

ENGINEERING INVENTIONS.

An elevated railway has been patented by Mr. James M. Hannahs, of Chicago, Ill. Combined with a special construction of transverse arched trusses are longitudinal girders with steps resting on upper and lower angle irons of the trusses, with other novel features, designed to make a light and stable structure, the invention being an improvement on a former patented invention of the same inventor.

A railway rail bender and straightener has been patented by Messrs. Emory M. Woodin and Frank J. Gibbs, of Tyrone, Pa. The invention covers a novel construction and combination of parts, making a simple and powerful device whereby a rail may be quickly and effectively curved, or a curvature in a rail in position on the ties may be taken out and the rail straightened.

AGRICULTURAL INVENTIONS.

A machine for distributing fertilizers has been patented by Mr. James R. McCord, of Jackson, Ga. It is for distributing manures wet or dry, adapted for two rows at the same time, and to be adjusted for rows a greater or less distance apart, and to automatically follow irregular rows.

A cultivator has been patented by Mr. Jacob Shuck, of Blue Springs, Neb. It is applicable either as a corn cultivator or as a flat cultivator for wheat, is designed not to clog, and to automatically adjust itself to the contour of the ground over which it is passing.

A corn shock tyer has been patented by Mr. Uriah B. Watkins, of Barclay, Kansas. It is made with a sharpened pin, a metal stock being fixed to the shank, in connection with a knotted cord tightener, and has other novel features, to facilitate tying shocks of corn or other grain to protect them from storm.

MISCELLANEOUS INVENTIONS.

A soap compound has been patented by Mr. Frederick C. Bauer, of Philadelphia, Pa. The invention consists in combining with finely granulated porous material, such as sawdust, a quantity of soap of any approved manufacture.

An automatic damper has been patented by Mr. William A. J. Beauchamp, of Orange, Texas. By this invention an expansion bar is arranged in connection with a series of levers connected to the damper, whereby the fire may be controlled as desired.

A shirt has been patented by Mr. Jacob Falkenberg, of New York City. It has a front piece stitched by seams between the center of the form piece and its side edges to form two flies, adapted to be folded to form a single, or opened out to form a double breasted front.

A sulky has been patented by Mr. Moses McCormick, of Calverton, Md. The invention relates to trotting sulkies, and provides an improved construction and arrangement of parts whereby the horse may be hitched closer to the driver's seat, and the sulky made lighter, less complicated, and stiffer.

An advertising stand has been patented by Messrs. Moses D. Greengard and Fradelshon Harris, of St. Louis, Mo. The invention covers a peculiar construction and arrangement of parts in a stand for holding goods to be displayed, and provided with an advertising plate.

A mop wringer has been patented by Mr. Henry I. Hotchkiss, of South Ryegate, Vt. It is designed to have a substantial support on and in a pair of tubs, to balance the strains incident to wringing the mop, and prevent upsetting of the vessel, while allowing mops to be quickly and easily wrung.

A tag hook or needle has been patented by Mr. Oliver H. Hunter, of Warren, Pa. The invention covers a peculiar construction of needle for attaching a string ticket to the inner fold of a roll of goods, so as to avoid cutting off the ticket before the last yard of the piece is taken.

A salt making apparatus has been patented by Mr. Richard G. Peters, of Manistee, Mich. The invention covers a novel construction designed to utilize the waste heat from the vacuum pans to heat the grainers, which are of the ordinary type, instead of employing live steam for such purpose.

A sad iron has been patented by Mr. August F. Chable, of Evansville, Ind. It is of that class which rotate or are made reversible, so that different faces or irons may be used with one frame or handle, and is adapted to be evenly and quickly heated by any suitable hydrocarbon, such as naphtha at 74°.

A rubber dental plate has been patented by Mr. Ezra W. Talbott, of Napoleon, Ohio. The invention mainly consists in the use of two plates in manufacturing and finishing rubber dental plates, by a novel method of operation, to economize rubber and save much of the labor now required in their manufacture.

A sweat pad hook has been patented by Mr. Charles J. Gustavson, of Salt Lake City, Utah Ter. It is attached to the pad so as to be attachable and reversible, and so formed as to embrace the rim of the collar and be tightly held between the rim and the harness, to support the pad and also prevent the hames from slipping forward.

A driving mechanism for elevators has been patented by Mr. Joseph P. Bower, of Des Moines, Iowa. The invention consists of a belt pulley having internal gear teeth meshing into a gear wheel rotated by a train of gear wheels connected with the main driving shaft, a double flanged pulley forming part of the support for the belt pulley.

