

ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Robert Wilson, of Grubville, Mo. This invention covers a novel combination and arrangement of parts in a coupler designed to be automatic in operation, and which can be used with the ordinary form of link if desired.

A steam boiler has been patented by Mr. Mortimer S. Rexford, of Norman, Dakota. It is a twin cylindrical boiler, with one cylinder above the other and connected by circulating pipes at the sides, and having the grate and fire chamber between them, being designed to occupy but little room, have a large fire space, and also include the advantages of a feed water heater.

A danger signal for bridges has been patented by Mr. Milton O. Godding, of Monrovia, Cal. The invention covers novel tripping devices combined with a falling signal, and also means for exploding a cartridge, to permit the signal to be made known in the night time, to notify a moving train of the burning of a bridge or the destruction of the roadbed by a washout or snow slide, etc.

A railway rail crossing has been patented by Mr. James Rice, of Prairie Creek, Ind. It is intended to take the place of the stock guard ordinarily employed, being of simple construction and designed to normally lie flat between the tracks and at their sides, so that cars may pass without interruption, while it will effectually prevent stock from escaping up or down the track.

AGRICULTURAL INVENTIONS.

A grain adjuster for binders has been patented by Mr. Frederick E. R. Malke, of Christney, Ind. It is an appliance for evening up grain delivered to the binding table of a harvesting machine, and the invention covers novel features in its construction and the arrangement of parts.

A mower has been patented by Mr. Albert L. Quilliam, of Chateaugay, N. Y. This invention covers an improvement in mowers, having two cutter bars which reciprocate in opposite directions simultaneously, and is designed to afford a construction of machine calculated to work perfectly in the field and be of very light draught.

A bran remover has been patented by Mr. George W. H. Safely, of New Orleans, La. It is for removing the bran from rice and other grain after hulling, there being a shaft journaled vertically in a vessel containing the grain, in connection with a screw having threads downwardly inclined, whereby the grain is carried rapidly downward and such circulation is secured as to remove the bran.

A plow has been patented by Mr. Thomas A. Blanchard, of Appling, Ga. It is so constructed as to facilitate the vertical adjustment of the plow mouldboard and sweeps relatively to the plow beam, to regulate the depth at which the plow shall work in the ground, and provides for setting the sweeps at different angles to the line of draught and for adjusting their faces at varying vertical resistances to the soil, while the handles may be easily adjusted to the height of the plowman.

MISCELLANEOUS INVENTIONS.

An improvement in suspenders has been patented by Mr. Jacob Katzenberg, of New York City. All buckles and metal pieces at the front, which soil and wear the shirt, are dispensed with, and the metal at the back is reduced to a minimum, the straps being adjusted as to length by buckles at the back.

A pump has been patented by Mr. John B. Drake, of Goshen, Ind. A crank arm is pivotally connected with the pitman carrying the plunger, a shaft turning in the pump head carrying the crank arm, while an arm secured to the outer end of the shaft has three crank pins, one adapted to be connected with the windmill rod, a pump handle being secured to the other two.

A burglar alarm has been patented by Messrs. Scott C. Freeman and John B. Soward, of Nevada, Mo. The invention consists of a novel construction and combination of parts whereby, when a window or door attached to the device is opened, a bell or bells will be caused to ring until stopped by an inmate of the house, or until the power of the device is exhausted.

A feathering paddle wheel has been patented by Mr. Robert J. Jones, of Carrollton, Washington Ter. It is designed to be operated the full depth of the vessel, and to avoid loss of power and steam by being thrown out of the water when the vessel lurches in a rough sea, the invention covering various novel features of construction and the combination of parts.

A truck has been patented by Messrs. William J. Kennedy and Louis A. De Mayo, of Jersey City, N. J. The invention consists in the novel construction of the standards adapted to receive the carrier, and in the peculiar bearings of the carrier, so that the load may be easily and quickly dumped without removing the carrier, or the carrier may be readily detached from the truck.

A ship's log has been patented by Mr. Eugene E. Haskell, of Forestville, N. Y. It is an instrument to be suspended by a cable and carrying a propeller wheel, whose revolutions, according to the rate of progress through the water, will make and break electric contacts, which will be recorded on a register to indicate the number of revolutions per minute, whereby the speed of a vessel may be determined.

A wheel has been patented by Mr. Austin J. Hanks, of Wilmington, Ohio. This invention relates to improvements in what are known as "suspension wheels," and the hub is made up of two pairs of disks, the inner disks being formed with corks, and the outer disks with ribs or flanges to serve as supports

for the corks, with other novel features, making a wheel especially designed for tricycles, and adapted for use with any light vehicle.

