

ENGINEERING INVENTIONS.

A car coupling has been patented by Messrs. John B. Stone and John Pennington, of Pewamo, Mich. Within recesses of the drawheads are U-shaped latches which have cross pieces at their outer ends, the parts being readily replaced in case repair is necessary, no springs being required, and the strain on the coupling pin being relieved by the latches.

A governor connection has been patented by Mr. Robert J. Hotchkiss, of Downsville, N. Y. Combined with the governor shaft is a toothed wheel with two or more series of teeth of different diameters, pinions for engaging the teeth, and means for imparting motion from the engine to one or the other of the pinions, in order to change the speed without changing the adjustment of the governor or increasing or diminishing the steam supply.

A car coupling has been patented by Mr. Charles R. Harris, of Philadelphia, Pa. According to this invention, the drawhead has a perpendicular opening, and there is a spring actuated coupling pin arranged to move in a horizontal line, and released to be thrown to place within the drawhead when the cars come together, the device being one which can be used with the ordinary coupling with the employment of a special form of link.

MECHANICAL INVENTION.

A shaft coupling has been patented by Mr. Benjamin F. Applegate, of New Albany, Ind. Half clutches are fixed to the ends of the shafts to be coupled, having interlocking driving shoulders, and one half clutch having peripheral screw threads and an internally screw threaded sleeve engaging the threads of the other half clutch, with other novel features, making a coupling which will give the coupled shafts without lost motion or back lash, and with which wear from long use may be readily taken up.

AGRICULTURAL INVENTIONS.

A harrow has been patented by Mr. Riley Cox, of Boise City, Idaho Ter. It is formed of two sections, so arranged that the forward ends of each are practically in the center of the sulky, together in operation forming almost a solid harrow frame, so that one section will in part brace or support the other.

A fertilizer distributor has been patented by Mr. Peyton A. Lee, of Coushatta, La. It is adapted for use in connection with the running gear of an ordinary wagon, the bed being driven from the drive wheel, and a breaking roller journaled in the sides of the main frame to break or disintegrate the manure, deflectors being pivoted for adjustment to distribute or drill the fertilizer in wide or narrow rows as may be desired.

MISCELLANEOUS INVENTIONS.

A necktie fastener has been patented by Mr. James French, of New York city. It is formed with an opening or passage for a portion of the tie, so the fastening of this portion secures the fastener in place, avoiding stitching or otherwise fastening the fastener separately.

A weatherboarding attachment for try squares has been patented by Mr. William T. Seargeant, of Marshall, Mo. It is a double legged metallic scriber, formed with a means for attachment to the stock of the square, and carrying a scribing point, making a device which is cheap, durable, and efficient.

A soap dish has been patented by Mr. George H. Laxton, of Jersey City, N. J. It is so made that it can be hung up on pegs, placed and held on the edge of a wash tub or stood upon a level surface, having corrugations and apertures in the bottom, with other novel features.

A combined button hook and corkscrew has been patented by Messrs. Louis B. Prahar and Charles S. Shepard, of Brooklyn, N. Y. The invention covers several methods of hinging a corkscrew to a button hook in a simple manner, whereby it can be conveniently carried in the pocket.

A bicycle stand has been patented by Mr. Albert W. Gump, of Dayton, O. Its construction is such that, while it may be compactly folded for transportation, it is readily adjustable to hold a bicycle in either an upright or an inverted position, or it can be conveniently set up to form a camp stool.

A rein holder has been patented by Mr. Neal McGoldrick, of Brooklyn, N. Y. It consists of two rigid jaws and two pivoted and spring actuated jaws, one opposite each of the rigid jaws, the device being also provided with a clamp by which it may be attached to any part of the vehicle.

A medicine chest has been patented by Mr. Terry J. Hutton, of Fergus Falls, Minn. The invention consists in a peculiarly partitioned and constructed chest of a flat shape, composed mainly of upper and lower chest sections hinged together and provided with various conveniences.

An infant's toilet table has been patented by Hannah Crocker, of Plainfield, N. J. The whole table is a low one, convenient for use by the nurse when having the child on her lap, and consists in a combination of attached tables of peculiar construction and provided with special conveniences.

A chaff guide for grain separators has been patented by Mr. Daniel O. Dockendorf, of Sheldon, Ia. It consists of perforated plates with hooked fingers, and other novel features, intended to carry all coarse foreign matters beyond the shoe, so that the chaff will be prevented from carrying grain with it to the stackers.

