mean of all measurements above and below the horizontal, and is the true average candle-power. It is the most difficult to obtain. The "nominal candle-power" is the one oftenest spoken of commercially. It is a value arbitarily taken to correspond to a certain consumption of energy in the arc. Thus an arc taking 450 watts is called a 2,000-candle-power lamp, and 300 watts are assumed to give 1,200 candles. These numbers are perhaps near the maximum candle-power of an open arc lamp. A small searchlight may be simply an arc light so arranged that it can be swung to throw its light strongly in different directions by attaching to it a parabolic reflector. Such a one as is used on a locomotive headlight would be good for the purpose. SUPPLEMENT No. 1276 contains a description of a portable projector which may be useful in making a searchlight. We send it for ten cents.

(9872) F. K. W. asks: Will you please write to me telling me the dimensions for a smoke box for making rings? I wish to use it simply for experimenting. What substance should be put over the end to be knocked? What size hole? A. A box for making smoke rings may be of almost any size. One which we have used with success in our lectures for a good many years is about 18 inches long and 8 inches square, with a hole about 4 inches in diameter in one end. A sheet of pure rubber is fastened over the other end with cleats. The advantage of a box of some size is that it contains a large volume of air with which to form rings.

(9873) P. writes: Regarding Answer 9840, I would say J. F. overlooks the essential point in the question, namely, the ability of a moving body to overcome resistance to its motion. The two balls of equal size present equal surfaces to the air and experience equal resistance from the air so long as their velocities are the same. But there seems to be a failure to see that the resistance of the air is a constant resistance which the ball must overcome in the same manner that a moving car must overcome the friction of the brake applied to its wheels. The falling ball must displace air, and the displacement of the air is a variable resistance dependent upon the velocity of the moving body. The ability of the falling ball to displace air depends upon the weight of the falling ball, since it is momentum which pushes the air aside, and this varies both with the weight and the velocity of the ball. The lighter ball cannot push air out of its path as easily as the heavier ball. It will soon find itself left behind in the race, and the heavier ball will reach the ground first, since the retardation increases as the time of fall increases. It may be accepted as good authority to quote Wood's "Elementary Mechanics," page 33, sec. 71: "The attraction of the earth being the same on each particle of a body, a light body would fall as rapidly as a heavy one if there were no resistance to their movements; and this is confirmed by experiment, by letting bodies fall in a vacuum. The resistance of the air varies with the surface against which it acts, but in falling bodies the ability to overcome this resistance varies as the weight of the body; hence, heavy bodies fall faster than light ones in the air. But the velocity of heavy bodies, such as iron, stone, brass, etc., falling from 100 to 200 feet, do not differ much from each other." If bodies fell as J. F. reasons they should, rain drops would hit our devoted heads with the velocity of shot falling from the same height, often a mile, and would, as shot would, give us a smart blow, to say no more.

(9874) P. C. D. asks: Will you please explain the cause of the light line around dark objects seen against the bright sky, also around shadows cast by an arc light? It occurs occasionally in photographs, especially those taken at sunset. A. The bright border sometimes seen around a dark object against a bright surface is due to the sharp contrast of the object and its background, which also causes the dark object to seem smaller than it actually is. The light line seen around a dark object in a photograph seems to be due to another cause. It appears that the gelatine film is thicker in one part than in another after it is dried. The place where the film curves from the thick to the thin part acts as a lens to diffuse the light and make a narrow band where the print is thinner and so brighter than elsewhere.

