RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

NECKTIE ATTACHMENT.—W. A. BAUER, Philadelphia, Pa. The purpose of the invention is to provide an attachment to a four-in-hand or other tie, scarf, or necktie, and an accompanying device whereby to conveniently and expeditiously shift the tie when used in connection with a turn-down collar, to bring the knot at the proper position relatively to the front of the shirt.

Electrical Devices.

MACHINE FOR CASTING BATTERY-GRIDS.—J. A. SMITH, New York, N. Y. The metal being ready, it is poured into slots and apertures. It finds its way through the slots and passages crossing the same, thus forming a grid. The operator now depresses the most convenient treadle. The rods being thrust obliquely upward cause the lifting bars to raise all of the various movable matrix bars. This disengages the newly formed grid and raises it from the fixed matrix bars which engage it and to which it may have tendency to cling. His foot is now removed and thus allows the plate to be removed from the machine.

TROLLEY.—A. S. JANIN, New York, N. Y. One of the purposes of this invention is to provide a trolley of very simple, durable, and economic construction, wherein the frame is of such shape that in itself it acts as a guide for the wire to and from the contact roller, and as a fender for the gearing and joints of the frame.

Of General Interest.

PAPER AND LETTER HOLDER.—A. D. ALBRECHT, Greenville, Ill. The invention pertains to devices for holding newspapers, letters, and similar articles. The object is to produce a device which can be readily mounted upon a wall or post for the purpose stated. The body of the device is of a construction which adapts it for being formed of stamped sheet metal.

POCKET CHECK-BOOK.—F. C. RHODES, New York, N. Y. The invention refers to check books such as business men carry in their pockets for drawing checks against their bank deposits. The object of the improvement is to produce a check book having a construction which especially adapts it for carrying the balances forward as checks are made out and torn off.

FLUSH-VALVE.—J. W. KENNEDY, Missoula, Mont. The principal object of the invention is to provide a reservoir connected with the bowl of the water closet, valves admitting water from the inlet pipe to the reservoir and to the bowl, the water supply being shut off when the water in the bowl reaches a predetermined level. By the use of the invention it is impossible for the water to overflow the bowl.

URINARY APPARATUS.—D. GIROUARD, Leominster, Mass. The purpose of this invention is to provide novel details of construction for a urinary apparatus, which are simple, practical, and efficient in service, and adapt the devices for convenient and comfortable wear upon the person continuously, if necessary, ready for instant service as occasion requires.

REGULATED AUTOMATIC SWINGING CHECK-VALVE WITH OVERFLOW ATTACHMENT.—O. E. NOBLE, Hobart, Okla. The invention relates to a check valve to be placed somewhere near the foot of an elevated tank or similar reservoir that is not high enough to afford sufficient pressure in case of an extended fire, when it is desired to put direct pressure from the fire pump, and also to prevent the elevated tank or similar reservoir from overflowing.

STORAGE-CABINET.—U. W. MASHTAB, New York, N. Y. The object of this inventor is to provide a cabinet which is supplied with ventilating means for keeping the air pure and free from the gases which are formed as cigars ferment. A further object is to provide a device having perforated walls spaced from the sides of the casing, and ventilating openings, this construction facilitating the circulation of the moistened air.

PUMPLESS STEAM-SPRAYER.—C. D. SAXTON, Boise, Idaho. The objects of the invention are to apply the solution (which is applied to trees and other vegetation for the killing of different kinds of infection) from a tank under steam pressure in a cold or hot state, to prevent the condensing of the steam in the tank when a cold solution is used, to fill the tank when empty by suction caused by the condensation of the steam therein and to provide for the thorough mixing of the solution while in the tank, as well as the heating thereof.

DESK.—H. M. LEESE, Washington, D. C. In operation the slide rods are normally pressed upward by their springs to unlocked position, and will immediately unlock the drawers when the cover is even slightly opened, such movement moving the bolts away from the upper ends of the rods so the latter may rise under the influence of their springs. To unlock the drawers without raising the cover, the key may be inserted in its proper lock and turned to retract one of the bolts named, in which event corresponding drawers will be unlocked without requiring the cover to be lifted.

