

or less intimate contact, as the late Prof. Shaler. Memorable as his wonderful personality undoubtedly was, the great public is probably more interested in his scientific attainments as a geologist. His special studies of oceanic shore lines, volcanoes, glaciology, and lunar geology are probably the works upon which his scientific reputation is most firmly seated. It is unnecessary for us to dwell upon that work here, largely because its merit was recognized in his lifetime. The autobiography before us is a charmingly written, unaffected statement of a career carefully molded from childhood, and replete with incidents that have not a little human value, inasmuch as Prof. Shaler during his long life met most of the celebrities who have ever reached Cambridge and Boston, and noted his impressions of them. The autobiography is a record of lifelong efforts to interpret the facts and mysteries of nature upon which Prof. Shaler so lovingly pondered.

COOKING FOR TWO. By Jeanette M. Hill. Boston: Little, Brown & Co., 1909. 12mo.; 407 pp. Price, \$1.50 net.

This is a handbook for young housekeepers, and is designed to give cheaply and simply and in concise form those things which are essential for the proper selection and proportion of a reasonable variety of food for a family of two. Of course, by doubling the quantity of each ingredient, enough can be prepared for four or five people. The food products considered in the receipts are such as a housekeeper of average means would use on every-day occasions, with a general sprinkling of choicer articles for Sunday. Menus for a week or two in each month are given. The receipts are given with special attention to clearness of expression. The illustrations are particularly valuable. In many cases they show the *modus operandi* and proportions, or else the raw materials and the various steps. The half-tones are beautifully executed and they are well printed. We have not seen any cook-book for a long time which compares favorably with this one.

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.**

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.