(9875) C. A. R. asks: 1. It is a known fact that weakening the field of an electric motor decreases its speed, and yet it would stop if the field current was opened. Now, at what point does weakening the field cease to decrease its speed? Make as clear as possible. A. If the armature current for a motor is supplied at a constant voltage, strengthening the field has the effect of decreasing the speed, and weakening the field increases the speed of the motor, for a constant power. This is due to the counter electromotive force generated by the armature of the motor by its rotation. It makes no difference whether an armature is driven by electricity or by some other power, an E. M. F. is generated by it in the opposite direction to that of the same machine as a motor. The current flowing in a motor is weaker the faster the motor runs. This is well explained by Thompson in his "Elementary Lessons," under motors. We send the book for $1.50. 2. Many people think it is a strange wonder that electricity is used to such an extent and yet no one knows what it is. I sometimes tell them that its "being" is not much more wonderful to scientists than that of heat, light, gravitation, and many other things. To what extent do I answer right? A. While it must be admitted that all is not yet known regarding the nature of electricity it is certain that much more is known that was known even a few years ago. Such a book as Whewell's "Recent Advances," or Thompson's "Electricity and Matter," will give a fair presentation of the subject. We furnish the first-named book for $2, and the second for $1.25. 3. How is the speed of gasoline engines regulated and governed when automatic? A. The speed of a gasoline engine is regulated in one of several ways—by throttling the supply of gas mixture, by stopping the feed of gasoline for several revolutions, by manipulation of the exhaust valve, or, with electric ignition, by cutting off the spark. These changes may be operated by a ball governor or any other device. 4. I have been studying on a device to give warning signal by either light, or bell, or both, at the approach of street cars on crossings. Each (in) line would have a separate device of its own at a certain place to indicate when the car is coming. Is any such thing in use anywhere; if not, why not? A. Any novel device you may invent for signaling the approach of a car to a crossing can be patented, and might be sold to railway people. 5. What can you say for the device by which it is claimed a person when telephoning can see the one talked to? A. We cannot say anything about a device for seeing a person to whom one is talking by the telephone and who is at the other end of a line. We have never seen such a device.

NEW BOOKS, ETC.

A TREATISE ON CONCRETE, PLAIN AND REINFORCED. By Frederick W. Taylor, M.E., and Sanford E. Thompson, S.B. New York: John Wiley & Sons, 1905. 8vo.; pp. 585. 176 figures. Price, $5.

The present treatise, which is a most complete one, is designed for practising engineers and constructors, and also for a text and reference book on concrete for engineering students. The entire subject of concrete and the process of concreting is described, including classification and use of cementing standard and special tests for cement, strength and composition of cement, mortars, reinforced concrete, mixing concrete, depositing concrete, effect of sea water on concrete and water, fire and rust protection, sidewalks and basement floors, building construction, foundations and piers, dams and retaining walls, arches, tunnels and conduits, reservoirs and tanks and cement manufacture are all adequately treated. There is little question that this book will be of very great value at the present time, when there is such an interest in the subject of the utilization of concrete.

GRAPHIC METHODS OF ENGINE DESIGN. By Arthur H. Barker, B.A., B.Sc. London: Technical Publishing Company, Ltd., 1905. 12mo.; pp. 210. 90 diagrams. Price, $1.50.

The author had a two-fold object in view in writing this book, which is now in its second edition. In the first place, he attempted to describe and explain clearly a series of easy and practical constructions for use in the drawing office by young mechanics aspiring to positions in such offices, and having little idea of the sort of mathematical knowledge required in designing engines on correct principles. The author's second object is to show the intimate relations necessarily existing between the science of engineering and exact principles of what is called "theoretical" mechanics. The mechanism of the steam engine forms a very complete series of illustrations of these principles, and the book is intended to make clear their application to practical work. Examples of almost every principle found in books on elementary dynamics are contained in it, and all principles are treated numerically, besides being also fully described. The author has devoted a considerable portion of his work to the subject of balancing, and this subject will be found discussed in a very interesting and easily-understood manner by all who read the work.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending January 9, 1906.