A head rest for barbers' chairs has been patented by Mr. Charles W. Delaney, of Hammond, Ind. A pivot projects from a circular plate secured to

the back of the chair, a slotted head rest bar being held upon the pivot, the bar being turned outwardly to form a shoulder to which is hinged a pillow, which may be turned to different positions.

A transom lifter has been patented by Mr. Albert Langstrom, of Council Bluffs, Iowa. Combined with a transom window is a lifting rod having notches, and sliding in fixed brackets at the side, making a simple and easy means for opening and closing the window, or for locking it in an open, partially open, or closed position.

A hair clipper has been patented by Mr. John Bestgen, of Boston, Mass. It has a fixed comb plate, with cutting knives and a cutter plate, operated through a gearconnection by turning a handle, with various novel features, making a device designed not to tire the operator, while being very quick and accurate.

An amalgamator has been patented by Mr. Nathan L. Raber, of Corvallis, Oregon. The construction provides a check valve for preventing the immediate contact of the feeder and the mercury, and the flowing of the latter from the motion of the former, a perforated partition plate for partially breaking up the circulation, with a concentrator at the upper end of the pansand means for oscillating it.

SCIENTIFIC AMERICAN
BUILDING EDITION.

FEBRUARY NUMBER.

TABLE OF CONTENTS.

1. Elegant Plate in Colors showing the perspective elevations of two Dwellings at Orange, N. J., costing about Five Thousand Dollars each, with floor plans, sheet of details, etc.
2. Plate in Colors of a House in the Colonial style, costing about Five Thousand Five Hundred Dollars, with floor plans, sheet of details, etc.
3. Elevation and first story plan of a Splendid Apartment House.—Geo. H. Griebel, architect, New York.
4. Perspective view and floor plans for a Suburban Residence, costing Sixteen Thousand Dollars.
5. Illustrations consisting of plans and perspective, for a corner house to cost about Five Thousand Five Hundred Dollars.
6. Views of two substantial Dwellings, at Springfield, Mass.
7. Perspective view and floor plans of a Dwelling of moderate cost.
8. Illustrations of a Residence at Latrobe, Pa., and a residence at Pittsburg, Pa., with floor plan.
9. Engraving of the beautiful new Cancer Hospital, New York.—C. C. Haight, architect.
10. Front elevation and plan of a small School House, costing about One Thousand Eight Hundred Dollars.
11. Perspective sketch of Main Stairway and Hall of the Handsome Residence of Mr. D. J. Chandler, at Chattanooga, Tenn.
12. Illustrations with floor plans of Snow Hall of Natural History, at Lawrence, Kansas.—Mr. J. G. Haskell, Topeka, Kas., architect.
13. Engravings of the Tavern, the Casino, and Casa Grande, at Decatur, Ala., also a picture of the Anniston Inn, at Anniston, Ala.
14. Sketch of the Birthplace of James Watt, at Greenock-on-the-Clyde.
15. A Riverside Residence at Maidenhead.—E. H. Bourchiers, architect.
16. Suggestions as to the adornment of Highways, with five figures.
17. Two perspective views and floor plans of a Villa on the Square of the Bois de Boulogne, in Paris.
18. Pictures of the great Lumber Raft recently lost at sea.
19. Designs for Furniture.
20. Scene in the Court of Inquiry as to the Cause of the Fire at the Opera Comique, Paris.
21. Miscellaneous Contents: Plastering; how it is applied, finished, and decorated.—Brick as a Building Material.—The Doorway of San Petronio at Bologna.—How I Build an Ice House.—Fireproof Wood.—Flow of Water through Pipes.—Classification of Styles.—Recent Discoveries at Pompeii.—Pressure at which Lead Pipes Burst.—New Materials and Inventions.—French Plaster.—New Method of Waterproofing Brick Walls.—Building Prospects.—Importance of Carpentry.—Permeability of Building Materials.—Compost for Cuttings.—Stiffness in Girders.—The Temple of Soleb, Ethiopia.—The Architect of Rome.—Worthless "Fireproof" Buildings.—Compound for Patching Stone.—The Chair of Queen Hatasu, illustrated.—The E. N. Gates System of Hot Water Heating, illustrated.—How to Braze Brass to Copper.—An Agate Forest in Arizona.—Pratt's Blind Opener, illustrated.—Drawing Instruments.—The Cortright System of Metal Plate Roofing, with illustrations.—Adjustable Tools, illustrated.—Art Metal Work, with illustration.

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

Curtis Pressure Regulator and Steam Trap. See p. 77.