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 September 21, 1909,

AND EACH BEARING THAT DATE

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

Buckle, R. U. Sourek.....	934,577	Gas burners, globe for inverted incandescent, L. W. Young.....	934,873	Paving purposes, composition for, J. H. Amies.....	934,494
Bundle loader, L. M. Amdahl.....	934,649	Gas condenser, A. W. Mockridge.....	934,617	Photographic shutter, J. E. Thornton.....	934,581
Burnishing machine, H. Leibe.....	934,553	Gas iron, H. E. Lucas.....	934,923	Plano hammer heads, repair attachment for, R. R. Bode.....	934,654
Button, fastening, E. L. Watrous.....	934,488	Gas pressure regulator, J. G. Wilson.....	934,780	Pile fabric, woven, H. Le Doux.....	934,552
Button making machine, E. Shantz.....	934,940	Gas producer, H. I. Lea.....	934,446	Pipe connection, A. C. Schuermann.....	934,983
Cabinet, barber's, R. A. Grieve.....	934,520	Gas purifier, H. I. Lea.....	934,448	Pipe coupling, H. Mueller.....	934,687
Cabinet, revolving ribbon, J. W. Van Patten.....	934,774	Gas purifying apparatus, H. I. Lea.....	934,679	Pipe coupling for water closets, soil, J. F. Kelly.....	934,975
Cable hanger, W. J. Hiss, Jr.....	934,803	Gate, E. L. Harper.....	934,523	Pipe hanger, H. C. Folger.....	934,663
Calculating machines with two counting mechanisms, controlling device for, R. Rein.....	934,756	Gate, D. James.....	934,814	Pipe means for packing nesting, A. G. Scherer.....	934,938
Camera, motion picture, Depue & Jenkins.....	934,894	Gear, variable speed and reversing, F. W. Dodd.....	934,716	Pipe wrench, A. Stenech.....	934,945
Can closure, W. J. Card.....	934,792	Gearing, change speed, C. Cotta.....	934,505	Pipes and furnace casings, manhole and bonnet for, E. Pannenborg.....	934,751
Can tops, machine for feeding, White & Wheeler.....	934,586	Gearing, transmission, W. E. Jenkins.....	934,731	Pipes, device for passing cables through water, H. A. Greenan.....	934,520
Cans, machine for lining the covers of metal, W. Phinatus.....	934,753	Glass tube cutter, Ward & Guffey.....	934,487	Plane, bench, J. Lund.....	934,924
Car brake, C. Phillips.....	934,568	Grading materials, apparatus for, H. K. Hitchcock.....	934,441	Planer head, J. W. Gray.....	934,436
Car, cash entry, P. M. Kling.....	934,818	Graphophone start and stop mechanism, T. H. Macdonald.....	934,451	Planters, gage operating mechanism for, E. G. Schreiber.....	934,575
Car, convertible, C. W. Benjamin.....	934,788	Graphophones, foot control for, T. H. Macdonald.....	934,450	Pocket, apparel, J. Dean.....	934,660
Car coupling, J. Timms.....	934,582	Grasses, treating, W. F. Wyman.....	934,672	Poison distributor, H. E. Brandt.....	934,591
Car coupling, C. A. Tower.....	934,948	Grinding apparatus, H. K. Hitchcock.....	934,482	Pool table triangles, device for releasing, O. W. Kurth.....	934,549
Car coupling device, emergency, Turnbull & Tomlin.....	934,483	Grinding machine, cotton gin rib, H. W. Ligon.....	934,612	Power transmission and direction changing device, W. S. Lewis.....	934,821
Car door, R. R. Jones.....	934,540	Guide attachment, H. Holmes.....	934,809	Power transmission mechanism, C. Jensen.....	934,535
Car, freight railway, J. G. Stoller.....	934,496	Gun mount and elevating mechanism, S. Faber.....	934,507	Printing press, multicolor, A. P. Harland.....	934,911
Car, hopper, E. Ultmann.....	934,880	Hammock, R. C. Funke.....	934,616	Prison signal, automatic, Rhoads & Fashbaugh.....	934,626
Car life saving device, street, W. DeSilva.....	934,509	Hammer, mechanical, J. M. Swanson.....	934,701	Propeller, U. B. Scott.....	934,633
Car plow, Wilcox & Putman.....	934,778	Hammock, R. C. Funke.....	934,616	Pruning hook, J. Swegles.....	934,947
Car schedule, G. G. Crane.....	934,507	Harrow attachments with plow frames, bracket for connecting, E. M. Kramer.....	934,443	Pulp wood barker and peeling machine, rotary, Roberts & Libert.....	934,464
Car standard, J. F. Fender.....	934,802	Hauling motor, H. A. Heavey.....	934,912	Pump, F. Foley.....	934,435
Car wheel, F. E. Canda.....	934,981	Heat regulator, M. J. Farquhar.....	934,598	Pump, rotary, A. E. Tripp.....	934,859
Carriages, sleigh runner attachment for baby, F. C. Kenegeter.....	934,735	Hat ventilator, P. F. Deely.....	934,568	Punching machine, W. B. Kilgore.....	934,672
Cart, hopper bottom, B. W. Parker.....	934,831	Hatching device, safety, L. J. Benjamin.....	934,707	Punching, perforating, or stamping implement, E. W. Thurgar.....	934,635
Carton, folding, Galvin & Walters.....	934,602	Hoisting apparatus, automatic lock for, R. M. Rodgers.....	934,550	Rail and manufacture thereof, A. Busse.....	934,884
Cartridge charging apparatus, O. Bengtsson.....	934,787	Hollow object device for the manufacture of, R. J. Goldkamp.....	934,666	Rail clamp, W. I. F. Harden.....	934,725
Casing for balances and other instruments, protecting, W. & A. Heusser.....	934,526	Hook fastener, V. E. Morse.....	934,826	Rail guard, C. A. Alden.....	934,784
Caster for portable tables, T. R. Treiber.....	934,480	Horse hobbie, Leech & De Ryder.....	934,449	Rail joint, J. H. Allen.....	934,648
Cement garbage boxes, mold for forming, J. M. Thinner.....	934,477	Horses' feet, composition for removing corns from, Fulton & Bergeron.....	934,515	Rail joint, D. W. Alderman.....	934,705