AND EACH BEARING THAT DATE

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

Accounting appliance, credit, P. A. McCaskey ... 809,723
Acid, etc., making boric, H. Blumenberg, Jr. ... 809,550
Acids, making dialkyl-barbituric, M. Engelmann ... 809,362
Adhesive and making same, F. H. Patch ... 809,739
Adjustable bracket, S. Kahn ... 809,448
Air brake, anchor emergency, C. Z. Sanders 809,632
Air heating system, F. S. Lamson ... 809,306
Ammunition hoisting mechanism, Meigs & Stout ... 809,455
Amusement apparatus, E. S. Timmons ... 809,589
Anchor, earth, E. C. & H. Holden ... 809,374
Anchor post, R. Wiltse ... 809,879
Anthracene compound and making same, Bally & Wolff ... 809,893, 809,894
Antiseptic compounds, making solidified, D. Genese ... 809,795
Antitoxin for fatigue and making the same, W. Weichardt ... 809,347
Asymmetric cell, M. Buttner ... 809,770
Auger bit, J. Stein ... 809,856
Automobile body, A. R. & F. S. Welch ... 809,655
Automobile dust allayer, W. H. Parker ... 809,738
Automobile frame, A. R. & F. S. Welch ... 809,656
Automobile race course, Thomas & Lynch ... 809,588
Axle box, railway car, H. Stuting ... 809,404
Axle truss, C. M. Haeske ... 809,297
Bag fastener, E. G. Staude ... 809,756
Bales, machine for forming round cotton, C. M. Cagle ... 809,283
Baling press, J. W. Reynolds ... 809,844
Baling press, J. Unfried ... 809,867
Barrel head, removable, A. Jaeger ... 809,918
Barrel opener, Knight & Russ ... 809,380
Basement and the like ventilator, P. H. Jackson ... 809,617
Basket, clothes pin, S. W. Hurlburt ... 809,568
Batteries, machine for filling dry, P. P. Nungesser ... 809,526
Battery plate, storage, D. P. Perry ... 809,742
Bearing, vertical shaft, E. W. Broomall ... 809,280
Bed and cabinet, folding, N. Lui ... 809,710
Bed corner fastening, B. H. Jones ... 809,447
Bed, sofa, G. N. Wersel ... 809,657
Bedstead attachment, W. A. Wright ... 809,352
Bell push, pull, etc., L. S. Wilks ... 809,595
Belt shifter, Seyboth & Baumann ... 809,329
Billiard and pool tables, cigar holder for, E. E. Hanks ... 809,441
Binder, F. A. Cleveland ... 809,426, 809,493 to 809,496
Binder attachment, A. Williams ... 809,877
Binder, loose leaf, E. G. Dumas ... 809,557
Binder, loose leaf, L. Sussman ... 809,587
Bismuth disalicylate and making same, B. R. Seifert ... 809,583
Bleaching fibers, J. Wakefield ... 809,869
Blind slat fastener, window, M. J. Coogan ... 809,779
Block molding machine, H. P. Gates ... 809,367
Bobbin holder, T. J. Murdock ... 809,624
Bolster, A. E. Ostrander ... 809,736
Bolt clipper, J. Pulvitt ... 809,843
Book support, J. Maccallum ... 809,315
Bookbinder's gage, A. Von Auw ... 809,411
Bottle closure, J. C. Conde ... 809,427
Bottle corking machine, Schlosser & Fisher 809,850
Bottle filling machine, F. B. Thatcher ... 809,407
Bottle, non-refillable, Dolan & Shoemaker ... 809,289
Bottle washing machine, Loew & Miller ... 809,514
Bottles, non-refillable, device for rendering, P. Juppet ... 809,811
Bottling machine, E. L. Miller ... 809,621
Bowling alley, D. Miller ... 809,715
Box corner trimming machine, J. T. Leckenby ... 809,308
Bracelet, P. H. Lettre ... 809,619
Brake shoe, W. H. Namack ... 809,627
Brake shoe, H. L. Winslow ... 809,658
Breech block, lever-actuated wedge, M. Hernsdorf ... 809,801
Bridge safety gate, draw, J. B. Lardinois ... 809,817
Bridle bit, C. H. Falls ... 809,364
Broiler, J. M. Stokoe ... 809,639
Brooder, N. Saltonstall ... 809,631
Brooder, pig, H. B. Vail ... 809,543
Buckle, F. T. Whitted ... 809,874
Buggy top curtain holder, Noble & McHenry 809,457
Burial casket, M. S. Leech ... 809,573
Butter cutting device, H. Schnackenberg ... 809,532
Button, E. Zeckhauser ... 809,883
Button guard, collar, F. H. Norris ... 809,730
Buttonhole, H. Walden ... 809,652
Cableway, T. S. Miller ... 809,387
