

WALKING STONES.—We have noticed in this column the "walking leaves" of Australia, and now give our readers the benefit of a statement that has fallen under our notice, of some "traveling" pebbles found in Nevada. They are described as almost perfectly round, the size of a walnut, and extremely hard. When distributed about upon a flat surface, when even separated two or three feet, they immediately gravitate toward a common center. At a distance of five or more feet, the attraction ceases. These stones are found in a very rocky region, which abounds in little basins hollowed out of the rock, from a few feet to a rod in diameter, and in the bottom of these the stones are congregated. We would suggest that perhaps the common phenomenon of the "eye stones"—calcareous concretions—which, when placed in a nearly flat porcelain dish with an acid, as vinegar, will tend gradually toward a common center. receives an illustration, probably, in the above. The effervescence occasioned by the combination of the lime and the acid is sufficient to overcome the weight of the pebbles and the inclined sides of the plate or the natural basin accomplishes the rest.

EFFECT OF ELECTRICITY ON SEEDS.—M. Blondeau asserts that, after many experiments, he has found the action of an induction current on seeds, before planting, produces very beneficial results, noticeable in their subsequent growth. In experimenting with beans, peas, and cereal grains, the seeds were soaked in water for some time, and were then submitted to the action of a current for several minutes. After this they were planted in pots filled with good garden earth, and at the same time other unelectricized seeds were planted and kept under the same conditions for the purpose of comparison. The former always came up first, grew more rapidly, and gave much more vigorous and fruitful plants than the latter. "But," says M. Blondeau, "one very singular fact is that many of the electricized seeds obstinately persisted in growing with the true root pointing up in the air, while the plumule was directed downward," which gives a little shade of incredulity to the whole statement, but the experiment is an easy one for any interested person to try for his own satisfaction.

A NOVEL HITCHING POST.—The party comprising the Russian American Telegraph Expedition, on their return from the northern region, have brought home many interesting relics. An ivory tusk twelve feet long and measuring seventeen inches in circumference, was purchased for twelve leaden bullets from Indians living in the new territory of Alaska. Near the junction of the Anadyr and Myan rivers the party found a tusk of enormous size sticking some six or eight feet out of the ground and endeavored without success to dig it up. The frost in the ground held it so firmly that they were not able to ascertain whether the other bones of the mastodon were beneath or not. The Indians said that they had used it as a hitching post for many years, and that was all they knew or cared about it.

CHINESE TEA GROWN AT HOME.—In our number for Sept. 28, 1867, we gave a description of Dr. Alfred L. Acee's plantation of tea, at Rose Bower, near Bellevue, Talbot County, Ga. We have now the pleasure of acknowledging the receipt, by express, from Dr. Acee, of a few living tea plants grown by him, together with some of the nuts. We have placed the plants in our green house, and intend to raise some tea from the seed. Dr. A. is entitled to much credit for his perseverance in demonstrating the feasibility of raising tea on this continent. The plant forms an ornamental evergreen shrub, and may be readily cultivated in many parts of the country. Dr. A. states that it blossoms in the fall, that it bears exposure even to freezing sleet, and may be cultivated anywhere in the open fields without manure.

CRYSTALLIZED EGG.—Numerous and of very varying values are the recipes for preserving eggs, which have been given to the world, but a company of this city believe that they have at last attained perfection in this line, though attaining their end in a novel way. Their process is as follows: The fresh eggs are emptied from the shell into a long trough, and into this trough descends a shaft armed with a series of metallic disks, which, rapidly revolving, beat the eggs into homogeneity, and are themselves covered with a thin covering of egg. This thin pellicle, when dried, is scraped from the disks in the form of thin granules, apparently crystallized, and retains indefinitely all the peculiar properties and flavor of the fresh egg.

FERTILIZING PLANTS.—The old idea of botanists that hermaphrodite flowers shed their own pollen upon their own stigmas is now generally discarded, as observation has shown the almost infinite variety of contrivances which Dame Nature furnishes to prevent this. It has been recently noted that the insect world plays a very important part in the fertilization of certain plants in conveying the pollen from one flower to another. Another remarkable fact in this connection is that almost all flowers which are thus fertilized are gaily colored so as to be attractive to insects, and Mr. Darwin observes that he knows of no flower fertilized exclusively by pollen blown on the wind, that has not a dull unattractive appearance.

COFFEE-TEA.—We have made frequent mention of the experiment which, if reports are true, has been highly successful, of raising the true Chinese tea-shrub in our Southern States. An exchange calls attention to a new branch of industry in this line, which is capable of still more extended cultivation. It is customary in Sumatra to use the roasted leaves of the coffee plant for the production of a drink having

all the properties of the best of tea, and containing nearly 1.25 per cent. of its peculiar principle. The preparation of the leaves is much simpler than that required for the true Chinese tea, and the cultivation of the plant can be carried on in more northerly countries, where the coffee berry itself would never fully ripen.