Cemetery structure, G. C. Simpson.....	934,764	Hose releaser, P. Thielen.....	934,476	Rail joint, G. Ferguson.....	934,720
Centrifugal switch, C. L. Kennedy.....	934,920	Horseshoe band, H. C. Onger.....	934,638	Rail joint, J. Malterer.....	934,926
Chance controlled indicator, W. G. & O. S. Lamb.....	934,515	Horseshoe holder, M. R. Jones.....	934,669	Rail joint castings, pattern for, C. A. Weeks.....	934,703
Clamp for racks and like devices, H. R. Langslow.....	934,676	Hosestall band, H. C. Onger.....	934,638	Railway crossing, O. Poston.....	934,836
Clock, E. F. Herschede.....	934,494	Hosestall holder, M. R. Jones.....	934,669	Railway motor suspension means, N. W. Storey.....	934,473
Cloth holding device, J. F. Mitchell.....	934,743	Holiday, R. J. Goldkamp.....	934,666	Railway rail and other joints, securing and safety device for, J. T. Needell.....	934,982
Cloth rolling tube, L. Canon.....	934,744	Hook fastener, V. E. Morse.....	934,826	Railway rail fastening device, J. Timmins.....	934,583
Clothes drier, Quinlan & Mulvaney.....	934,569	Horse hobbie, Leech & De Ryder.....	934,449	Railway rail joint fastening, Dreibus & Kulage.....	934,960
Clothes washer, Brooks & Crooker.....	934,501	Horses' feet, composition for removing corns from, Fulton & Bergeron.....	934,515	Railway signal, W. W. Salmon.....	934,631
Cluster socket, W. C. Jones.....	934,541	Hot water and steam heater, Fassett & Macbeth.....	934,903	Railway switch, street, D. W. Heydon.....	934,527
Clutch for concentric rotary parts, F. S. Ellett.....	934,597	Ice and freezing machines, absorption apparatus for, Kjærsgaard & Wiese.....	934,545	Railway tie, N. N. Thompson.....	934,478
Clutch, variable speed transmission, D. George.....	934,604	Ice making and harvesting apparatus, R. H. Kirk.....	934,544	Railway tie, continuous bearing, A. McArthur.....	934,561
Coating sheet metal, apparatus for, B. Goldsmith.....	934,519	Ice making and harvesting apparatus, plate, C. D. Havenstrite.....	934,524	Railway traffic controlling device, F. L. Dodson.....	934,895
Cock, Mueller & Schuermann.....	934,688	Ice-making apparatus, artificial, O. H. Jewell.....	934,732	Range finder, H. H. Royal.....	934,841
Cock for mechanisms for heating liquids, automatic combined gas and water, Lisch & Root.....	934,555	Incubator, F. S. Barzee.....	934,652	Ratchet wrench, R. F. Chapman.....	934,503
Coffee grinder, J. E. Brandrick.....	934,590	Incubator regulator, W. B. Porter.....	934,754	Ratchet wrench, Ebel & Vollath.....	934,962
Collars, holder for wing point, E. G. Skinner.....	934,766	Index for time-tables, H. M. & E. V. Crouse.....	934,665	Reducing mill, Irvin & O'Brien.....	934,918
Compass hoods, bearing taking device for, A. Fey.....	934,904	Insecticide, composition for making, J. B. Irving.....	934,533	Registry certificate, L. Wise.....	934,643
Compressed air signal, R. Armstrong.....	934,785	Insulator pressing machine, T. T. McCann.....	934,930	Relay safety, F. L. Dodson.....	934,896
Concrete, spring clip stirrup for reinforced, W. K. Fellows.....	934,433	Ironing board, A. G. Girard.....	934,985	Rheostat, H. T. Jones.....	934,973
Condenser, electric, E. Denieport.....	934,714	Ironing cabinet, G. T. Hardy.....	934,807	Ribbon mechanism, E. G. Latta.....	934,677
Condiment holder, A. W. Wolkstein.....	934,493	Ironing machine, D. Foon.....	934,984	Rings on bottles and other objects, device for shrinking, R. Veek.....	934,951
Conduit, flexible, G. A. Lutz.....	934,682	Ironing machines, temperature indicator for, J. Jorgenson.....	934,733	Road machine, F. N. Root.....	934,630
Conveyers, load gripping mechanism for, L. C. Davidson.....	934,890	Jar closure, C. C. Parker.....	934,832	Roll, expandible, F. N. Ethridge.....	934,964
Conveyers, pneumatic jet for, E. W. Rice.....	934,628	Jar closure, B. F. Wilson.....	934,868	Roof car, A. G. Elvin.....	934,801
Cooking device, C. B. Prescott.....	934,858	Journal bearing, F. Latulip.....	934,551	Rotary engine, C. F. Paine.....	934,830
Corer, peeler, and slicer, apple, W. T. Ross.....	934,858	Kneading or mixing machinery, dough, C. E. & J. E. Pointon.....	934,834	Sash fastener, C. Singer.....	934,765
Cream separator, Bailey & Ganiard.....	934,706	Lace machines, spring dropper jacquard for levers, S. W. Hardy.....	934,909	Sash lock, gravity, F. Bogenberger.....	934,655
Cremator and urn, combined waste, W. W. Cheney.....	934,594	Lace machines, spring thread jacquard for, J. D. Hemphill.....	934,702	Saw buck, H. L. Boenman.....	934,499
Crushers, See Ore crusher.....	934,691	Lace machines, spring thread jacquard for, W. H. Thomas.....	934,702	Saw filing device, E. E. Edwards.....	934,510
Cuff, R. Pennington.....	934,567	Lace machines, spring thread jacquard for, W. H. Thomas.....	934,914	Saw guide, band, H. L. Depoy.....	934,983
Cultivator attachment, W. Lindemann.....	934,822	Ladder, safety window, J. G. Hanserd.....	934,667	Sawmill knee, taper movement for, T. S. Wilkin.....	934,886
Culvert, J. H. Schlaif.....	934,822	Ladle construction, R. H. Stevens.....	934,667	Scraper, Bickle & Wilson.....	934,653
Culvert pipe, sheet metal, W. N. Klotz.....	934,673	Lamp arc, H. E. Davies.....	934,796	Screen, C. A. Ranney.....	934,570
Currycomb, A. C. Dittmar.....	934,799	Lamp burner, J. H. Morrison.....	934,753	Seam cutting device, W. Trafford.....	934,585
Curtain fixture, C. W. & L					

