



Notes and Queries. Full hints to correspondents were printed at the head of this column in the issue of November 14 or will be sent by mail on request.

(12008) S. L. D. asks: In your column "Answers to Inquiries" will you oblige a 45-year reader of the SCIENTIFIC AMERICAN by stating scientists' explanation of the great weight of the earth? Astronomers say the whole weight is 5 1/2 times that of water: viz., about 344 pounds per cubic foot. Marble and the densest granite rarely exceed 180 pounds per cubic foot. By far the largest part of the earth known to man is much less in weight than granite; for example, water, earths of all kinds, coal, all woods, etc. If astronomers are correct, a few hundred miles down and thence to the center of the earth there must be great density of matter. A is true that the average density of the materials on the earth's surface is not greater than three times that of water. The weight of a cubic foot of such materials then is not far from 180 pounds per cubic foot. Your inference is the only possible one, that the interior of the earth is much heavier than the surface portions. Nor is this any different from what would be expected, if once the earth were fluid. At that time the heavier substances sank to the bottom of the fluid mass, and are at present nearer the center of the earth.

(12009) E. E. W. asks: In corresponding with an electrical dealer about hand-power for running a 75-watt dynamo, he said that it could not be run by hand-power, it was too large. This dynamo at 1,400 R. P. M. will furnish 15 to 20 volts; at 2,000 R. P. M. will furnish 40 to 50 volts. In a circular I have there is a 75-watt dynamo advertised. This dynamo will furnish an alternating and direct current at the same time or separate. It will run as a motor on a direct current and at the same time furnish an alternating current to light lamps by. In all other respects it is the same except in design. The questions in my mind are why cannot the first dynamo be run by hand-power if the one can that I last described? Does it take more power to run a dynamo as you increase the amount of current or the voltage? If a dynamo is run at a higher speed than it was designed to run, would there be a higher voltage or amperage? A 75-watt dynamo can be run by hand, by one-man power, for a while. It is one-tenth horse-power. And a strong man can exert more power than that for a short time. It matters not how the 75 watts are made up—1 ampere at 75 volts, or 3 amperes at 25 volts, or any combination which gives 75 for a product. Power is in watts, and these are the product of volts and amperes. If the speed of a dynamo is increased the volts are increased, but the amperes remain the same. All the amperes flow which the resistance allows to flow. The volts depend upon the rate of cutting lines of force by the revolving armature. This is increased by increased speed. But if 1,400 turns per minute give 15 volts, 2,000 turns per minute can only give 22 volts, and not 40 volts as you give it.

(12010) J. A. B. asks: 1. What are the underlying principles of cloud electricity, that is, where do the clouds obtain their electrical energy, and how? A. The mode of the production of electricity in the atmosphere is not yet well understood. No theory completely explains all the facts. 2. What is the cause of lightning and thunder? A. Lightning is due to an electric discharge between two oppositely electrified masses of clouds. Thunder is the sound produced by the shock of the air rushing back again into the space through which the lightning has just passed. 3. Why are not all clouds accompanied by lightning? A. All clouds do not produce lightning because they are not sufficiently electrified to pierce the air between them and the earth. 4. Do all clouds possess electricity? A. All clouds are electrified, so is the air at all times. 5. Are lightning clouds laden with electricity before there is any lightning flash, or is lightning caused by the friction of the clouds? A. Thunder clouds are more highly electrified than other clouds. Light from the electric discharge is due to the heating of the air through which the lightning flashes. 6. What are clouds? A. Clouds are composed of drops of water in the air. These drops always fall, as do any other drops, but they may evaporate and disappear before they reach the earth. They may be kept up by currents of air under the clouds, raising them and keeping them from coming through to the earth. Otherwise it would rain every time a cloud passes overhead. 7. Steam circulating in pipes condenses and again becomes water. Then why is it that steam escaping into the cold atmosphere rises and finally becomes invisible? Why does it not condense and fall back to the earth in the form of water? A. Clouds are not vapor or steam, but actual drops of water. Steam when it comes out of a pipe and is seen as a cloud is no longer steam but drops of water. If these drops disappear, it is because they evaporate into the air. They often fall as water, wetting the ground below. You would profit by reading some good book on meteorology. Waldo's "Meteorology" is good. We can send it for \$1.75 by mail.

