

Facts for the Ladies.

This is to certify that I bought a Wheeler & Wilson Sewing Machine, March 7, 1859, and it has been used with entire satisfaction by my daughter, who was afflicted with spine disease. It proved the best doctor I ever employed, for she not only regained her health, but has earned a living with it for herself and me ever since.

Mrs. M. B. BALL.
New York, Nov. 29, 1868.

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per line will be charged.

Wanted by a business man—The agency, in Portland, of some useful invention. Address J. W. Lucas, Portland, Me.

Metallic Letters to put on Patterns; also, for numbering street doors and church pews. Allen & Brim, Seneca Falls, N. Y.

Lubricator for loose pulleys, in general use. Satisfaction guaranteed. The patent for sale. Address Box 31, 648 Broadway, New York.

Wanted.—Builders of Hoisting Machinery, suitable for a five-story factory, to send their descriptive circulars and price lists to S. N. Brown & Co., Dayton, Ohio.

The great scarcity of water in our large cities is mainly caused by the enormous quantity wasted, which can be prevented by using the Boston Safety Faucet (self-closing), the saving of water in one building in this city being over 200,000 gallons in three months. For sale by Joseph Zane & Co., 81 Sudbury st., Boston, Mass.

A Rare Chance. Terms Reasonable.—Foundry and Machine Shop to Lease, for a term of years, in Galveston, Texas, the best location in the South. Address M. L. Parry, Galveston, Texas.

Union Arm Chairs, for hotels, offices, piazzas, and all places. Best in market. Made upon honor. Send for circular. F. A. Sinclair, Mottville, N. Y.

Manufacturers of Power Hoisting Machines send price list and circular to Cooper, Jones & Cadbury, Philadelphia.

Business Opening. For Sale—Lease, machinery, etc., of a metal-perforating and gas-burner business, long established, in this city. Several valuable patents go with the business. Apply to C. Sullivan, administrator, 119 Broadway, New York, Room 19.

Wanted—Partner with capital to help patent and bring out two inventions:—Heater for Feed-water to Boilers, and improvement in Driving Pulleys. Address Box 238, Tidoupe, Pa.

Koch's Patent on shelving for stores is offered for sale—entire or State Rights. See illustrated description, Vol. XXI. No. 14, Scientific American, for particulars. Address Wm. & Geo. Koch, Cass Postoffice, Pa.

Wanted—A set of the best new machinery for converting standing trees into short, split firewood. W. H. H. Green, Jackson, Miss.

For Machine for cutting green corn for canning or drying, address F. Lewis or Isaac McLeelan, Gorham, Me.

To Manufacturers—For sale, a new 3-story stone building 60-ft. by 30-ft., with never-failing water-power. Facilities for shipping unsurpassed. Inquire of F. A. Sinclair, Mottville, Onondaga Co., N. Y.

Clothes Wringers of all kinds repaired or taken in part pay for the "Universal," which is warranted durable. R. C. Browning, Agent, 32 Courtlandt st., New York.

Wanted—Manager.—Wanted immediately, a manager for a Tube Works. Must understand the business thoroughly, and be capable of managing a large number of employees. References will be required. Address, stating where last employed. Lock Box 142, Pittsburgh, Pa.

Hot Pressed Wrought Iron Nuts, of all sizes, manufactured and for sale at moderate prices by J. H. Sternbergh, Reading, Pa.

For Sale—Cotton Planter.—The entire right of the King Cotton Planter—the only successful in use. Have been worked since the war, and given universal satisfaction. The machine is simple, strong, and can be built cheaply. Will sell at a low figure. Reason for disposing of it is want of time to give it proper attention. Address S. N. Brown & Co., Dayton, O.

Vols. Nos., and Sets of Scientific American for sale. Address Theo. Tusch, No. 37 Park Row, New York city.

Cold Rolled—Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

Automatic Lathes, for spools and tassel molds, made by H. H. Frary, Jonesville, Vt.