Calcium carbid, apparatus for the production of, E. F. Price, et al ... 809,842
Calculator, S. S. Fry ... 809,294
Calculator, F. G. Johnson ... 809,446
Camera lenses, screen for photographic, H. S. Miller ... 809,830
Can opener, H. B. Ray ... 809,527
Can opener, J. W. Davis ... 809,673
Can safety device, oil, B. Buccieri ... 809,281
Candies, dipping frame for coating, P. Panoulias ... 809,737
Cane mill feed box, J. P. Golden ... 809,440
Canisters, etc., machine for cutting and pressing, R. von der Linde ... 809,512
Car door lock, W. F. Wendt ... 809,872
Car, dump, T. R. McKnight ... 809,522
Car fender, street, W. Martin ... 809,829
Car frame, W. R. McKeen, Jr. ... 809,347
Car frames, post and car line for railway, W. F. Kiesel, Jr. ... 809,920
Car, hopper bottom, J. S. Stevenson ... 809,638
Car journal box, J. R. Schrader ... 809,635
Car, motor, F. W. Lanchester ... 809,509
Car platform gate, H. Witte ... 809,597
Car, railway, L. A. Hoerr ... 809,613
Car roller side bearing, railway, E. S. Woods ... 809,599
Car roof, metal, J. C. Campbell ... 809,907
Car wheel, sectional, G. W. Richards ... 809,398
Cars, steel underframe for railway, W. F. Kiesel, Jr. ... 809,921
Carbonating apparatus, automatic attachment for, H. W. Van der Vaart ... 809,649
Carpet stretcher, S. J. Wever ... 809,545
Carrier. See Electric carrier.
Cement brick press, H. B. Murdock ... 809,834
Chain links, forming helices for, I. D. Weaver ... 809,412
Chain links, manufacture of helices for, I. D. Weaver ... 809,413
Cheroot machine, J. R. Schmitt ... 809,469
Chimney holder, A. R. Cooper ... 809,780
Chuck, drill, C. Gordon ... 809,296
Churn, Ayers & Sloan ... 809,889
Cigar bunching device, N. Thielen ... 809,758
Cigar cutter and lighter, combined, W. H. Crawford ... 809,782
Cigar machine, W. S. Luckett ... 809,384
Cigars, cigarettes, cigar fillers, etc., machine for the manufacture of, M. Van Gulpen ... 809,410
Clamp, J. Wrigley ... 809,882
Clevis, interlocking, N. M. Lien ... 809,511
Clinometer, B. Kern, Jr. ... 809,699
Clutch mechanism, M. G. de Simone ... 809,331
Coal cutting machine feed, F. Eckersley ... 809,790
Coatings upon metals, electrolytic production of lustrous metallic, A. Classen ... 809,492
Cock, basin, P. Mueller ... 809,720
Coffin drop handle, G. A. Schehr ... 809,467
Coke oven cover, A. H. Walstrom ... 809,344
Collar, horse, G. W. Hahn ... 809,298
Collar, horse, C. L. Allen ... 809,886
Combination gage, F. Gumpp ... 809,562
Composition of matter, B. C. Senton ... 809,472
Computing device, G. M. Brown ... 809,605
Concentrator, frue, L. R. Tulloch ... 809,648
Concrete block machine, Blake & Kenrich ... 809,901
Condenser, J. F. Grace ... 809,679
Conductor, protected, A. M. Lougee ... 809,313
Confectioner's sizing and cutting machine, G. F. Dickson ... 809,498
Control system, F. E. Case ... 809,774, 809,908
Conveyer, J. W. Mackin ... 809,316
Conveyer, A. Tomkins ... 809,763
Conveyer, G. Lucas ... 809,827
Coop, poultry shipping, F. M. Gault ... 809,558
Copy holder, A. D. Long ... 809,310
Copying press, F. E. Jagenberg ... 809,375
Cord clamp, E. Nelson ... 809,726
Crane, W. B. Erskine ... 809,674
Crane locking device, J. R. Whittemore ... 809,483
Crane locking mechanism, J. R. Whittemore 809,482
Crane mechanism, J. R. Whittemore ... 809,481
Crate, W. H. Richmond ... 809,326
Crate for transporting poultry, F. M. Gault ... 809,559
Crate, shipping, F. Sochurek, Sr. ... 809,854
Cream separator, J. W. Hinkley ... 809,442
Cream separator, centrifugal, E. W. Broomall ... 809,355
Cross-bearer, A. E. Ostrander ... 809,732 to 809,735
Cultivator, H. S. Swanson ... 809,335
Cultivator, single row, H. S. Swanson ... 809,336
Culvert, road, Isham & Miller ... 809,304
Current machine, electric alternating, K. A. Lindstrom ... 809,706