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NEW BOOKS AND PUBLICATIONS.

MINERAL RESOURCES OF THE UNITED STATES. Calendar year 1886. David T. Day, Chief of Division of Mining Statistics and Technology. Washington: Government Printing Office. 1887. Pp. viii, 813.

We welcome the appearance of this interesting volume, that each year gains in character and value. A short summary of statistics of the mineral products of the United States in general opens the body of the

work. This is by the editor. After this the various products are treated *seriatim*. Iron, copper, lead, nickel, and the other leading metals, mineral products, and coal, are each written about by leading specialists. Not the least interesting part of the present large volume is the treatise by E. R. L. Gould upon mining law. To this nearly seventy pages are devoted, so that a treatment at once comprehensive and concise is guaranteed. As we so often have occasion to remark in these columns, want of space inevitably prevents us from giving a review, properly speaking, of so extensive a work. It may be correctly said that the book is its own best review, so little does it lend itself to summarizing or abbreviation.

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INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

January 31, 1888,

AND EACH BEARING THAT DATE.

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

| | |
|--|------------------|
| Acid tester, manufacture of salicylic. C. Kolbe..... | 377,311 |
| Advertising stand, Greengard & Harris..... | 377,251 |
| Amalgamator, N. L. Raber..... | 377,272 |
| Ammunition case, E. C. Fremaux..... | 377,150 |
| Annunciator, electric, J. W. Hoffman..... | 377,256 |
| Anker, square hole, Hughes <i>et al.</i> | 377,199 |
| Axle lubricator, car, E. Pynchon..... | 377,271 |
| Bale tie, G. A. Weld..... | 377,062 |
| Barbers' chairs, head rest for, C. W. Delaney..... | 377,147 |
| Basin, catch, J. Wiedmann..... | 377,056 |
| Battery. See Galvanic battery. | |
| Bedstead, folding, J. G. Twiss..... | 377,179 |
| Belt, electric, G. W. & P. C. Totman..... | 377,216 |
| Belt fastener, E. Weitzman..... | 377,129 |
| Belt, lady's, F. Scholl..... | 377,276 |
| Belting, manufacture of leather link, C. A. Schieren..... | 377,334 |
| Block. See Lettering block. | |
| Blotting pad, C. M. Moore..... | 377,040 |
| Board. See Center board. | |
| Boiler. See Steam boiler. | |
| Boiler attachment, auxiliary, J. H. Laumann..... | 377,313 |
| Boiler for steam heating, H. & C. A. McLaughlin..... | 377,322 |
| Boiler pipe coupling, J. Hollinger..... | 377,156 |
| Boiler tube cleaner, H. Randall..... | 377,171 |
| Book, manifold order, J. S. McDonald..... | 377,360 |
| Boot or shoe sole, G. W. Ellis..... | 377,244 |
| Bottle stopper, F. P. Morhouse..... | 377,042, 377,043 |
| Box. See Cigar box. Miter box. | |
| Box loops, die for finishing, Perkins & Miller..... | 377,267 |
| Brace. See Rail brace. | |
| Bracket. See Clapboard bracket. | |
| Braid, J. McCahey..... | 377,320 |
| Brake. See Car brake. Railway brake. Wagon brake. | |
| Brush, W. Unger..... | 377,180 |
| Burner. See Hay and straw burner. Lamp burner. | |
| Button or stud, S. L. Child..... | 377,255 |
| Can. See Glue packing can. | |
| Candles or tapers, shade for, C. C. Worthington..... | 377,435 |
| Car brake and starter, J. N. Williams..... | 377,094 |
| Car coupling, W. F. Braun..... | 377,280 |
| Car door, safety, H. L. Renne..... | 377,340 |
| Car, hand, D. Chapel..... | 377,362 |
| Car replacer and portable switch, T. Holliday..... | 377,155 |
| Car seat, reversible, W. B. Luce..... | 377,205 |
| Car starter, J. O'Neill..... | 377,113 |
| Car transferring apparatus, R. Robinson..... | 377,117 |
| Car wheels, machine for truing, R. Bagaley..... | 377,324 |
| Cars, steam pipe connection between railway, J. R. Drodzewski..... | 377,065 |
| Cars, traveling current collector for electric railway motor, W. M. Schlesinger..... | 377,215 |
| Card grinding mechanism, W. H. Rankin..... | 377,316 |
| Carpet stretcher, J. A. Kienard..... | 377,309 |
| Carriage, cradle, and chair, combined, H. G. Portmann..... | 377,270 |
| Carriage jacks, oiling attachment for, B. F. Lancaster..... | 377,262 |
| Carriages, weather protector for, J. L. Heise..... | 377,105 |
| Cart, road, R. D. Buckingham..... | 377,061 |
| Case. See Ammunition case. | |
| Cash register and indicator, J. J. Webster..... | 377,342 |
| Casks, machine for making, C. & W. W. Hewitt..... | 377,344 |
| Center board, folding, A. Barnum..... | 377,134 |
| Chain, drive, F. F. Schofield..... | 377,120 |
| Chain, drive, D. J. Sheldrick..... | 377,121 |
| Chain, sheet metal, G. M. Jewett..... | 377,076 |
| Chair. See Reclining chair. | |
| Cigar box, F. A. Ford..... | 377,245 |
| Circle, double reflecting, C. H. Townsend..... | 377,298 |
| Clapboard bracket, J. A. Traut..... | 377,178 |
| Clasp. See Corset clasp. | |
| Cleaner. See Boiler tube cleaner. | |
| Clip. See Paper clip. | |
| Clipper, hair, J. Bestgen..... | 377,138 |
| Clock and lamp, combined, J. M. Crawford..... | 377,240 |
| Cloth napping machine, H. N. Grossell, Filis..... | 377,151 |
| Coating iron, wood, canvas, etc., compound for, J. F. Martin..... | 377,081 |
| Cock, gauge, J. McGwin..... | 377,321 |
| Coffin fastener, J. R. Corbett..... | 377,320 |
| Coffin fastener, Duell & Laass..... | 377,355 |
| Coffin fastener, W. J. Noble..... | 377,325 |
| Coffins, head rest for, J. L. Krauser..... | 377,164 |
| Collar fastening, horse, A. F. Ransom..... | 377,068 |
| Collar pad, R. Schwahn..... | 377,088 |
| Color chart or scale, F. C. Schroeder..... | 377,066 |
| Coloring matter, production of new red, M. Cere-sole..... | 377,349, 377,350 |
| Corn shock tier, U. B. Watkins..... | 377,182 |
| Corset clasp, M. P. Bray..... | 377,282 |
| Cotton openers, evening mechanism for, J. C. Potter..... | 377,329 |

