

One week's production of the Slaughter House Gulch, in Colorado was recently 3,000 ounces of silver.
 The nine-hundredth mile post on the Union Pacific Railroad west of Omaha has been passed.
 The Union Copper mines in Calaveras county, Cal., have been sold at auction for \$121,250.
 The Indianapolis rolling mills use daily twenty car loads of Missouri iron. One firm in Portland, Maine, have manufactured 24,000 planchettes.

Recent American and Foreign Patents.

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

PRESERVE JARS.—Nat. Raymer, New Sterling, N.C.—This invention relates to a new and improved method or process of preserving fruit and other articles, and it consists in such an arrangement as allows the air to be extracted without the use of steam, thereby adapting the can to ordinary use in families where facilities for putting up fruit on a large scale are not enjoyed.

HOBING MACHINE.—Horace C. Briggs, West Auburn, Me.—This invention has for its object to furnish an improved machine by means of which the ground between the rows of plants may be thoroughly stirred up and turned over, and the soil thrown around the roots of the plants, and which shall at the same time be simple in construction and easily operated.

HAY CUTTER.—Henry Kinsey, F. W. Kissell, J. E. Smith, and J. M. Smith, Ligonier, Pa.—This invention has for its object to furnish an improved machine for cutting hay, straw, and other fodder, which shall be simple in construction, easily operated, effective in operation, and self-feeding.

PAPER MAKING MACHINE.—James Viney, Manchester, N.H.—This invention relates to an attachment to machines for manufacturing paper, whereby the process is greatly facilitated and much valuable time is saved.

STEAM PUMPING ENGINE.—Ralph R. Lee and Geo. H. Wren, Mahanoy City, Pa.—This invention relates to the manner in which the valves of pumping and other engines are operated, and it consists in the construction of the main valve and steam chest, and the manner in which steam is admitted thereto for the movement of the valve.

MACHINE FOR SEPARATING THE PULPY MATTER FROM FIBER-PRODUCING LEAVES.—G. Sanford, Bergen Point, N. J.—This invention consists of a wheel arranged to rotate in a vertical plane, which is provided with combs and scrapers arranged upon its sides radially and operating between vertically suspended holders for the material to be operated on, which is previously crushed between rollers, the said holders being provided with means for pushing them against the combs or scrapers as the thickness of the mass being combed varies. Provision is also made for supplying water to the mass as the combs and scrapers are acting upon it.

TANNING APPARATUS.—Silas Hosmer, Concord, Mass.—This invention consists in the arrangement or combination with a vacuum tanning vessel, of an agitating mechanism to produce and maintain currents in the liquor bath containing the skins to equalize the action of the liquor on the skins.

VELOCIPÈDE.—E. K. W. Blake, Chicago, Ill.—This invention consists of an arrangement of loose hollow pulleys on the driving axle, having pawls taking into ratchets within the said pulleys secured to the axle, and belts for operating the pulleys passing over guide pulleys at the front of the machine to the hands of the operator, whereby he may propel the machine by pulling from directly in front of him. Springs connected by cords to smaller drums on the said pulleys are used for retracting the pulley to wind on the operating belts.

SAFETY LOCK FOR FIRE-ARMS.—Michael Tromly, Washington, D. C.—The nature of this invention consists in constructing the hammer in two parts, the upper one, containing the head, being so attached to the lower part that it can slide about a half inch upon the latter, and so operating that when the hammer is bent back to a "full cock" and sprung from that position, centrifugal force throws the head outward so that it can strike the cap and explode it; but when let down by the thumb or sprung from less than a "half cock," the head will not be thrown out in the manner described, but will strike upon a guard near the nipple, and be prevented from coming in contact with the cap. The hammer itself is so formed as to guard the cap when down.

EXCAVATOR.—Barna P. Stowell, Quincy, Ill.—The object of this invention is to construct an excavating machine to be operated by steam or other power, which shall perform its work in an easier and more expeditious manner than those heretofore invented, and which shall be economical and convenient of operation.