A NOVEL MODE OF PASTURING SHEEP.—A grazer in the Pas de Calais, named Pentefort, has introduced the following singular method of economizing his green crops: Over the whole field is placed a rack or fence, so made that the sheep cannot jump over it, but must feed between the bars; and when all the herbage within their reach is consumed, the rack is moved forward, so as to give them a fresh supply of forage. Regularity in cropping and great economy result from the employment of this singular system.

CARBONIC ACID BATHS.—At Piermont, in Germany, there is a natural spring of carbonic acid gas, the sides of which have been walled up, and steps laid for entering it. The well is shallow, and the gas fills it to a depth of about four feet, so that the gas rises about to the middle of a person standing in the well. The effect of the gas in contact with the skin is said to be a peculiar pricking sensation, but not so unpleasant but that such baths have come to be very much in vogue.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

* Samples of ore from the Industry silver mine, in Maine, have been assayed by the Massachusetts States assayer and found to average 8 ounces, 60 grains of silver per ton. An interesting fact regarding this mine is the discovery of silver in magnesia, and white or gray pyrites.

From a list of railroads in California, prepared by the Secretary of the Interior, it appears that up to July 1st, 1867, there were a fraction less than 300 miles of railroad track completed and in running order in that State, with an additional length of 1,443 miles, now being constructed.

Machine belting is manufactured of paper by Messrs. Crane, at Dalton, Mass., and is in use in several New England mills. One of these paper belts measures seventy-five feet long and eight inches wide. Patents have been secured in foreign countries for this invention, through this office, and the article promises to become the subject of much importance.

Notice has been served on the workmen in the iron trade in Middlesex and the Tees District, Darlington, Witton Park, and other parts of the north-east of England, that the masters intend to reduce their wages on the 7th of December. The notice has been issued in consequence of a meeting of the Ironmaster's Association, at Newcastle-on-Tyne, and it is thought that the reduction will average about ten per cent. The men at the Albert Works, Darlington, have accepted a reduction.

The survey of another trans-continental railway route, which shall follow mainly the thirty-fifth parallel of latitude, is nearly completed. Its projectors claim this as the most feasible one across the continent, and even if the Northern and Southern roads are constructed, this would still be the favorite popular thoroughfare, and the easiest and cheapest built.

From lack of economy, in production of ores, it is estimated that the aggregate loss on the production of bullion of this country for the present year, will reach the round sum of \$25,000,000.

Many of the very best locomotive builders in France and Belgium still adhere to the plan of packing their cylinder heads with wire gauze and red lead paint, an antiquated practice long since discarded in both this country and England.

In Brazil, Clay county, Indiana, there is found a species of coal which in appearance and gravity resembles charcoal, having even the woody fibre of the latter. So valuable is it for smelting purposes that one furnace in St. Louis is using five car loads a day, and its existence needs only to be known to increase the demand from other establishments indefinitely. In the same neighborhood is also found an abundance of native iron ore of a superior quality, and a number of iron men from Ohio and Pennsylvania have lately been investing heavily in real estate, and the erection of mills and furnaces in this section.

During last year there were 181,099 tons of new, and 233,834 tons of re-rolled rails made in the United States. During the same period we imported about 100,000 tons, making the total consumption of rails in 1866, 517,933 tons of 2000 lbs.

It has been calculated by Prof. Breithaupt that during the six hundred and forty years, dating down to 1825, which the mines of Freiberg have been worked, not less than eighty-two thousand hundred-weight of silver have been raised, and that the amount yielded in 1850 alone was not less than eight hundred thousand thalers.

There remains to be built to complete all railroad communication across the continent, 1,070 miles of road. As about 700 miles have been built within little more than two years, it is not unreasonable to expect that the remainder will be completed in the time anticipated—say in 1870.

Our Canadian neighbors are now very much exercised over the selection of a route for the new Intercolonial railroad, which is to bind the various members of the new Dominion more closely together. The road is to run from Quebec to Halifax, through the lower part of what was Lower Canada, but now called the Province of Quebec; New Brunswick and Nova Scotia. Three routes have been proposed, and consequently the war of local interests runs high. Of these, the frontier line runs through the most thickly settled regions, but in case of war with us, the Canadians fear the road would be too easily destroyed. The same reason holds good against the second or central route, the northern route being preferred by the Government officials. To ward the construction of the road, the English Parliament is to guarantee a loan of \$15,000,000, which will probably cover the cost of construction.

Recent American and Foreign Patents.

Under this heading we shall publish to-day not a few of the more prominent home and foreign patents.

