

ENGINEERING INVENTIONS.

A car coupling has been patented by Messrs. Jacob W. Baker and George A. Prescott, of Dover, N. J. Combined with the drawhead and coupling pin is a movable toothed circular stop, adapted to support the pin when raised, and provided with pivots or bearings for operation in relation with the coupling pin and link.

A car coupling has been patented by Mr. George W. Wilson, of Lanesborough, Minn. This invention covers novel features of construction and the combination of parts in a device by which cars may be coupled automatically as they come together, without requiring the train men to stand between the cars, while it is simple and inexpensive.

AGRICULTURAL INVENTIONS.

A check rower for corn planters has been patented by Mr. Alvin Devine, of Rantoul, Ill. This invention provides a planter that is operated from a wire or rope stretched at the side, wherein the wire need not be detached at the ends when the planter is reversed, while the operating mechanism is strong and simple and not liable to lose motion by slight wear.

A harrow has been patented by Mr. Elihu P. Stone, of Lincoln, Kansas. It has a transverse shaft with crank arms at its ends mounted on the harrow frame, with means for turning the shaft to raise or lower the harrow frame, with various other novel details and combinations of parts, whereby the teeth of the harrow may be raised out of the ground and cleaned.

A cultivator has been patented by Mr. Wilbur F. Hubbell, of Wauseon, Ohio. It has a tubular plow beam, preferably formed of iron pipe, with a socket forged on its forward end and connected with an upwardly bent arm, making a beam and standard which will support a number of plows, and which may be readily adjusted to place the plows at different distances from each other.

MISCELLANEOUS INVENTIONS.

A hoisting machine has been patented by Mr. Patrick Connolly, of Scranton, Pa. The invention covers a machine of novel construction intended principally for use in mines for putting roof timbers and props or struts in place.

A bill or paper file has been patented by Mr. Frank B. Gilbert, of Jefferson, Texas. The invention consists in a file having a recess or slot formed near its piercing end and a tongue pivoted therein, to prevent the bills or papers on the file from working off.

A spokeshave has been patented by Mr. James H. Polhemus, of Brooklyn, N. Y. This invention covers a novel construction and combination of parts in a spokeshave designed to be capable of use as readily in curves of small radius as upon a flat surface, or in apertures large enough to admit the tool.

A wagon jack has been patented by Mr. Nathan L. Hakes, of Grafton, N. Y. The invention covers novel features of construction and combination of parts, whereby there is no tendency to swing the load lifted by the jack, strain on the jack and vehicle being thereby reduced to a minimum, while but little power is required to work the jack.

A windmill has been patented by Mr. Martin V. Harper, of North Yakima, Washington Ter. It has a pivoted vane, presenting more or less surface to the wind, so that when the latter changes to a storm it assists in changing the face of the wind wheel from the direction of the storm, with other novel features, intended to make a simple, durable, and efficient windmill.

A spring bed bottom has been patented by Messrs. Frank W. Smith and George D. Livingston, of Dodge Center, Minn. A cover is stretched over the springs and folded at its corners, hooks held in the corners of the frame being passed through the folded corners of the cover, whereby the latter is drawn taut and held from displacement, while it can be readily applied and easily detached.

A hame tug buckle has been patented by Mr. Charles Rozell, of Great Bend, Kansas. It is cast in one piece and in box form, with a central passage for the trace and two side passages for the back pad billet, to the lower end of which the belly band of the harness may be buckled, thus effecting a saving in stock and in the labor of attaching a separate billet to the side buckle.

A machine for jointing and shaping shingles has been patented by Mr. Alfred T. Stimson, of Eureka, Cal. It is designed to take the shingles as they leave the shingle saw, bunch them radially in the machine, ornament the ends of the shingles according to a pattern to be detachably clamped or bolted to an arm of the machine, and simultaneously joint their upper longitudinal edge.

A fastener for the meeting rails of sashes has been patented by Mr. John F. Pool, of Mount Carmel, Ill. The fastener consists of a catch mounted within a case, the catch being supported by a pivot pin which carries a forwardly extending spring resting in an aperture formed in the catch, whereby the sash may be held in closed position or may be held partially open.

A repeating watch has been patented by Ami F. Pfister, of Locle, Switzerland. The invention consists principally in a device for obstructing the hammers for a constant interval between the strokes of the hour and the quarter, the minute, and the second, and in novel means for disengaging the winding mechanism when the repeater is to be used, the arrangement of the gongs and of the striking mechanism under the dial, with various novel details and combinations of parts, the repeating mechanism not encroaching upon the movement.

Special.

FRESH AIR.