NEW BOOKS, ETC. THE STEAM TURBINE. By James Ambrose Moyer, S.B., A.M. New York: John Wiley & Sons, 1908. 8vo.; pp. 370; 225 ill. Price, \$4 net. It is the aim of the author to give what practical engineers and students desire to know about the steam turbine and not merely a resumé of as much of thermodynamics and mechanics as is necessary coupled with particulars from manufacturers' catalogues. The result, while essentially a book for the engineer is eminently practical, more for the designer and builder than for the theoretical mathematician and sufficiently lucid to be interesting to the amateur. Nothing could be clearer, for instance, than the author's explanation of the difference between impulse and reaction turbines in the accepted commercial sense of those names, a distinction so confusing to many on account of the misleading nature of the terms, practically all successful turbines using both impulse and reaction in their exact sense. The summary of the difficulties of design for gas turbines is also admirably clear. The rapidity of recent developments is perhaps best shown by the introduction almost without comment of entropy diagrams laid out in lines of constant superheat instead of in constant temperature and by the quite unimpassioned assumption that no reciprocating engines will in future be used for large electric power plants. The presentation of the most important statements in bold-faced type is an innovation reminiscent of advertising circulars, but is useful in making the subjects visible at a glance.

PEERLESS ALASKA. Our Cache Near the Pole. By Charles Hallock, M.A. New York: Broadway Publishing Company, 1908. 16mo.; pp. 224. Price, \$1.25. This is Mr. Hallock's latest work, written in his 75th year. It is a timely and very entertaining volume of 250 pages, comprising a comprehensive outline of the physiography, ethnology, natural history, products, railroads, government enterprises, experimental farms, and economic resources of Alaska and its development from cession to date, and furnishes a useful and trustworthy *vade mecum* for intending homesteaders, miners, mushers, commercial fishermen, sportsmen, missionaries, and all persons interested in its settlement and advancement. There is an introductory send-off by Rev. Sheldon Jackson, of the U. S. Bureau of Education, vouching for its accuracy and scope.

LABORATORY ARTS. By George H. Woolf, Ph.D., F.I.C. New York: Longmans, Green & Co., 1908. 12mo.; pp. 192; 119 diagrams. This is a teacher's handbook, adapted particularly for the science teacher who has to take care of and repair his own instruments. The work is thoroughly practical, and is based upon the personal experience of the author in caring for his laboratory apparatus. The book abounds with useful suggestions, which clearly show the resourcefulness of the author. The purpose is not to show the standard trade methods, but the best way for the man of limited skill and a poor equipment of tools to make the necessary repairs.

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 February 2, 1909, AND EACH BEARING THAT DATE [See note at end of list about copies of these patents.]

Adding machine, C. N. McFarland..... 911,060 Adhesive applying apparatus, W. N. Moore..... 911,253 Advertising apparatus, A. S. Spiegel..... 911,561 Air, device for treating the human body with heated, T. Tyner..... 911,185 Air inlet and beer outlet bung hole apparatus, J. H. Flach, et al..... 911,225