Coupling. See Boiler pipe coupling. Car coupling. Hose coupling. Pipe coupling. Rod coupling.

Cultivator, E. & J. P. Reichart..... 377,273

Cultivator, J. Shuck..... 377,174

Cup. See Paint cup.

Current motive and regulating device, alternating, E. Thomson..... 377,217

Cylinder, Cardon & Lundberg..... 377,234

Damper, automatic, W. A. J. Beauchamp..... 377,136

Dental plate, rubber, E. W. Talbott..... 377,177

Dough mixing machine, S. M. Clark..... 377,064

Draught equalizer, F. E. Davis..... 377,018

Draught equalizer, W. H. Fritts..... 377,024

Drawer for furniture, etc., J. Peterson..... 377,269

Dredging machine, M. F. Brainard..... 377,060

Dress form, Uford & Hendrick..... 377,338

Drill, J. A. Grassman..... 377,249

Elastic cord, Green & Caswell..... 377,027

Electric machines, armature for dynamo, E. J. O'Beirne..... 377,046

Electric motor, E. M. Bentley..... 377,230

Electric motor, C. T. Mason, Sr..... 377,319

Electric motor regulation, D. Higham..... 377,255

Electrical apparatus, protecting device for, A. E. Hibbard..... 377,073

Electrolyte compound, G. B. Pennock..... 377,210

Elevator. See Hay elevator.

Elevators, driving mechanism for, J. P. Bower..... 377,153

Elevators, operating mechanism for hydraulic, N. C. Bassett..... 377,346

Engine. See Rotary engine. Rotary steam engine. Steam engine. Traction engine.

Engine crank shafts, instrument for testing the fairness of steam, J. Paterson..... 377,115

Engines, apparatus for recording the variations of speed in motive power, N. Macbeth..... 377,111

Envelope sealer and stamper, H. J. Moore..... 377,170

Eraser holder, F. G. Osborn..... 377,209

Extractor. See Lemon juice extractor.