CAR COUPLING.—James Osman, and John F. Potter, Linden Hall, Pa.—The object of this invention is to accomplish the coupling and uncoupling of cars in a safe and ready manner.

WATER WHEEL.—J. H. Bodine, and T. A. Hill, Mount Morris, N. Y.—In this invention the gate is made in a peculiar form to adapt it to be opened and closed with less power and a novel device is employed for the purpose of moving it. In addition to this, the curb is so constructed that, as the step wears away the joint between the wheel and the curb still remains water tight.

AWNING OR HORSE CARS.—Manfred C. Battey, Washington, D. C.—The object of this invention is to provide a neat, light, strong, and cheap attachable and removable awning, to be used in connection with horse cars on street railways, for the purpose of protecting the horses from the excessive heat of the sun.

TANNING PROCESS.—C. J. Bugh, Eau Claire, Wis.—This invention has for its object to furnish a superior tanning process by means of which furs and hides may be easily, quickly, and thoroughly tanned.

SELF-SETTING TARGET.—William Stein, Camden, N. J.—The object of this invention is to construct a target which will produce a constant display of passing objects to the practitioner, said objects or aims being hinged, so that they will be turned down, when hit; but after being thus turned down, they will be automatically set up before they are again exposed to the view.

STEAM WHISTLE.—Bernhard Weinmann, Cincinnati, Ohio.—This invention relates to a new steam whistle, which is so arranged that the sound produced in it can be regulated at will. The invention consists in arranging either one or both ends of the tube of a steam whistle adjustable, so as to thereby make the length of the tube variable.

TURBINE.—Albert M. Maynard, Savoy, Mass.—The nature of this invention relates to those horizontal water wheels known as turbine. It consists in the peculiar V-shaped formation of the turbine buckets, arranged on the inner side of a cylindrical box, in combination with a diaphragm through which the shaft passes, together with other devices perfecting the whole.

BRIDLE BIT.—W. F. Clark, Hagaman's Mills, N. Y.—The object of this invention is to provide a simple bit and bridle for horses, which combines several advantageous features, each of which are herein duly set forth.

SPINNING JACK.—Jacob Sands, Waterloo, N. Y.—This invention consists in an arrangement of mechanism for automatically changing the friction belt, whereby the carriage is made to effect the said changes.

HORSE BRUSH.—Amos W. Brown, Lansingburgh, N. Y.—The object of this invention is to furnish a flexible back to a horse brush that the brush may be brought to conform to the animal's body upon which it may be used, and thus cause all the bristles to bear and operate in the rubbing process. It consists in a jointing to the back of the brush and connecting the jointed parts with a steel plate or spring, or by suitable hinges in combination with a spring.

APPARATUS FOR HOLDING SHEEP.—G. D. A. Krigbaum, Zanesville, Ohio.—This invention consists of a bench provided with hinged legs or legs otherwise adjustable connected to it, and with four notches, two in each edge, about the size of the legs of the sheep above the ankles; and also with notched levers which are pivoted to the bench, one to each notch in the bench, so that the notches of the levers are co-incident with those of the bench. The sheep is placed upon his back under the bench and one leg

secured in each notch by the levers which may be held in position by pins or otherwise.

PROCESS FOR DYING AND RECTIFYING COPAL VARNISH.—Desso Duduit, New York City.—The object of this process is to clarify or rectify copal varnish and also to give it in a few hours that peculiar quality which renders it suitable for being used and which previous to my invention required to be "aged," that is to say, to stand from eight to ten months to allow this quality or change to be obtained spontaneously.

WATER WHEEL.—Vincent M. Baker, Preston, Minn.—This invention relates to a new and improved horizontal water wheel, and of that class in which power is obtained both from the percussive and resetting force of the water. The invention consists in a novel construction of gates and chutes and in a peculiar form of bucket, whereby several advantages are obtained.