A wheel hub has been patented by Mr. Andrew W. Lane, of Janesville, Cal. It is formed of iron, in two halves, with flanges having radial ribs for receiving the inner ends of the spokes, it being adapted for hubs of wagon wheels of all kinds, and the hub and box fastening being adapted for use in all climates.

A revolving target has been patented by Mr. William H. Adams, of Fort McIntosh, Laredo, Texas. The invention consists principally of a revolving center frame constructed to receive several target frames, which may be easily detached from the frame and replaced therein.

A gravity latch has been patented by Mr. Uriah D. Mihills, of Fond du Lac, Wis. It has but few parts, and is simply made, but can be used for either a mortise or rim lock, and is reversible without disturbing the tumbler and follower, the latch and key being the only parts required to be reversed.

A chair has been patented by Mr. Daniel Smith, of Santa Rosa, Cal. The invention consists of a simple and inexpensive rocker frame, which may be applied to ordinary chairs of any size to make rockers of them, the rocking motion being given by springs, the tension of which can be readily regulated as desired.

A bill file has been patented by Mr. Joseph Gottschalk, of Baltimore, Md. This invention relates to that class of paper files in which are used movable puncturing and transfer wires, and covers novel devices by which the wires may be held apart when adjusted, with other novel features of construction.

A revolving show frame has been patented by Mr. William H. Genung, of Madison, O. It consists of a hollow post fitted to a spindle journaled on a suitable base, containing mechanism by which the spindle and post are rotated, the post carrying hinged arms and cords, on which is fastened a fabric cover to which goods may be attached.

A composition for preserving food has been patented by Mr. William Radam, of Austin, Tex. This invention relates to combustible compositions, which when ignited produce gases that have preservative and purifying effects, and is more especially designed for preserving fruits, vegetables, meats, and other perishable articles.

A chair has been patented by Mr. George J. Shults, of Avoca, N. Y. It has a pivoted back, composed of upper and lower sections joined together and controlled by springs, and means whereby the lower section is made to move bodily forward in an approximately upright position, with other novel features desirable for easy chairs or rockers.

A bundle carrier for self-binding harvesters has been patented by Mr. Charles F. Morgan, of Taylor, Minn. The construction is such that when the desired number of bundles has been received upon the platform the driver can, by a foot lever, cause them to slide to the ground, the platform itself returning to a proper position to again receive bundles.

A submerged force pump has been patented by Mr. Lawrence A. Kelly, of East Oakland, Cal. It has hollow piston rods pivotally connected with a centrally pivoted oscillating hand lever, the valves rising and falling as the pistons work up and down, the water in the piston rods flowing back when the pump is not operated, so there is no liability of freezing.

A water conductor and receiver has been patented by Mr. William H. McKenzie, of Waverly, O. It is a novel construction of sheet tin, zinc, or similar substance for collecting the condensed moisture on store and other windows, and providing a holder to receive the same, being also useful to receive water running off when the windows are cleaned.

A wire fence gate has been patented by Mr. Theodor Ruediger, of Chaska, Minn. The ends of the wires being attached to a vertical bar, so that the latter can be closed up to a post, in such positions as it is desired to have a gate. This invention provides devices whereby such vertical bar can be conveniently attached to or detached from the post.

A compound for protecting walls has been patented by Mr. Frederick M. Ruschhaupt, of Milwaukee, Wis. It consists of variable proportions of resin, paraffine, or vaseline, or a semi-solid fat, linseed oil, sulphur, and gasoline or benzine, to be prepared and applied according to the porosity of the walls, to prevent their discoloration by efflorescence.

A sweat pad for horse collars has been patented by Mr. James H. Philpott, of Rising City, Neb. The design includes a leather or thin flexible top pad, with thicker stuffed side cloth sweat pads attached, so that the hames will lie close to the horse's neck, and the pad, being thin on top, will take but little from the size of the collar.

A motor has been patented by Mr. William Lay, of Omaha, Texas. This invention covers a novel form of propeller for boats, in which the paddles are mounted to turn on a crank eccentrically, so they can be projected out as they descend and dip into the water, and be withdrawn as they rise, the dip of the blades being readily regulated as desired.

A tree and post supporter has been patented by Mima Wrightsman, of Harper, Kansas. It consists of a pair of arms pivoted to each other and adapted to grasp a tree or post to be set, and provided with teeth or pins which may be driven into the ground to hold the tree or post in place while the earth is packed around it.