If you want the real oak-tanned leather-belt, C. W. Army manufactures it. See advertisement.

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

Wanted—A contract for the manufacture of specialties, either hardware or tools. C. N. Trump, Machinist, Portchester, N. Y.

Man'rs of grain-cleaning machinery and others can have sheet zinc perforated at 2c. per sq. ft. R. Aitchison & Co., 845 State st., Chicago.

Wanted—To communicate with any party who has a practical knowledge of building and running a powder mill. Address "W," P. O. Box 5,692, New York city.

Send for a circular on the uses of Soluble Glass, or Silicates of Soda and Potash, fire and water-proof. Manufactured by L. & J. W. Feuchtwanger, Chemists and Drug Importers, 55 Cedar st., New York.

S. S. Pollard's celebrated Mill Picks, 137 Raymond st., Brooklyn.

Mill-stone dressing diamond machine, simple, effective, durable. Also, Glazier's diamonds. John Dickinson, 64 Nassau st., New York.

Leschot's Patent Diamond-pointed Steam Drills save, on the average, fifty per cent of the cost of rock drilling. Manufactured only by Severance & Holt, 16 Wall st., New York.

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

Machinists, boiler makers, tanners, and workers of sheet metals read advertisement of the Parker Power Presses.

Diamond carbon, formed into wedge or other shapes for pointing and edging tools or cutters for drilling and working stone, etc. Send stamp for circular. John Dickinson, 64 Nassau st., New York.

For sale by State or County the Patent Right for the best Cultivator in use. For terms address Isaiah Henton, Shelbyville, Ill.

Inventions Patented in England by Americans.

[Compiled from the "Journal of the Commissioners of Patents,"]

PROVISIONAL PROTECTION FOR SIX MONTHS.

2,423.—FURNITURE CASTER.—J. L. Woolf, St. Louis, Mo. August 13, 1869.
2,529.—MOTIVE POWER.—H. Call, Concord, N. H. August 25, 1869.
2,514.—HULLING APPARATUS.—J. F. B. Marshall and A. Jones, Boston, Mass. August 27, 1869.

2,547.—APPARATUS FOR REFINING LARD, ETC.—C. J. Everett, Highwood Park, N. J. August 27, 1869.

2,553.—TREATING CONGLOMERATES OF CAST IRON, ETC.—T. S. Blair, Pittsburgh, Pa., and F. Ellerhausen, Ellerhouse, Nova Scotia. August 28, 1869.

2,569.—MACHINERY FOR MANUFACTURING NAILS, BRADS, ETC.—E. L. Brundage, Middletown, N. Y. August 30, 1869.

2,570.—FURNACE.—G. G. Clarkson and J. L. Paige, Rochester, N. Y. August 30, 1869.

2,577.—WASHING MACHINE.—J. J. Grant, Philadelphia, Pa. August 30, 1869.

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; beside, as sometimes happens, we may prefer to address correspondents 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 \$10 a line, under the head of "Business and Personal."

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

J. R. M., of Kansas.—To find the flow of water through a 2-inch orifice under a head of twenty-five feet, you must first determine the velocity of the flow per second, and multiply this by the area of the aperture. You will then have the theoretical flow per second, although this is subject to some variations consequent upon the shape of the aperture, and other considerations which must be taken into account. Assuming that the aperture is round and the diameter two inches, the velocity would be forty feet per second. The area of the port is 3.14 square inches, which, multiplied into the velocity per second in inches, will give the amount theoretically discharged in cubic inches, or 1507.20 cubic inches per second. Two thirds this will be the actual flow, or 1004.8 cubic inches per second, equal to 1.66 horse-power. To utilize this power economically we advise the employment of a small turbine. A good work for you to get on such subjects is "Silliman's Physics."