BEEHIVE.—J. H. Thurston, Rainsborough, Ohio.—This invention relates to a new and useful improvement in the construction of bee-hives, whereby a perfect ventilation is obtained and the hive kept dry during the winter season—free escape of the moisture exhaled by the bees being allowed, and consequently the condensation of the same on the walls of the hive, which is so destructive to bees in a closely confined hive, avoided. The invention also relates to a peculiar construction and arrangement of the bee entrance of the hive, whereby the bees are enabled to protect themselves against the encroachments of the bee-moth.

WIND WHEEL.—R. Waite, Blue Earth City, Minn.—This invention consists in a horizontal wheel having a spiral tapered vane of varying twist, enclosed in a correspondingly tapered case provided with bell mouths at each end, and with the means for regulating the passage of air at the receiving end or shutting it off altogether.

ANTI-FRICTION WASHER.—U. H. Reed, Jeremy Lake, and Luther Sison, N. Easton, Mass.—This invention consists of a washer composed of two rings and a tubular section, one of the said rings and the tubular section formed to have an annular recess, when joined together, which is filled with spherical balls, which take the pressure of the screw or nut from the other ring which is held in contact with the balls by an outer annular projection, taking behind an inner annular projection of the tubular section, and which is free to turn on the balls.

BED BOTTOM.—Gustavus Reneky and Samuel Kiess, Edgerton, Ohio.—This invention consists in the manner of securing the springs to the frame; also, in the manner of securing the slats to the springs; also, in a manner of arranging some of the slats to economize the use of springs and in the arrangement of the parts forming the frame.

GARDEN ROLLER.—James B. Brown, Peekskill, N. Y.—The object of this invention is to so construct a garden roller, in which weights are suspended from the axle, that the said weights can be readily taken off and replaced whenever desired, so that the roller can be made more or less heavy at will, according to the kind of work to be done.

ATTACHMENT TO GLASSES AND TUMBLERS.—Johann Winkler, Hudson city, N. J.—The object of this invention is to prevent the froth of effervescent liquids, such as "white beer," soda waters, etc., from splashing into the face of the drinker, and to allow the real liquid to flow from the glass without being mixed with froth.

WATCH ESCAPEMENT.—Julius Hietel, John Wenzel Hietel, and John Loomis Gessler, Philadelphia, Pa.—This invention relates to a new manner of constructing the lever of an escapement, and consists in the application and arrangement of a self-regulating spring lever, which will, when the watch is shaken or violently agitated, allow the ruby pin to pass, and which will therefore permit the balance to turn freely under the influence of such shock or motion. The object of the invention is to prevent the breaking of the ruby pin, which in ordinary lever escapements is frequently the case, and to still, at the same time, avoid the complications of the chronometer escapement in which the same freedom of the balance is provided.

HARNES TREE AND PAD.—W. A. Sharp and John A. Shannon, Tama City, Iowa.—This invention consists of a tree or yoke made of wood or other suitable material sufficiently arching to bridge the back of the animal, and adjustably connected at each end to pads of improved construction.

LANTERN.—George W. Putnam, Peterboro, Town of Smithfield, N. Y.—This is a useful invention for travelers and others. It burns a piece of full-sized candle, enough to last two and a half hours. It is provided with a magazine which carries extra candles and matches. This magazine draws out behind when the lantern is in use, and is pushed in when the same is closed. The whole thing is quite compact and strong.

WINDMILL.—Charles Goodwin, Beardstown, Ill.—This invention consists in so arranging the wheels upon the shaft of a windmill, with reference to the other parts, as to cause it to act as a vane or tailboard. Also, in providing a vane in front of the wheel, above the shaft, and at an angle with it, to prevent the resistance of the wheel on the vertical shaft from working the wheel edgewise to the wind, and also in providing the wings with springs which will allow them to open when the wind blows hard, and close again when it subsides.

BUTT HINGE.—William Wells, Ashtabula, Ohio.—This invention relates to an improvement in butts for hanging doors and gates, and for similar uses, whereby such doors or gates are made self-closing by the action of a spiral spring.