Current machinery, alternating, A. S. McAllister ... 809,835
Current motor, alternating, M. Deri ... 809,787
Current motors, starting compensator for alternating, E. F. Gehrkens ... 809,677
Curtain stretcher, F. M Haynes ... 809,684
Cut-off, automatic, E. G. & J. R. Rose ... 809,749
Cut-out, transformer, J. P. Hetherington ... 809,302
Cutter. See Cigar cutter.
Dairy products, suction apparatus for, C. M. Taylor, Jr. ... 809,861
Dental tool, A. W. Feltmann ... 809,365
Desk table, H. Johnson ... 809,376
Dial lock, L. A. Druehl ... 809,556
Diamond, E. G. H. Schenck ... 809,531
Dispensing device, G. L. Belcher ... 809,419
Display case, sample, A. Jelliffe ... 809,445
Display device for millinery articles, H. Silberman ... 809,760
Display hanger, G. D. Dial ... 809,359
Display mirror, W. V. D. Kelley ... 809,698
Dividers, self-centering, C. Amendt ... 809,887
Door hanger, M. Cossey ... 809,781
Door lock, C. F. Fringer ... 809,610
Dough dividing and scaling machine, Hohnbach & Leitel ... 809,443
Draft appliance, A. McNeil ... 809,318
Drawing models and the like, adjustable holder for, G. J. Darrschmidt ... 809,432
Dredger sleeve, W. F. Bowers ... 809,903
Dredges, excavators, and the like, dipper for, W. Ferris ... 809,436
Dress or skirt gage, I. M. Rouse ... 809,464
Duplicating apparatus, A. B. Dick ... 809,287, 809,288
Dust collector, J. S. Thurman ... 809,408
Dye and making same, violet, Bally & Isler 809,892
Easel, G. L. R. Dahlberg ... 809,785
Electric carrier, overhead, H. M. Harding ... 809,799
Electric carriers, means for controlling overhead, H. M. Harding ... 809,798
Electric cell, K. Tsukamoto ... 809,647
Electric lighting arrangement for theaters and similar buildings, emergency, F. Brand ... 809,904
Electric meter, W. J. Lloyd ... 809,825
Electric switch, rotary, J. Dugdill ... 809,433
Electrical conductor, flexible, G. E. Schmidmer ... 809,468
Electrically operated portable drill, A. Pedersen ... 809,394
Electroplating apparatus, A. W. L'Hommedieu ... 809,309
Electrostatic influence machine, E. Thomson 809,761
Elevator cage, automatic dumping, W. J. Newman ... 809,456
Elevator gate, G. D. Thompson ... 809,644
Elevator safety device, J. R. Conley ... 809,285
Elevator safety device, F. S. Payne ... 809,320
Engine bed, F. W. Salmon ... 809,466
Engine sparker and governor combined, gas, Graham & Fox ... 809,560
Engines, automatic speed regulator for internal combustion, J. G. Callan ... 809,771
Engines, high tension current distributer for internal combustion, L. J. Le Pontois ... 809,453
Envelops, manufacture of bottle, Henke & Schulte ... 809,299
Excavating machine, A. F. Huber ... 809,689
Explosion engine, G. Petzel ... 809,841
Explosive engine, cam movement, P. K. Stern ... 809,333
Explosive engine, double acting, Kyle & Hicks ... 809,451
Eyeglass guard, C. Goodwin ... 809,368
Eyeglasses and spectacles, J. Kovacs ... 809,702
Fan and score card, combined, W. Steel ... 809,535
Fan, oscillating electric, H. S. Brown ... 809,356
Fare receipt register, conductor's cash, W. W. Kay ... 809,377
Fare register, W. W. Kay ... 809,378
Fastening device, E. Wetzel ... 809,351
Faucet, J. O. Beazley ... 809,895
Fence, J. H. Brown ... 809,906
Fence fabric, wire, T. Litwiller, reissue ... 12,434
Fence lock, wire, G. W. Beyerle ... 809,549
Fence post, Lidke & Seymour ... 809,824
Fertilizer distributer, C. Johnson ... 809,808
File and binder for newspapers, etc., combined, J. Wilson ... 809,484
Filter, E. W. Roberts ... 809,463
Fire escape, J. C. Covert ... 809,670
Fire pot and grate, S. Knapp ... 809,701
Fire resisting cabinet, W. V. Dick ... 809,497
Fireproof conductors, making, A. M. Lougee 809,312
Fireproof wire, A. M. Lougee ... 809,311
Fishing tackle, B. Waldberg ... 809,343
Flexible coupling, Wooldridge & Ward ... 809,880