Fabric turning implement, E. E. Connett..... 377,192

Faucet, measuring, O. Martinson..... 377,165

Fence, food, H. A. Mace..... 377,087

Fence machine, slat and wire, G. W. Packer..... 377,327

Fence post, metallic, L. D. Miller..... 377,323

Fender, H. Howe..... 377,074

Ferrules for cant hooks, making, E. Mansfield..... 377,083

Fertilizers, machine for distributing, J. R. McCord..... 377,186

Fertilizing composition, G. H. Murray..... 377,064

Fireproof partition, P. Smith..... 377,175

Fire escape, J. Batten..... 377,058

Fire escape, M. Naylor..... 377,266

Fish hook, C. Kerrison, Jr..... 377,033

Fishing hook, C. F. Dietz..... 377,234

Fishing reel, G. S. Gates..... 377,100

Flooring, wood block, W. Duffy..... 377,068

Foot gear, M. Langen..... 377,203

Fork. See Tedder fork.

Furnace. See Heating furnace.

Gauge. See Siding gauge.

Galvanic battery, Urquhart & Nicholson..... 377,340

Garment, waist, V. Ulke..... 377,339

Gas, device for heating coils and pipes by, W. M. Brown..... 377,015

Gate. See Water gate.

Generator. See Hydrocarbon generator. Steam generator.

Glue, mucilage, etc., package for liquid, J. W. Kirkpatrick..... 377,084

Glue packing can, liquid, R. Brooks..... 377,014

Governor, steam engine, J. A. Horton..... 377,028

Governor, steam engine, F. McMahon..... 377,168

Grain adjuster, W. L. Shake..... 377,216

Grain binder, J. E. Buxton..... 377,062

Grain binder, P. Hanson..... 377,069

Grain binder, Whitely & Brown..... 377,093

Grinding cutlery, A. Johnston..... 377,202

Grinding machine, cutlery, A. Johnston..... 377,201

Grinding machine, emery belt, C. E. Roberts..... 377,212

Gum rack for tents, S. S. Pague..... 377,114

Gymnasium, equestrian, E. G. Butcher..... 377,333

Harness attachment, J. R. McDonald..... 377,112

Harrow, S. Ritty..... 377,213

Harrow and pulverizer, combined, G. P. Atchison..... 377,233

Harrow, spring tooth, L. D. Swart..... 377,053

Harrow tooth, Harwood & White..... 377,359

Harvester, J. B. Gemmill..... 377,067

Harvester, S. V. Kennedy..... 377,077

Harvester, W. R. Steiner..... 377,091

Hat brims, rounding jack for, M. Hild..... 377,154

Hay and straw burner, O. E. Mesick..... 377,208

Hay elevator, P. F. Chambard..... 377,061

Hay or grain unloader, A. P. Boyer..... 377,012

Hay rake, horse, T. W. Greene..... 377,103

Heating furnace, W. Sutcliffe..... 377,279

Heel nailing and breasting machine, E. B. Allen..... 377,285

Heel nailing machine, F. F. Raymond, 2d..... 377,172

Heel trimming machine, E. B. Allen..... 377,284

Heel rimming machine, C. W. Glidden..... 377,302

Heel machine, C. W. Glidden..... 377,301

Hinge, F. H. Knight..... 377,110

Hinge, sheet metal, Hart & Corcoran..... 377,104

Hinge, spring, Kochsmeier & Waldorf (r)..... 10,896

Hog scraping machine, Cunniff & Lowry..... 377,353

Holting and loading machine, D. S. White..... 377,183

Holting machinery, unwinding safety device for, N. B. Cushing..... 377,017

Holder. See Eraser holder. Iron holder. Pencil holder. Ticket holder.

Hook. See Fish hook. Fishing hook. Sweat pad hook. Tag hook.

Horse blanket fastener, E. E. Dillon..... 377,097

Rose coupling, F. A. Jacob..... 377,075

Hub, vehicle, G. S. Elliott..... 377,295

Hub, wheel, W. J. Brewer..... 377,187

Husks, etc., machine for picking, F. Cohnen..... 377,086

Hydrant, E. Hand..... 377,357

Hydrocarbon generator and burner, J. B. Deeds..... 377,019

Ice creeper and skate, convertible, R. C. Abbott..... 377,131

Ice machines, absorber for, T. H. Butler..... 377,189

Ice shaver, J. C. Wharton..... 377,365

Indicator. See Station indicator.

Ingot, iron or steel, C. A. Marshall..... 377,316

Insect destroyer, T. H. Webb..... 377,127

Insulating electric conductors, R. Scheffbauer..... 377,118

Iron. See Sled iron. Shaft iron.

