

RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

BATHING SUIT.—F. E. LILIEDAHL, Pierce, Neb. This garment is for use by men when bathing in public places. Suits ordinarily worn by men and boys consist of a shirt of woven or knit fabric, and short leg coverings formed integral with the lower portion of the body covering. The woven garment, after exposure to water and the sun, shrinks so as to fit too closely on all parts and this entails indelicate exposure of the person. The invention obviates this objection.

Of Interest to Farmers.

HARROW.—W. A. KELLY and C. W. SMITH, Honolulu, Hawaii. The device relates to a harrow that can be drawn by steam or other power from either end, and one object is to so construct the machine that it will be as light as possible consistent with proper work, and so that the machine will accommodate itself to any character of ground.

SANITARY MILK AND CREAM SAVING DEVICE.—C. C. COUSENS, Springfield, Mass. This device is adapted to be applied to a milk or cream cabinet for saving of the milk or cream spilled while filling glasses and mugs. It prevents the spilled milk from escaping into the ice chamber surrounding the milk can and returns the milk to the can in a clean and sanitary condition.

Of General Interest.

BAG-FASTENER.—L. KAESTNER, New York, N. Y.—The fastener is especially adapted for use on handbags, pocketbooks, chatelaines, etc., and the object of the inventor is to so construct the device that the jaws of the container will be held together not only by the resilient engagement of the ordinary studs, but will also be positively held by a separate and distinct catch, this catch being so positioned that the act of pressing the studs past each other to open the bag will of itself unfasten the catch.

WINDOW.—L. W. PENZER, Richmond, Va. The object of the invention is to provide a new and improved window, having hinged sashes arranged to permit an operator to conveniently open and close the same, or to swing the sashes inward into the room into an approximately horizontal position for cleaning or repairing purposes.

PHOTOGRAPHIC PRESSURE PRINTING FRAME.—J. PRITCHARD and H. PRITCHARD, 167 Rosebery Avenue, London, England. An automatic air exhaust valve is provided controlling an aperture in the back plate and co-operating with a pump to be placed directly on the back plate over the said valve. Packing means are provided for obtaining an air tight closure between the open end of the pump and the back plate. Thus the pump is brought directly on the back plate of the printing frame to be exhausted, and after exhausting the air from the frame the pump can be easily transferred to another frame.

Legal Notices

PATENTS

INVENTORS are invited to communicate with Munn & Co., 361 Broadway, New York, or 625 F Street, Washington, D. C., in regard to securing valid patent protection for their inventions. Trade-Marks and Copyrights registered. Design Patents and Foreign Patents secured.

We undertake all Patent, Trade-Mark and Copyright Practice, both before the Patent Office and the Courts, and we have special facilities for handling Infringement and other suits in Federal and State jurisdictions.

A Free Opinion as to the probable patentability of an invention will be readily given to any inventor furnishing us with a model or sketch and a brief description of the device in question. All communications are strictly confidential. Our Hand-Book on Patents will be sent free on request.

Every patent secured through us receives special notice in the Scientific American. Ours is the Oldest Agency for securing patents: it was established over sixty years ago.

MUNN & CO., 361 Broadway, New York Branch Office, 625 F St., Washington, D. C.

INDEX OF INVENTIONS

For which Letters Patent of the United States were issued for the Week Ending May 11, 1909,

AND EACH BEARING THAT DATE

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

Table listing inventions such as Abdomen-compress, Adding-machine, and Alloy of silicon, with corresponding patent numbers.

Table listing inventions such as Amusement device, Animal-covering, and Automobile, with corresponding patent numbers.

Table listing inventions such as Conduit for steam pipes, Control mechanism, and Cooker, with corresponding patent numbers.

Table listing inventions such as Harvesters, gearing for cotton, and Heating and hot water system, with corresponding patent numbers.

THE LATE PETER F. COLLIER

Founder and head of Collier's Weekly and the great publishing house which bears his name was a firm believer in Life Insurance.

His Confidence in

The Prudential

was shown by his voluntary and unsolicited selection of this Company.

The following letter from his son and executor, Mr. Robert J. Collier, shows the wisdom of his choice:

Office of Collier's Weekly,
New York, May 4, 1909.