Alcohol from liquor casks or barrels, recovering waste, A. Berg..... 911,367 Alkaline earth cyanide, saponification of, K. Bosch..... 911,468 Amusement device, J. W. McCann..... 911,428 Anchor, land, W. Jay..... 911,504 Annular burner, L. H. Brinkman..... 911,373 Atmospheric electricity, apparatus for collecting, W. L. Pennock..... 911,260 Audiphone transmitter, C. E. Williams..... 911,101 Automobile starting device, R. E. Drachenberg..... 911,480 Automobile steering gear, G. Geer..... 911,489 Awning fixture, F. Bailey..... 911,535 Ax, detachable, J. Ryan..... 911,075 Baling machine wire tier, Gregory & Sias..... 911,391 Ballot marking guide, L. A. Wilkinson..... 911,100 Ballot pouch, N. Beman..... 911,286 Banana carrier, S. J. Hamblet..... 911,508 Band stamp, A. H. Merrill..... 911,424 Banjo, I. Fillman..... 911,484 Bank check and draft system, B. E. Buckmaster..... 911,374 Bar. See Deformed bar. Barber's chair reclining mechanism, E. E. Koken..... 911,135 Barber's pole, E. E. Koken..... 911,134 Bath cabinet, T. Papworth..... 911,434 Battering plate, E. W. Smith..... 911,163 Bearing, friction, C. J. Lang..... 911,412 Bed and sofa, convertible, J. W. Campbell..... 911,205 Bed,avenport, G. A. Mellon..... 911,316 Bedstead, G. T. Bouslog..... 911,370 Bedstead trace, R. H. Parker..... 911,325 Beer cooler, J. D. Hendrix..... 911,405 Beet topper, W. B. Baldwin..... 911,197 Bellows, pumping, R. W. Pain..... 911,065 Belt clasp, C. W. Powell..... 911,529 Bench and chair, combined, T. D. Montague..... 911,318 Bench clamp, S. J. Hamblet..... 911,028 Binder, loose leaf, R. Krumming..... 911,049 Binder, temporary, H. Herdegen..... 911,396 Boiler, F. S. Bean..... 911,023 Boiler baffle, water tube, L. Woerner..... 911,281 Boiler flue cleaner, J. C. Ross..... 911,333 Boiler furnace, steam, G. A. Bu Miller..... 911,473 Boiler sheets, means for connecting flues to, S. W. Hoerl..... 911,397 Book leaf, P. Hansen..... 911,039 Book, loose leaf, J. Griesinger..... 911,425 Boot or shoe, C. L. Blaisdell..... 911,025 Brake shoe, W. B. Goodwin..... 911,393 Briquet press, O. Zimmermann..... 911,104 Brooder, chicken, H. G. Hoops..... 911,500 Broom head, H. V. Wilkins..... 911,466 Broom moistener, T. Meyer..... 911,514 Buffering machine, E. E. Ferrers..... 911,261 Building block mold, Box & Brown..... 911,110 Burglar cutting machine, W. Kincaid..... 911,308 Burial vault door, F. S. Wisterman..... 911,189 Bust supporter, E. A. Busby..... 911,204 Cabinet, kitchen, Ribley & Clark..... 911,159 Cable grip, T. W. Tiley..... 911,460 Calcareous artificial stone substances by means of carbonic acid, hardening, Schwabenberg & Rinne..... 911,547 Can opener, A. M. Russell..... 911,449 Candy cutter, Lane & Schmand..... 911,419 Cap, J. Pachter..... 911,432 Car bumper, or the like, Schraeder & Leonard..... 911,166 Car coupling, W. S. Schroeder..... 911,526 Car draft gear, railway, H. M. Pfleger..... 911,264 Car, dumping, R. G. Taylor..... 911,090 Car grain door, B. F. Owens..... 911,521 Car hand brake, railway, E. A. Barber..... 911,285 Car, push, G. C. Wortman..... 911,191 Car seating, J. B. Kilburn..... 911,246 Car stake holder, logging and platform, W. R. Eddy..... 911,555 Car stop, J. T. Howell..... 911,501 Car understructure, passenger, J. F. Streib..... 911,343 Carbureter, A. J. Abel..... 911,105 Carbureter, F. H. Otis..... 911,153 Carbureter, A. Welland..... 911,349 Card holding stand, revolving, E. C. Douglas..... 911,385 Card or paper holder, W. H. Berne..... 911,287 Card rake up mechanism, Jaquard, J. A. Groebli..... 911,236 Carpet stretcher, Seipe & Grieshaber..... 911,179 Carrier, W. G. Beatty..... 