Iron holder, J. Fischer..... 377,297

Journal bearing, M. Randolph..... 377,049

Kettle, confectioner's, W. & C. L. Cairns..... 377,144

Key fastener, F. R. De Lisle..... 377,020

Knife, M. Schweizer..... 377,334

Ladder, H. T. Webster..... 377,219

Lamp burner, kerosene, T. Fitzgerald..... 377,195

Lamp roller, G. C. Foote..... 377,066

Lanterns, reflector attachment for tubular, L. F. Betts..... 377,287

Latch and lock, combined, M. Jobborn..... 377,200

Lathe, turning, E. Lindner..... 377,030

Lathe, attachment for turning, E. Lindner..... 377,079

Leather cutting cutting machine, W. Freeman..... 377,238

Lemon juice extractor, R. E. Bristow..... 377,140

Lemon squeezer, W. K. Crofford..... 377,291

Lettering block, J. Springer..... 377,000

Lifter. See Transom lifter.

Liquids, machine for agitating, J. F. Mains..... 377,315

Lock. See Nut lock.

Locomotive, electric, E. M. Bentley..... 377,229

Looms, positive shuttle motion for, J. Maw..... 377,207

Lubricator. See Axle lubricator.

Lubricator, H. N. Hewlett..... 377,253, 377,254

Measuring apparatus, grain, A. J. Simpson..... 377,278

Metal frame, ornamental, R. G. Boreham..... 377,241

Mines, timber structure for, G. J. Goodhue..... 377,197

Mirror, hand, L. Wiederer..... 377,282

Miter box, B. F. Gardiner..... 377,289

Mould. See Sand mould.

Moulding apparatus, sand, S. J. Adams..... 377,005 to 377,008

Mop wringer, H. I. Hotchkiss..... 377,157

Motion, means for converting, H. L. Arnold..... 377,133

Motor. See Electric motor.

Nail machine, wire, J. L. Corey..... 377,238

Nut lock, L. Anderson..... 377,185

Nut lock, J. H. Burdick..... 377,188

Nut lock, R. M. Johnson..... 377,307

Nut, tapping machine, E. N. Beecher..... 377,286

Oil, device for burning hydrocarbon, G. K. Cummings..... 377,146

Ordinance, recoil mounting for, A. Noble..... 377,326

Ore pulverizer, W. McLean..... 377,167

Overcheck crown loop, Johnson & Jacobus..... 377,308

Pad. See Blotting pad. Collar pad.

Paint cup, N. Iloway..... 377,306

Paper bag machine, Lorenz & Honiss..... 377,314

Paper clip and punch, combined, J. C. Jensen..... 377,081

Paper fastener, J. C. Jensen..... 377,029, 377,032

Paper fasteners, insert or needle for, J. C. Jensen..... 377,030

Paper folding machine, W. Downink..... 377,354

Paper leather board, etc., compound for making, C. E. Haynes..... 377,072

Paper leather board, machine for making, C. E. Haynes..... 377,071

Paper testing machine, E. Mill..... 377,361

Parers, slicing and coring knife for apple, C. E. Hudson..... 377,106

Perambulators, steering device for, Gorman & Fletcher..... 377,102

Pencil holder, C. De Meyer..... 377,194

Piling and substructure, metal, S. W. Robinson..... 377,332

Pin. See Safety pin.

Pipe. See Tobacco pipe.

Pipe coupling, L. T. White..... 377,130

Planing machine, wood, W. H. Gray..... 377,250

Planter, corn, A. G. Beale..... 377,050

Plow, S. Barr..... 377,226

Plow, W. A. Fairbanks..... 377,236

Plow attachment, W. Tyers..... 377,126

Pop corn balls, machine for making, W. T. Goodwin, Jr..... 377,303

Post. See Fence post.

Post, A. W. Tourgee..... 377,337

Post anchor, F. Hay..... 377,070

Press, J. F. Allen..... 377,132

Propeller, buoyant, O. Vandenberg..... 377,181

Propelling mechanism, boat, A. B. Smith..... 377,123

Pulley cover, J. G. Jebb..... 377,161

Pulley for variable speed, J. F. Welch..... 377,281

Pulverizer, A. H. Bliss..... 377,288

Pump, force, B. C. Vanduzen..... 377,064

Pump rod attachment, S. Barr..... 377,225

Punching and shearing machine, metal, G. McDonald..... 377,364

Rack. See Gun rack.

Rail brace, F. C. Weir..... 377,220

Railway brake, F. A. Holleman..... 377,198

Railway, electric, R. M. Hunter..... 377,107

Railway, elevated, J. M. Hannahs..... 377,153

Railway rail bender and straightener, Woodin & Gibbs..... 377,184

Railway rails to their ties, device for fastening, H. D. Cone..... 377,191

Railway tie, G. Kelton..... 377,162

Railway traction cable, P. J. Franske..... 377,023

Rake. See Hay rake.