Hon. John F. Dryden, President,
The Prudential Ins. Co. of America,
Newark, N. J.

My Dear Sir:

Permit me to thank you, and through you The Prudential Insurance Company of America, for the very prompt receipt of checks for \$50,000 in full cash settlement of claim on the life of my father, Peter Fenelon Collier, who demonstrated his belief in Life Insurance in The Prudential by carrying policies in your Company for several years.

Proofs were completed and checks delivered the same day and your Company did everything possible to effect a quick payment of claim.

Assuring you of my appreciation,
I remain

Yours very truly,



The Prudential pays claims small or large immediately upon the receipt of satisfactory proofs of death.

Total Payments to Policyholders Since Organization, Plus Amount Held at Interest to Their Credit, Over 313 Million Dollars!

The Prudential Insurance Company of America

Incorporated as a Stock Company by the State of New Jersey

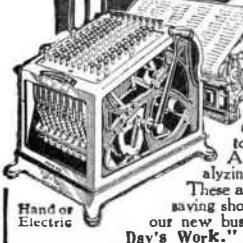
JOHN F. DRYDEN, President

Write for information of New Low Cost Policy. Dept. 121

Home Office, Newark, N. J.

Osteopathic table, J. V. McManis et al. 921,559	Polishing and cleaning machine, M. Forsberg 920,943	Ratchet wrench, J. O. Shelburne 921,290	Signaling system, selective, A. W. Jones 921,116
Outlet box for electric conduits, W. A. Bonnell 921,584	Post brace, H. J. Fritz 921,534	Receptacle, Starr & Meinke 921,479	Silo construction, O. Brumbaugh 921,586
Overhoe, E. P. Rickert 921,461	Post cards, etc., dispensing machine for, Evans & Marshall 921,389	Record holder, A. M. Seeley 921,289	Silo door fastener, K. Kieven 921,122
Ozone producer, S. M. Kintner 920,965	Potato digger, J. Moreau 920,878	Resilient wheel, J. & C. Reuse 921,283	Skate roller, M. B. Grout 921,102
Package wiring machine, S. Wheeler 921,193	Potato digger attachment, W. Cooper 920,819	Rifle, magazine, J. J. Catron 920,912	Slate picker, C. S. Farrer 920,939
Packaging machine, M. L. Keyes 921,256	Power transmission mechanism, J. E. Fries 920,946	Roasting furnace, F. E. Marcy 920,971	Smelting furnace, electric, C. E. Wilson 921,325
Pants presser, J. B. Hanna 921,107	Press, H. W. Shepard 921,011	Rod coupling, sectional, R. H. Willard 921,487	Smoke consuming furnace, G. Cryster 921,087
Paper and producing same, foiled, G. F. Mansbridge 920,970	Press roll mechanism, J. L. Graham 920,948	Roll polisher, T. Lombardi 921,549	Snap switch, J. H. Wyatt 921,050
Paper box, H. Zell 921,197	Printing machine inking mechanism, E. M. Lockwood 921,615	Rolling tie plate bars, W. J. Williams 921,043	Sodium sulphate and sulphuric acid, making, O. Zahn 921,329
Paper clip, V. Munger 921,271	Printing or embossing plates, making, J. Hartnett, Jr. 921,397	Rope clamp, F. J. Hampel 921,241	Sole stamping and slitting machine, G. E. Ward 921,573
Paper, shaping abrasive, G. S. Tenney 921,028	Printing plate making machine, J. S. Duncan 921,600	Rotary engine, W. S. Minor 920,976	Soles, arch shank for shoe, T. F. & C. E. Eaton 921,379
Paper trimmer, block wall, J. W. Moore 920,980	Printing press, Geissenhainer & Cumner 921,536	Rotary engine, O. Staff 921,478	Sound reproducing apparatus, O. G. Rose 921,455