A tooth separator has been patented by Mr. Henry A. Parr, of New York city. The device consists of an angular bar, with an end tapered to a point, and arms curved into semicircular form, making parallel sockets, the arms having screw threads, making a device by the use of which teeth can be readily separated or spread apart to any desired extent.

A pencil sharpener has been patented by Mr. William P. Marston, of Toronto, Ontario, Canada. It consists of a metal plate having a series of transverse bars bent at an angle to the plane of the plate, the edges of the bars forming a series of cutting edges on opposite sides of the plate, the device being more especially designed for sharpening slate pencils.

A clothes drier has been patented by Mr. Joseph V. Fleck, of Lebanon, Mo. Combined with

a hollow supporting stand is a vertically adjustable rod, in connection with which are arms so arranged that they will be free to turn about their central supports, and the parts may be adjusted to any position desired, without liability to wobble.

A drag saw has been patented by Mr. Jereb P. Cyphers, of Holton, Mich. Its construction is such that the saw may be driven and the various adjustments brought about by a single operator, the desired elevation and a proper and uniform motion given to the saw, the log being advanced the requisite distance with each cut.

A castrating instrument has been patented by Mr. James Trullinger, of Silverton, Oregon. It consists of a serrated cutting blade arranged to coast with a serrated jaw, the blade carrying a block or jaw corrugated to fit the corrugations of the main jaw, and a knife of novel construction being pivotally connected to the serrated cutting blade.

A bell alarm for elevator cars has been patented by Mr. John W. Metz, of Manchester, O. Its construction is such that the person running the elevator is automatically notified every time the floor of the building is reached, and persons desiring to ride up and down are also notified that the car is just arriving at or departing from the floor.

A hoisting machine has been patented by Mr. Friedrich H. A. Peters, of Detroit, Mich. The invention consists of two sets of pawls engaging teeth on the main hoisting drum, with devices for operating the pawls, and a brake attachment, the construction being novel in many details, and the machine durable and effective in operation.

A fireproof attachment for wooden beam ceilings has been patented by Mr. Dennis O'Connor, of New York city. It consists of blocks of baked clay or other suitable material, formed with grooves, flanges, inclines, and shoulders, for convenient attachment, and so made as to cost but little more than ordinary lath and plaster.

A protector for washboards has been patented by Mr. Elbert E. Alderman, of Portville, N. Y. It can be attached to any washboard, and is designed to protect the front of the washwoman's clothes from the splashing water, while by its yielding and reacting movement it permits the body to descend far enough to allow the proper use of the hands in the tub.

An animal trap has been patented by Mr. Richard Matthai, of San Francisco, Cal. It is a simple device to place in the burrows or runways of gophers and other burrowing animals. It has no sharp points or prongs, but spring arms are held open by a disk, which, being struck by the gopher, the arms grasp the body of the animal.

A tether has been patented by Mr. James H. Taylor, of Greenville, S. C. By this invention the rope by which the animal is held is so connected that the animal will be given a free, wide range, but not be in danger of being caught by slack rope, while the arrangement is such that the main strain on the standard is at a point near the ground.

A screw propeller has been patented by Mr. Cotesworth P. Wetherill, of Woodville, Miss. The blades are set inclining in the direction of their length relatively to the axial line of the shaft of the wheel, and forwardly in the direction of the motion ahead produced by the propeller, in a manner intended to give less slip as well as increased thrust.

A button has been patented by Mr. Pierre A. Raymond, of Grenoble, France. It is a novel form of spring button, intended not to differ materially in appearance from an ordinary button, but more especially designed for use as a glove fastener, in which case the separate parts are applied on opposite laps of the glove, when the buttoning is effected by pressing the parts together in position.

A swinging countershaft frame and belt tightener has been patented by Mr. Gustav H. W. Simmon, of St. Louis, Mo. Its construction is such that by moving a weight away from or toward a pivotal support of a lever the desired strain or tension is brought upon the belt, according to the requirements of the work, the device avoiding the necessity of loose pulleys and belt shifters.

A dry ore amalgamator and separator has been patented by Mr. Otto Matzke, of Gunnison, Col. Its operation is such as to give a jerky reciprocating motion to the amalgamating trough, whereby the crushed ore is carried successively over the mercury contained in several compartments, the construction and arrangement of parts differing from previous machines for similar purposes.