We do not condemn the theory or the practice of resorting to fresh air mountain retreats, quiet country homes, seaside rambles and bathing, or the various mineral springs as restoratives to failing health. No doubt there are many who have been greatly relieved by all these favorite resorts, and some very justly claim they have been cured. But the number is legion that find no comfort, no relief to their weakness, their aches, their pains, in such grasping at straws in their struggle to save themselves. The following letters illustrate this point, and show the wisdom of the one most interested in the case.

A patient in Grand Junction, Tenn., on April 20, 1886, wrote the following.

"My family doctor said I ought and must go to Hot Springs and stay three months. My good brother came down from Middle Tennessee to see me, and he also tried to persuade me to go and spend three months at the springs. I declined to do so on the ground that I knew more about Hot Springs than either of them. I simply told them that I intended to stay at home and use Compound Oxygen, and be where I could get fresh air. I believe three months at the springs, taking that contaminated air in all the time, would kill me. I have been there once, and it was a fruitless trip, eye worse. On the other hand, I have as much confidence in Compound Oxygen as I would have in giving beef and bread to a starving man. The Compound Oxygen that I used over a year ago did me much good. I wanted to be moving to some other country all the time, and could not control myself about eating, and many other things. I find much relief in these respects after using the Compound Oxygen."

A volume of nearly two hundred pages on "Compound Oxygen—Its Mode of Action and Results," will be mailed free to every inquirer on receipt of address; and if particularly interested in the cure of any special disease, a monograph on that will also be sent. Address Drs. Starkey & Palen, 1529 Arch Street, Philadelphia, Pa.

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 best leather belting and lace leather, including Hercules, see Page Belting Co.'s adv., p. 125.

Copper smelter and refiner seeks a situation. Fifteen years' experience in England. B. S. brand guaranteed. Can separate silver present in ore during process cheaply. Abstainer. Address Copper Smelter, care of Geo. Swift, Gonzales, Gonzales County, Texas.

Stationary and boat engines, boilers. Best and cheapest. 1 to 10 H. P. Washburn Engine Co., Medina, Ohio.

Bennett's Lubricator is giving universal satisfaction. Send for circular. Bennett Mfg. Co., Chicago, Ill.

Timber Gaining Machine. All kinds Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn.

Press for Sale—Quick acting. Hole in bed 8x5; punches to center of 13 in. sheet; 2 1/2 in. shaft; also four spindle Drill. A few second-hand engines in first-class condition. B. W. Payne & Sons, Elmira, N. Y.

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

A desirable position is open to a satisfactory party familiar with hydraulic or steam engineering. High character, good address, and ability to talk intelligently on above subjects (either or both) are essential qualifications. Address "Aqua," P. O. box 773, New York City.

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.

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

Woodworking Machinery of all kinds. The Bentel & Margedant Co., 116 Fourth St., Hamilton, O.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Sole manufacturers of the new Dip Lacquer Kristaline. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 92 and 94 Liberty St., New York.

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

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.

Curtis Pressure Regulator and Steam Trap. See p. 253.

Iron and Steel Wire, Wire Rope, Wire Rope Tramways. Trenton Iron Company, Trenton, N. J.

Power, 113 Liberty St., N. Y. \$1 per yr. Samples free.

Gun and Machine Makers' Screwdrivers, drop forged in Best Tool Steel. Billings & Spencer Co., Hartford, Ct.

Chucks—over 100 different kinds and sizes in stock. Specials made to order. Cushman Chuck Co., Hartford, Ct.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

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

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv., p. 23.

Automatic taper lathes. Heading and box board machines. Rollstone Machine Co., Fitchburg, Mass.

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

SCIENTIFIC AMERICAN BUILDING EDITION.

AUGUST NUMBER.

TABLE OF CONTENTS.