Passenger register for public vehicles, H. E. Pim 920,993	Printing press chase, E. Karl 921,411	Rotary steam engine, P. C. Burhans 920,911	Sound transmitter and receiver, A. J. Mundy 921,141
Pasting machine, L. V. Estes 921,386	Printing press feeder, A. Krause 921,260	Rotor construction, B. A. Behrend 921,505	Speed changing mechanism, F. C. Brunhouse 921,078
Peach slitting and pitting machine, S. J. Dunkley 921,523	Propeller, screw, G. Mackaness 921,423	Rubber waste of all kinds, regenerating, J. H. L. Neilson 921,148	Speed mechanism, variable, Goodner & Kennedy 921,233
Pen, J. A. Ailing 920,900	Pump, A. T. Kasey 921,118	Sales and cash register, W. H. Stepanek 921,304	Spindle. See Cap spindle 921,181
Pen, stylographic, E. de la Rue 921,097	Pump and drill rods, grab for, E. P. Law 921,417	Sanitary trap, F. Richardson 921,460	Spindle, C. S. & J. H. Foster 921,218
Photographic apparatus, Watkins & Head 921,317	Pump and spray tank, combined force, R. S. Sheldon 921,010	Sash weight molding apparatus, Cooper & Henry 921,640	Spinning ring and adjustable holder therefor, rotary, J. A. Walton 921,031
Piano, self-playing, E. C. Hiscock 920,954	Pump, centrifugal, A. N. Parnall 921,624	Saw, G. A. Zimmermann 921,330	Spraying and coating machine, compressed air, R. M. Johnston 921,409
Piano tuning pin, J. F. Conover 921,203	Pump, compression, F. G. Perez 921,155	Saw handle, E. T. Kirkpatrick 921,121	Square, rustic, F. A. Virtue 921,488
Picture film magazine, T. A. Nolan 921,274	Pump, pneumatic suction, D. T. Williams 921,040	Saw set, W. W. Oberg 921,150	Squib igniter, J. A. Wranischar 921,049
Picture films, fireproof magazine for, T. A. Nolan 921,273	Pump, rotary mercury vacuum, W. Gaede 921,535	Scale, W. R. Mittendorf 921,436	Stacker, pneumatic straw, S. M. O. Bangen 921,341
Pictures and other articles, attachment applicable for supporting, A. Siddall 921,472	Pumping apparatus, portable pneumatic, J. W. Smith 921,632	Scale beam and poise, J. A. Fleming 920,942	Staging, adjustable, J. E. Miller 921,431
Pin, Dean & Rueckert 921,517	Punch, spiral, H. C. Roberts 921,463	Scales, balance ball for, M. Ruckes 921,285	Stalk cutter, double row, F. M. Peden 921,448
Pin, G. W. Dover, reissue 12,954	Punching or shearing machine, C. A. Bertsch et al. 921,068	Scourer, cutlery, M. C. Clark 921,086	Stamp cushion, F. E. Frost 921,224
Pin cushion, perfumed, G. J. Lewis 920,968	Pyrometers and the like, indicating and recording apparatus for, W. Armour 921,500	Scraper, mechanical, F. R. Abeel 921,331	Stamp sticker and envelop sealer, J. T. F. Baeyertz 921,059
Pipe clamp for ground contacts, T. Nagel 921,145	Radiator jacket, W. R. Klob 921,259	Screen and clothes rack, combined, M. L. Ramey 921,459	Station indicator, T. Tanner 921,181
Pipe closure, J. D. Blake 921,069	Rail clamp, guard, J. B. Strong 921,024	Screw threads, device for cutting crooked, A. S. Baird 921,501	Steam controller, vacuum, F. A. Simonds 921,172
Pipe coupling, H. E. Keyes 921,437	Rail connection, W. H. Yerkes 921,575	Seat register, W. & S. Barr 921,342	Steam engine, J. A. & M. W. Hill 921,400