MANUFACTURE OF STEEL.—James R. Bradley and Moses W. Brown, Chicago, Ill.—This invention relates to an improved process for manufacturing steel of various kinds and grades, and consists in improvements in the composition of mixtures for treating malleable iron.

HOISTING JACK.—S. B. Rittenhouse, Plymouth, Ind.—The object of this invention is to provide a small and portable machine through which a very great power may be obtained for the purpose of hoisting heavy weights, or propelling heavy bodies, or exerting a great force in any direction, as propelling a ditching machine, or a plow for laying drain tile.

INHALING TUBE.—Samuel W. Sine, Easton, Pa.—This invention relates to an instrument which is used for inhaling gas, or anesthetic agents for producing insensibility in surgical, dental, and other operations, or for other purposes.

BOOT-TREE.—F. S. Witt, Allentown, Pa.—This invention relates to a method of constructing boot-trees, and the invention consists in an arrangement whereby the leg and foot of the boot are treed or expanded simultaneously, by operating a single lever nut on the upper end of the tree.

IMPROVED AUTOMATIC RAIN CONDUCTOR.—James B. Hudson, Fayetteville, N. C.—This invention relates to an apparatus for conducting water into cisterns or tanks, and has a conducting disk to oscillate on pivots, and connect-

ed with a float, whereby the said disk is made to reverse its angle of inclination and deliver the water into a waste pipe, when the water in the cistern reaches a certain point.

ASH HOUSE.—Moses Hall, Osborn, Ohio.—This invention consists of a hopper and screen upon a fire-proof ash box, and the whole placed upon a leach tub; said leach tub being provided with a screen or perforated plate through which the lye passes off.

CASE OR BOX FOR PRESERVING CORPSES.—P. Wendhiser, Rockville, Conn.—This invention relates to a case or box for the preservation of corpses, which box or case is constructed in a novel and peculiar manner, whereby it is rendered extremely efficient and desirable, as well as serviceable, for the purpose intended.

GENERATING AND SUPERHEATING STEAM.—George Miller, Melbourne, Victoria.—This invention relates to the manner in which steam is generated and superheated, and to the means by which the pressure of the steam is regulated, and also to the manner in which the temperature is concentrated, and consists in providing, in connection with a furnace or fire box, generating pipes or tubes wherein the water enters and is converted into steam, and also superheated.

PLOWS.—S. J. Leach, Tuscaloosa, Ala.—This invention has for its object to furnish an improved plow provided with a detachable facing formed of wood or other material, to which adhesive soils will not adhere and clog the plow, which shall be cheap, more durable, and more effective than the plows ordinarily used in such soils.

LAND CONVEYANCE.—G. F. Krollpfeiffer, New York City.—This invention relates to an attachment for sleds, sleighs, and other classes of land conveyance, whereby sleds or sleighs can be propelled over the ground or other surface, by means of the direct action upon the ground of a lever or levers, so hung to the body of the sled or other vehicle as to be suitably operated by a person or persons within the same, or by other power, either hand or mechanical.

BOAT LOWERING APPARATUS.—A. F. Crossman, Lieut. Commander, U. S. N.—This invention relates to a new and improved means for detaching boats from davits, and it consists in a novel manner of applying the davits to the vessel, whereby the former may be made to project out from the vessel, more or less as required, in order to prevent the boat, while being lowered, being thrown against the side of the ship by the action of the waves.

LANTERN FOR STREET RAILROAD CARS.—L. V. Badger, Chicago, Ill.—The invention is to obtain a signal lantern for street railroad cars, which may be applied to any car without difficulty, be readily changed from one car to another, and have the advantage of being capable of adjustment in a more conspicuous place than those now used.

STOVEPIPE DAMPER.—D. Manuel, Boston, Mass.—This invention relates to an improvement in the construction of dampers for stovepipes, and consists in two cast iron disks, which have flat central surfaces and are interlocked so that they lie close together when united by the pivot suspension rod of the damper; they have fluted or corrugated edges, which overlap the opposite corrugations on the opposite disks, and form concave radiators above and below, so related to each other that the smoke and heated gases can enter therein from below and receive a reverse movement which deflects them against the stovepipe, thus imparting more heat to the air in a room before finally escaping.

DRESSING MILL STONES.—Notley W. Wortham, Union Point, Ga.—This invention relates to an improved mode of dressing mill stones for grinding Indian corn and other grain, whereby there is a large gain in the grinding capacity of the stones over the ordinary methods of dressing the stones and a superior quality of meal is produced.

RAILROAD WREED CUTTER.—J. S. Boicourt, Boonsboro', Iowa.—This invention relates to an improvement in a device for cutting weeds on a railroad track and consists in attaching cutters either circular or straight to the truck of a car, which are worked by gear deriving its motion from the wheels of the car.

