

## RECENTLY PATENTED INVENTIONS.

## Engineering.

Mr. J. M. Isenberg, of Mines, Pa., has patented a gripping device for cars for inclined railways, which is designed to grip the rails the moment the speed of the car exceeds a certain limit. This improvement can be applied to any car body or truck. It consists in a centrifugal governor operated by one of the car axles, and a grip which is set in operation by the governor as the limit of speed is reached.

## Mechanical.

Mr. R. Baumann, of St. Louis, Mo., has patented a combination lock and electric alarm, which is adapted for doors, money drawers, etc. This is an ingenious union of a combination lock with a door latch and lock, and an electric device for giving an alarm whenever the door latch or lock is operated. The electric device is detachable, so that when desired the lock can be operated by authorized persons without giving an alarm.

Mr. Wm. J. Wright, of Cooperstown, Pa., has patented a stave trimming, jointing and planing machine, in which the billet is first trimmed in sizes to suit the character of the material, after which the billet is automatically fed into the machine through the various stages necessary to complete the stave, and as it progresses automatically controls and sets the cutting devices so as to cut both the bevel and form the bilge of the stave in exact proportions relative to the different widths of the billet.

Mr. M. A. Libbey, of South Berwick, Me., has patented an improved mechanism for propelling vehicles. This invention includes novel mechanism for applying the power to the axles of the vehicle, and for guiding it.

Mr. R. W. Welch, of Lexington, Neb., has patented a brake for baby carriages, for preventing the movement of the carriage whenever it is desirable that it should remain stationary. The brake consists of a clip attached to the carriage axle and a finger pivoted in the clip and adapted to fold down between the spokes of one of the wheels.

An improvement in shackle clawbars for drawing spikes and analogous uses has been patented by Mr. John H. Morgan, of Lebanon, Ind. The clawbar has a two-armed hook pivoted to it which is adapted to engage the head of a rail. The hook is capable of being swung around the neck of the clawbar, thus making the implement reversible.

Mr. J. L. Strahl, of Gloucester, Ohio, has patented an improved gauge for woodworking machines. This gauge is adapted for grooving, gaining, crosscut sawing, mitering, etc. It consists of a slide mounted in a suitable guide on the saw table or other woodworking machine, and provided with a graduated plate pivoted to the top of the slide.

Mr. J. Kirwan of Asbury Park, New Jersey, has patented an improved leather skiver. This machine is designed for skiving the edges of soles, or thinning welts to an even thickness throughout. This is a hand tool, which is adjusted before use so as to make a shaving of the desired thickness according to the leather to be operated upon. The tool is drawn around the sole, trimming the edge and at the same time thinning it, leaving the middle portion of the sole of the ordinary thickness. The depth of the cut made by the tool is regulated by an adjustable gauge.

A dust collector for grinding machines has been patented by Messrs. E. King & H. Geisenhoner, of Schenectady, N. Y. This device may be adapted to grinding machines of various kinds. It consists of an endless belt running over rollers, and carried in close proximity to the periphery of the emery wheel, the tool being arranged to receive motion from the shaft of the emery wheel, and in its travel is made to pass through a body of water, thus keeping it constantly moist, so that the particles thrown off in the operation of grinding become attached to the endless belt. These particles are washed off in their passage through the water.

Mr. A. B. Bonneville, of Allentown, Pa., has patented an improved conveyor designed for moving material that has been operated upon by a rotating calcining cylinder. The main difficulty heretofore experienced in conveyors for this purpose has been the melting of portions of the conveyor by the intense heat of the products of the furnace. This invention has obviated this difficulty by creating a draught of air through the conveyor tunnel, thereby not only cooling the calcined material, but preventing injury to the conveyor.

Mr. J. T. Turner, Sing Sing, N. Y., has patented an improved cotton gin saw, which consists of a disk, and a band of ribbon of greater width than the disk provided with teeth on opposite edges and secured to the periphery of the disk. By means of this construction the material is economized and the manufacture of the saw is simplified and cheapened.

## Electrical.

Mr. F. Milliken, of New York City, has patented a metallic post. This post consists of longitudinal flanged segments connected at their flanged edges with rivets, bolts or studs, which form the ties between the two longitudinal portions, and also serve as rungs when it becomes necessary to climb the post.

An improved rheostat designed for use in connection with medical batteries, but equally well adapted to other purposes within the range of the instrument, has been patented by Mr. J. C. Vetter, of New York City. This invention consists in an extensible and compressible cell provided with insulating sides and a conducting top and bottom, a screw for moving the top toward or from the bottom, and a powdered conductor or semi-conductor contained in the cell and adapted to be compressed so as to increase its conductivity, or released so as to increase its resistance, according to the requirements of the case.

Dr. R. L. Watkins, of New York City, has patented a device by means of which the position of a piece of metal in the body, such for example as a bullet, may be accurately located, and which is also used for testing the electric circuits. It consists mainly of a probe formed of two semi-cylindrical parallel bars connected by insulated rivets, and arranged to form a smooth needle. The two parts of the needle form the terminals of an electric circuit, which is completed through flexible coils and zinc and copper plates applied to the tongue. The zinc and copper plates, together with the fluids of the mouth, form a battery, so that when the circuit is closed on the metal touched by the probe, the effect of the current will be perceived by the tongue.