Pipe coupling, A. T. Herrick 921,247	Rail joint, R. Harrison 921,245	Self fitting key, H. J. Hjorth 921,401	Steam generator, Van Zile & Chrysler 921,486
Pipe fitting, D. T. Williams 921,039	Rail joint, A. Ambert 921,577	Self lubricating wheel, J. F. King 921,412	Steam generator for motor cars, Turnbull & Goding 921,415
Pipe fitting, hot water heating, M. C. Honeywell 921,111	Rail system, guard, A. Morrison 921,140	Sewed articles, seam for, J. P. Wels 921,189	Steel pipe with a double armored concrete coating, A. J. Bonna 921,354
Pipe threader, ratchet, M. Dixon 921,518	Rail system, tbrld, Y. Burgess 921,508	Sewing and cutting machines, throat-plate for buttonhole, Noble & Finch 920,986	Stock tying and releasing device, live, G. Dani 920,923
Pipe wrench, O. W. Blake 921,581	Railway fastening, C. H. Cornell 921,511	Sewing machine, J. P. Wels 921,188	Store front construction, E. S. Rhoads 921,163
Piston ring, H. Harkins 920,950	Railway rail, J. C. Flynn 921,533	Sewing machine, leather, G. J. Martin 921,426	Stove deflector, E. Stombaugh 921,481
Pitman connection, Chrysler & Kays 921,363	Railway rail joint bolt holder, C. Rahm-gren 921,281	Shade and curtain bracket, adjustable, R. D. Lewis 920,969	Stove, heating, Jones & Shepherd 921,612
Planer for narrow work, wood, C. W. H. Blood 921,222	Railway rails from spreading, device to prevent, W. H. Walters 921,572	Shaft, wagon, C. Erickson 921,528	Strainer for milk cans, H. Edner 921,525
Planter, W. Frede 920,904	Railway rails to metallic ties, device for securing, J. Phelan 921,277	Sheet metal container, H. A. Keiner, re-issue 12,955	Straw of flax or other plants, chemical process for the treatment of the, A. M. D. de Ballore 921,502
Planters, adjustable wheel for corn, J. A. Mussetter 921,557	Railway switch, automatic, J. W. Sparks 921,176	Shock loading apparatus, S. C. English 921,383	Studs, automatic machine for manufacturing lower parts of press, A. Frym 921,180
Plate holder, H. B. Rouse 921,005	Railway system, electric, R. Stearns 921,176	Shoe, J. G. Miller 921,433	Switch support, McPherson & Gamble 921,441
Platform, dumping, S. A. Morehouse 921,437	Railway tie, W. W. Hicks 920,953	Shoe cleaner, L. R. Van Kirk 921,485	Switch, Wyler & Reidy 921,051
Pliers, end cutting, G. E. Bartscher 921,080	Railway tie, J. A. Byers 921,081	Shoe for athletes, G. L. Pierce 921,452	Switch operating mechanism, H. C. Kinsel 920,984
Plow, C. L. Avery 921,578	Railway tie, N. H. Conger 921,510	Shoe lining cementing machine, O. J. Lear 921,261	Switch stand safety lock, H. F. Jacob 921,344
Plow landside, J. C. & J. A. Fischer 921,532	Railway tie, metallic, J. G. Snyder 921,297	Shoe stretcher, C. L. Passmore 921,152	
Plow, rotary, W. F. Brown 921,357	Range finder, A. A. Michelson 921,137	Shoe tree, hygienic, R. F. Van Heusen 921,570	
Plow structure, W. L. Paul 920,990	Raspberry cleaner, M. B. Sherman 921,291	Shuttle check, Hunt & Riley 921,406	
Plug, detachable, P. R. Yuzuk 921,196		Signal apparatus, electric, C. E. Duffie 920,932	
Poisoning product, animal, Bolduan & Dyas 920,905		Signaling apparatus, submarine, E. C. Wood et al. 921,326	
		Signaling system, H. G. Webster 921,319, 921,320	