A washing machine has been patented by Mr. George Mowry, of Derby Station, Pa. This invention relates to machines in which a rocking rubber is used, having a semicircular bottom on which are semi-circular transverse strips or ribs, so that the clothes are not thrown about and beaten, but are rubbed between the ribs or strips on the bottom of the tub and the rubber.

A portable roof has been patented by Mr. Clark McE. Keeler, of Haskins, O. It consists of a vertical post with feet and braces, and a roof formed of separable timbers and boards, arranged to slide up and down on the posts, with means for raising and lowering the roof and holding it at the desired elevation, being designed for temporary uses by farmers and outdoor workmen.

A weather strip for windows, etc., has been patented by Mr. George W. Everett, of New York city. It consists of a flexible strip of rubber or similar material, to project from one part of the joint to be closed, and entering at its projecting end within a flute or recess in the other part of the joint, the parts being the parting strips and sashes of the window and meeting rails of the sashes.

A broom has been patented by Mr. William A. Nixon, of Maple Rapids, Mich. This invention covers a pair of metallic frames, secured to opposite sides of the broom, with a socket for receiving a

knuckle on the broom handle, which receives a spring actuated catch carried by one of the brush holding frames, the handle being calculated to facilitate frequent renewal of the brush of the broom.

A fiber machine has been patented by Mr. James Kennedy, of Kingston, Jamaica, W. I. This invention consists partly in making the scraping block in such manner that the feeding may take place from the side of the machine, and permit the stalks, leaves, etc., to be drawn outward, thereby making a positive feed, the scraper block being supported by springs arranged to prevent recoil and vibrating action.

A baling press has been patented by Mr. George Ertel, of Quincy, Ill. It is for baling hay, straw, and other material, and is so constructed that it may be fed either at the top or at one side, and may be operated when fed from the top without closing the top feed door, or arranged so that either of the top or side doors may be opened automatically by the movement of the plunger.

A bench stop has been patented by Mr. George B. Gardner, of Lynn, Mass. It consists of a main plate, with grips, dogs, and other novel features by which work may be held either at the top or side of the bench, whereby two men may use the same side of the bench, on different work, making a readily portable and convenient appliance for carpenters and other woodworkers.

A winding stop for main springs has been patented by Mr. Charles Morlet, of Jersey City, N. J. It is a check mechanism to prevent overwinding and breaking of watch mainsprings, and has a winding wheel revolving with the arbor, and a toothed wheel revolving with such wheel on the arbor, with a pin on the barrel adapted to engage the teeth of the toothed wheel, and several other novel features.

A wire stretcher has been patented by Mr. William N. Huling, of Lampasas, Texas. It consists of a stretcher frame composed of side bars and a cross bar, a hinged loop on one end of the side pieces and a rotary shaft at the other, with ratchet, pawl, and rope, for stretching wires from post to post or for mending broken wires, making a stretcher which costs but little and is not liable to get out of order.

A fire and burglar alarm has been patented by Messrs. Leander E. Thomas and Ira Wood, of Shell Lake, Wis. It has a clockwork alarm mechanism, with a lever rigidly fixed to an escapement lever, and a cord formed with a loop which is passed through an eye and carries a weight, making a device which can be set in any part of a building, and will work automatically.

Drawers designed to act as a support for the spine form the subject of a patent issued to Mr. William R. Standen, of New York city. The invention consists of a waistband wherein the lining and main sections of the band are cut so that when adjusted the band will conform to the general contour of the body, the back of the band being permanently closed, and the adjustment as to size being made from the front.

Parquet flooring forms the subject of a patent issued to Emile F. Guerin, of Paris, France. The boards or strips for the flooring have grooves in their ends which serve to receive metal tongues that are secured to the side edges of the beams, thus making a flooring in which no nail or screw heads will be visible, and in which the boards can contract and expand without warping or throwing.

A vehicle spring coupling has been patented by Mr. Frederick W. Wurster, of Brooklyn, N. Y. Combined with a clip plate having countersinks to receive the closed ends of U-bolts or clips, are yokes uniting the arms of the clips below the spring, and clamping nuts on the clip arms, to facilitate the attachment of the spring and improve the construction of the coupling.

A yellow coloring matter has been patented by Mr. Fritz Bender, of Muhlheim, Hesse, Germany. It is a brown powder which dissolves easily in cold water, the solution being colored red by ammonia or soda lye and precipitated by hydrochloric acid, being soluble in concentrated sulphuric acid with a brilliant violet color, and to be fixed on cotton without any mordant with a bright yellow shade.