- 1. Elegant Plate in Colors of a Four Thousand Dollar Residence at Flushing, N. Y., with floor plans, specifications, sheet of details, bills of estimate, etc.
2. Plate in Colors of a Twelve Hundred Dollar Double House, with plans, specifications, sheet of details, bills of estimate, etc.
3. Page engraving of an Elegant Residence corner Eighth Avenue and Berkeley Street, Brooklyn, N. Y.
4. The new United States Court House and Post Office, Montpelier, Vermont. Half page engraving.
5. Half page engraving showing Competitive Design for Carnegie Free Library, Allegheny City, Pa., Jas. W. McLaughlin, Architect.
6. The National Agricultural Exposition Building at Kansas City. Quarter page engraving.
7. Drawing in perspective, with floor plans, of a Forty-five Hundred Dollar Dwelling.
8. Engraving of the Cogswell Polytechnic College, San Francisco, with description.
9. Illustrations of an English Double Cottage of moderate cost.
10. Design for a Marble Fireplace. Half page illustration.
11. Perspective view, with floor plans, of a Handsome Cottage of moderate cost.
12. Design for a Church of moderate cost. Half page illustration.
13. Two elevations and a floor plan of an Austrian Country House.
14. Engraving of Tomb of Colonel Herbingier, Mont Parnasse Cemetery, Paris.
15. Selections of Carved Work from the New Hotel De Ville, Paris. Page of illustrations.
16. Two large views of Engine Room at Ferguslie Mills, Paisley; Decoration in Burmantofts Faience.
17. A French Villa at Enghien-les-Bains, France. Two perspective views and four figures showing floor plans.
18. The College of the City of New York: The Technical Courses. Eleven views of different Departments.
19. Perspective view of City Residence of Herr Windesheim, at Ha le, Germany.
20. The Home of Milton. Full page of views.
21. Quarter page engraving of a Continental Cottage.
22. Miscellaneous Contents: Useful Items for Builders.—A Woodpecker's Sugar Bush.—Preservation of Woodwork.—Sand in Plaster.—One Safe Theater.—A Portable Scaffolding, illustrated.—How to Increase your Wages.—Good Water Promotes Good Health.—Etruscan Tombs.—Floors and Ceilings, Ancient and Modern. By C. Powell Karr, C.E., Consulting Architect. Three illustrations.—Apparatus for Testing Lime and Cement, two figures.—Whitewash—a Fire Extinguisher.—Why Pipes Burst.—How Lamp Chimneys are Made.—The Largest Vase in the World.—Description of an English Laundry.—Mud Architecture in Persia.—How Window Glass is Made.—Use of Basswood.—Painted Plate Glass Mirrors.—Flour adulterations.—Cubic Contents of the Chinese Wall.—A Waterproofing Process for Stone.—Paper Car Wheels, how Made.—Blistering of Paint and Varnish.—Artificial Asphalt.—Staining and Finishing Common Woods.—Plumber's Trap, illustrated.—Improved Bevel, illustrated.—Naval Architecture during the Last Half Century.—Best Effects in Paper Bedroom Decoration.—Planting of Trees and Shrubs.—"Hydrograph" Floors, illustrated.—Laddering a Tall Chimney.—Adamant Wall Plaster.—Temporary Bridges, with illustrations.

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.

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 unequal 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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted August 9, 1887, AND EACH BEARING THAT DATE.

- [See note at end of list about copies of these patents.]
Acid, manufacture of carbonic, C. Arnolds 368,123
Advertising device, E. E. Alderman 367,946
Alarm.—See Burglar alarm. Till alarm.
Ammonia in ammonia motors, etc., apparatus for recovering, P. J. McMahon 367,993
Ammonia, preparing anhydrous, P. J. McMahon 367,992
Annunciator, electrical, Poole & Schneppf 367,925
Auger, earth, J. H. Stowe 368,172
Axles, device for cutting vehicle, O. Whitmore 368,178