APPARATUS FOR BURNING PETROLEUM.—Louis Verstraet, Paris, France.—This invention relates to improvements in the use of petroleum, or other mineral oils, for fuel for generating steam in steam boilers, and for other purposes.

FAN BLAST PORTABLE FORGE.—John B. Bolinger, Detroit, Mich.—This invention relates to the means employed to supply the air blast to a portable smith's forge.

BURGLAR PROOF LOCK.—William F. Ensign, New York city.—This invention relates to a new and improved lock of that class which are provided with a series of circular tumblers having notches or gateways in their peripheries to receive a stump and admit of the bolt being thrown back.

FRUIT BASKET.—Charles Moore, Stratford, Conn.—This invention relates to a new and useful improvement in the construction of fruit baskets such as are used for carrying small fruit, berries, etc., to market. The object of the invention is to obtain a basket which may be manufactured cheaper, and be far more durable than the various wooden baskets now in general use.

LOCK.—Amos S. Blake, Waterbury, Conn.—This invention relates to a new and improved lock, and is designed to supersede the various locks used for freight and baggage car doors, and the ordinary padlock generally, as this invention is applicable in all cases where the ordinary padlock may be used. The object of the invention is to obtain a lock which may be used in all cases where the ordinary padlock may be applied, and without the liability of being injured by water getting within it, or being rendered inoperative or incapable of being opened or unlocked on account of ice—objections which attend the use of the ordinary padlock.

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 information 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 instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at \$1 00 a line, under the head of "Business and Personal."

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

W. T. H., of Wis.—The trouble with your microscope is undoubtedly imperfection in the lenses.

J. T. E., of Mich.—Shellac varnish made with alcohol, is a good preparation to prevent iron from rusting, but it will not stand wear neither will any other varnish.

E. R., of N. Y.—Stains obtained in making cider and paring apples may be removed from the hand by lemon juice, or citric acid, obtainable at any drug store. We know of nothing that will prevent rubber

boots from cracking, but they may be mended by the use of rubber dissolved in benzine.

E. J. N., of Cal.—To separate gold from copper, dissolve in nitro-hydrochloric acid, (aqua regia). Precipitate with a solution of protosulphate of iron; the precipitate washed and fused will be pure gold.

J. A. S. of Texas.—We have never had any trouble in keeping our razors in order by the use of an ordinary strap. If you are a barber by trade, and have not acquired the art of keeping your razors in condition, we do not think printed instructions on the subject would be of any value.

P. C. C., of Pa.—"If a boiler with pressure of steam at 30 lbs. to the square inch be heated until its pressure is 100 lbs., has the last mentioned steam less moisture in it, and if so has part of the steam first mentioned (30 lbs) been condensed by additional pressure back to water?" In reply we ask if a bladder be filled with air and then heated until entirely filled is there more air in it when at the point of bursting than when the bladder was flaccid? In other words, do you in generating steam from water expand the water or the gaseous products of water and heat combined? Suppose you pass your steam at 30 lbs. pressure into a heater having no water, as is done every day in hundreds of boilers, cannot you get the heat of 338° Fah. and the consequent pressure of 100 lbs? In other words, do you know what is meant by dry steam?"

J. W. C., of N. Y.—"I inclose a diagram representing the half of a revolution of an 18-inch crank and ask why, if the ordinates on an indicator card represent the power exerted by the engine, this does not represent the effective length of a crank of 18 inches; the ordinates being measured the same as in an indicator diagram using, however, a common scale rule? If they do then there is a gain in the use of the crank." The indicator is in no sense a crank. It represents the action of a reciprocating body, and even if the ordinates used in measuring the stroke of an engine and the half revolution of a crank were the same, these are all the elements the two cases have in common. The calculations necessary for measuring the proportional powers of the crank between right angles to the piston rod and the dead center have no analogy to those used in estimating the varying powers of steam at different portions of the stroke.

Business and Personal.

The charge for insertion under this head is one dollar a line. If the Notices exceed four lines, an extra charge will be made.