HEDGE TRIMMER AND CORN STALK CUTTER.—John W. Hull, Connerville, Ind.—This invention relates to an improvement in the construction of a machine for trimming hedges and cutting down the stalks of corn in the field, and consists in a frame mounted on wheels and drawn by a team, an adjustable rotary cutter being connected with gearing moved by one of the wheels for trimming the top and sides of a hedge and a detachable cutter being placed on the frame when required for cutting corn stalks as the machine travels.

LAMP CHIMNEY CLEANER.—George Lea, Shirleysburg, Pa.—This invention relates to the construction of an improvement for cleaning lamp chimneys, and consists in a curved metal rod having a serrated conical disk or cap on one end by which a bit of paper, cloth, or fibrous substance of any suitable kind for wiping, cleaning, and polishing a lamp chimney may be introduced.

TURNING SPOOLS, BOBBINS, ETC.—David Dick, Corning, N. Y.—This invention relates to a machine for turning spools, bobbins, and other wooden articles of a similar character, and has for its object rapidity of execution and an automatic operation of the several parts throughout.

COMBINED SHOVEL AND SIFTER.—D. Boynton, St. Johnsbury, Vt.—This invention relates to a combination of a fire shovel and sifter, and it consists in providing a shovel with a supplemental bottom in which a screen is inserted, the bottom being so arranged or disposed within the shovel as to admit of a separate discharge for the ashes, and the shovel provided with a lid or cover, all being arranged in such a manner that the ashes may be shoveled up and the cinders separated from it and the ashes discharged from the shovel so as to leave the cinders clean and in good condition to be placed upon the fire whenever required.

SPRING BED BOTTOM.—George Widdcomb, Grand Rapids, Mich.—This invention has for its object to furnish an improved bed bottom, simple in construction, very elastic and wholly without noise when in use.

PRESERVING EGGS, MEATS, ETC.—Charles Boize, New York City.—This invention consists in the use of argillite or argillaceous schist or slate finely powdered as a medium or means of packing or surrounding the eggs or other articles, whereby they are enabled to be preserved and maintained fresh and suitable for being transported from place to place without becoming deteriorated or rendered useless. The slate employed is susceptible of use over and over again and not in the least becoming deteriorated.

BELT-FASTENER AND TIGHTENER.—Charles O. Pike, North Leverett, Mass.—This invention relates to a device for fastening the ends of a belt, and for tightening it, and the improvement consists in a clamp for holding the ends of the belt together, and a lever arrangement fitted to the clamp for tightening the belt.

SEED-PLANTER.—William R. Mozier, Higginsville, Ill.—This invention has for its object the furnishing of an improved seed planter, so constructed as to furrow the ground and drop and cover the seed; and which, by removing the sub-dropping device, may be used to cultivate the crop.

INSIDE WINDOW-BLINDS.—S. W. Shorey, Galesburg, Ill.—This invention relates to a method of constructing and operating inside blinds for the windows of dwelling-houses and public buildings, and it consists in the peculiar manner in which the slats forming the blind are connected together, and the manner in which they are closed and secured in a closed position.

EXCAVATOR.—B. T. Stowell, Quincy, Ill.—This invention relates to a new method of constructing excavators and ditching machines.

SAIL SAFE.—F. G. Oehme, Plymouth, Mass.—This invention has for its object to prevent the capsizing of sail-boats, by securing the sail with an apparatus which may be set so as to release the sail when the pressure has reached the amount that the sail and boat can bear.

CULTIVATOR.—Henry Howe, Oneonta, N. Y.—This invention has for its object to improve the construction of cultivators so as to make them more convenient in operation.

EQUILIBRIUM BALANCE FOR SAFETY-VALVES.—Virgil D. Green, Watertown, Wis.—The object of this invention is to overcome the rigidity of the spring in the spring balances in common use.

WASHING-MACHINE.—Thomas Q. Frost, Indian River, N. Y.—This invention relates to a machine for cleansing or purifying linen and other clothes of

articles of a similar nature. The invention consists in operating stampers or dashers within the washing-tub, and also in attaching to the tub rollers which are made to act as a wringer for the clothes, and which form a part of the tub.

TUG OR TRACE-FASTENER.—Ira McAllister, Milo, Mich.—This fastener or buckle consists of a frame having side-guards, which frame is fastened in any suitable manner to the outer end of the hame-strap, along its length, so that the tug or trace-strap can be drawn through it from end to end, and there secured by inserting a tongue into the proper aperture; that is at one end of a lever arranged to slide upon a cross-pin between the side-guards and in the direction of the length of the frame, wherein such tongue is fastened by running the opposite end of the lever up over the end of the frame, where the tug or trace enters.