G. B. A., of Ohio.—Cotton cloth may be rendered nearly fire-proof by steeping it in a solution of alum and letting it dry. A better process is to starch it with starch mixed with phosphate of ammonia, a little more by weight of the salt than of the starch. Grind the dry starch and the salt together in a mortar, and then prepare the starch with the mixture in the usual way. After starching the cloth with this preparation, it should be rolled up in a dry cloth, and allowed to remain till nearly dry, and then ironed, using a little white wax to prevent the sticking of the iron.

H. B., of Tenn.—It takes just as much weight to pull down a balloon as it will carry up, and it is one of the most uneconomical of machines. It can only be advantageously employed where no other means of transportation are practicable. A balloon might be made to work in the manner you specify, and from the novelty of the thing passengers might be attracted. You are under a mistake as to the use of chairs on railroads. A rail placed on a tie without a chair, would soon be jammed down into the wood under heavy work. You should see and talk with some experienced railroad engineer.

J. F. J., of N. Y.—There is no doubt that the diving dress used by divers in submarine work, would have enabled people to have descended into the Avondale coal mine without danger of suffocation; but the dress is too heavy to be used in work unless partly sustained by the buoyant power of water. Besides the walls of a coal mine are very different things from water walls, and flexible pipes would stand a poor chance of maintaining their integrity in being sawed across their sharp angles.

G. L. B., of Mass.—The products of the combustion of all hydrocarbon oils are carbonic acid and water. The carbonic acid is formed by the chemical union of the carbon in the oil with the oxygen of the air, and the water is formed by the union of the hydrogen in the oil with the oxygen of the air. Ordinarily, the water, being converted by the heat into steam, escapes notice; but when a cold body, as a piece of iron, is held for a moment in the flame it condenses this steam and the water becomes visible. The theory of your friend is all wrong.

C. P. S. W., of N. C.—The white earth you send us is silicious lime, resulting from the remains of minute diatoms. Under the microscope the shells of the diatoms, covered with beautiful and delicate lines, are distinctly visible. We can have a sketch made of some of these shells, if you desire, at a charge of \$5. The earth will probably be useful as a polishing powder.

G., of Tenn.—The recipe for the hair composed of oxide of bismuth, spermaceti, and lard, recommended to you, will be as harmless as any other grease plaster provided the oxide of bismuth does not contain arsenic, with which it often is found mixed. As a hair renewer it is no better than barn yard manure or roadside mud.

J. S. C., of Me.—The sectional area of the horizontal flue leading from your boiler to the chimney, ought to be twenty-two inches in diameter instead of sixteen. No advantage would result from making the flues of chimneys taper towards the top. Horizontal flues ought to have from one fifth to one sixth more capacity than upright flues.

A. W., of N. Y.—We believe a fan to be a very uneconomical method of conveying the sawdust shavings, etc., from a mill to a fire room and cannot therefore advise it. We infer this from general principles, as we have not seen a fan used for that purpose. We are confident, however, that you will do better with the drag hitherto employed.

J. R. R., of Md.—We think salt as good as anything to pack eggs in for winter use. They should be kept in a dry cool room but not where they will freeze, and the package should be turned once a week to prevent the eggs from settling to one side of the shell.

J. L. R.—Nothing yet discovered is more effectual in retaining heat in vessels than thick coatings of loose felt. You can take a useful lesson from the Norwegian cooking apparatus, illustrated and described on page 161, current volume, of this paper.

S. S., of Conn.—You can use screws in making the model. The mineral you send appears to be mica schist, containing minute garnet specimens.

J. H. Keine.—We advise the use of plumbago (black lead) mixed with tallow for wooden cogs.

W. E. E., of R. I.—Ethereal phosphorus, so-called, is a simple solution of phosphorus in ether.

G. G. W., of Pa.—The information you seek will shortly appear in our columns.

Recent American and Foreign Patents.