For a complete 10-acre fruit farm, address box 83, Burlington, N. J. Several larger farms, and easy payments.

Patent improvement for sharpening circular saws for sale. Persons buying and selling patents will communicate. D. Huffman, Luray, Va.

Parties about to buy scroll saws should examine the new patent scroll saw which was exhibited by J. W. Mount, of Medina, N. Y., at State Fair. See New York Times, Oct. 16, 1868.

To party paying for foreign patents (\$550) one-half interest. Immediate success. Sale immense. Box 2137, postoffice, Philadelphia.

Send \$1 for 12 new pictures for the zoetrope, or a stamp for complete catalogue to Milton Bradley & Co., Springfield, Mass.

A wealthy person is wanted to assist in developing several new patents. Address Rt. Rev. Adolphus E. Damas, Chief Librarian, Austin city, Texas. Postoffice box 259.

Manufacturers and machinists who want orders, read Boston Bulletin, whose reports of manufacturing news of the U. S., show who needs machinery, etc. Address Boston Bulletin. Terms \$4 a year.

For lighting street gas lamps, address the London Torch and Gas Lighting Company, 569 Broadway, New York.

For the best tin folder for turning a nice fine lock or a nice round lock for wiring. Also, Whitney's patent Tinsmith's stakes. The greatest improvement of the age. Address A. W. Whitney, Woodstock, Vt.

Peck's patent drop press. For circulars, address the sole manufacturers, Milo Peck & Co., New Haven, Conn.

The Lillingston paint, described Nov. 18, in Scientific American, can be had at 528 Waterst., New York. Address Lillingston Paint Co.

Will Ransom Rathbone, of New York, who took out a patent for a wad greaser, please send his present address to A. E., box 1769, New York Postoffice.

For descriptive circular of the best grate bar in use, address Hutchinson & Laurence, No. 8 Dey st., New York.

Hackle and Gill Pins, address J. W. Bartlett, 569 B'dway, N. Y.

For sale—Newhart & Co. plow factory, Terre Haute, Ind.

Wants to sell rights to manufacture the simplest and best cider mill made. Address H. Sells, Vienna, Ontario.

American Watchmaker and Jeweler. By J. Parish Stelle. Jesse Haney & Co., 119 Nassau st., New York. Price 25 cents.

C. J. Fay's patent water-proof roofing, Camden, N. J.

For solid wrought-iron beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for Lithograph, etc.

Portable pumping machinery to rent, of any capacity desired, and pass sand and gravel without injury. Wm. D. Andrews & Brother, 414 Water st., New York.

N. C. Stiles' pat. punching and drop presses, Middletown, Ct.

Prang's American chromos for sale at all respectable art stores. Catalogues mailed free by L. Prang & Co., Boston.

For breech-loading shot guns, address C. Parker, Meriden, Ct.

The paper that meets the eye of all the leading manufacturers throughout the United States—The Boston Bulletin.

NEW PUBLICATIONS.

READY RECKONER FOR SAWMILL MANAGERS.

We have received a chart intended for the use of sawmill owners and operators, giving the amount of lumber, in boards, joists, scantling, etc., that may be sawed from a log or bolt of any ascertained diameter. It is arranged in tabular form on one sheet, convenient for reference and handy to be posted in the mill. It has full directions for use printed on the same sheet, and is as easily understood as the ordinary chart for a screw cutting lathe. The table is the result of experience and observation by a practical sawyer, and appears to be well adapted to subserve its purpose. Copy right, secured by the author, Titus Whitmore, Yankee Settlement, Clayton Co., Iowa. Price 60 cents single. See advertisement on another page under the heading, "To Mill Owners and Sawyers."

THE ATLANTIC MONTHLY for December contains, among other excellent articles, a good one entitled "Our Painters," the second article on "Coöperative Housekeeping," "A Day at a Consulate," etc. The new volume begins with the coming January number, with promised contributions from J. Lothrop Motley, James Russell Lowell, Edward Everett Hale, James Parton, and other distinguished writers. The well-known firm of Ticknor & Fields have dissolved by the retirement of Mr. Ticknor. The successors are Fields, Osgood & Co.