HAND BINDING HARVESTER.—G. H. Spaulding, Rockford, Ill.—This invention consists of a box or grain receptacle, placed on the platform into which the grain enters through the bottom, being carried therein by the action of the rolling apron, forming part of the platform. The peculiar construction of the apron conduces to the perfect working of the device.

Plow.—Andrew Gilmore, Phoenixville, Pa.—The invention is limited to a new and improved device for preventing the colter from clogging, and in connection with this, an adjustable handle.

TABLE CUTLERY.—N. W. Caughy, Baltimore, Md.—In this invention the knife or fork is made adjustable, and extensible in the handle, so as to serve for use at both the dinner and tea table.

WATER WHEEL.—Henry W. Shipley, Portland, Oregon.—The object of this invention is to obtain a wheel which will utilize the power of small streams of water to a degree not hitherto attained.

COFFEE POT.—John Zimmerman, Royalton Centre, N. Y.—In my improved coffee pot the coffee is subjected first to the action of the stream as it rises from the water in the pot to the condenser, and afterwards to the action of the condensed water flowing back to the pot from the condenser.

POTATO DIGGER.—Thomas W. Shepard, Hennepin, Ill.—In this invention a new form of mold or plow is used, and a new arrangement for regulating it, by which greater results are obtained with less power than in any other machine for the purpose.

STEAM COOKING APPARATUS.—John Zimmerman, Royalton Centre, N. Y.—In this invention a large number of cooking vessels are so constructed that they can be arranged one above another in a vertical cylinder, and a variety of materials, vegetables, meats, pastry, cakes, etc., can be cooked at the same time in the cylinder without interfering with each other, and with a single application of the steam.

REGISTERING YARD STICK.—W. P. Lupton and C. M. Talbot, Cadiz, O.—In this invention the operator registers the number of yards measured by pressing a knob projecting from the side of the stick under his finger as he measures each yard. The number of the tally is indicated by figures appearing through a small aperture in the back of the yard stick.

AUTOMATIC STEAM VALVE FOR INJECTORS OR FEEDERS FOR STEAM BOILERS.—Richard Gornall, Baltimore, Md.—This invention is a new device designed to be applied to a steam boiler, whether connected with an engine or not, and automatically to regulate the flow of steam from the boiler to a pump or injector, the steam thus escaping being used to work the pump or injector, and feed the boiler, entirely independent of the action of an engine.

SCHOOL DESK AND SEAT.—C. Thurston Chase, Albany, N. Y.—In this invention the seats and desks are so supported that each one is connected with all before and all behind it in the row. The same construction which affects this object renders the seat much easier to enter and leave. The seats are also provided with hinged bottoms, opening upward and inward.

TIDAL OR SELF-ACTING ELEVATOR.—Philip Weck, Brooklyn, N. Y.—This invention relates to a device for elevating water and other articles by the rising and falling of the tides, and is designed to be perfectly self-acting, and to effect a great saving in labor and expense in elevating articles in places where the tides ebb and flow in any material degree.

WASHING MACHINE.—G. Reneky and J. Keiss, Cedar Falls, Iowa.—This invention has for its object to furnish an improved washing machine, simple in construction, easily operated, and doing its work quickly and thoroughly.

CULTIVATOR.—C. G. Petengill, Hebron, Me.—This invention has for its object to improve the construction of cultivators so as to make them more easily adjustable, and more effective in operation.

CLEANING BOILER FLUES, ETC.—Joel M. Wheeler, Oxford, Conn.—This invention has for its object to furnish an improved means for cleaning the tubes, flues, tube boxes, etc., of steam boilers easily, conveniently, and thoroughly, which may be applied without hauling the flues, or while the ship is under way, and which cannot injure the flues, or cause them to leak.

WASHING MACHINE.—John Mitchell, Newark, Ohio.—This invention relates to an improved washing machine, and consists in the insertion of ribs in the end of the machine, between which and a vibrating weighted dasher provided with pounders alternating with said ribs, the clothes are squeezed, and effectually washed and cleansed.

CAR COUPLING.—A. Hillman, Stratford, C. W.—This invention has for its object to furnish an improved car coupling, simple, strong, and reliable in construction, not liable to get out of order, which shall be self-coupling, and which may be readily attached to an ordinary draw bar and bumper head.

HARROW.—John Aiken, Warner, N. H.—This invention has for its object to furnish an improved harrow, so constructed and arranged that it will adjust itself to pass over roots, stones, or other obstructions, without having to be raised from the ground; that it will relieve itself of rubbish, and that it may be made light, while at the same time it will do its work better than the ordinary heavy harrows.