## Agricultural.

Mr. K. Buland, of Linn Grove, Iowa, has patented an improved cotton planter, in which the runners may be readily adjusted vertically, and which may be used without the necessity of employing a marker. Means are provided whereby the depth of the furrow may be regulated at will.

Mr. F. C. Kriz, of Milwaukee, Wis., has patented an improved pitchfork, in which the fork is pivotally attached to the handle and supported in the position of use by a spring, the fork handle being furnished with stops which limit the movement of the fork.

## Miscellaneous.

A novel liniment pad provided with detachable fastening tabs for securing it to the body, thus adapting the pad to be removed and recharged with liniment, has been patented by Mr. B. T. Jacobs, of Stapleton, N. Y.

An improved necktie fastener has been patented by Mr. M. N. Bailey, of New York City. It is made of a piece of wire bent into peculiar form and adapted for attachment to any necktie. This fastener is designed to take the place of the ordinary needle fastener commonly applied to scarfs and neckties.

Mr. John L. Easley, of New York City, has patented a lemon squeezer, which is so constructed that all the released juices of the fruit will be conducted to the receiving vessel, while the pulp is prevented from passing into the vessel. The invention consists of a conical lemon receiver provided with a series of ribs of different length, a flanged base having a concave upper face, and an upper surface provided with a series of concentric grooves for receiving the tumbler in connection with which the squeezer is used.

An improvement in the rigging of vessels has been patented by Mr. C. M. Hayden, of South Thomaston, Me. The object of this invention is to prevent the mast hoops from clinging to the mast when the sail is raised, and to cause all of the hoops to sustain an equal strain, thereby avoiding the danger of tearing the sail. The invention consists in connecting all the mast hoops together and with an attachment applied to the gaff bail.

SCIENTIFIC AMERICAN  
BUILDING EDITION.

OCTOBER NUMBER.—(No. 60.)

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1. Elegant plate in colors of an attractive cottage erected at Montclair, N. J., at a cost of \$2,800. Perspective elevation, floor plans, sheet of details, etc. Munn & Co. architects, New York.
2. Plate in colors of a residence recently erected at Hollis, Long Island, N. Y., at a cost of \$5,500 complete. Floor plans, perspective view, sheet of details, etc. Schweitzer & Deimer, New York, architects.
3. Engraving of a Pompeian house, as reproduced at Saratoga Springs, N. Y.
4. A suburban cottage at Chicago, Ill. Floor plans, perspective elevation, etc.
5. Perspective and floor plans of an attractive residence at Yonkers, N. Y. Cost \$10,325.
6. A Long Island cottage erected at a cost of \$6,500. Floor plans and perspective elevation.
7. Suburban residence at Short Hills, N. J. Cost \$10,000 complete. Perspective and floor plans.
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9. Design for a club house. Perspective and floor plans.
10. A very handsome residence at Portchester, N. Y. Cost \$10,000. Floor plans and perspective elevation.
11. An attractive residence on 176th Street, New York City. Cost \$12,000. Mr. Alfred Taylor, of New York, architect. Perspective and floor plans.
12. Miscellaneous contents: Building in 1889.—The growth of cities.—Treatment of oak.—Examples of plumbing and drainage, illustrations.—Erslev's asphalt.—A new idea.—A new trimmer for pattern and cabinet work, illustrated.—Signor Brentano.—Concrete in France and Italy.—A new plan to supply Chicago with water.—Lignomur.—New gasoline engine.—Architectural Iron Works.—Standard expanding water conductors, eaves troughs, etc., illustrated.—A highly improved heating apparatus, illustrated.—The secret of cheap building.—Geometrical wood carving, illustrated.

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## Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

For Sale—New and second hand iron-working machinery. Prompt delivery. W. P. Davis, Rochester, N. Y.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

For best hoisting engine. J. S. Mundy, Newark, N. J.

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Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

Packer Ratchet Drills are drop forged from Norway iron and bar steel. Billings & Spencer Co., Hartford, Conn.

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Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Rubber Belting, all sizes, 7 1/2 per cent from regular list. All kinds of Rubber Goods at low prices. John W. Buckley, 136 South Street, New York.

The Holly Manufacturing Co., of Lockport, N. Y., will send a book of official reports of duty trials of their high duty pumping engines on application.

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Wanted—Salesman on commission for scientific instruments. Apply or write, with references, to Ball-Bennett Co., 147 Frankford Ave., Philadelphia, Pa.

For low prices on Iron Pipe, Valves, Gates, Fittings, Iron and Brass Castings, and Plumbers' Supplies, write A. & W. S. Carr Co., 133 and 140 Centre St., New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N. Y.

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## Notes &amp; 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 examination should be distinctly marked or labeled.