Hardware.

TOOL.—H. E. PASTORIUS, Colorado Springs, Col. In this patent the invention is an improvement in tools of the character which are foldable within a handle when not in use, and its object is to provide a tool of this nature which will retain its rigidity with the handle when in operative position after hard and constant usage.

SAFETY-RAZOR.—J. H. FLAGG, New York, N. Y. In this construction all of the parts save the blade are attached together so that there is no liability of any becoming lost. The edge of the blade which is not being used is concealed and protected, so that it cannot contact with any object to injure the latter or dull the former. The guard is adjusted in a simple manner, and is itself provided with a cup, preferably integral therewith, to receive the latter from the blade.

Heating and Lighting.

STEAM-GENERATING APPARATUS. — J. ATWOOD and G. ESCHER, Washington, D. C. The invention is an improvement in steam heating apparatus, and particularly in the means for generating the steam. The boiler is provided in sections with hot air flues receiving the heat directly from the burners and extending up through water legs, and thence laterally through tubes connecting the sections, and circulating within the sections, and thence passing out between the same. It is especially designed for use with gas and for suspending from the ceiling of a room, the apparatus being comparatively small.

GAS-GENERATOR.—W. THOMAS, Vancouver, British Columbia, Canada. This apparatus generates producer gas, water-gas, or carbureted water-gas, as may be required. It is adapted to work under suction or pressure, and for utilizing various forms of gas-producing fuel, such as low grade coal, coke, tar, oil, peat, saw-dust or refuse-wood, garbage, and other organic substances.

MANUFACTURE OF FUEL BRIQUETS.—D. BENNETT, Battle Creek, Mich. The intention in this case is to provide improvements in the manufacture of briquets from peat and other similar materials, whereby the resinous and like substances contained in the material is distributed uniformly throughout the material, to insure the formation of a briquet capable of burning uniformly and of utilizing the units of heat to the fullest advantage.

HEATING APPARATUS.—T. J. PORTER, Sacramento, Cal. The purpose of the inventor is to provide a practical heating apparatus, which affords convenient economical means for simultaneously heating a number of hard bowlders, or cobbles which is the preferred rock material, a sufficient degree for their subsequent disintegration by application of water; and finally crushing in a suitable machine.

CIRCULATORY SYSTEM FOR FURNACES. B. L. WORTHEN, Tucson, Ariz. Ter. More especially the invention relates to furnaces of the various types used for metallurgical processes, such as reduction of ores. The more particular object is to utilize the waste heat of the water contained within the water jacket so as to improve the general efficiency of the furnace, and also prevent the otherwise objectionable effects of the heat.

HEAT-REGULATOR.—G. L. HOPPING, Long-beach, Cal. The invention relates to linotype and other machines requiring an even temperature of molten metal, air, or other fluid. The object is to provide a regulator, simple and durable in construction, sensitive in operation, and arranged to control the flow of gas to the burners, irrespective of the gas pressure.

FURNACE-ROOF.—F. MILLIKEN, New York, N. Y. The invention is an improved roof, more especially designed for open hearth steel frames, and having for an object primarily to provide for the expansion and contraction of the roof in both a longitudinal and transverse direction. The roof will operate to deflect the heat to the bath of the furnace and have a natural tendency to remain tight at the joints, and prevent escape of heat.

Machines and Mechanical Devices.

BOX-LOOM.—B. FUHRER, Scranton, Pa. The object of the invention is to provide a loom in which the picker mechanism receives an auxiliary shifting motion besides the regular picking motion, so as to cause the picker to push the shuttle back into proper position in the shuttle box, in case such shuttle has passed onward beyond the box and rendered the subsequent raising and lowering of the box difficult and dangerous to the mechanism of the loom.

WIRE-FENCE STRETCHER.—W. HOPPER, Jefferson, Iowa. The invention refers to certain improvements in devices for stretching wire fences while the wire is being secured to the fence post, and more particularly to that type of stretcher in which a clamping mechanism is employed in connection with clamping means, whereby the latter is prevented from becoming disengaged during the stretching action.