911,284 Cart, T. E. Daly..... 911,212 Caster for tubular legs for furniture, A. B. Diss..... 911,213 Cattle guard, J. L. Crouch..... 911,211 Chain, sprocket, G. M. Pierson..... 911,266 Chair and shoe polishing cabinet, combined, A. Soderling..... 911,082 Channelling and grooving knife, B. P. Mayo..... 911,512 Chart, Stiles & Yates..... 911,083 Cheese holding board, C. P. Mee..... 911,145 Cigar moistener, J. H. Glatt..... 911,392 Cigarette or cigar box, A. Kochenthal, et al..... 911,248 Clock, watch, etc., friction spring, F. R. Alford..... 911,534 Closed seat, D. A. Ebinger..... 911,220 Closure, W. R. Comings..... 911,380 Cloth feeding attachment for tentering machines, C. F. Gesehelmer..... 911,490 Cloth treating apparatus, H. L. Gantt..... 911,560 Clothes drier, A. W. Ringblom..... 911,160 Clutch, friction, F. J. Lemley..... 911,415 Coal mines and other places, respiration apparatus for use in, W. E. Garforth..... 911,389 Cock, compression stop and waste, R. W. Beaton..... 911,365 Cock, gage, G. W. Collins..... 911,379 Coin meter for slot machines, spurious, P. W. Kihnen..... 911,247 Coin holder, J. Packenbergs..... 911,539 Coin holder, decorated, C. S. Marsh..... 911,509 Coin receptacle and delivering device, A. E. Smith..... 911,274 Collapsible box, P. Henrich..... 911,304 Collar attachment, C. R. Current..... 911,295 Collar, clamp, J. H. Gately..... 911,124 Collar supporter, J. A. Doran..... 911,216 Collector ring and clamping plate, Smoot & Hertz..... 911,081 Combination lock, H. M. McDonald..... 911,150 Controller, H. W. Cheney..... 911,029 Controller, H. C. Marmon..... 911,419 Controller and circuit closer, combined, D. C. Cooke..... 911,030 Coop, collapsible chicken, R. E. Laidley..... 911,136 Cork pulling device, C. C. Call..... 911,292 Corn header, L. J., Jr., & F. R. Gehrman..... 911,302 Cotton chopper, J. A. Fuller..... 911,487 Cotton gin rib, J. T. Fuller..... 911,034 Counting and bottling machine, W. H. Froggatt, Jr..... 911,556 Crane, adjustable counterbalance radius, W. Van Wie..... 911,093 Crank hanger, D. B. Stephenson..... 911,174 Crate, knockdown, C. A. Smith..... 911,276 Creeper, anti-rail, G. S. Zahmsier..... 911,356 Crutch brace, E. H. Schwartz..... 911,227 Cuff attachment, J. L. Parker..... 911,155 Cultivator, W. L. Paul..... 911,067 Cultivator, wheeled, G. N. Hype..... 911,128 Curtain fixture, C. F. Dawson..... 911,383 Curtain pole, J. P. Reed..... 911,444 Cushion, E. G. Budd..... 911,201 Cylinder mold, closed, H. Brinker..... 911,372 Deformed bar, F. V. McMullin..... 911,062 Dental handpiece, R. M. Mayes..... 911,510 Dimpled radiator, J. MacKaye..... 911,311 Desk attachment, M. L. Walters..... 911,097 Dish washing machine, O. S. Lee..... 911,052 Disinfecting apparatus, W. H. Rose..... 911,331 Disk drill, C. H. Pelton..... 911,259 Disk holder or rest, P. Lier..... 911,507 Door holder, Robinson & Dean..... 911,074 Door operator, W. Harris..... 911,496 Door lock and burglar alarm, combined, T. W. Smith..... 911,080 Door roller support, sliding, D. C. Edmondson..... 911,554 Door stop, F. D. McVill..... 911,423 Doors of public buildings, means for automatically opening, Stevenson & Morgan..... 911,175 Doors for public buildings, means for automatically unlocking, T. A. Stevenson..... 911,176 Drill disks or plows, means for raising and lowering, W. E. Burks..... 911,474 Drill lubrication, rock, Thompson & Mackie..... 911,180 Dye, iron mono-azo, E. Ulrich..... 911,186 Earthen furnace, H. H. Vauvauker..... 911,463 Earth excavator, H. W. King..... 911,131 Egg carton, W. B. Le Bourgeois..... 911,051 Electric accumulators, agglutinating active material for, Marino & Barton-Wright..... 911,141