Improvement in Open Grates.

All who value home comforts understand the enjoyableness of a glowing open fire, notwithstanding the superior heating qualities of heaters and closed stoves, and many prefer the inevitable waste and additional costliness of the open grate, with its home-like pleasantness, to these more economical and less healthful appliances. If the grate or open fireplace could be made to yield the same amount of heat that the stove does, at no greater cost, every one would prefer it, for there is nothing to which poor human nature is more addicted than "seeing faces in the fire" and poking burning coals.

To extend these comforts is the object of the improvement shown in the engravings. Fig. 1 shows a pleasant family group enjoying the quiet of home and the warmth of a good fire.

Fig. 2 is a sectional view of the device. A is the fire box or receptacle for the fuel. B is the flue through which the smoke or other products of combustion pass to the chimney. C is a sliding plate, moving on lugs or ledges in the sides of the fireplace and passing through a slot in the back. D is an air tube below the movable plate for inducting air to the gases of combustion. E is an angular wing or flange on the front of the sliding plate, C, for convenience in moving the plate back and forth by a poker or other utensil.

It will be seen that the throat of the flue may be increased or diminished in area as the plate, C, is moved back or forth, while at the same time the plate may be used to deflect more or less of the heat of the fire into the room, according to its position. The current of atmospheric air that passes through the tube, D, mingles with the ascending heated gases, and by its provision of oxygen, induces an additional combustion.

The inventor very truly says that "by the ordinary method of combustion in fireplaces or grates a large percentage of the fuel passes up the chimney unconsumed for want of an additional supply of air *properly applied*. This invention meets the difficulty effectually. As the heated gases impinge against the movable plate they meet with a new supply of air and are thus to a good degree consumed, the available heat is increased, and the waste of fuel saved." He says further that forty of these improved grates have been set and tested, all of them giving full satisfaction.

Date of patent August 4, 1868. The patentee, D. Hattan, may be addressed for further information, at Zanesville, Ohio.

THE TRANSPLANTING OF LARGE FOREST TREES.

In this fast age when people seem too impatient to await the slow and normal growth of anything; when the demand seems to be principally for things ready made, it may be useful and interesting to notice some methods for the transplanting of large trees. The season is also at hand when the necessary preparations must be made for this purpose.

We recently discussed the subject of circulation in plants and its relations to their growth and nutrition. The principles noticed in the article referred to have an important application to the present subject. We have said that the "blood of plants" enters the circulation through their roots; but the power of the roots to absorb, depends principally upon the rootlets found in greatest numbers at the extremities of the principal root branches in trees and shrubs. In young trees in vigorous growth a greater proportion of minute root branches are found than in old trees. The close contact of earth with these rootlets is necessary also to rapid and healthy growth. Nearly all plants suffer by transplanting on account of the greater or less rupture of this contact. Exceptions are of course to be made in regard to plants removed from pots, in which case the earth ball is comparatively little disturbed. The law of constitutional adaptation to circumstances holds good also with plants as with animals. A young tree growing in thick shade, will droop immediately if exposed to the hot sun, by the abrupt cutting away of the surrounding timber.

To transplant successfully then, it is necessary to change the conditions under which the plant is growing at the time as little as possible, or if considerable changes are requisite to make them as gradually as possible. The larger a tree is at the time of transplanting, the more difficult it is to observe this rule. Yet with proper method and care almost any tree not too heavy for transportation may be successfully transplanted.

The method most common in this country is to dig a trench about trees, deep below the surface, after they have shed their leaves in autumn, and letting them stand until the cold weather has frozen the entire ball. The trees are then tipped over by the use of a tackle, the frozen ball adhering to the roots, and the tree with the entire mass of frozen earth is then removed to the place designed for it. Of course this method is applicable only in cold climates, and cannot be ap-

plied to all trees, as the hard freezing necessary will kill many valuable and beautiful species.