SEPARATOR.—F. PARDEE, Hazleton, Pa. The machine separates substances differing in specific gravity or frictional resistance, wherein the utilization of frictional resistance is employed in connection with gravity, particularly in the separation of coal from slate. One purpose of the invention is to provide a separator so that different kinds of substances submitted to its action will be automatically divided or assorted.

FIRING MECHANISM FOR GUNS.—J. R. BLOCKER, Austin, Tex. The invention relates to fire arms and especially to double-barrel shotguns, the more particular object being to employ a single trigger and parts associated therewith, so arranged that the operator may have complete control over the order in which the barrels are successively discharged and in which any predetermined order may be changed at will without the necessity for opening or "breaking" the gun.

WEIGHING-SCALE.—J. H. MCLEOD, La Salle, and A. MCLEOD, Peru, Ill. The scale is automatic in its action and intended for the weighing of grain, coffee, cement, and other materials, and is of the type in which a hopper is provided with a partition forming the hopper into compartments, each of which has a swinging bottom; and approved mechanism is provided for opening and closing the swinging bottoms alternately. One compartment empties when a predetermined amount of material has been received by the adjacent compartment and is made ready for receiving the material.

Prime Movers and Their Accessories.

ROTARY ENGINE.—T. HOKANSON, Newark, N. J. This invention relates to certain improvements in rotary engines adapted to be operated by steam or any other motive fluid under pressure, and relates more particularly to improvements of that type having a piston carried by a rotary piston wheel and movable through an annular chamber normally subdivided by a sliding abutment.

Railways and Their Accessories.

CAR-FENDER.—J. P. WOODCOCK, New York, N.Y. A purpose in this case is to provide a very simple, durable, and economic form of fender capable of application to the truck of any car, which fender will be beneath the platform and will perfectly safeguard a person or object struck from contact with the wheels of the truck.

RAILROAD CROSS-TIE.—W. BOYER, Valentine, Neb. The improvement refers to cross ties for railroads formed of metal. When such ties are cast into form, it is difficult to render them solid throughout their bodies, and in consequence such ties are liable to break; furthermore, resilience, which is desirable in a metal tie, is very slight in such ties as are formed in one piece by casting or other analogous means.

CAR.—B. F. BRUMAGHIM, Mount Hope, W. Va. The dumping car has the bottom inclined in opposite directions from the center and doors are provided at the sides of the car for outlet of material. The doors are operated by a system of links and levers to which motion is given by means of wheeled brackets at the sides of the car near the top. The wheels of the brackets are adapted to travel on guide rails at the point where the load is to be dumped; the track rails at the point of dumping are depressed or the guide rails mentioned are raised for the automatic operation of the car doors.

Pertaining to Recreation.

AMUSEMENT DEVICE.—H. A. BRADWELL, New York, N. Y. One of the purposes here is to provide a device so constructed that a platform or table is caused to revolve within an inclosure having cushioned or buffer sections, and wherein receptacles for passengers have independent movement on said platform, the receptacles having cushioning sections adapted for engagement with each other and the rebounding sections of the inclosure.

DEVICE FOR HANDLING AMUSEMENT-CARS.—A. F. BIAVATI, Freeport, N. Y. The more particular purpose of this inventor is to provide means for readily handling the cars employed. The invention comprises apparatus for lifting a car from one level to another, so as to bring the support of the car into registry with a railroad truck, then tilting the supporting mechanism so as to cause the car to glide obliquely downward along the track.

ROWING APPLIANCE.—W. F. JAMES and W. T. DEACON, Velasco, Texas. This appliance is for use in row-boats, and is of the character which embodies oars each made in two sections pivoted together, and so supported that when the oars are pulled, the handles and blades thereof move in the same direction, whereby the operator faces the bow in propelling the boat and is thus enabled to observe the direction of travel.

Pertaining to Vehicles.