A running gear for vehicles has been patented by Mr. Alfred W. Johnson, of New Brunswick, N. J. This invention covers devices whereby both the front and rear axles are fitted to swivel or turn centrally of their length, whereby greater flexibility is given to the vehicle, and the wheels of the two axles are made to skew in common when turning the vehicle, the axles carrying the wheels simultaneously swiveling in opposite directions.

A road cart has been patented by Mr. Wilber M. McCrossen, of West Branch, Mich. The axle is dropped centrally, and the body supported through springs on the dropped portion, while the thills are fitted at their rear end loosely on the axle, and to the thills, adjacent to the front end of the body, are secured front springs incased in barrels depending from the thills, with other novel features, making a cart easy to get into and out of, and which is designed to be easy riding and free of horse motion.

A valve mechanism for sewerage systems forms the subject of two patents issued to Mr. Charles H. Shepherd, of New York City. These inventions cover improvements on a former patented invention of the same inventor, one being designed to provide devices for retarding the closing of the valve at the end of the sewerage pipe, to give the contents of the pipe time to escape before the valve closes, and the other providing mechanism by which the discharge valve of the sewerage pipe may be opened or closed, and by which the valve may be held securely in a partly open position in case anything should become lodged between the valve and its seat.

SCIENTIFIC AMERICAN BUILDING EDITION.

JUNE NUMBER.—(No. 32.)

TABLE OF CONTENTS.

- Elegant plate in colors of a beautiful dwelling at Tuxedo Park, N. J., with floor plans, sheet of details, etc., James Brown Lord, architect.
- Plate in colors of two dwellings costing two thousand two hundred dollars and two thousand four hundred dollars each, with floor plans, sheet of details, etc.
- A cottage of field stone and wood, perspective and floor plans.
- Perspective and floor plans for a seaside cottage, cost about five thousand dollars.
- Sketch of a residence at Minneapolis, Minn.
- Perspective view of a small suburban or seaside cottage costing one thousand eight hundred dollars.
- Sketch of the residence of Ex-Gov. Hamilton at Kenwood, Ill.
- Plans and perspective view for a cottage costing, complete, one thousand and fifty dollars.
- A cottage on Prospect Ave. and 165th Street, New York. Perspective and floor plans. Cost, seven thousand dollars.
- Floor plans and perspective view for a residence of moderate cost.
- Grand Stairway of the St. Lazare Station, Paris. Half page engraving.
- Tomb in the cemetery of Beville, H. P. Nenot, architect. Half page engraving.
- Full page of illustrations of North St. Paul, Minnesota.
- Page engraving of the new City Hall, Holyoke, Mass.
- Design for a porter's lodge at North Andover, Mass. Hartwell & Richardson, architects.
- Villa. Penmaenmair Building Estate, North Wales. Wm. Dawes, architect.
- Sketch of an English cottage. E. C. Poole, architect.
- Engraving of the new Consolidated Stock and Petroleum Exchange, Broadway and Exchange Place, New York.
- The Tower of Babel, according to Father Kircher. Two engravings.
- Miscellaneous contents: Moses as a sanitarian.—To tell the age of a horse.—The ventilation of theaters.—Ivory gloss on wood.—Bricklaying in frosty weather.—Originality in architecture.—Painting and varnishing floors.—The Architect and Builder.—Proceedings of the National Association of Builders.—Senator Stanford's \$100,000 tomb.—Italian marble.—Masonry and cement.—Temple of Jupiter Olympius.—House painting.—Sale of ready made plans.—The Tower of Babel, two engravings.—The Sturtevant system of heating and ventilating buildings, illustrated.—A new boiler for steam or hot water heating, illustrated.—The Paragon self-feed rip saw, illustrated.—Gypsum paint.—The Humphrey Pony hand elevator, illustrated. Electrical supplies.—Permanency of color in paint. Mineral wool.—A burglar proof sash lock and ventilator, illustrated.

The Scientific American Architects and Builders Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

The Fullness, Richness, Cheapness, and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural publication in the world. Sold by all newsdealers.

MUNN & CO., PUBLISHERS, 361 Broadway, New York.

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—Patent No. 379,891, improved coffee roaster. Can be used as an ordinary stove for heating and cooking. E. B. Hallings, Box 304, Charleston, S. C.

Lathes for cutting irregular forms. Handle and spoke lathes. I. E. Merritt Co., Lockport, N. Y.