The system adopted in Europe is a better one, more generally applicable, and based upon more philosophical principles than the American. When plants are potted, the roots at first shoot out in all directions through the soil. When they reach the walls of the pot they turn about and recurve toward the center again. In this way they interweave until the earth is so firmly held that the plant may be taken out of the pot with scarcely any disturbance of its roots. The same thing would take place if instead of meeting the hard impenetrable walls of the pot, the roots should approach a hard innutritious soil; the roots having the peculiar selec-



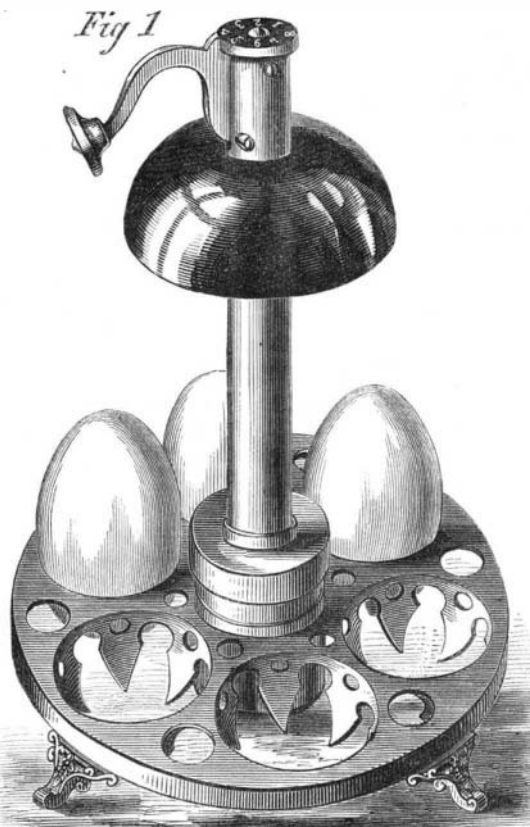
HATTAN'S PATENT FIREPLACE.

tive power which is found even in the lowest orders of living things, will return into the more nutritious soil.

The effect of a deposit of rich soil at or near the extremities of roots is to greatly promote the growth and number of the small roots. This principle, together with that of the selective power of the roots above mentioned, forms the basis of the European method of transplanting large trees. The tree being properly braced to protect it from the force of winds, a trench is dug about it and filled with very rich, light soil. The tree is then allowed to stand for one or two years. It can then be tipped over and the ball will not only remain, nearly unbroken, but the great number of rootlets which have developed themselves give much greater vigor to the tree when it is placed in the desired position. In transplanting the tree the ball is swung upon a truck adapted to the purpose, the top being allowed to trail.

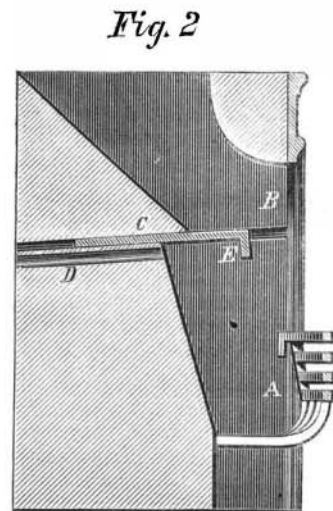
DIMOCK'S THERMO-ANNUNCIATOR.

Perhaps no simple article of food is more difficult to cook uniformly than eggs. There is only one condition of the egg



that may be always assured, and that is hard boiled—the most unfit condition for the stomach. Unless the water into which the eggs are put is kept violently agitated, by boiling all the time the eggs remain in, time is a very unreliable test of their condition when taken out; indeed, time is never a