PNEUMATIC HUB.—J. DUCHAN, Elizabethport, N. J., and R. DUCHAN and J. DUCHAN, Vienna, Austria. The object of this invention is to provide a pneumatic hub which will be simply constructed with a view to enabling the pneumatic cushion to be readily removed or replaced when desired. The invention is expected to be especially useful in connection with automobiles and similar vehicles.

VEHICLE-WHEEL.—L. H. BARRY, Durango, Mexico. In this instance the invention refers to improvements in vehicle wheels of the class having metal spring tires, the object being to provide a wheel of this character that will be comparatively light, yet strong and serviceable, and that will meet all the requirements of a cushioned tire.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

Notes and Queries.

HINTS TO CORRESPONDENTS.

Full hints to correspondents were printed at the head of this column in the issue of August 8th, or will be sent by mail on request.

(10833) T. W. A. asks: I have been making a dry battery which when it is just finished shows from 22 to 26 amperes, but after standing a while, say from 5 to 7 days, will only show 5 or 6 amperes. What is the cause of it, and how can I remedy it? The cell is of the ordinary size, 22 x 6 inches, made of a zinc can lined with paper soaked in a solution of water, sulphuric acid, and bichromate of potash, carbon in the center of can surrounded by a mixture of coke dust, bichromate of potash, sal-ammoniac, graphite, sulphuric acid, and water, all packed in tight and sealed at the top with tar. Would you kindly tell me how, if possible, it can be made so it will not lose its strength so soon? A. The cell you describe is not a dry cell at all. It polarizes and cannot be sealed up and left to itself. The bichromate of potash and the sulphuric acid should be left out, and the cell made to conform to the instructions for making dry cells. The sulphuric acid will act continuously on the zinc whether the cell is in use or not. A dry cell is one which may be left on open circuit without deterioration. Yours cannot be left in that way. We can furnish you full and accurate directions for making dry cells in the SCIENTIFIC AMERICAN SUPPLEMENT Nos. 1363 and 1387, price ten cents each.

(10834) P. C. T. says: What are the best thermo couples? What are the best for high temperature? What are the best for high temperature, not alloys? Will careful riveting answer? Of what metal should rivets be? Does amount of surface in contact at ends determine amount of current at any given temperature? Are thin strips as efficient as thick, or does thickness make any difference? Does amount of current depend on width for any temperature? Does a varying range of temperature produce a greater voltage or amperage, or both? Does current increase at a uniform rate with increasing range or difference of temperature? Is a limit reached before destruction? Can you give me some particulars in regard to sizes and references of temperature for producing a given current? The thermopile mentioned in connection with new gas lamp (issue May 30, 1908), it says copper, aluminium, and nickel are used. Does it mean copper with either? A. All the questions regarding the thermopile may perhaps be disposed of by the statement that there is no thermopile of a commercial character on the market. It may almost be said that the thermopile is simply a delicate heat-measuring instrument. A few years ago one was placed on the market for charging small storage batteries and such light work as running sewing machines, but the company making it soon went out of business. Thermo-electric batteries, adapted to certain operations in chemistry, made abroad, can be purchased. One of these, giving 4 volts with 66 elements, is quoted in a dealer's catalogue at $105. This would be a very expensive mode of getting an electric current. The largest voltage which we have noted is given by the alloy of copper 60 and nickel 40 parts, which is called constantin, and an alloy consisting of antimony 122 and zinc 65 parts, but this gives only a small voltage. It will withstand a high temperature, about 900 deg. Fahrenheit. The joints of thermocouples for high temperature must be riveted or welded. Any metal will answer for the rivet. The size of the bars acts to reduce resistance and thus increase amperes, but has no relation to the voltage. Mere difference of temperature does not increase the voltage necessarily. There is for every couple a temperature of inversion, at which the current begins to decrease, and when the hot junction is as much above the temperature of inversion as the cold one is below that temperature, the current becomes zero. If the hot junction is heated still higher, the current is reversed and flows in the opposite direction. As to the sizes to be employed in making a thermo-electric battery, rather small bars will of necessity be selected because of the large space which will be taken up by large bars. A quarter-inch bar would seem to be sufficient if you wish to experiment in this line. The principles of the subject may be found in the higher textbooks of physics, such as Carhart's, price $1.50, and Watson's, price $3.50. Only two metals are employed in one instrument.