HAY FORK.—J. S. Gochbauer, York, Pa.—This invention relates to an improvement in hay forks, in which two times a made in one piece, two lifting toes being employed which are simultaneously operated by means of an oscillating bracing roller and a spring lever.

SORGHUM EVAPORATOR.—Noah Clouse, Buffalo Village, Pa.—This invention relates to a new sorghum evaporator, which is so arranged that the sorghum goes through the whole process in separate vessels, so that each vessel can be cleaned after it has been emptied, and can be made ready for further operation without stopping or retarding the process in the other vessels.

STEAM ENGINE GOVERNOR.—Oliver A. Kelly, Slatersville, R. I.—The object of this invention is to obviate the violent changes and consequent fluctuations in the quantity of steam admitted to the piston, and is especially designed for engines that are regulated by the main valves.

IRON SAFE.—William Gardner, New York City.—This invention consists in a novel construction of the door of a safe, which is so made as to more effectually resist the action of fire and burglars, and also in the employment of a false bottom for the purpose of conveniently and securely fixing the safe to the floor of the chamber in which it is placed, without affecting its fire and burglar proof qualities; also in an arrangement for more securely locking the door to the case or frame of the safe.

LOCK.—Jacob Wertsbaugher, La Grange, Ind.—This invention has for its object to furnish an improved lock, strong, durable, and simple in construction, which cannot be picked, and of which no impression can be taken to enable a false key to be made.

TRUNK.—Thomas Smith, Brooklyn, N. Y.—This invention relates to a new extension trunk, which is provided with a tray or trays having hinged bottoms, which tray can be secured in an inverted position upon the cover of the trunk, extending the same and forming a new compartment for packing goods. The bottom of the tray becomes in this position the cover of the trunk extension.

SEAT RISERS FOR VEHICLES.—John R. D. V. Linton, New Bedford, Mass.—This invention relates to a new kind of seat risers or seat legs now used on wagons, carriages, sleighs, and vehicles of any description. The invention consists in the use of cast metal risers in place of the ordinary wooden risers or supports, such risers, when made of cast metal, possess great and important advantages over wooden ones, in beauty, convenience, and cheapness.

SEED PLANTER.—John Stark, Thomasville, Ga.—This invention relates to a new machine for planting all kinds of seed, from the largest to the finest sorts, and for spreading pulverized manure, as well as for preparing the ground for the reception of the manure and seed and for covering the furrows made and for rolling the land.

BURIAL CASE.—Robert F. Hill, Philadelphia, Pa.—This invention relates to a new manner of constructing burial cases so that they will be strong and commodious. The invention consists in making the cover hollow, and not flat, as usual, thereby permitting the body of the case to be shallower, and the consequent better display of the face and head of a deceased person. The head can then be laid upon a pillow, so as to project above the case, and will still not come in contact with the lid when the same is closed.

CHECK REIN ATTACHMENT.—M. A. Gates, Troy, Pa.—This invention has for its object to furnish an improved check rein attachment for harness, so constructed and arranged that the horse can be unchecked or allowed to drink without its being necessary for the driver to get out of the carriage. The invention consists in a strap running along the back strap of the harness guide rings attached to the back strap. To the forward end of the said strap is attached the check-rein hook, and to its rear end is attached a ring which, when the horse is checked up, is dropped over a hook attached to the rear part of the back strap to the crupper strap. The ring of this strap is removed from the hook to allow the horse to drink and attached to it to check him up by means of a small hook attached to the but end of the whip.

LOCOMOTIVE LINK.—Thomas J. Rowley and Wm. Poland, Chillicothe, Ohio.—This invention relates to an improvement in the construction of links for locomotive and other engines, and consists in a link formed of a single bar on which the box slides, which bar is stiffened by a side bar connected with the tumbling shaft.

HANGING WINDOW, SASH, DOOR, OR VENTILATING FRAMES TO CARS, ETC.—Wm. B. Dunning, Genesee, N. Y.—This invention consists in so hanging a window, door, or ventilating frame within the body of a car or other land conveyance, that it can be swung in either direction, that is either on the right or left, according to the direction in which the car, etc., is moving or as may be desired, to allow ventilation and at the same time prevent the entrance of dust to the inside of the car.

NUTMEG GRATER.—W. W. Owen and D. C. Kelly, Muskegon, Mich.—This invention relates to a grater for grating nutmegs and similar substances, and consists of an L or T shaped pipe of tin or other metal with a spiral spring soldered at one end to a perforated grater plate which fits into the pipe; a small thumb rod is fastened to this grater and passes through the cross piece of the pipe. A grater wheel moves round on a wire axis secured to a plate borne on the pipe.

NEW PUBLICATIONS.

TODD'S YOUNG FARMER'S MANUAL, Vol. 2. How to Make Farming Pay. By S. Edwards Todd.