John M. Horr, fret sawyer. North Dana, Mass.

Wanted—Competent machinists on lathes and planers. The Pond Machine Tool Co., Grant Ave., Plainfield, N. J.

The best Coffee roasters, coolers, stoners, separators, polishers, scourers, glossing apparatus, milling and peaberry machines; also rice and macaroni machinery, are built by The Hungerford Co., 69 Cortlandt Street, New York.

Safety water columns. Cheaper than explosions or burned boilers. For illustrated price list, Reliance Gauge Co., Cleveland, O.

Steam Pipe Covering, Sectional and Plastic. Write for Pamphlet. Jno. A. McConnell & Co., 69 Water St., Pittsburgh, Pa.

The Diamond Prospecting Co., 74 and 76 W. Lake St., Chicago, Ill., general agents for the Sullivan diamond prospecting drills.

For the latest improved diamond prospecting drills, address the M. C. Bullock Mfg. Co., 138 Jackson St., Chicago, Ill.

Nickel Plating.—Manufacturers of pure nickel anodes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Agents of the new Dip Lacquer Kristaline. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 82 and 94 Liberty St., New York.

Perforated metals of all kinds for all purposes. The Robert Aitchison Perforated Metal Co., Chicago, Ill.

The Railroad Gazette, handsomely illustrated, published weekly, at 73 Broadway, New York. Specimen copies free. Send for catalogue of railroad books.

The Knowles Steam Pump Works, 113 Federal St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

Link Belting and Wheels. Link Belt M. Co., Chicago.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

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

Supplement Catalogue.—Persons in pursuit of information of any special engineering, mechanical, or scientific subject, can have catalogue of contents of the SCIENTIFIC AMERICAN SUPPLEMENT sent to them free. The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

The Holly Manufacturing Co., of Lockport, N. Y., will send their pamphlet, describing water works machinery, and containing reports of tests, on application.

Lockwood's Dictionary of Terms used in the practice of Mechanical Engineering, embracing those current in the drawing office, pattern shop, foundry, fitting, turning, smith's and boiler shop, etc., comprising over 6,000 definitions. Edited by a foreman patternmaker. 1888. Price, \$3.00. For sale by Munn & Co., 361 Broadway, New York.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

60,000 Emerson's 1887 Book of superior saws, with Supplement, sent free to all Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa., U. S. A.

Friction Clutch Pulleys. The D. Frisbie Co., N. Y. city.

Veneer machines, with latest improvements. Farrel Fdry. Mach. Co., Ansonia, Conn. Send for circular.

"How to Keep Boilers Clean." Send your address for free 86 page book. Jas. C. Hotchkiss, 120 Liberty St., N. Y.

For best quality, order your steel castings from the Buffalo Steel Foundry, Buffalo, N. Y.

Woodworking machinery, planers, surfacers, matchers, beadars, etc. Rollstone Machine Co., Fitchburg, Mass.

"New Drill Chuck," holding straight taper or square shanks. Address Standard Tool Co., Cleveland, O., mfrs. of twist drills, reamers, and special tools.

Duplex Steam Pumps. Volker & Felthousen Co., Buffalo, N. Y.

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

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

NEW BOOKS AND PUBLICATIONS.

PHÉNOMÈNES ELECTRIQUES DE L'ATMOSPHERE. By Gaston P. Planté. Paris. J. B. Baillière et Fils. 1888. Pp. 323.

In this attractively printed and well illustrated volume are contained descriptions of many phenomena of atmospheric electricity. Lightning strokes and allied manifestations are fully discussed, and their nature elucidated by comparison with the phenomena of high tension currents. These experiments performed with the intense and high voltage currents produced by storage batteries are already a classic of the science.

A map of the United States, 40 by 60 inches, mounted on rollers, and very convenient for office use, has been published by Messrs. Levick & Levick, of No. 15 State Street, New York City. On its reverse side is a large county map of the Pacific States and of Mexico.

Any of the above books may be purchased through this office. Send for new book catalogue just published.

Address MUNN & CO., 361 Broadway, New York.

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 examination should be distinctly marked or labeled.

(1) B. S. B. (Col.) desires a recipe for making good cider from boiled cider. We can get the boiled or condensed cider here, but it is hard to get apples in this country. A. We cannot. Boiled cider, in our experience, is used chiefly for cooking purposes. The following makes somewhat of a substitute for cider. Water 1 gallon, common sugar 1 pound, tartaric acid ½ ounce, yeast 1 tablespoonful; shake well, make in the evening, keep cool, and it will be fit to use next day.