(10835) S. K. H. asks: 1. What is the theory of the working of an electrolytic detector? A carbon needle detector? A. The electrolytic detector has its resistance increased by the passage of a current. A microscopic examination shows that metallic particles are detached from the positive electrode and deposited on the negative electrode, until a bridge is formed which reaches from one electrode to the other. An oscillating current disrupts this bridge and renders the electrolyte non-conducting. This is fully explained in Maver's "Wireless Telegraphy," price $2.00. 2. What is the output in volts and amperes, and frequency

from the alternating current side, in a Wonder Alternator? The direct current side is wound for 10 volts, 1½ amperes; both sides using the same winding. A. There is a drop of ten per cent. or more in a rotary converter. We have no figures for the special one about which you ask. You should refer the question to the makers of the machine. 3. State some good books on elementary chemistry and price of same. A. We recommend and can supply Smith's "Inorganic Chemistry," price $2.25, or Remsen's "College Chemistry," price $2.50. Both are authorities. 4. What is the address of Massachusetts Institute of Technology? A. The Massachusetts Institute of Technology is located in Boston, Mass.

(10836) R. R. B. writes: A friend claims that if a live fish is put into a vessel partially full of water and swims around without touching the bottom or sides, although not a drop of water is spilled, the fish and the receptacle and the water will weigh no more than merely the receptacle and water. He attempts to explain it by arguing that the fish is in equilibrium and is therefore not a dead weight; I consider that, as the specific gravity of the fish must necessarily equal that of the water to maintain the equilibrium, the downward force exerted on the water by the fish must equal that of an equal volume of water, which would of course increase the weight of the outfit. Which is correct? A. If a fish is put into a tub of water, it displaces water; if the fish is in equilibrium under the surface of the water, it is displacing its own weight of water, and the water in the tub is made deeper by the displacement due to the fish. It is just the same then as if the same weight of water were poured into the tub. If a fish be put into a tub the tub is made just as much heavier as if the same weight of water were poured into the tub. 2. I have heard that a buzzard, after flying up into the air, sometimes rests on his wings, and without moving them or any other part of his body, goes to sleep and does not change his position relative to the earth at all, neither approaching to nor receding from it. Is this so? A. We are not familiar with the actions of a turkey buzzard, but we can say that we do not believe that any bird can float in air without moving a wing, and neither rise nor sink in the air. It could if its weight were the same as that of the air it displaces; but all birds we know are heavier than air.

(10837) R. E. S. C. says: Will you kindly inform me the relative position of the magnetic north to the true north for this longitude, how many degrees apart they are and which is east or west of the other, and if the norths are represented by distinct symbols on the compass dial such as an *arrow* for magnetic north and N. for true north. A. The magnetic needle at your place points about 12 deg. to the west of true north, that is, the magnetic declination is 12 deg. west. Nearer than that we are not able to give it since your place is not given in the government tables which we have. Should you wish the exact figures you can doubtless obtain them by addressing the director of the United States Coast and Geodetic Survey, Washington, D. C., who has in charge this work, and whose force is making determinations in various parts of the country year by year. The words East and West in connection with magnetic declination tell on which side of the true north and south line the magnetic needle points. It is not desirable to indicate declination upon a compass dial, since the declination changes year by year. In the eastern part of the United States the declination is west and increasing each year. Nor does this change correspond to the longitude.

(10838) R. P. C. says: We have two car wheels cast on an axle and a straight level track. A third rail is placed between the two rails in an elevated position so it comes in contact with axle and parallel to the other rails. Will the axle travel the same distance on the third rail without slipping as the two wheels do on the track in the same number of revolutions? A. Anything rolling on a track moves along in one revolution a distance equal to its circumference. If your car wheels are 24 inches in diameter, the circumference will be a trifle more than 75 inches, and the wheels without slipping will move that distance in each revolution. If the axle is 4 inches in diameter it would roll a little more than 12½ inches in each revolution. It must keep up with its wheels and so must slip on the third rail the rest of the 75 inches every time the wheels revolve once.