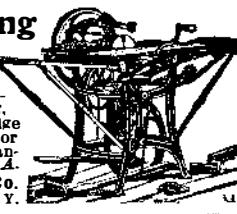
Stove, G. S. Davis.....	934,891
Stovepipe cleaner, G. J. Weyh.....	934,491
Sugar, making, S. von Grabski.....	934,965
Sulphur burner, G. A. Stebbins.....	934,700
Superheater, H. W. Jacobs.....	934,729
Surgical instruments, holder for, T. S. Walling.....	934,486
Switch lever lock, A. A. Strom.....	934,553
Switch stand, A. A. Strom.....	934,551
Table leveler, A. Kovacs.....	934,546
Teletograph transmitter, wireless, C. D. Babcock.....	934,875
Telegraphon, F. Schaefer.....	934,843
Telegraphy, wireless, S. G. Brown.....	934,883
Telemeter, with traveling mark, stereoscopic, C. von Hofe.....	934,916
Telemeters, ocular prism for base line, H. Jacob.....	934,440
Telephone circuits, means for reducing the reactance of electromagnetic devices for, W. K. Howe.....	934,811
Telephones, selective device for party line, F. J. & J. Mersman.....	934,979
Temperature regulator, H. Sandvooss.....	934,632
Thread cutter, T. J. Handrahan.....	934,439
Threshing machine grain header attachment, J. L. Shipman et al.....	934,847
Tile mold, roofing, H. H. Katz.....	934,734
Tire, J. S. Stevenson.....	934,472
Tire, V. E. Van Cantfort.....	934,639
Tire tool, H. J. Phillips.....	934,461
Tongue bound, P. A. Gehring.....	934,518
Tool, pneumatic, W. H. Van Sickel.....	934,640
Tooth crown matrices, forming, F. O. Jaques, Jr.....	934,536
Tooth regulating device, C. S. Case.....	934,958
Toy, Ireland & Werkiser.....	934,615
Toy pistol, colt receiving, J. H. Bevington.....	934,957
Toy pistols and rifles, paper primer for, L. F. Mauny.....	934,740
Track laying apparatus, H. W. Jacobs.....	934,728
Trap. See Animal trap.	
Trap, H. C. Folger.....	934,664
Trestle, R. J. Koch.....	934,736
Trolley wire suspending device, W. A. McCallum.....	934,562
Truck, car, W. E. Woodard.....	934,955
Truck or carriage for use in ship building, Trickley & Cain.....	934,949
Trucks, propelling gear for, G. A. Mickelson.....	934,685
Tube expander, W. J. Doerfer.....	934,800
Tube machining, G. A. Lutz.....	934,683
Tug, shaft, B. C. Sherman.....	934,468
Tunnels, form for lining, F. M. Talbot.....	934,768
Turbine, elastic fluid, F. Hodgkinson.....	934,915
Turbine governing mechanism, elastic fluid, R. N. Ehrhart.....	934,432
Turbine, steam, W. Barre.....	934,497
Typewriter, W. G. Babcock.....	934,786
Typewriter desk, J. Vaaler.....	934,861
Typewriter machine, J. C. Doane.....	934,431
Umbrella, E. C. Kuhn.....	934,444
Umbrella fitting, A. Ackermann.....	934,588
Umbrella, folding, E. T. & E. H. Crane.....	934,614
Valve, C. E. Huxley.....	934,642
Valve, check, H. K. & L. Z. Kriebel.....	934,548
Valve, fluid sealed, H. I. Lea.....	934,447
Valve for heating apparatus, M. P. Osbourn.....	934,922
Valve gear, T. O'Brien.....	934,750
Valve mechanism for gas engines, governor controlled, C. Jacobson.....	934,813
Valve reseating tool, T. B. Williams.....	934,642
Valve, safety, F. S. McIntyre.....	934,563
Valve, water sealed, L. Shaw.....	934,846
Vauner, C. C. & E. C. Pratt.....	934,693
Vehicle brake, A. P. Peabody.....	934,752
Vehicle reach, C. C. Clark.....	934,595
Vehicle wheel, J. H. Van Arsdale.....	934,773
Vehicle wheel, J. A. Crandall.....	924,793
Vending machine, E. Terrell.....	934,634
Vending machine container, J. Fritzsche.....	934,907
Ventilated cushion, J. H. Rust.....	934,465
Ventilator, C. A. Peterson.....	934,460
Vise, pipe, H. H. Steele.....	934,850
Voting machine, Bohan & Smith.....	934,498
Warping or reeling mechanism, C. P. Thiel.....	934,580
Waschcloth and towel, H. J. B. Gravier.....	934,724
Washing machine, A. S. Nero.....	934,458
Washing machine, W. W. Hoehne.....	934,528