A Better Day's Work



Profit by what other business men, other accountants, have learned.

One firm worked out a quick way to prove Daily Postings—preventing trial-balance troubles. Another found a better and shorter way to handle Cash Received. A third, a method for Analyzing Outstanding Accounts.


These and many other money-saving short-cuts are contained in our new business book, "A Better Day's Work." These expense-cutting methods are the ideas of users of

BURROUGHS Adding and Listing Machines

though it is not in any sense a Burroughs catalog. The book is free. Simply write on your firm's letterhead, State nature of business and size of office force. Ask also for information concerning the "Time-Work-and-Worry-Saving" Burroughs Adding and Listing Machines

Burroughs Adding Machine Company
89 Burroughs Block, Detroit, Michigan, U.S.A.
European Address—55 High Holborn, London, W. C., England

LAMBERT MODEL 19, \$1750



Meeting the Demand

THE Lambert Touring Car Model 19 meets the demand for the right kind of a car—an absolutely dependable touring car—at a moderate price. There isn't better value on the market, for the price, than this long, graceful, speedy, reliable five-passenger, friction-driven Lambert.

Model 19 has 17-inch wheel base; 4-cylinder Rutenber motor with adjustable fan attached; 35 to 40 horse-power; speed, 1 to 50 miles per hour; Lambert friction (most efficient) transmission; single silent chain drive, enclosed; painted Lambert green, striped light green; weight 1900 pounds; generous equipment of accessories and full tool kit.

The Lambert friction drive, added to general high class design and construction, gives each of our six Lambert Models very distinct service advantages that appeal to the buyer who investigates.

Write for fully illustrated descriptive catalogue.

BUCKEYE MANUFACTURING CO.
1814 Columbus Ave. Anderson, Ind.

THE MOTORCYCLE has "arrived." It is perfectly practicable for any man capable of riding a bicycle and will carry a single passenger as fast and as far as an automobile.

The Greyhound

is as good as the best in material, workmanship and reliability, and is absolutely the simplest and most comfortable motorcycle in the world. Correspond with us about any motorcycle matter that interests you, either as rider or dealer. Catalogue free.

THE AUTO-BI CO., 1450 Niagara St., Buffalo, N. Y.
Oldest American Motorcyclist Makers

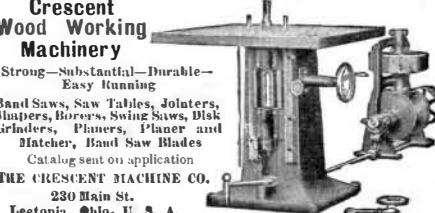
Crescent Wood Working Machinery

Stroug—Substantial—Durable—Easy Running

Band Saws, Saw Tables, Jointers, Shapers, Boring, Swing Saws, Disk Grinders, Planers, Planer and Miter, Hand Saw Blades

Catalogue sent on application

THE CRESCENT MACHINE CO.,
280 Main St.,
Lectonia, Ohio, U. S. A.

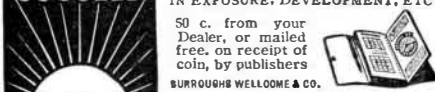


PHOTOGRAPHY HOW TO SUCCEED

WELCOME'S PHOTOGRAPHIC EXPOSURE RECORD AND DIARY, 1909

MAKES EVERY AMATEUR EXPERT IN EXPOSURE, DEVELOPMENT, ETC.

50 c. from your Dealer, or mailed free, on receipt of coin, by publishers BURROUGHS WELCOME & CO.,
46, LAFAYETTE STREET, NEW YORK CITY



Free Scientific and Free Technical Books

We have just issued a new edition of our Catalogue of Scientific and Technical Books, which contains 144 pages, and a copy will be mailed free to any address on application.