- Axles, process of and apparatus for toughening steel, J. Coffin 367,961
Bag, See Base bag. Clothes pin bag.
Bag holder, F. Pease 368,109
Bag holder, H. Schneck 368,016
Baling press, T. J. Corning 368,074
Baling press, W. W. Seeley 367,922
Baling press, S. W. Trabue 367,928
Barrel swing and support, Ford & Waters 367,802
Base bag, J. L. Brown 367,889
Basin sponger, wash, F. R. Johnson 367,944
Battery. See Primary battery.
Beam connection, Sims & Morris 368,019
Bed bottom, spring, Smith & Livinston 368,023
Beehive, F. F. Eckhardt 368,078
Belt and pocket, combined, S. Nathan 367,996
Belt replacer, W. B. Knight 368,094
Belt shifter, J. Ross 367,891
Belt shifter, C. Ross, Jr. 368,009
Belt shifter, oiler, and shaft cleaner, compound, J. W. Erskine 367,900
Belting, machinery for the manufacture of rubber, Plamondon & Palmer 368,166
Bent tube, A. Taplin (r) 10,859
Beverages, purifying and preserving, Soms & Weise 367,938
Bicycle, Tost & McCune 367,883
Binding post, P. J. Higgins 368,149
Block. See Tackle block.
Boat, N. S. & E. B. Bowditch 368,058
Boiler. See Steam boiler.
Boiler, M. Mahony 367,968
Boiler cleaner, W. Kert 367,915
Bolt, A. W. McIntyre 367,927
Book, pocket check, C. R. Smead 368,030
Boot or shoe soles, device for inking the edges of, W. W. Crooker 367,895
Boot or shoe soles, machine for beating out, J. Pray 367,927
Boot or shoe strap, J. L. Roumaniere 368,250
Boot or shoe uppers, mechanism for cleaning, L. B. & F. B. Newhall 368,105
Bottle stopper, M. O. Rheuss 368,113
Box. See Miter box. Pill box.
Box, A. S. Nichols 367,886
Box board caps, device for cutting, J. Weber 367,875
Box fastening, card board, S. Geiger 367,970
Box strap, J. K. Chase 367,892
Bracket. See Dental engine bracket.
Brake. See Car brake.
Brake, H. Dewey 367,65
Broom corn, machine for cutting, G. E. Burkholder 367,957
Brush handle attachment, G. J. Cline 368,070
Buckle, hame tug, C. Rozell 368,071
Buckle, suspender, D. L. Smith 368,022
Bung and bushing, O. Eisenhuth 368,139
Burglar alarm, S. T. Lamb 368,096
Burner. See Gas burner. Lamp burner. Hydrocarbon burner.
Bustle, H. P. Olmstead 368,106
Bustle, H. Payne 368,000
Butter, purifying and preserving, G. W. Towar, Jr. 367,940
Button attaching machine, W. O. Crain 368,134
Buttonholes, making, J. D. Wentworth 368,036
Button or stud, T. I. Smith 367,860
Button setting machine, L. C. Emerson 368,141
Buttons to materials, securing, W. E. Bennett 368,124
Buttoner, glove or shoe, J. B. Smith 368,074
Cable hanger, F. E. Degenhardt 368,136
Camp kit, N. Jensen 367,812
Can machine, tin, Hazen & Merrill 367,978
Car brake, A. Argo 367,947
Car brake, C. E. Garey 367,805
Car brake, automatic, J. Y. Davis 367,791
Car coupling, Baker & Prescott 367,948
Car coupling, N. Edwards 367,798
Car coupling, C. H. Knowlton 368,155
Car coupling, W. A. Macomb 367,819
Car coupling, G. W. Wilson 367,944
Car door fastener and spark arrester, box, H. C. Lynch (r) 10,855
Car, dumping, G. F. Whitman 368,038
Car, railway passenger, L. C. Hyde 367,811
Car replacer, J. L. Dwight 367,947
Car, sleeping, J. W. Post 368,005
Car ventilation, J. M. Waggoner 368,040
Car ventilator, railway, F. Hanson 368,148
Cars, sealing attachment for freight, J. Jordan 368,152
Carboy carrier and stand, I. Hillebrand 367,980
Carburetor for air or gas, C. B. Dudley 368,187
Carding machine, S. D. Keene 367,914
Carding machine, A. F. Schmid 367,853
Carriage, child's, J. W. Savene 367,935
Carrier. See Carboy carrier. Cash and package carrier. Cash carrier.
Cart, road, J. H. Shuffelt 367,854
Case. See Filing case. Toilet case.
Cash and package carrier, Bostedo & Thomas 367,951
Cash and package carrier, H. M. Weaver 367,874
Cash carrier, H. Thomas 368,029
Cask or barrel, I. H. Spelman 368,028
Caster, furniture, O. Pederson 368,110
Casting brass, mould for, W. Adams 367,774
Chain and pen and pencil holder, combination watch, N. Frere 367,804
Check hook, J. B. Higgins 367,810
Chopper. See Cotton chopper.
Churn, A. M. Dunn 367,797
Cigar bunching machine, E. A. Kitzmiller 367,916
Cigar bunching machine, Kitzmiller & Culley 367,917
Cigar perforator, L. W. Fairchild 367,900
Cigars, forming long fillings for, O. Hammerstein 367,906
Clamp, F. J. Moser 368,104
Cleaner. See Boiler cleaner. Cotton cleaner. Flue cleaner.
Clip. See Hame clip.
Clock, magnetic, D. Drawbaugh 367,898
Clock system, electric, C. L. Clarke 367,960
Clothes drier, D. C. Westfall 368,036
Clothes pin bag, W. Jamieson 368,091
Clutch, friction, G. A. Slayton 367,856
Cock, stop, A. Convert 368,073
Coffee pot, J. Boudinot 367,780
Coffin handle, H. W. Morgan (r) 10,856
Collar, horse, J. Boleksa 367,950
Cotton chopper, G. W. Featherston 368,082
Cotton cleaner and condenser, D. Hess 368,087
Coupling. See Car coupling. Electric coupling. Sleigh coupling. Thill coupling.
Coupling hook, J. D. Gawn 367,969
Creel, Hanson & Nourse 367,906
Cuff holder, S. B. Ellithorp 368,081
Cultivator, W. K. Hoaland 367,912
Cultivator, W. F. Hubbell 367,922
Cultivator, J. H. Moore 367,156
Cutlery or similar articles, manufacture of, H. A. Brognard 368,081
Cutlery, etc., manufacture of, H. A. Brognard 368,080
Cutter. See Meat cutter.
Damper for furnace and other regulators, C. L. Ridgway 367,947