Washing machine, J. D. Butler.....	934,592
Washing machine cylinder, C. Jensen.....	934,971
Washing machine gearing, A. A. Clausen.....	934,886
Water closet, M. F. McElroy.....	934,455
Water gage, C. M. O'Daniels.....	934,623
Weaver, cow, C. E. Ballard.....	934,651
Weather strip, window, H. Higgin.....	934,709
Weighting machines, adjustable hopper for automatic, A. Sonander.....	934,849
Welding metals, electrically, C. R. Sturdevant.....	934,854
Wheel, G. W. Heartley.....	934,925
Wheel guard, G. W. Mahan.....	934,929
Wheel rim, removable vehicle, G. S. Van Vorhuis.....	934,862
Whiffletree attachment, H. A. Bierley.....	934,789
Whip, farmer's and harvester's combination, L. G. Lambert.....	934,674
Windmill, A. Ayers.....	934,650
Windmill governor, L. M. Nelson.....	934,689
Window frame and sash, C. J. Holzer.....	934,530
Window screen, H. Higgin.....	934,610
Woodworking machine, Wadkin & King.....	934,484
Wrench, C. E. Bradford.....	934,589
Wrench, F. W. Elart.....	934,899
Wrench, W. J. Morrison.....	934,929
<hr/>	
Patents Issued for the Week Ending September 28, 1909.	
Dye, obtaining chlor-acetic, G. Imbert.....	935,606
Adding device, C. C. Harris.....	935,385
Adding machine, C. W. Gooch.....	935,800
Addressing machine, S. Elliott.....	935,196
Adjustable bracket, W. F. Rhodes.....	935,405
Adjustable bracket, A. J. Schneider.....	935,418
Advertising apparatus, H. F. Stowell.....	935,427
Advertising medium, B. F. Hessom Jr.....	935,502
Aerial navigating devices, skid for, D. D. Wells.....	935,075
Air and other gases, apparatus for electrically treating, J. H. Bridge.....	935,457
Alkali hydrosulfites, making, B. Deutecom.....	935,001
Amusement device, W. F. Schmidt.....	935,239
Anatomical developing and adjusting machine, D. W. Riesland.....	935,272
Animal cover, S. H. Ronabeck.....	935,166
Annulating box and surface, H. C. Shaw.....	935,275
Annunciator, E. E. Nye.....	935,320
Antiskidding device, E. B. Stimpson.....	935,330
Aqueous solutions, apparatus for the electrolysis of M. Huth.....	935,100
Armature, J. P. Nikonow.....	935,397
Armature coils, former for, E. Denham.....	935,299
Auger, post hole, G. M. Fenn.....	935,251
Automobile headlight operating apparatus, O. R. Turner.....	935,425
Automobile safety appliance, M. A. Howe.....	935,108
Axes of flapping wings, device for turning the swinging, F. W. T. Kopisch.....	935,262
Bacon in dies, machine for cutting, M. Wintermyer.....	935,182
Bag, J. E. Moye.....	935,317
Baling press, F. A. Guenzel.....	935,255
Balancing device, M. A. Market.....	935,531
Bank savings, F. M. Ashley.....	935,451
Barber's chair, C. W. Fischer.....	935,480
Basket handle, O. H. Gillespie.....	935,364
Battery plates, preparing storage, W. Morrison.....	935,316
Bearing and lubricator, combined, E. M. Crozier.....	935,465
Bearing, ball, M. Backstrom.....	935,452
Bathing press, F. A. Guenzel.....	935,255
Bevel and square, combined, J. S. Taylor.....	935,067
Billiard cue, E. E. Moore.....	935,218
Bin. See Grain bin.	
Binder, loose leaf, J. S. McComb.....	935,318
Binder, temporary or transfer, J. J. Diehl.....	935,591
Block signal system, H. H. Sims, et al.....	935,614
Boller fuel cleaner, W. B. Clowers.....	935,141
Book support, J. N. Stone.....	935,560
Boot and shoe slugging machine, P. R. Glass.....	935,492
Bottle, J. F. Fairchild.....	935,478
Bottle caper, R. B. Gilchrist.....	935,013
Bottle closure, J. A. & J. Butkus.....	935,298
Bottle, non-repellable, C. V. & I. H. Watters.....	935,074
Bottle washing machine, G. W. Koch.....	935,261
Bottles or the like, closure for atomizer, A. & T. A. De Vilbiss.....	935,004
Box, S. Bachmann.....	935,349