MUNN & CO., Publishers of Scientific American
361 Broadway, New York

- Switch thrower, automatic, C. E. Moody... 921.555
- Switch-throwing device, D. D. Arehart, Jr. 921.638
- Syringe, B. P. Lockwood... 921.130
- Tapping machine, main, W. H. Van Winkle... 921.020
- Tea, coffee, grain, or other substances, apparatus for drying, S. C. Davidson... 921.206
- Teapots and other vessels, hinge for lids of, G. W. Knapp... 921.614
- Telautograph, A. M. & K. Knudsen... 920.066
- Teletype, mast for space or wireless, A. E. Brown... 921.075
- Telephone, Kaufman & Lippmann... 921.110
- Telephone exchange system, H. G. Webster... 921.187
- Telephone exchanges, means for counting conversations at, J. H. Meyer... 921.420
- Telephone switchboards, self-restoring clear-out drop for, C. D. Enoch... 921.384
- Telephone system, H. G. Webster... 921.318, 921.321
- Telephone transmitter, H. F. Albright... 921.334
- Telephone transmitters, concentrating device for, O. F. Falk... 920.938
- Thermostat, J. H. Swan... 921.308
- Thread knotting apparatus, pile, E. Paruszewski... 921.446
- Tie plate, M. Bartley... 921.062
- Tie plate and rail joint support, anti-creeping, L. R. Zollinger... 921.576
- Tie plate, rail, W. J. Williams... 921.044
- Tile, composite, J. A. Wheeler... 921.030
- Tile machine, Myers & Royer... 921.142
- Time indicating system, A. A. Radtke... 921.280
- Tire, automobile, H. Parsons... 921.151
- Tire, pneumatic, W. H. Snyder... 921.174
- Tire, pneumatic, G. L. Kline... 921.414
- Tires, etc., chuck for boring and turning locomotive, G. L. Bennett... 921.060
- Tires, puncture-proof attachment for, J. B. Oatman... 921.444
- Tobacco pipe, W. E. Elam... 921.527
- Tool combination, P. E. Shortt... 921.171
- Tool holder, G. T. Reiss... 920.908
- Tool holding appliance, E. J. Beiknap... 921.579
- Toy, R. E. Petzet... 921.450
- Toy, mechanical, C. W. Clark... 921.364
- Toy, wheel, H. T. Kingsbury... 921.258
- Transfer mechanism, V. Ross... 921.165
- Transmitting apparatus, H. Shoemaker... 921.013, 921.203
- Transom operating device, G. Dickie... 921.506
- Tree prop, fruit, B. Fisher... 921.215
- Trolley, C. W. Smith... 921.474
- Trolley, Coval & Kunkle... 921.512
- Trolley harp, F. A. Tribbe... 921.314
- Trolley head, J. E. Robbins et al... 921.650
- Trolley head and trolley, G. H. Merwin... 921.265
- Trolley, overhead, J. C. Sturgeon... 921.025
- Trolley switch, overhead, E. C. Folsom... 921.217
- Trousers presser and stretcher, O'Brien & Wheat... 920.988
- Truck, car, E. Timms... 921.455
- Truck, car, J. J. Rand... 921.636
- Truck, tongue, C. W. Rand... 921.161
- Turbine, J. A. Goshon... 921.238
- Turbine, C. E. Etner... 921.529
- Turbine, H. Lentz... 921.647
- Type, printing, S. H. Perky... 921.156
- Typewriter, F. J. Muller... 921.270
- Typewriter adding attachment, H. H. Burton... 921.358
- Typewriter of the type-bar class, H. Moya... 921.260
- Typewriting machine, J. Feibel... 921.213, 921.214
- Typewriting machine, H. H. Steele... 921.303
- Typewriting machine, J. C. Doane... 921.509, 921.509
- Typewriting machine, U. G. Fuller... 921.605, 921.606
- Typewriting machine, H. S. McCormack... 921.610, 921.620
- Umbrella handle and receptacle, combined, J. Stern... 921.023
- Urninal, wall, D. Ebinger... 921.006
- Utensil handle, D. C. Howard... 921.404
- Vacuum pan for evaporating apparatus, G. R. Ray... 920.907