Reclining chair, adjustable, L. Berger..... 377,011

Reel. See Fishing reel.

Refrigerator, S. Fritch..... 377,246

Register. See Cash register.

Regulator. See Temperature regulator.

Rigging, device for setting up, F. Wheeler..... 377,055

Riveting machine, J. L. Saxe et al..... 377,051

Road and ditching machine, reversible, H. C. Moore..... 377,041

Rock drills, core lifter for annular, H. Cossette..... 377,239

Rod coupling, J. Bottomes..... 377,186

Roller. See Land roller.

Rotary engine, P. J. Weber..... 377,364

Rotary steam engine, A. B. Bullock..... 377,143

Sad iron, A. F. Chable..... 377,851

Safe linings, etc., compound for, I. P. Wendell..... 377,343

Safety pin, J. Jenkins..... 377,108

Salt making apparatus, R. G. Peters..... 377,368

Sand mould, S. J. Adams..... 377,009

Sand moulds, apparatus for withdrawing patterns from, S. J. Adams..... 377,004

Sand moulds, withdrawing patterns from, S. J. Adams..... 377,010

Saw jointer, R. E. Poindexter..... 377,328

Scale for weighing grain, J. Dable..... 377,292

Scraper and grader, road, W. J. Martin..... 377,082

Scythe fastener, L. R. Edwards..... 377,022

Seat. See Car seat.

Seat convertible into a table, L. Evans..... 377,356

Seeding machine, W. D. Arnett..... 377,222

Sewing machine quilting attachment, H. T. Davis..... 377,242

Sewing machine ruffing attachment, E. J. Toof..... 377,363

Sewing machine shuttle, Snitjer & Kuehn..... 377,052

Shaft bearing, vertical, W. H. Evans..... 377,148

Shaft iron, A. B. Webster..... 377,128

Sheet metal bending machine, E. R. Stasch..... 377,336

Shirt, J. Falkenberg..... 377,149

Signaling gauge, H. Russell..... 377,085

Signaling system, electrical auxiliary, Milliken & Lytle..... 377,083

Soap compound, F. C. Bauer..... 377,135

Spinning machine spindle support, A. Wood (r)..... 10,897

Sput for sheet metal vessels, D. Prendegast..... 377,048

Spring, J. Trent..... 377,125

Stamp, combination printing, T. Bartholomew..... 377,227

Stand. See Advertising stand.

Station indicator, J. Iglesias..... 377,258

Steam boiler, F. G. Fowler..... 377,059

Steam boiler, sectional, A. Mercer..... 377,265

Steam engine, H. N. Gale..... 377,247

Steam generator, F. M. Bartlett..... 377,228

Steam generator, T. F. Morrin..... 377,324

Steam trap, F. J. Hladky..... 377,306

Stone, artificial, E. R. Schroeter..... 377,173

Stone or cement, composition for the manufacture of artificial, L. Lichtentag..... 377,036

Stopper. See Bottle stopper. Vessel stopper.

Stove for railway cars, C. Bassini..... 377,067

Stove, parlor, M. Schneider..... 377,119

Stove, vapor, M. L. Hull..... 377,159

Straw stacker, J. C. Eckstine..... 377,243

Stringed instruments, tail piece for, W. Gerke..... 377,068

Sulky, M. McCormick..... 377,045

Sulky, trotting, W. E. Jamson..... 377,035

Surgical splint, A. Caller..... 377,145

Sweat pad hook, C. J. Gustavson..... 377,152

Tag and manufacture of same, W. P. Kidder..... 377,103

Tag hook or needle, O. H. Hunter..... 377,160

Tally, grain, R. R. Howell..... 377,158

Tea kettle, Snyder & Waigle..... 377,124

Tedder fork, C. H. Paxson..... 377,047

Telegraph instrument, W. S. Logue..... 377,110

Telegraph, railway, C. W. Williams..... 377,344

Telephone and telegraph circuits, plug switch for, G. H. Cole..... 377,237

Temperature regulator, electric, L. F. Easton..... 377,021

Thrashers, elevator and weighing attachment for, C. J. Hartley..... 377,358

Thrashing machine, J. A. Rouse..... 377,214

Ticket holder, M. H. Straus..... 377,176

Tickler, office, F. E. Smith..... 377,335

Tie. See Bale tie. Railway tie.