Box and case, C. H. Meyers.....	935,388
Box machine, W. T. McRae.....	935,534
Brake cover, J. F. Cummings.....	935,464
Brake mechanism, B. J. Hinkebein.....	935,152
Brake shoe, C. D. Pettis.....	935,053
Brick handling machine, W. H. Francis, re-issue.....	13,022
Brush, Gramm & Timme.....	935,493
Brushes, making, G. D. Pushee.....	935,326
Buckle, J. S. Sourek.....	935,279
Burial robe, C. I. Owen.....	935,398
Butter cutting machine, R. F. Stewart.....	935,425
Button cuff, E. W. Morehouse.....	935,123
Calculating machine, F. Trunks.....	935,565
Can opening machine, F. J. Heybach.....	935,503
Can filling machine, F. J. Heybach.....	935,564
Car door lock, freight, W. C. Kneale.....	935,229
Car door operating mechanism, railway, S. Otis.....	935,050
Care fender, C. Arnesen.....	935,574
Car seat, H. Witte.....	935,242
Car step, Tischler & Henklein.....	935,068
Car tank, C. A. Lindstrom.....	935,210
Carpenter's tool, O. Kolstad.....	935,368
Carpet sweeper and cleaner, J. M. Spangler.....	935,558
Carriage top support, E. Jordalen.....	935,369
Cartridge shells, means for feeding, H. D. Hodge.....	935,367
Cash register, T. Carroll.....	934,994
Caster, adjustable, J. M. Wood.....	935,289
Cement, bituminous, H. J. Amies.....	935,573
Cement manufacturing, M. Tremblour.....	935,617
Cement product and making same, vitrified, Todd & Mayr.....	935,616
Chair, O. S. Jennings.....	935,306
Chair, T. Mason.....	935,385
Chimney cap, T. Martin.....	935,213
Chopping knife, S. L. Bates.....	935,576
Churn, C. M. Long.....	935,377
Cigarette box, S. A. Spaziante.....	935,064
Cipher systems, apparatus for use in connection with check, Newton & Michell.....	935,536
Circuit controlling mechanism, M. W. Day.....	935,055
Clamp, J. P. Lawrence.....	935,527
Clutch for transom rods, N. G. Pilcher.....	935,545
Coal hood, A. T. Robinson.....	935,409
Coaster brake, P. P. O'Horo, reissue.....	13,023
Cock, E. S. Stack.....	935,281
Coffee mill, M. Holl.....	935,153
Coking process, L. L. Summers.....	935,300
Commutator, W. A. Dick.....	935,300
Compasses, L. Harris.....	935,497
Composing machines, galley mechanism for typographical, Pearce & Billington.....	935,543
Concentrator and classifier, centrifugal, F. Laist.....	935,311
Condenser, E. N. Woodruff.....	935,446
Cooler. See Water cooler.	
Coop or crate, folding, F. T. Wing.....	935,443
Corn hanger, E. F. Swanson.....	935,562
Cotton choppers, castor wheel for, J. W. Garrett.....	935,598
Cotton grader, L. A. Greene.....	935,149
Cotton picker, D. M. Bailey.....	935,385
Cotton press, F. E. Thomas.....	935,433
Coupling, A. H. Harris.....	935,624
Crank, variable throwing, G. R. Grout.....	935,496
Cream separator, G. N. Wolf.....	935,183
Cultivator, E. B. Fitzgerald.....	935,008
Cultivator, C. Gardner.....	935,483
Cultivator, Benton & Jordan.....	935,578
Cultivator, disk, W. L. Clevenger.....	935,297
Culvert mold, Fife & Coleman.....	935,007
Current motor, alternating, A. C. & T. R. Bell.....	935,352
Door opening apparatus, automatic, L. Efnerberger.....	935,475
Door operating means, Rogers & Vogel.....	935,410
Door stop, F. M. Mosler.....	935,392
Draft appliance, W. W. Winger.....	935,138
Draft equalizer, F. E. Travis.....	935,434
Draft hook, D. P. Springer.....	935,423
Draft riggings, machine for testing and registering operation of, J. F. O'Connor.....	935,162
Draft sill, Acker & Bundy.....	935,449
Dredgers, excavators, etc., tooth for steam, C. E. Gardner.....	935,147
Drill holder, A. H. Knight.....	935,035
Drill support, electromagnetic, G. Doenig.....	935,291
Drilling machine table, A. Davis.....	935,470
Drilling machines, material holder for, S. P. French.....</	