correct gage for boiling eggs. The inventor of the device shown in the engravings recognizing these facts, and appreciating the truth of the old maxim that "eggs badly boiled are good things spoiled," has constructed this apparatus to operate by a combination of time and temperature, rather than by time only—more heat requiring less time, and *vice versa*. It is correct in principle, and beautiful in design and finish, rendering it both useful and ornamental. It is seen in perspective in Fig. 1. The operation may be understood by a description of the section, Fig. 2. A is a reservoir, to be filled with water, mercury, or other expansive fluid, after which it is closed by a disk of thin rubber; a metallic ring or washer is placed over the rubber, and the reservoir is then screwed firmly into the cap, B, to which the standard pipe, C, is attached, thus forming a tight joint between the top of the reservoir and the rubber disk. In the lower part of the pipe is a plug, D, screwed to a stem, on which is an open spiral spring which holds the plug to the rubber. The stem has a thimble, or bell-shaped collar on its top, on the under side of which the catch of a hammer lever, E, engages, which, when released, is thrown sharply down; the hammer striking the bell (see Fig. 1) to give warning of the requisite amount of heat imparted to the eggs. An index cap, graduated with numbers and the words, *soft*, *medium*, and *hard*, is screwed to the top of the stem, and has vertical slots corresponding to the numbers, either of which fits a screw or pin in the side of the pipe. In operating, place the eggs in the receptacle, raise the index cap sufficiently high to disengage the vertical slots from the pin in the side of the pipe; then turn the index, placing the desired number opposite the hammer lever. The apparatus being latched in the act of lifting by the hammer lever, is then placed in a saucepan of water, either hot or cold, sufficiently deep to cover the eggs; as soon as a



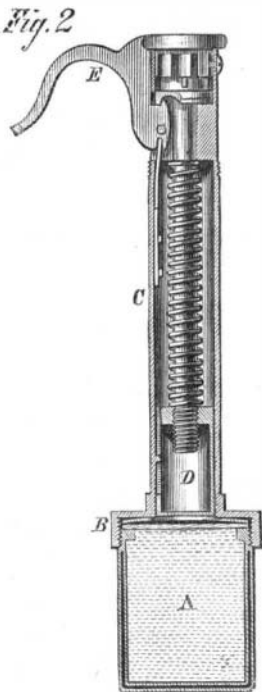
suitable amount of heat has been imparted to the fluid in the reservoir, to expand it sufficiently to raise the plug, D, and stem, the requisite amount, the hammer lever will disengage itself from the bell-shaped collar, and give warning of the amount of heat imparted to the fluid in the reservoir.

It is obvious that, as heat is transmitted to the eggs through the same medium as to the apparatus and under the same circumstances, the condition of the one will have a corresponding relation to the other, and the index being properly set, warning may be given when the eggs are cooked to any degree desired.

Patents for this invention have been obtained in the United States and abroad through the Scientific American Patent Agency by the inventor, I. Dimock, who may be addressed at Florence, Mass. The apparatus may be obtained of the Meriden Britannia Co.'s office, 199 Broadway, N. Y.

The Poison Generated in Putrefaction.

Drs. Bergmann & Schmiedeberg, have communicated to the *Centralblatt* (German) an account of the isolation of a crystalline substance, which they believe is the proper poison generated in putrefactive fermentation. This poison, the terror of the dissecting room, has hitherto been known only by its effects. The substance which these chemists have succeeded in isolating, they call the "*sulphate of sepsin*." The



London Lancet gives the following details of its preparation. It is obtained by diffusion through parchment paper, precipitation with corrosive sublimate, from an alkaline solution, removal of the mercury by silver, of silver by sulphurated hydrogen, evaporation, and purification of the residue. Large, well-defined, acicular needles are thus obtained, which are deliquescent in the air, and, exposed to heat, melt and carbonize. They possess a powerfully poisonous action. A solution containing scarcely more than one-hundredth of a gramme was injected into the veins of two dogs. Vomiting was immediately induced, and after a short time diarrhea, which in the course of an hour became bloody. After nine hours the animals were killed, and, on examination, their stomachs and large intestines were found ecchymosed and the small intestine congested. Frogs could be killed in the same manner.

BARON ROTHSCHILD, head of the great Jewish banking house, is dead. He left sufficient property to pay his debts and funeral expenses.