(2) I. H. F. writes to F. B. P. (39), who inquires for a remedy for removal of warts. With a match or similar small stick, apply several times strong nitric acid to the center of wart, which can easily be done in such manner as to avoid touching the tender skin around the wart. Let dry, and after a day or two repeat the operation, after which the wart will disappear. Should the acid reach tender point, through the wart, cease the application and at once apply a stream of cold water. I have succeeded with this several times.

(3) C. W. D. writes: Our fishermen in Lake Erie fish in water 500 ft. deep, and on their nets use floats of white cedar about 3 1/4 in. and 1 1/2 in. diameter, with a 3/8 in. hole through the center. These floats soon get water-soaked at that great depth, and are useless. How can that best be prevented, so that they will retain their buoyancy? A. We suggest boiling the floats in paraffine.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

June 19, 1888,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Air brake system, H. Guels.....	384,687
Air brake valve, H. Guels.....	384,686
Alarm. See Burglar alarm. Elevator alarm.	
Alarm bolt, E. Harmon.....	384,761
Alarm bolt for doors, E. Harmon.....	384,760
Alloy, C. A. Paillard.....	384,709
Alloy, C. W. Ward.....	384,731
Animal or other power, J. Bechtold.....	384,003
Animal trap, Devold & Devold.....	384,827
Anti-friction compound, T. J. Mayall.....	384,920
Atomizer, J. J. Ochs.....	384,777
Back band hook, S. Ward.....	384,882
Bag lock, T. W. Harrison.....	384,688
Bar. See Grate bar.	
Barrel making machine, W. T. Vale.....	384,730
Bearing, horizontal thrust, A. C. Rice.....	384,930
Beating-out machine, J. C. Cutcheon.....	384,893
Bed bottom spring, H. Myers.....	384,925
Beehive, E. S. Armstrong.....	384,819
Beehive, J. H. Howe.....	384,627
Billiard cue, W. H. Fesler.....	384,614
Bleaching apparatus, W. R. Phillips.....	384,867
Boiler. See Steam boiler.	
Bolt. See Alarm bolt.	
Book, blank, J. M. Rose.....	384,933
Book cover, T. Kelly.....	384,697
Book, scrap, H. Crocker.....	384,746
Boot or shoe heel, C. H. Martin.....	384,634
Boring machine, F. E. Keyes.....	384,854
Bottle stopper, W. A. Caswell.....	384,824
Box. See Letter box. Strong box.	
Brake. See Car brake.	
Bran remover, G. W. H. Safely.....	384,719
Brick machine, P. L. Simpson.....	384,872
Bridges, danger signal for, M. O. Godding.....	384,755
Buckle, E. A. Smith.....	384,936
Burglar alarm, Freeman & Soward.....	384,752
Burner. See Lamp burner.	
Burnishing or trimming tool, Fowler & Warren.....	384,902
Bustle, J. E. Horsett.....	384,848
Bustle, A. H. Jackson.....	384,850
Buttonhole cutter, G. W. Peters.....	384,710
Buttonhole cutter, W. P. Vrooman.....	384,653
Button loop and safety pin, E. Pickhardt.....	384,639
Cable roads chain grip for, W. Heckert.....	384,689
Camera. See Photographic camera.	
Can. See Oil can.	
Can opener, J. Blakeslee.....	384,759
Cane, umbrella, and camp stool, combined, M. Schiff.....	384,790
Car brake, J. H. Robertson.....	384,870
Car coupling, J. G. E. Armeah.....	384,671
Car coupling, W. L. Braddock.....	384,686
Car coupling, M. T. Broady.....	384,675
Car coupling, S. C. Carroll.....	384,889
Car coupling, E. M. & J. Q. Hamilton.....	384,840
Car coupling, R. Wilson.....	384,732
Car couplings, locking lever for, F. W. Parsons.....	384,779
Car, dump, J. Odorizzi.....	384,708
Car heater, E. Andrews.....	384,599
Car, poultry, W. P. Jenkins.....	384,933
Car, railway, T. S. E. Dixon.....	384,828
Car, stock, J. F. Elder.....	384,832
Car, stock, R. H. Ripley.....	384,931
Car wheel, F. G. Myers.....	384,924
Cars, automatic electric gas cut-off for railway, F. C. Brower.....	384,676
Cars, bearing for street, H. L. Phelps.....	384,782
Cars, link and pin holder for, C. L. Ward.....	384,655
Carpet stretcher, C. C. F. Nieschang.....	384,326
Carrier. See Parcel carrier. Sheaf carrier.	