With full practical details of farm management, character of soils, plowing, management of grass lands, manures, farm implements, stock, drainage planting, harvesting, etc. One handsome post octavo volume, beveled boards, finely illustrated, and contains upwards of 400 pages. Post paid, \$2.50

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Each volume distinct by itself, and sold separately. The experienced practical farmer will find the above works useful to him, although the author intends them more especially for the young farmer, as their titles indicate. The works are both copiously illustrated, showing improved farm tools, implements for cultivating the soil, fences, etc. The above works are both published by F. W. Woodward, at the office of the *Horticulturist*, 37 Park Row, New York.

PHOTOGRAPHIC MOSAICS. For 1868. Philadelphia: Benerman & Wilson.

This excellent little annual, by M. Cary Lea and Edward L. Wilson, is brimfull of choice extracts relating to improvements and best suggestions in photography.

THE SCHOOL DAY VISITOR.

A monthly magazine for the young, has been enlarged and improved \$1.35 a year. Published in Philadelphia, Pa.

ATLANTIC MONTHLY. Boston: Ticknor & Fields.

The December number is just out. For sale by all the news vendors. Subscription price \$4 per annum.

THE BOSTON WEEKLY ADVERTISER.

This excellent journal has entered upon a new volume—its fifty-eighth—and comes to us enlarged and improved, in quarto form, headed *The Thursday Spectator and Boston Weekly Advertiser*. We are glad to observe that prosperity and progress still attend the efforts of its proprietors.

LEAF PRINTS. By C. F. Hines. Philadelphia: Benerman & Wilson.

This is a neat little volume illustrating a very simple method of copying the forms of all kinds of leaves. The process consists substantially in making a photographic print of the leaf upon paper so prepared as to be sensitive to light. The method of preparation and printing are exceedingly simple and may be practiced by ladies. The results are very beautiful.

HISTORY OF THE MICROSCOPE.

Probably no person has contributed more towards the popularization of the microscope than Dr. Hogg, whose book bearing the above title has been ten years or more before the public. The present is a new and enlarged edition, rewritten and greatly improved. It is illustrated with some five hundred engravings explanatory of the construction of the microscope, views of the different styles manufactured, illustrations of their use, of the methods of preparing specimens, dissection, mounting, collecting, etc. Nothing could be more complete for the student or observer than the instructions of this valuable work. The wonders revealed by the microscope are both astonishing and endless. The study is most fascinating, while as an amusement for the leisure hour it is not only delightful but beneficial. If our young men and women could be induced to devote but a small portion of the time now wasted in gossip, idle conversation, or dissipation, to instructions such as may be easily realized from the microscope, they would make rapid advances in social and mental improvement. Dr. Hogg's book is probably the most popular of any upon the subject. Fifty thousand copies have been sold. The new edition is published by Routledge & Sons, 416 Broome street, N. Y.

A HISTORY OF WONDERFUL INVENTIONS. By John Timbs.

This will be found a most readable and valuable book. Every person who aspires to be well informed ought to be posted concerning the great inventions of modern times, their nature, names of the inventors, date, their progress and value. The accounts here presented concerning the early history of the mariners' compass, the barometer, the art of printing, the telescope, warfare, illuminating gas, steam engine, machine weaving, electric telegraph, and other inventions, each seem to form a separate romance of rarest interest. We wish that the facts concerning these things, their authors and projects, could be generally fixed in the minds of young men. They could draw from them many lessons of encouragement and cheer, as showing how the men of toil in former days worked out the greatest problems of science and achieved the most extraordinary success. Beautifully illustrated. Published by Routledge & Sons, 416 Broome street, N. Y.

THE FAMILY SAVE-ALL.

This is the title of a new book relating to the economy of the kitchen, the larder, and the household generally. It contains the best recipes for cooking, from the smallest dishes up to the most difficult, with directions for the saving and reuse of very many substances that are commonly wasted. It is proverbial that people waste more than they consume. If the directions for family economy here presented were generally observed in this country, the resultant saving would be sufficient to pay off the national debt in less than five years. Price \$2. Published by Peterson, Philadelphia. Sold by the New York News Company.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, give their names. We have a right to know of those who seek information from us; besides, as so often 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 50 cents a line, under the head of "Business and Personal."

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

J. B., of La., says: "I observe in your issue of Nov. 30th a notice of the presentation of a glacial theory by J. W. Reid, in which he advances the idea that the temperature of the northern hemisphere has been decreasing for 500 years. Is this correct? I thought the contrary was the case and that our winters were milder than those known to our forefathers." It is very common to hear accounts from the oldest inhabitants of the severity of winters in days gone by, but the average yearly temperature for a century past would, we doubt not, show a slight gradual decrease, and the remains of animals and plants which now flourish in tropical regions prove without doubt that the temperature of the northern hemisphere was once warmer than at present. This is not at all inconsistent with the supposition that it was also, at some time, colder than at present, for in looking into this subject we must deal with ages and not years.