Time recorder, employee's, C. E. Van Voorhis..... 377,341

Tobacco pipe, H. Cullabine..... 377,241

Tool, combination, J. Brouse..... 377,142

Tool handles, screw key fastening for, G. Hoffmann..... 377,257

Tooth, artificial, D. Genese..... 377,248

Toy savings bank, C. S. Iredell..... 377,259

Track, overhead, H. G. Murrell..... 377,044

Traction engine, D. Remington..... 377,274

Trade marks and attaching them to fabrics, forming, G. J. Browne..... 377,141

Transom lifter, A. Langstrom..... 377,312

Transom lifter, H. E. Russell, Jr..... 377,362

Trap. See Steam trap.

Truck for cars, motor, H. Skinner..... 377,122

Trunk or chest, M. J. S. Marshall..... 377,069

Tube and making the same, seamless, C. A. Marshall..... 377,318

Tube blank and making the same, C. A. Marshall..... 377,317

Tubes, making seamless, W. H. Brown..... 377,348

Twine, J. Lyall..... 377,263

Valve, balanced slide, E. J. Armstrong..... 377,221

Valve, slide, D. O. Ladd..... 377,078

Vehicle gear, H. Clark..... 377,190

Vehicle gear, Ring & Lavoy..... 377,211

Vehicle running gear, J. Jackson..... 377,260

Velocipede, E. G. Latta..... 377,204

Vent plug, M. Schuetz..... 377,087

Vessel stopper, J. Ringen..... 377,275

Wagon brake, J. Gift..... 377,101

Wagon, dump, G. W. Richardson..... 377,331

Wall covering, manufacture of, I. B. Abrahams..... 377,283

Washboard making machine, J. R. Cluxton..... 377,236

Washing machine, J. Shill..... 377,277

Water closets, apparatus for regulating the supply of liquids for, W. Davies..... 377,293

Water closets, etc., water supply apparatus for, D. S. Keith..... 377,261

Watergate, E. E. Smith..... 377,089

Water heating apparatus, A. P. Cregue..... 377,036

Watering hogs and other animals, device for, D. F. & J. A. Collingwood..... 377,016

Weighing, registering, and bagging machine, grain, G. R. Kendrick..... 377,163

Welding chain links, machine for, Covert & Bingham..... 377,193

Wheels, apparatus for the manufacture of, F. H. Gibbs..... 377,196

Whiffletree, spring, J. H. Foote..... 377,025, 377,026

Whip snapper attachment, W. Becker..... 377,137

Winding silk, etc., spool holding spindle for, J. Martzloff..... 377,206

Window and means for securing the same, outside, B. P. Brooks..... 377,013

Wire, barbed, J. W. Griswold..... 377,252

Wire stretcher, J. R. Merideth..... 377,169

Wringer. See Mop wringer.

DESIGNS.

Medallion, etc., W. D. Smith..... 18,034

Trimminz, I. Goodman..... 18,033

TRADE MARKS.

Belting, rubber, H. D. Edwards & Co..... 15,155, 15,156

Blacking or polish for stoves, Black Flag Stove Polish Company..... 15,135

Boots and shoes, T. A. Whiche & Co..... 15,157

Brooms, corn, R. R. & B. F. Carroll..... 15,158

Cigars, E. Aschermann & Co..... 15,133

Cigars and cigarettes, Waldauer & Baer..... 15,150

Cutlery, scissors, razors, and table cutlery, pocket, Schmachtenberg Bros..... 15,146

Ejectors, steam water, W. J. Sherriff..... 15,146

Food, concentrated stock, J. H. Pollard..... 15,141

Hats, caps, and helmets, L. Bennett & Co..... 15,137, 15,153, 15,154

Hoof stimulant, O. J. Murphy..... 15,139

Horse blankets, W. Ayers & Sons..... 15,134

Macaroni, Rivoire & Carret..... 15,144

Medical remedies, certain named, F. A. Richter..... 15,143

Medicine for certain named diseases, A. Wilson & Co..... 15,151

Medicine for certain named diseases, B. M. Woolley & Co..... 15,152

Medicine for diseases of the liver and kidneys, Sparks Medicine Company..... 15,147

Medicine to be applied to the nostrils and throat, F. M. Blodgett..... 15,136

Medicines in the form of liquids, pills, and powders, proprietary, Isbell & Sauls..... 15,138

Mineral water, natural, Apollinaris Company..... 15,132

Pills and baby sirup, liver, R. E. Townsend..... 15,149

Soap for laundry and toilet purposes, L. & J. Oakley..... 15,140

Tobacco, plug, S. Reid Tobacco Company..... 15,142

Washing and cleaning fluid, compound, M. D. Thompson..... 15,148

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