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

COMBINED COTTON AND CORN PLANTER.—A. H. Wootton, Bartow, Ga.—This invention has for its object to furnish a simple, convenient, and effective machine, which shall be so constructed and arranged that it may be easily adjusted for use, for planting cotton seed or corn, as may be desired.

FRUIT JAR.—J. M. W. Kitchen, Brooklyn, N. Y.—This invention has for its object to improve the construction of fruit or preserve jars, so as to make them simpler in construction, and more convenient, reliable, and effective in use.

CURRY COMB.—John M. Baker, Marshfield, Ohio.—This invention has for its object to improve the construction of curry combs, so that when the

front teeth have become worn, the comb-plate may be reversed or turned half way around, causing the rear teeth to become the front ones, enabling the curry comb to be used much longer than it otherwise could be.

CORN HARVESTER.—John McLeish, Chicago, Ill.—This invention has for its object to furnish a simple, convenient, and effective machine, by means of which the corn stalks may be cut, the ears separated from the stalks and deposited in a suitable receptacle, and the stalks deposited in bundles or bunches upon the ground.

REVOLVING PLOW.—Wm. J. Dawson, Brookfield, Mo.—This invention has for its object to furnish a simple, convenient, and effective machine, by means of which cultivated land may be prepared for the reception of the seed thoroughly and well, and which may be operated with a comparatively light draft.

FIREPLACE HEATER.—R. D. McDonald, Jersey City, N. J.—This invention has for its object to furnish an improved open grate fireplace heater, which shall be so constructed and arranged as to utilize the heat that usually escapes into the chimney, economizing fuel and obtaining the advantages of a stove and open fire.

CHURNING MACHINE.—Samuel D. Lucas, Winterpock, Va.—This invention has for its object to furnish a simple and convenient churning apparatus, by means of which one or more churns may be operated at the same time, bringing the butter in a very short time and with a comparatively small amount of labor.

SICKLE GRINDER.—Henry Millard, York, N. Y.—This invention has for its object to furnish an improved machine for grinding, mowing, and reaping machine cutters, which shall be simple in construction, easily operated, and so arranged that the cutters may be ground all the way from point to heel.

REVOLVING DOUGH MIXER.—Thomas Holmes, Williamsburgh, N. Y.—This invention has for its object to improve the construction of the improved dough mixer, patented by the same inventor, June 15, 1869, and numbered 91,335, so as to make it simpler and less expensive in construction while doing its work equally well.

CULTIVATOR.—Isaac J. Morrow, Everton, Ind.—This invention has for its object to furnish an improved cultivator, which shall be so constructed and arranged that the amount of dirt allowed to pass to the plants may be conveniently controlled and regulated.

HAY AND GRAIN ELEVATOR.—John Dennis, Oswego, N. Y.—This invention has for its object to furnish an improved apparatus, by means of which an entire load of hay or grain may be raised to the upper part of a barn at one operation, thereby saving the labor and time required when it is pitched up or raised by the forkful.

COMBINED SOFA AND BED.—Wm. H. Schwalbe, New York city.—This invention has for its object to improve the construction of combined sofas and beds, so as to make them more convenient in use, and so as to better adapt them for use in the various places in which they may be required.

SPRING FOR WAGON TONGUES.—George Alexander, Romney, Ind.—This invention has for its object to furnish an improved attachment for the fore-part of a wagon gearing, by means of which the tongue may be supported at a greater or less elevation, as desired, so as to relieve the horses' necks from the weight of the tongue, and in a great measure protect them from the thrashing of the tongue when the wheels strike an obstruction.

COFFEEMILL.—Hermann von Holten, Hoboken, N. J.—This invention has for its object to furnish an improved coffeemill, which shall be so constructed and arranged as to force the boiling water through the compartment containing the ground coffee, which water extracts the strength from the coffee and flows thence into another compartment whence it is poured out for use.

PROCESS FOR PRESERVING EGGS.—John Longmaid, New York city.—This invention relates to a new and useful improvement in preserving eggs for market and use.