- Valve, T. W. Demarest... 921.209
- Valve, P. E. Goehle, Sr... 921.230
- Valve, automatic spring controlled lift, A. Beck... 921.348
- Valve, flush, W. W. Smith... 921.017
- Valve for flush tanks, water inlet, Morris & Rinaman... 921.268
- Valve for liquid weighing machines, regulating, H. W. Meyer... 921.428
- Valve for locomotives, by-pass, J. G. Blunt... 921.583
- Valve gear, L. King... 921.413
- Valve gear, Lentz & Bellens... 921.418
- Valve mechanism, H. E. Perrault... 920.901
- Valve mechanism for channelling machines, H. V. Haight... 921.240
- Valve, safety, F. A. Casey... 921.360
- Valve, tank, F. Lohman... 921.131
- Vanilla beans, extracting essences and tinctures from, E. M. Howell... 921.251
- Vault, burial, E. D. Millhouse... 921.554
- Vault head, A. W. Kurz... 921.123
- Vehicle, convertible, C. H. Stratton... 921.177
- Vehicle spring, E. F. Brown... 920.910
- Vehicle spring shock absorber, M. D. Shilling... 921.471
- Vehicle wheel, G. R. Williams... 921.493
- Vehicles, siled runner attachment for wheeled, E. M. Henle... 921.109
- Vending machine, W. Ashbury... 921.338
- Vending machine, A. E. Dieterch... 921.597
- Vending machine, coin operated, H. Pein... 921.655
- Veneering press, K. F. Hummel... 921.253
- Vessel, double-walled, E. Fleischhauer... 921.090
- Vessels, shelter for use in connection with submarine, M. A. Laubert... 921.125
- Vest, protective, Blaker & Towers... 921.352
- Vise, quick adjustment, R. M. Smith... 921.206
- Voltage regulator, F. Darlington... 920.925
- Voltage regulator, Sprong & McCoy... 921.209
- Voltage regulators, movable terminal for, F. Darlington... 920.926
- Wall construction, F. Koch... 920.967
- Warp spacing device, J. G. Gourdeau... 921.236
- Warping machine, N. A. Hover... 921.403
- Washing appliance, clothes, F. Nowak... 920.987
- Washing machine, F. M. Mitchell... 920.977
- Washing machine, R. Rainatter... 921.282
- Washing machine clothes holder, L. W. Mammen... 921.262
- Water, acid and alkali proof articles, manufacture of, I. L. Roberts... 921.000
- Water closet, N. Frost... 921.393
- Water closet and apparatus for flushing same, Wilson & Welgert-Sterne... 921.047
- Water glass guard and lamp, combination, Fratie & Alexander... 921.562
- Water heater, F. C. Dando... 921.088
- Water heater, H. W. Carter... 921.350
- Water jacket, C. W. Hawkes... 921.542
- Water power machine, T. J. Vandercilce... 921.337
- Water tube boiler, P. Trainor... 921.613
- Waterproof articles from fibrous materials, manufacture of, I. L. Roberts... 921.001
- Waterproof material, J. Glassford... 921.538
- Weather strip, J. L. Porter... 921.150
- Weed folder, C. F. Moore... 921.266
- Weighing apparatus, automatic, C. D. Scott... 921.170
- Well screen, W. A. Archer... 921.337
- Wheel, See Buffing wheel.
- Wheel, H. E. Keyes... 921.613
- Wheel machines, indexing device for, C. Borg... 921.071
- Whiffletree hook, T. Moreton... 921.267
- Window screen construction, J. G. Hudspeth... 921.405
- Wire coil making machine, J. F. Marsolais... 921.425
- Wire support, T. P. Chandler... 921.362
- Wire working machine, G. B. Smith... 921.016
- Work support, J. H. Lesh... 921.410
- Worms, apparatus for cutting globoid, A. T. Collier... 921.503
- Wrench, E. Iagerstrand... 921.106
- Wrench, A. O. Allen... 921.335
- Wrench, W. H. Dawson... 921.643