Stove or range top, kitchen, Lauer & Demeter	935,313
Stoves, checker brick for hot blast, D. Lamond	935,372
Straight edge or ruler, I. Lucas	935,120
Street and road building, composition for binding, surfacing, and resurfacing purposes in, J. H. Amies	935,572
Stretcher, Rheutobtom & Rayner	935,056
Submarine operations, apparatus for, P. E. Galloffe	935,485
Switch stand, J. T. Farrell	935,005
Switch throwing device, automatic, A. M. Mitchell	935,043
Swivel, J. G. Owen	935,627
Telegraph key, G. S. Perry	935,164
Telegraphy, apparatus for wireless, G. Marconi	935,582
Telegraphy, transmitting apparatus for wireless, G. Marconi	935,583
Telegraphy, wireless, W. W. Massie	935,386
Telephone apparatus, coin freed locking device for, H. Janke	935,515
Telephone exchanges, apparatus for facilitating communication between, A. T. M. Thomson	935,285
Telephone exchanges, calling device for, N. E. Norstrom	935,049
Telephone mouthpiece guard, L. H. Webster	935,618
Telephone system and the like, R. Hamilton	935,105
Telephone system, lock out, W. W. Hill	935,024
Telephone transmitters or receivers, anti-septic protector for, F. Schilling	935,274
Thermostat electric, J. R. Carpenter	935,460
Timber felling and sawing machine, J. W. Smith	935,128
Time recorder, C. E. Larabee	935,312
Tinware and for the recovery of solder therefrom, method and apparatus for cleansing articles of refuse, J. W. Evans	935,477
Tire, D. W. McLean	935,126
Tire, C. F. Dinkle	935,192
Tire, L. M. Nelson	935,396
Tire, G. W. Sharpe	935,613
Tire protective tire, E. B. Stimpson	935,332
Tire, vehicle, C. H. Kneet	935,033
Tire, vehicle wheel, H. M. & T. J. Deeth	935,083
Tires, coupling for, inflating valves of pneumatic, G. McNeills	935,048
Toaster, J. C. Huffman	935,510
Tool combination, W. H. Carr	935,459
Tool holding device, G. B. Ford	935,361
Toy, explosive, M. Armstrong	935,083
Toy railway stations, dome for, H. C. Ives	935,110
Traction engine, J. P. Davis	935,589
Tree cover, W. W. Robarts	935,057
Trench cutting machine, J. Witter	935,288
Trenching machines, propelling means for, C. W. Rood	935,059
Trimming shears for lawns, hedges, etc., O. Kampf	935,309
Trolley base, Mansfield & Smith	935,040
Trolley for traveling cranes, H. W. Israel	935,514
Trolley switch plate, E. Heydon	935,304
Truck, J. B. Brown	935,133
Trunk, W. E. McDermott	935,221
Tube cutters, feed mechanism for, W. Cushing	935,467
Tunnels and similar structures, air and water tight joint for, A. Lennon	935,376
Turbine, V. Peterson	935,322
Turbine, E. F. Raab	935,403
Turbine and internal combustion motor engine, combined, J. Hutchings	935,512
Turbine, elastic fluid, G. Westinghouse	935,568
Turbine, fluid pressure, G. Westinghouse	935,567
Turn table, R. J. McKelvey	935,438
Tympan frame, adjustable, C. A. Harris	935,203
Type for typewriting and other machines, O. C. Kaye	935,519
Typewriter, L. P. Diss	935,301
Typewriting machine, E. E. Barney	935,576
Underwear, F. F. Lewis	935,158
Valve, L. G. McCorry	935,044
Valve, J. L. Judge	935,112
Valve, Serrell & Osborn	935,113
Valve, H. A. & J. C. Owers	935,541
Valve, Frost & Morgan	935,597
Valve, check, R. F. Kreiter	935,118
Valve, combined pressure regulating and shut off, C. D. Miller	935,217
Valve for hydrants, stand pipes, and the like, H. S. Lange	935,373
Valve for pneumatic drills, throttle, A. Levedahl	935,268
Valve, gas engine admission, G. B. Petsche	935,323
Valve, gate, G. E. Rothenbacher	935,223
Valve gear for elastic fluid engines, reversible, R. Hennig	935,500
Valve, globe, C. E. Fisher	935,360
Valve mechanism, suction operated, A. Kilborn	935,521
Valve, pressure and vacuum steam heating, F. C. Goff	935,599
Vehicle coupling, J. R. White	935,134
Vehicle gear casing, motor, J. C. Lott	935,036
Vehicle, motor, A. Loomis	935,211
Vehicle, motor, R. H. Bowman	935,582
Vehicle mud guard, H. J. Shrapnel	935,276
Vehicle steering gear, R. H. Bowman	935,293
Vehicle steering gear attachment, motor, F. Grime	935,601
Vehicle wheel, D. I. Paisner	935,399
Vehicle wheel, road, S. M. Brown	935,245
Vehicles, adjustable gripping link for, C. A. Case	935,586
Vending machine, stamp, Z. G. Sholes	935,062
Vessel, paddle wheel, D. Fletcher	935,198
Veterinary obstetrical instrument, C. Gabel	935,362
Vulcanizer, H. D. Bultman	935,295
Wagon, J. W. Smith	935,277
Wagon, delivery, F. W. Miller	935,121
Wagon, loading device, R. Pederson	935,052
Wall blocks, slabs, etc., machine for molding portable, H. B. Copeland	935,246
Wasboard, E. A. Hodge	935,026
Wasboard attachment, T. F. Hoban	935,025
Wasboller, A. R. Pritchard	935,325
Washer, See Fruit washer	
Washing machine, J. D. Williams	935,441
Washing machine, G. F. Whitcomb	935,570
Washing machine gearing, W. Ruthven	935,551
Watch pocket vest, L. B. Avery	935,085
Watches, dust proof sleeves for stem winding, F. J. Hughes	935,028
Water cooler, A. N. Rose	935,060
Water heater, F. W. Robertshaw	935,408
Water purifying apparatus, J. C. W. Greth	935,303
Weighing device, A. C. Mather	935,214
Weight motor, D. D. Sprackler	935,422
Welding and brazing tool, R. E. Bruckner	935,458
Welding and calking machine, N. B. Rohey	935,232
Welding machine, electrical, W. C. Winfield	935,346
Well drilling, bull shaft drum for, J. A. Mauck	935,532
Wheel brake vehicle, O. L. Herod	935,204
Wheel guard, automatic, C. E. Gierding	935,491
Wind instruments, tone-connecting means for brass, J. Lockhart	935,626
Wind screen, E. K. Conover	935,190
Winding machine, bobbin, F. La Chenele	935,263
Winding mechanism, bobbin, T. G. Plant	935,230
Window, W. L. Gillett	935,199
Window lock, double automatic, G. & J. A. Buttress	935,584
Wire drawing machine, H. L. Thompson	935,335
Wire fabric for bed springs and couches, B. H. Jones	935,308
Word meter, H. Watts	935,178
Wrench, W. G. Dicker	935,002
Wrench, A. & B. W. Fresko	935,482
Wrench, J. A. Hemsky	935,499
Zinc from solutions of zinc sulfate, electrolytic winching of, Engelhardt & Huth	935,250