SEWING MACHINE.—M. C. Hawkins, Edinboro', Pa.—This invention consists in a novel manner of connecting the upper, or needle, with the lower, or shuttle shaft, by means of a pitman and loose crank, and in a novel manner of arranging and operating the take-up bar, and of combining it with the needle bar, so that it will operate in conjunction with the same.

ROCKING CARRIAGE.—A. Armando, New York city.—This invention relates to a new carriage, more particularly intended for children, and so constructed that it may be propelled by rocking motion, and that it will be rocked when propelled by other means.

RAILROAD STATION INDICATOR.—A. C. Rodgers, Fort Washington, Pa.—This invention relates to a new apparatus for displaying, within railroad cars, the name of the station which the car is approaching, or at which it has arrived. The invention consists of a system of levers and toothed wheels, by which intermittent rotary motion, in either direction, can be imparted to a drum, around which a belt or chain containing the names of the stations is placed. The apparatus is set in motion by a stop arranged on the track striking a lever suspended from the car.

SAFE.—Joseph P. White, Savannah, Ga.—This invention consists in constructing the safe of an inner thick and strong shell of metal, and an exterior thin shell made of chilled iron, and having on its interior surface flint, emery, or any other substance which in drilling will generate sparks of fire to explode powder, with which a space between the two shells is to be filled so as to blow off the outer shell, to create alarm and to disable the burglars.

WATER WHEEL.—W. E. Hill, Renovo, Pa.—This invention consists in an improved arrangement of buckets, designed to cause both a direct and reacting application of the water; that portion of the buckets designed for the reacting application of the water being made adjustable by the action of springs to vary the discharge orifices, as the volume of water or the resistance of the wheel changes. It also consists in an improved arrangement of the gates, and also in an arrangement for packing the joints between the wheel and the scroll.

COTTON PRESS.—C. J. Keasely, Petersburg, Va.—This invention relates to improvements in cotton presses, having for its object an improved arrangement of means whereby the follower may be worked, both up and down, by the same operating lever, working in the same way; also a simple arrangement for varying the leverage, as the force required is greater or less; also an improved arrangement of the follower to facilitate filling the case.

RAILROAD CAR.—Perry Prettyman, Paradise Spring Farm, Oregon.—This invention relates to improvements in railroad cars, the object of which is to prevent them from running or being thrown off the track from any cause. It consists in the application to the car trucks of auxiliary axles and wheels so arranged that the said wheels will be suspended between an inward projecting portion or flange of the top of the rail, and a corresponding widened portion of the bottom of the rail, the upper flange of the said rail serving by its action on the auxiliary wheels to hold the cars from running off, and the lower flange serving for the track of the said auxiliary wheels, which receive and support the cars of the main axle brake.

OPERATING CHURN DASHER.—William Kegg, Lassellville, N. Y.—This invention relates to an improvement in the method of operating the dashers of butter churns of the old style, or where the dasher is attached to a rod or staff, and given a vertical reciprocating motion by hand, or by means of any other suitable power.

SELF-WINDING CLOTHES-LINE MACHINE.—W. A. Coventry, Paterson, N. J.—This invention relates to a new and useful improvement in an apparatus for automatically winding up a cord, or clothes-line.

SELF-CLOSING FAUCET.—A. Brinckmann, New York city.—This invention relates to a new faucet for water pipes and other purposes, which is to be self-closing, so that no liquid can be lost by accidentally leaving the faucet open. The invention consists in attaching a weighted lever to the spigot of the faucet which lever will always automatically draw the faucet closed, and which will also serve as a handle for operating the faucet.

HORSE POWER.—C. L. Drury, Rockingham, Vt.—This invention relates to a new horse power of that class in which the animal moves on an inclined plane or disk, and the invention consists in the arrangement of devices for adjusting the position of said wheel and in the application of adjustable