Electric battery holder and battery, G. L. Patterson..... 911,522 Electric irons, heating appliances, and the like, contact plug for, R. G. Pheysey..... 911,439 Electric light bracket, W. Roessler..... 911,447 Electric machine, Wynano, H. A. Balcome..... 911,364 Electric relay, F. Townsen..... 911,549 Electric terminal clip, W. E. Dow..... 911,032 Electric wiring cleat, H. McLennan..... 911,429 Electrical wires, cables, and conduits, connector for, R. W. Pittman..... 911,267 Elevator controlling mechanism, F. E. Turner..... 911,184 Elevator door safety device, H. A. McGroory..... 911,323 Elevator indicator, J. D. Griffen..... 911,303 Embroidering machine Jacquard mechanism, J. A. Groebli..... 911,234 Embroidering machine stop mechanism, J. A. Groebli..... 911,235 Engine brake mechanism traction, J. & M. Minnaugh..... 911,148 Engine cooling fan, explosion, E. V. Croston..... 911,382 Engine coupling, traction, W. J. Stenger..... 911,456 Envelop, F. Peterson..... 911,263 Exterior operating machine, J. F. Ohmer..... 911,517 Fare register, J. F. Ohmer..... 911,518 Fare register and recorder, Ohmer & Bridenbaugh..... 911,520 Fare register, means for electrically operating the operating mechanism of a, J. F. Ohmer..... 911,519 Fertilizers, making complete, J. R. Young..... 911,283 Fiber cleaning and preparing apparatus, J. K. Toles..... 911,529 Fiber coating and packing machine, R. Dawson..... 911,297 Field ration mess kit, G. H. Preston..... 911,442 Fire hydrant emergency coupling, J. B. Fuller..... 911,372 Firearm, A. J. Aubrey..... 911,362 Fireman's mask, R. E. Cheesman..... 911,476 Fish hook, A. S. Hickey..... 911,049 Fish iron, Schroeder & Christiansen..... 911,167 Fishing rod, W. J. Farr..... 911,119 Fishing rod attachment, H. H. Crosier..... 911,117 Fixture support, M. W. Pitner..... 911,441 Flood gate, J. M. Burkett..... 911,290 Floor scraping machine, A. Schwenke..... 911,433 Flower stand, adjustable, F. H. Moore..... 911,149 Flue expander and cutter, V. Stavenik..... 911,172 Fly wheel, R. W. Guilford..... 911,540 Folding and wrapping machine, C. Owens..... 911,543 Folding chair, H. C. Forshay..... 911,226 Foot register, F. C. Parker..... 911,436 Frame. See Lantern frame. Fruit and vegetable masher, J. S. Belenburg..... 911,108 Furnace, D. Water heater for ranges, combined, H. Van Buren..... 911,347 Furnace, J. A. Bradburn..... 911,550 Furniture, F. P. Grobe..... 911,233 Fuse mounting, J. J. Lyng..... 911,055 Gambrel hook, J. L. Smith..... 911,079 Garbage burner, J. A. Burwell..... 911,375 Garment fitting device, M. M. Johnson..... 911,046 Garment wrapper and protector, L. W. Wilms..... 911,278 Gas burner and water heater for ranges, combined, H. Van Buren..... 911,347 Gas hose attachment, P. Maggio..... 911,250 Gas, purifying, E. L. Hall..... 911,494 Gas service pipe automatic injector, W. E. Vaughn..... 911,464 Gas storage apparatus, liquefied, M. Chase..... 911,294 Generator, M. W. Pitner..... 911,440 Glass cutter, W. G. Stebbins..... 911,342 Glasses, tourist's, J. M. Faehrmann..... 911,483 Glove tester, E. S. Smith..... 911,277 Gongs, etc., mechanism for, H. E. Reeve..... 12,914 Grain reducing machine, C. Jaquet..... 911,044 Grass cutter, F. Nash..... 911,516 Grinding machine, C. M. Conradson..... 911,210 Grinding mill, C. N. McLaughlin..... 911,061 Gun, air, Markham & Roe..... 911,056 Hair and wool clipper, electrically actuated, H. Luense..... 911,139 Halter, J. E. Griffen..... 911,232 Harness saddle, C. H. Grings..... 911,037 Harness winker, M. J. Rau..... 911,443 Hasp lock, W. F. Hunt..... 911,502 Hat, coat, and umbrella rack, C. E. Garner..... 