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, 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., Inc., 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., Inc., 361 Broadway, New York.

Wood-working Machinery



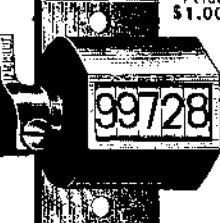
For ripping, cross-cutting, mitring, grooving, boring, scroll-sawing edge moulding, mortising; for working wood in any manner. Send for catalogue A. The Seneca Falls Mfg. Co., 695 Water St., Seneca Falls, N. Y.

Engine and Foot Lathes

MACHINE SHOP OUTFITS, TOOLS AND SUPPLIES. BEST MATERIALS. BEST WORKMANSHIP. CATALOGUE FREE.

SEBASTIAN LATHE CO., 120 Culvert St., Cincinnati, O.

Veeder Counters



Price \$1.00

to register reciprocating movements or revolutions. Cut full size.

Booklet Free.

VEEDER MFG. CO.

18 Sargeant St., Hartford, Conn.
Cycloometers, Odometers, Tachometers, Counters and Fine Castings.

Represented in Great Britain by
MESSRS. MARKS & CO., LTD., 6
City Road, Finsbury Square, London, E. C., England.

Incorporate and BUSINESS in ARIZONA

Laws the most liberal. Expense the least. Hold meetings, transact business anywhere. Blanks, By-Laws and forms for making stock full-paid for cash, property or services free. President Stoddard, FORMER SECRETARY OF ARIZONA, resident agent for many thousand companies. Reference: Any bank in Arizona

STODDARD INCORPORATING COMPANY, Box 8000
PHOENIX, ARIZONA

HOW TO MAKE AN ELECTRICAL FURNACE for Amateur's Use.—The utilization of 110 volt electric circuits for small furnace work. By N. Monroe Hopkins. This valuable article is accompanied by detailed working drawings on a large scale, and the furnace can be made by any amateur who is versed in the use of tools. This article is contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 1182, Price 10 cents. For sale by MUNN & CO., Inc., 361 Broadway, New York City, or by any bookseller or newsdealer.

W. F. & JNO. BARNES CO.,
Established 1872. 1999 Ruby Street, Rockford, Ill.



TELEGRAPHY TAUGHT

In the shortest possible time. The Omigraph Automatic Transmitter combined with standard key and sounder.

The speed can be instantly changed from 6 to 1800 without stopping or shifting belts. Power applied can be graduated to drive, with equal safety, the smallest or largest drills within its range—a wonderful economy in time and great saving in drill breakage. See our Drill Catalogue.

W. F. & JNO. BARNES CO.,
Established 1872. 1999 Ruby Street, Rockford, Ill.

Concrete Reinforced Concrete

—AND—

Concrete Building Blocks

Scientific American Supplement 1548 contains an article on Concrete, by Brysson Cunningham. The article clearly describes the proper composition and mixture of concrete and gives results of elaborate tests.

Scientific American Supplement 1538 gives the proportion of gravel and sand to be used in concrete.

Scientific American Supplements 1567, 1568, 1569, 1570, and 1571 contain an elaborate discussion by Lieut. Henry J. Jones of the various systems of reinforcing concrete concrete construction, and their applications. These articles constitute a splendid text book on the subject of reinforced concrete. Nothing better has been published.

Scientific American Supplement 897 contains an article by Spencer Newberry in which practical notes on the proper preparation of concrete are given.

Scientific American Supplements 1568 and 1569 present a helpful account of the making of concrete blocks by Spencer Newberry.

Scientific American Supplement 1534 gives a critical review of the engineering value of reinforced concrete.

Scientific American Supplements 1547 and 1548 give a resume in which the various systems of reinforced concrete construction are discussed and illustrated.

Scientific American Supplement 1564 contains an article by Lewis A. Hicks, in which the merits and defects of reinforced concrete are analyzed.

Scientific American Supplement 1551 contains the principles of reinforced concrete with some practical illustrations by Walter Loring Webb.

Scientific American Supplement 1573 contains an article by Louis H. Gibson on the principles of success in concrete block manufacture, illustrated.

Scientific American Supplement 1574 discusses steel for reinforced concrete.

Scientific American Supplements 1575, 1576, and 1577 contain a paper by Philip L. Wormley Jr., on cement mortar and concrete, their preparation and use for farm purposes. The paper exhaustively discusses the making of mortar and concrete, depositing of concrete, facing concrete, wood forms, concrete sidewalks, details of construction of reinforced concrete posts.

Each number of the Supplement costs 10 cents.

A set of papers containing all the articles above mentioned will be mailed for \$1.50. Order from your newsdealer or from

MUNN & CO., Inc.
361 Broadway, New York City

STEREOSCOPIC MOVING PICTURES IN NATURAL COLORS.

(Continued from page 256.)

pictures are taken and projected intermittently, the shutter both in the camera and projector being a sector having an area approximately one-seventh of the area of a circle. While the shutter is closed the film is jerked forward by an interval equal to the height of a single picture on the film. In the Fries-Greene apparatus, however, a continuous picture is secured, since the operation of the twin lenses is alternating, that is to say, while one is closed the other is open. Consequently although the separate films carry images intermittently recorded, the one secures those which the other lost during the short space of time its lens was closed by the shutter.

In regard to the arrangement of the color filter and its manipulation a highly important development has been effected. The color filters are disposed on an endless band of transparent celluloid in the order of red, green, and blue. Each filter is of the same size as the cinematographic image on its film, namely, $\frac{3}{4}$ inch deep by the standard width, and like the latter is perforated along its edges so that the movement of the color filter and sensitized films are synchronous and the two being kept in dead register. By reducing the thickness of the color filter medium to the infinitesimal proportions of a thin celluloid band all troubles concerning light refraction and reflection are completely overcome.

By reference to the accompanying illustration showing the interior of one side of the stereoscopic camera, its operation may be clearly understood, as well as the disposition of the color filter band. Starting from the point A, which is a pulley, the color filter band passes to and over the jockey pulley B, thence around the drum C, where it picks up the unexposed sensitized film issuing from the unexposed-film spool-box at the top on the