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1836, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., 361 Broadway, New York.

Canadian Patents may now be obtained by the inventors for any of the inventions named in the foregoing list. For terms and further particulars address Munn & Co., 361 Broadway, New York.

MONEY IN PHOTO ENLARGING

Thousands of business men and amateur photographers use Bromide Enlargements. The work is easy, no experience needed. Profits range from 300 to 500 per cent. Our NEW FRANKLIN OUTFIT enlarge to any size, and can be used anywhere, city or country; cost \$24.00 up. Send for list and great bargain sheet No. 26.

WILLIAMS, BROWN & EARL, Dept. 6, 913 Chestnut St., Philadelphia, Pa.

DONT LET YOUR PATENT LIE IDLE. We'll make -dies and tools and manufacture your article ready for market. Write now—don't delay. Southern Stamping & Mfg. Co., R. S., Nashville, Tenn.

ICE MACHINES Corliss Engines, Brewers' and Boilers' Machinery. THE VILPCK MFG. CO., 899 Clinton St., Milwaukee, Wis.

MODELS & EXPERIMENTAL WORK. Inventions developed. Special Machinery. E. V. BAILLARD CO., 24 Frankfort Street, New York.

RUBBER Expert Manufacturers Fine Jobbing Work **PARKER, STEARNS & CO., 288-290 Sheffield Av., B'klyn, N. Y.**

HOEFT & COMPANY Die Makers, Model Makers, Machinery Builders, Punch Presses, Light and Heavy Stampings. 120 Michigan St., Chicago, Ill., U.S.A.

DIE MODELS SPECIAL WORK TOOLS MACHINERY NATIONAL STAMPING AND ELECTRIC WORKS 153-159 S. Jefferson Street Chicago, Ill.

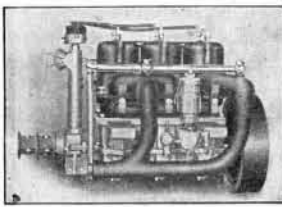
MODELS & EXPERIMENTAL WORK. Gears, Dies, Tools, Novelty manufactures. **M. P. SCHELL, 1750 Union Street, San Francisco**

New York Model and Experimental Works INVENTIONS DEVELOPED. SPECIAL MACHINERY **442 East 166th Street New York, N. Y.**

INVENTORS, MANUFACTURERS. SPECIAL TOOLS—DIES—METAL SPECIALTIES. LET US FIGURE METAL NOVELTY WORKS CORP. 31 W. LAKE ST. CHICAGO

INVENTORS We manufacture METAL SPECIALTIES of all kinds, to order; largest equipment; lowest prices. Send perfect sample for low estimate and best expert advice **FREE** **THE EAGLE TOOL CO., Dept. A, Cincinnati, O.**

NOVELTIES & PATENTED ARTICLES MANUFACTURED BY CONTRACT. PUNCHING DIES. SPECIAL MACHINERY. **E. KONIGSLOW STAMPING & TOOL WORKS, CLEVELAND, O.**



BEFORE YOU BUY A MOTOR of any kind—before you spend a cent—write your name on a postal card and mail it to us—we will send you our catalogue and Book of Testimonials. Read what actual owners of Roberts Motors say, and judge for yourself.

ROBERTS MOTORS (1/2 TO 60 H. P.) ARE TROUBLE PROOF

They are designed by E. W. Roberts, M.E., one of the most expert mechanical engineers in the U. S. and constructed under his personal supervision.

Nothing is experimental. They have no freak ideas—no base explosions or back fire. Every Roberts Engine is thoroughly tested in the best testing room in the U. S. and fully guaranteed. Don't fail to send a postcard for our catalogue and Book of Testimonials. Good agents wanted.

ROBERTS MOTOR CO., 1411 Columbus Ave., Sandusky, Ohio, U. S. A.

The Chemistry of Commerce

BY ROBERT KENNEDY DUNCAN
Author of "The New Knowledge"

A graphic narrative of the wonderful work of applied chemistry in the industrial world to-day. It affords an engrossing story of the invention and manufacture of commodities that are close to business or home interests of each one of us. It is packed with information upon all important topics. Illustrated. Price \$2.00 net.

Astronomy with the Naked Eye

BY GARRETT P. SERVISS

At last here is a little book on astronomy for us who want to know just the plain things about the stars. No telescopes, no special knowledge required—and it reads like a novel—only better. With many charts and illustrations. Net, \$1.40.

Harper's Machinery Book for Boys

EDITED BY JOSEPH H. ADAMS
Illustrated with Pictures, Diagrams, etc. Crown Svo, Cloth, \$1.75.

Harper's How to Understand Electrical Work

BY WILLIAM H. ONKEN, JR., AND JOSEPH B. BAKER
Fully illustrated from Photographs, Drawings and Diagrams. Crown Svo, Cloth, \$1.75.

Harper's Electricity Book for Boys

BY JOSEPH H. ADAMS
With a Dictionary of Electrical Terms. Illustrated. Crown Svo, Cloth, \$1.75.

Harper's Indoor Book for Boys

BY JOSEPH H. ADAMS
and others. With many Illustrations. Crown Svo, Cloth, \$1.75.

Harper's Outdoor Book for Boys

BY JOSEPH H. ADAMS
and others. Illustrated. Crown Svo, Cloth, \$1.75.