Floor waxing, polishing, and cleaning machine, F. B. Reichenbach ... 809,580
Flush, A. J. Barr ... 809,603
Fodder loader and hauler, M. Plackard ... 809,323
Fuel, apparatus for the complete combustion of solid, A. Pfeifer ... 809,322
Furnace. See Glass furnace.
Furnace charging apparatus, blast, G. C. Shackelford ... 809,754
Fuse, impact, L. Abendroth ... 809,885
Fuse plug, H. T. Paiste ... 809,837
Fuse plug, electric multiple, Hepke & Diener 809,301
Game apparatus, A. Friedenthal ... 809,293
Game apparatus, F. W. Burns ... 809,606
Game board, N. T. Hale ... 809,502
Game board, I. Silvernail ... 809,853
Gas engine, W. T. Fox ... 809,292
Gas engine, compound, J. W. Eisenhuth ... 809,791
Gas fixture, P. J. Nevins ... 809,727
Gas plant, acetylene, W. J. Stinson ... 809,473
Gas producer, J. R. George ... 809,295
Gas producer, E. Sandner ... 809,849
Gas producers, fluid sealing device for, G. M. S. Tait ... 809,339
Gas producers, governor for suction, E. Sandner ... 809,848
Gas purifier, E. C. Woodworth ... 809,659
Gases, cleansing manufactured, L. P. Lowe 809,383
Gear, variable speed, E. A. Hoefer ... 809,372
Gear, variable speed, M. C. Talcott ... 809,406
Gearing, C. R. Gabriel ... 809,915
Gearing, transmission, M. C. Talcott ... 809,540
Glass furnace, S. O. Richardson, Jr. ... 809,925
Glass, manufacturing window, L. Appert ... 809,418
Glass plate grinding tool, F. Franz ... 809,499
Glassware, machine for the manufacture of, C. E. Blue ... 809,902
Glaziers, sash supporting platform for, F. J. Peters ... 809,321
Gold separator, E. J. Sterling ... 809,586
Governor, emergency, Callan & Boyd ... 809,772
Governor in flywheels, automatic friction, T. L. Cummings ... 809,784
Grain conveyer, J. B. Schuman ... 809,470
Grain elevator, portable, Hof & Ladwig ... 809,373
Grindstone frame, G. Wideman ... 809,349
Gun, A. H. Stow ... 809,640
Gun barrels or the cradles of portable guns in the traveling position, device for securing the, Lauber & Thiele ... 809,819
Gun elevating and sighting attachment, Lauber & Stock ... 809,818
Gun, recoil, O. Lauber ... 809,821
Gun, salute, W. D. Ryan ... 809,752
Guns, means for securing shields to portable, O. Lauber ... 809,820
Hair, apparatus for promoting the growth of, N. W. Dible ... 809,360
Hammer, power, M. T. Weston ... 809,348
Hand, artificial, A. Grogan ... 809,797
Harness lining and pad and the like, E. M. Aulton ... 809,276
Harness pad, W. L. Kellerman ... 809,449
Harness snap and slide, J. Reichert ... 809,745
Harness snap and slide, combined, J. Reichert ... 809,924
Harrow, E. R. Miller ... 809,716
Harvester, bean, C. Rueble ... 809,751
Harvester, beet, C. L. Jolly ... 809,694
Hay loader, S. M. Wixcel ... 809,598
Heading machine, E. C. Meyer ... 809,520
Headstone and grave marker, A. H. Howard ... 809,616
Heater, J. L. Klemme ... 809,507
Heating system, electrical, A. D. Newton 809,728
Heddle making machine, Charpentier & Richelle ... 809,668
Horse blanket pin, M. L. Jacoby ... 809,691
Horseshoe, Campbell & Reagan ... 809,553
Horseshoe, J. Howard ... 809,688
Hose coupling, S. M. Rhoads ... 809,746
Hose coupling, Toole & McDonnell ... 809,759
Hot water bag and syringe, combined, M. Van Tassel-Beck ... 809,650
Hub, wheel, Brabant & Beaufore ... 809,666
Hygrometer, automatic indicating and regulating, S. W. Cramer ... 809,672
Ice cream mold and dipper, A. E. Bennett 809,663
Index, cabinet, C. H. Payne ... 809,741
Index drawer, card, W. Lumley ... 809,314
Ingots, producing compound, M. Weiss ... 809,871
Inhaler, J. Barnes ... 809,662
Ink well, S. G. Baldwin ... 809,891
Instruments, self-playing mechanism for, F. W. Hedgeland ... 809,565
Insulated receptacle for panel and switch boards, W. C. Tregoning ... 809,864
Internal combustion engine, H. C. Holloway 809,614
Iron or steel, manufacturing, E. Fleischer ... 809,291