A mop holder has been patented by Mr. George W. Fuller, of Westmoreland, N. Y. It has an eccentric spring lever for opening and closing the ball away from and toward the crosshead of the holder, and for securing the ball subject to tension, the lever being made of stout spring wire freely coiled around side trunnions on the handle, in a form that admits of solid and strong construction.

A pump has been patented by Messrs. Adam R. Brown and William H. Bell, of Simpsonville, Ky. Its construction is such that the valves will be submerged while the piston and pump cylinder will be located at the top of the well or cistern, and also provides for the balancing of the column of water in the discharge pipe of the pump, so as to reduce the labor of pumping.

A saddle fastening has been patented by Mr. Winfield S. Lapham, of Clemmons, Col. The invention consists of a novel description of buckle and saddle strap and girth connections, for holding riding or pack saddles to animals, the device being simple and inexpensive, allowing the saddle to be fastened and unfastened quickly, and to be tightened when necessary without requiring the rider to leave the saddle.

A sandpapering and polishing machine has been patented by Mr. Thomas B. Marshall, of Sidney, Ohio. The invention covers a wheel upon the face of which are springs covered with felting and sacking, above which is a band of sand paper or a sand band, the sacking and band being secured to the face of the wheel, making a device whereby a flat, oval, and concave surface may be sandpapered and polished with the grain of the wood.

An electric water level indicator has been patented by Mr. Charles H. Wickersham, of Pottstown, Pa. It is for use with steam boilers, to show the

rise and fall of water in inches and fractions of an inch, and provides for an annunciator for indicating at a distant point the variations in water level beyond the prescribed limits, and also to indicate in which one of several boilers the water is too high or too low.

A hair crimper has been patented by Dina and Rudolph Jordan, of New York city. It consists of two shanks pivoted at one end and connected by a spring clasp at the opposite end, the face of one shank having a groove and the face of the other fitting in the groove, making a device by which the air may be conveniently held in the crimper as long as desirable to form a perfect curl.

A bolt has been patented by Mr. Henry A. Brown, of Toledo, O. It is a round bolt threaded at one end to receive a nut, and having an oblong countersink head, to be received in a countersink or recess of similar form in the tire or other metal work where the bolt is to be used, thus preventing the bolt from revolving while the nut is turned on or off, and avoiding the weakening of the metal by making a round countersink.

A headstall for stock has been patented by Mr. Francis M. Medling, of Rutherford Depot, Tenn. It is so made as to carry a spring with points that rest upon the nose of the animal in a way that will not interfere with its ability to graze or drink, but, on attempting to push off the top rail of a fence, or to suck, the points will prick the nose and deter the animal from accomplishing its object.

A stethoscope has been patented by Mr. Louis D. Radzinsky, of McKeesport, Pa. Its cup is made of soft rubber, in order to be practically a non-conductor of external sounds, and it has a peculiarly constructed tambourine, or drum, whereby the sounds from different regions of the chest or other parts of the body are intensified, the earmuffs being also of soft rubber, with an ear canicula of hard rubber or similar material.

An incubator has been patented by Mr. Frank Rosebrook, of Elmira, N. Y. Combined with the boiler is a hot water tank divided by partitions into channels that conduct the water first to the outside of the tank, then back to the center, a system of pipes connecting the hot water tank and the boiler, and water pans resting upon the pipes, making an improved arrangement for the uniform distribution of heat necessary for hatching.

A gas heating attachment for reversible sad irons has been patented by Mr. Henry C. Fox, of Evansville, Ind. This invention provides a burner calculated to give a flame of great intensity without any increased consumption of gas, and for a more perfect general distribution of the flame over the interior surface of the several sides to be heated, the device being also applicable to cylinders or other hollow bodies requiring to be heated on their interior.

A ditching machine has been patented by Mr. John C. Sage, of Gainesville, Ga. It is mounted on a car, with a vertically adjustable crosspiece carrying plows, with movable carriages and conveyer frames hinged therein, with means for adjusting their lower ends vertically, and flanged conveyer belts and means for rotating them, the machine being calculated for digging ditches, excavating the foundations of houses, and similar work.