(2525) F. G. S., Denver, asks: Will you kindly give a few more particulars in Notes and Queries concerning the tests on Portland cement for anchoring bolts? What you consider the proper relation between bolt and hole, and also the correct way to mix the cement? A. For strong work use Lewis or split head bolts and wedge. Make the hole from 8 to 10 times the diameter of the bolt, in depth, and just large enough to enter the bolt with the wedge just entered in the split end. Fill the hole with Portland cement, quickly mixed with water, nearly as stiff as putty. Drive the bolt home with a mallet. Bolts set in this manner in brick walls, laid in cement, have been broken in a test to pull them out by a pull on the nut. For anchorage or side pull bolts, upset ends driven as above are very strong as used for guys. Make upset 1/4 larger than bolt. For holding down machinery the split bolt only should be used.

(2526) G. W. H. asks: 1. Is coal oil a distillation from coal? A. Possibly and quite probably. 2. Or is coal solidified coal oil. A. No.

(2527) F. W. P. asks: Can you give a treatment for baldness and falling out of the hair, superior to the usual tincture cantharides mixtures? A. We refer you to the SCIENTIFIC AMERICAN, Vol. 62, No. 9, page 135, for a treatment for the hair. Also to our SUPPLEMENT, Nos. 161, 416, 173.

(2528) O. K. A. asks for a receipt for making a nickel or silver plating suitable for iron or steel. A. For silver and nickel plating we refer you to our SUPPLEMENT, No. 310, and many others. Iron or steel must have a light deposit of copper before plating with silver.

(2529) H. E. C. writes: I would like to know if there is or can be put something in kerosene oil lamps that will put the oil in such a condition that it can only be ignited at the wick, or that the lamp cannot explode, either liquid or dry stat. A. There is no such substance. Materials for the purpose have been sold by unprincipled dealers through the country, but no faith should be placed in any of them.

(2530) S. P. R. writes for a receipt for a silica paint and a receipt for a fibrous and waterproof

paint. A. Ground silica has been mixed with white lead, but it is to be regarded as an adulterant. Asbestos mixed with oil and body (white lead) is the best approach to the latter that we can give.

(2531) F. W. L. asks: Can you tell a way to clean a steel engraving that has been wet and badly soiled? A. Soak in weak solution of hypochlorite of soda (Javelle water). Start with it weak and strengthen if necessary.

(2532) W. D. G. asks why wood gas is not more used and for references to any literature, books or papers, where its manufacture and value are treated of. A. Wood gas costs more than coal gas. It needs considerable purification or treatment of some kind, owing to the large proportion of carbonic acid gas. It is treated of in the recent works on the manufacture of gas, but except for special cases is a dead issue.

(2533) J. B. asks if it is practicable in connection with artesian well boring operations to fish up pieces of iron from the bottom of the bore with an electro-magnet. If so please give dimensions, form of magnet, size of wire and winding. Also what form of battery to use? A. An electro-magnet could be used for this purpose. The best form of magnet for the purpose would be an iron tube closed at one end with an iron core extending from the center of the closed end to the open end of the tube, leaving an annular space for the winding. Use No. 14 wire and a plunging bichromate battery with 6x8 inch zinc and carbon plates. 2. Would the magnet work if casing is in the bore and some water? A. Yes. 3. Would a permanent magnet answer as well? A. A permanent magnet might answer for small pieces. 4. Which is the stronger, malleable or common cast iron, and why? A. Malleable iron is much stronger than cast iron, being more of the nature of wrought iron or low steel. 5. Are malleable castings used in heavy machinery, and what weight is the heaviest of such castings you know of? A. Heavy malleable castings have been made. We cannot give weight. 6. Can you tell me what is the price of the phonograph, and could it be sent through the post? A. The phonograph is rented, not sold. It is too heavy for the mail. 7. Are there any books treating blacksmithing or forging? A. "Practical Blacksmithing," by M. T. Richardson. 3 vols. Price by mail complete \$3. 8. What book would you recommend for a new beginner in electricity? A. "Experimental Science." See our advertising columns.

(2534) C. H. R. asks what to put into sirup made from sugar, to prevent crystallization. A. Make your sirup from 35 parts water and 65 parts sugar and keep in a smooth surface vessel. It will not crystallize.

## NEW BOOKS AND PUBLICATIONS.

THE AMATEUR PHOTOGRAPHER'S HAND BOOK. A manual of instruction for the amateur. By Arthur Hope. 151 pages, cloth. Price \$1.25. The John Wilkinson Company, publishers, Chicago, Ill.

This is a readable, practical book, containing twenty-nine chapters. The second chapter on "First Exposures" tells in the form of a story all the necessary steps required to make a good negative. Other chapters give reliable directions and formulas for silver and blue print printing, and for making ornamental photographs without a camera. There are also useful chapters on lantern slide making, transparencies, portraits, interiors and landscapes. There is one full page photographic illustration and several engravings of useful forms of apparatus. The book is written in simple, plain language free from scientific technical terms and is well adapted for the amateur wishing to readily obtain a practical knowledge of photography.

## 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 14, 1890.

AND EACH BEARING THAT DATE.

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