sulphuric acid is used. And if, after the potatoes have been macerated in the solution of soda, they are boiled in a solution containing nineteen per cent soda, a substance resembling stag's horn, and which may be used for knife handles, etc., will be formed. Turnips may be used instead of potatoes in the production of the artificial horn; and if carrots are substituted for the potatoes, a very excellent artificial coral will be obtained.

NEW METEOROLOGICAL INSTRUMENT.—Prof. De la Rive, of Geneva, has contrived an instrument for measuring the transparency of the atmosphere. The inventor agrees with Pasteur, who supposes that the light dry fog which under certain conditions of the air intercepts the light, is caused by myriads of organic germs floating near the earth, which are washed to the earth by the heavy rains, or are destroyed bysevere frosts, thus accounting for the clearness of the atmosphere at these times. Convinced of the truth of these statements, a determination of the state of the air, it seems, would be of benefit in a sanitary point of view; hence the value of this invention. A complete description of the instrument has not fallen under our notice, but it principally consists of a double telescope with a single eye piece, by which two objects at known distances may be compared, and thus the transparency of a measured stratum of air is directly deter-

INCOMBUSTIBLE CLOTHING FOR WOMEN.—It is stated that no ballet dancer of the Queen's Theater, London, is allowed to dance in garments that have not been saturated with a solution of tungstate of sods. This mineral is now extensively used in the laundries of London. It prevents the fabrics with which it is incorporated from blazing, and does not im-