J. H. B., of Pa., asks: "How many gallons of water will be required per minute to run machinery demanding 60 H. P., with an over-shot wheel of 16 feet diameter? How many gallons of water will a water wheel of 60 H. P. raise per minute 40 feet high with the best pump now in use?" 75 gallons per second falling through one foot is a horse-power: that is 75x60=4,500 gallons per minute must fall through one foot for a horse-power, and this quantity falling through 16 feet will give 16 H. P. Hence for 60 H. P. 4,500x60=16,875 gallons are necessary; add to this about 35 per cent for friction, waste, etc., and you will have the required amount. As a horse-power is 33,000 lbs. raised one foot high in one minute the second query can be answered by simple calculation. Deduct from the result about 12 per cent for friction of pump, loss, etc., and the amount of water 60 H. P. will raise 40 feet high will be given.

G. W. G., of Pa., asks for a cement to secure the brass tops to carbon oil lamps. We have never found any difficulty with a cement of plaster of paris. The tops of all kerosene lamps are thus secured.

R. H., of Ohio, says, in relation to preventing scale in boilers—without injury or foaming—that the Anti-Incrustator Powder of H. N. Winans, 11 Wall street, New York city, is the most reliable article he has ever heard of and the cheapest.

Business and Personal.

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

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

Pattern Letters and Figures for inventors, etc., to put on patterns for castings, are made by Knight Brothers, Seneca Falls, N. Y.

Allen & Needles, 41 South Water street, Philadelphia, Manufacturers of Allen's Patent Anti-Lamina, for removing and preventing Scale in steam boilers.

Will the Patentee or Manufacturers of Collins's Sunburner Lamp send a circular and price list of their lamps and chimneys to fit them to W. B. Beckwith, Franklin, Venango county, Pa.

Parties desirous of saving fuel, expense of cleaning, and corrosion of boilers, will find the remedy in H. N. Winans's anti-incrustation powder, 11 Wall st., N. Y.; twenty thousand references prove it reliable and uninjurious.

Manufacturers of Portable Steam Engines and Threshing Machines will send circulars to Walker Reynolds Alpine, Talladega county, Ala.

The Safety Lamp Attachment can be applied to any Lamp. Inflammable gases banished. Lamps filled without removing the chimney. Price 25c. By mail 50c. Address Novelty Machine Co., Box 258 Troy, N. Y.

Important to Capitalists.—Thos. Cooper offers for sale at a great bargain a patent mill for making railroad-car axles, which will also roll cold iron, and straighten and polish any kind of shafting. Circulars with full particulars, sent on application to Thos. Cooper, Box 2377, Cincinnati, Ohio.

Wanted—Two new or second-hand steam excavators. Address, with full particulars, S. M. Barrett, Sup't S. & F. R. R., Sheboygan Wis.

Manufacturers of Fancy Glass Goods will please send their address to J. Martin, Box 316 Cairo, Ill.

J. Hexter, Vancouver, W. T., wishes to obtain a first-class turbine.

Wm. Hanser, M.D., Bartow, Jefferson county, Ga., wishes to obtain a good stump puller and a buggy plow.

EXTENSION NOTICES.

Chauncey D. Woodruff, of Toledo, Ohio, having petitioned for the extension of a patent granted to him the 7th day of March, 1854, for an improvement in suspending eaves troughs, for seven years from the expiration of said patent, which takes place on the 7th day of March, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 17th day of February next.

James H. Sweet, of Pittsburgh, Pa., having petitioned for the extension of a patent granted to him the 14th day of March, 1854, for an improvement in hanging of the gripping jaw of spike machines, for seven years from the expiration of said patent, which takes place on the 14th day of March, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 24th day of February next.

Ellsworth D. S. Goodyear, of North Haven, Conn., having petitioned for the extension of a patent granted to him the 28th day of March, 1854, for an improvement in processes for treating India-rubber, for seven years from the expiration of said patent, which takes place on the 28th day of March, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 9th day of March next.

Henry B. Myer, of Cleveland, Ohio, having petitioned for the extension of a patent granted to him the 19th day of September, 1854, reissued the 3d day of May, 1859, and again reissued the 8th day of October, 1861, for an improvement in converting railroad car seats into beds or lounges, for seven years from the expiration of said patent, which takes place on the 19th day of September, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 25th day of May next.

Willis Humiston, of Troy, N. Y., having petitioned for the extension of a patent granted to him the 4th day of April, 1854, and reissued the 6th day of March, 1866, for an improvement in candle mold apparatus, 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.