A harness hook has been patented by Mr. John H. O'Donnell, of Winnipeg, Manitoba, Canada. It is intended especially for use as a check rein hook, the base, by which the hook is secured to the saddle, having at its forward end a lateral notch to receive the free end of a latch hook or open link pivoted to turn in a plane at right angles to that of the hook proper, so the rein cannot be released until the link is adjusted to open position.

A straw-board lining machine has been patented by Mr. Arnold W. Schlichte, of New York city. The mechanism is such that the operator is able to sever the web which constitutes the lining material between each sheet of board after the material has been pasted and pressed to place upon the board, the parts being so arranged that sheets of board of varying size may be used without changing the adjustment of the machine.

A burglar-proof safe has been patented by Messrs. John W. Norris, of Chicago, Ill., and Thomas M. Brintnall, of Maryville, Mo. The invention consists essentially in interlocking the bolt ribs with the safe door by dovetail joints, providing a construction to connect the bolt-carrying devices without the introduction of screws or threaded bolts, and making a firmer and stronger connection between the doors and the bolt-carrying devices.

A watch has been patented by Mr. Domingo T. Garcia, of Guadalajara, Mexico. It has two crown wheels mounted on an arbor in the case, one of the wheels having more teeth than the other, a pinion engaging the teeth of both crown wheels, with a crown scape wheel on its shaft, with other novel features, making a watch with very few parts and designed to be very accurate.

A clock has likewise been patented by the same inventor, whose construction is based upon the principle of differential gearing. It has but few parts, two toothed wheels being mounted on the same shaft, one fixed and the other loose, an escapement anchor pallet engaging with both wheels, the loose escapement wheel having part of its face cut out and a circular scale formed around the opening, with other novel features, the use of the usual multiplying train being dispensed with.

A parasol for children's carriages has been patented by Mr. John McAlister, of Jersey City, N. J. A notched runner is held on a clamp attachable to the stationary rod fastened to the carriage, a stick with a notched collar supporting the braces, a cord from the upper end of the stick passing through the runner, and a spring on the stick engaging with a slot in the runner, so the parasol can be supported in an angular position, and opened and closed from the top or outside.

Business and Personal.

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Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for exam nation should be distinctly marked or labeled.

(1) W. T. T. says: Please oblige an old subscriber with the receipt to prevent awnings and cotton goods from mildewing. Also a receipt to make tents waterproof. A. 1. Use 4 oz. powdered alum and 4 1/2 oz. sugar of lead, dissolved in 3 gals. water. When perfect subsidence has taken place, pour off the clear liquid only, and add to it 2 dr. isinglass, previously dissolved in warm water, taking care to mix thoroughly. Steep the goods well, and dry without wringing. 2. In 80 parts of water heated to about 80° C. melt 3 parts of gelatine and 6 of castor oil soap; then add 3 parts gum lac, stirring the liquid until entirely dissolved. Withdraw from the fire, and add to the mixture, little by little, 6 parts of powdered alum stirring all the while. The liquid thickens in forming an insoluble alum soap, which is intimately incorporated with the gelatine and the gum lac. Spread it over the stuff with a bristle brush.

(2) F. P. M. asks how many "crow-foot" gravity cells 5 inches by 6 inches it will require to run a 16 candle power incandescent lamp, and how they are to be connected. A. Assuming the cells to give one volt each, and to be of 200 ohms resistance, 512 such cells arranged in eight parallel series of 64 each would supply a 16 candle power lamp.

(3) E. C. E. asks: 1. Can you give me a good recipe for liquid stove polish, such as stove builders use? A. Take of pulverized black lead 1 pound, turpentine 1 gill, water 1 gill, sugar 1 ounce. 2. A recipe for a glossy and quick drying furniture polish not having much color. A. Dissolve 4 ounces best shellac in 2 pints of 95 per cent alcohol; add to this 2 pints of linseed oil and 1 pint of spirits of turpentine; when mixed, add 4 ounces of sulphuric ether and 4 ounces ammonia water; mix thoroughly, shake when used, and apply with a sponge lightly. 3. A safe and quick liquid for cleaning silverware? A. The best thing to use is two teaspoonfuls of ammonia, dissolved in a quart of hot soap suds. 4. A solvent for cellulose. A. Cellulose dissolves completely in an ammoniacal solution of oxide of copper.

TO INVENTORS.

An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., OFFICE SCIENTIFIC AMERICAN, 361 Broadway, New York.

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October 5, 1886,

AND EACH BEARING THAT DATE.

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