911,035 Headlight operating device, F. A. Hamm..... 911,394 Heater, Plank & Fulghum..... 911,328 Heating system, low pressure steam and analogous, R. R. Doody..... 911,215 Heel, M. H. Inn..... 911,137 Hinge, H. Lange..... 911,137 Horse checking means, T. Toisico..... 911,183 Horse releaser, Louviere & Broussard..... 911,310 Husking roller, G. H. Gehring..... 911,390 Hydrocarbon engine, R. C. Lewis..... 911,138 Hygrometer and profile recording machine, A. Mercau..... 911,146 Ice cream freezer, H. Viet..... 911,348 Ice, making and harvesting plate, D. J. Havensrider..... 911,238 Ignition timer, L. B. Shivers..... 911,527 Indicator luminous substance, A. Junghans..... 911,401 Induction motor and generator, R. D. Mershon..... 911,147 Ink, stenciling, C. E. Fellow..... 911,327 Inlaying, ornamenting, and case hardening metallic surfaces, S. O. Cowper-Coles..... 911,116 Internal combustion engine, Tait & Ellis..... 911,345 Jar cover, fastening, W. A. Postwick..... 911,280 Journal bearing, W. J. Fisher..... 911,224 Journal box oil guard, G. L. Mansfield..... 911,313 Junction box, Charters & Bardwell..... 911,293 Kettle still, A. W. Blunden..... 911,467 Label coating machine, G. E. Inman..... 911,241 Lamp carbon holder, electric, C. J. Lang..... 911,411 Lamp headlight, arc, B. B. Lacy..... 911,409 Lamp socket, multiple, L. J. Castonguay..... 911,475 Lantern attachment, O. A. Willett..... 911,533 Lantern frame, H. S. Boode..... 911,368 Lantern, tubular, F. C. Wright..... 911,282 Lanterns, tubular, C. L. Betts..... 911,288 Lawn trimmer, H. J. Rober..... 911,073 Leather product and making the same, H. Mackay..... 911,140 Leg, artificial, O. A. Watson..... 911,532 Life guard, B. Lev..... 911,053 Lifting jack, J. B. Taylor..... 911,089 Light distributor, L. Stiansny..... 911,458 Link, fusible, G. I. Rockwood..... 911,340 Linoleum, W. G. Snow, et al..... 911,341 Litter carrier, A. Jensen..... 911,399 Lock, W. Szymanski..... 911,088 Lock, C. Zielinski..... 911,192 Lock key holder, E. A. Benjamin..... 911,109 Locomotive, G. Hohner..... 911,407 Locomotive reverse shaft, articulated, G. W. Henry, Jr..... 911,395 Locomotive sanding apparatus, C. E. Rich..... 911,158 Loom double batten ribbon, C. Schneider-Gerster..... 911,165 Loom protection mechanism, J. Northrop..... 911,152 Loom protection mechanism, W. F. Draper..... 911,129 Loom shuttle, J. H. Morin..... 911,058 Loom shuttle motion, E. H. Ryan..... 911,334 Loom stopping mechanism, T. A. B. Carver..... 911,378 Lubricating apparatus, M. J. Maloney..... 911,418 Maf-pouch exchanging apparatus, A. Monteth, et al..... 911,057 Mantle and burner therefor, incandescent, D. Anderson..... 911,590 Manual planter, S. A. Sierra..... 911,453 Manure carrier, O. Rosenthal..... 911,332 Match receptacle, J. H. Evers..... 911,482 Match safe, J. Harbolsheimer..... 911,495 Matrix retainer, J. W. Ivory..... 911,307 Metal founding apparatus, F. P. Johns..... 911,244 Metals, etc., casting, F. Schneider..... 911,450 Metals box, H. E. McVane..... 911,256 Milk can, G. M. Weeks..... 911,465 Milk pail, J. D. Perry..... 911,282 Milking apparatus, K. I. Lindstrom..... 911,416 Mine ventilating system, J. Quin..... 911,525 Mining and track tool, combined, W. L. Groom..... 911,038 Molding machine, D. Parks..... 911,066 Mop, A. F. Brown..... 911,199 Mosquito head, N. L. Melancon..... 911,422 Motor boat steering device, H. J. Perkins..... 911,069 Motor construction, induction, H. F. Elshof..... 911,481 Motor ignition apparatus, multiple cylinder, B. L. Lawton..... 911,414 Mower, W. T. Benham..... 911,366 Mower fly-wheel attachment, J. P. Frost..... 911,122