(10839) W. H. R. says: In the course of an argument I stated the fact, or at least what I considered a fact, that waves have no power of force but are merely a motion which would not carry anything forward. Am I right in this assertion? A. Any wave which is a mere vertical motion of the water would have no mechanical value or power, but the waves as they beat against the shore have great force, which is sometimes utilized for doing work. The ocean waves which beat against a vessel often break strong iron rods and twist them into shapeless masses. It would be useless to deny force to such waves. There are few waves which are merely tossings of the water. The force of waves combing upon the shore is largely due to the momentum of the water as it rushes up a sloping shore. At the most, your statement is a half truth—true only for one form of wave.

NEW BOOKS, ETC.

BALDWIN ON HEATING. Sixteenth Edition, Revised and Enlarged. By William J. Baldwin. New York: John Wiley & Sons, 1908. 12mo.; pp. 404; 143 figures and 15 plates. Price, $2.50.

In 1879 the first edition of this work appeared. It could be called nothing more than a collection of suggestions or hints, as stated in the preface of the earlier editions. These earlier editions were the publisher's editions, being reprints with slight corrections, but without revision. So far as the work related to the principles of steam heating, where the water of condensation is returned by gravitation to the boiler, there could be little change in the book. To bring it down to modern practice in the use of steam by other methods, a general revision was necessary. Therefore, the whole former book is superseded by one whose data and practice harmonize. The author, therefore, endeavors to give some facts relating to the principles of modern steam fitting, which, since the writing of the first book, has risen to the dignity of a branch of engineering science that may be known as domestic engineering, and which includes substantially all that goes to make up the engineering plant of a modern city building, excepting electric light and elevator systems, which do not properly belong to the subject.

LIFE AND LETTERS OF HERBERT SPENCER. By David Duncan, LL.D. New York: D. Appleton & Co., 1908. 2 vols. 12mo.; cloth; 414-444 pages; 21 illustrations. Price, $5.

The last twenty-one years of Herbert Spencer's life, following after the close of his autobiography, appears in this important publication. For this period, it is the only authoritative record. The value is significant when it is known that a part includes material that Spencer at the time thought best not to use himself. By this plan, the Life and Letters gains the insertion of the "Filiation of Ideas," written by him in 1899. It is the philosopher's final contribution to the theory of evolution and furnishes a concise elucidation of the Synthetic Philosophy. The space devoted to the letters shows an able selection of correspondence with representative literary and scientific persons; and the high narrative level attained in the portion given to the life in no respect falls short in the work of nicely and strongly carrying the portrayal through the difficulties of a long biography. Five portraits are presented of Spencer between 19 and 78 years of age. The index is very comprehensive.

MANUAL OF ROAD CONSTRUCTION AND MAINTENANCE. By Major E. M. Paul, R.E. Chatham, England: Published by the Royal Engineers' Institute, 1908.

This work was compiled at the School of Military Engineering by Major Paul, R.E., of the instructional staff of the School of Military Engineering at Chatham. It is a valuable contribution to civil as well as military engineering, although it was intended primarily for the military engineer.

DYNAMO-ELECTRIC MACHINERY. By Francis B. Crocker, E.M., Ph.D. Chicago: American School of Correspondence, 1908. 8vo.; pp. 235. Price, $1.50.

The title page tells that this is an authoritative treatise on the theory of constructive details, calculations, characteristic curves and design of dynamo-electric machinery. The author is the head of the department of electrical engineering of Columbia University, past president of the American Institute of Electrical Engineers, and is the author of a number of books on electricity. He is a recognized leader in his profession. The present work will prove of special value to the student as a textbook. We are particularly impressed with the clarity of the writing. The book is profusely illustrated with half-tones, line cuts, and drawings made to scale.

CURVES FOR CALCULATIONS. A Manual for Engineers, Architects, Designers, Draftsmen, Builders, and Contractors. By Sidney Diamant, E.E., Structural Engineer. New York: McGraw Publishing Company, 1908. Small 4to.; pp. 13; 25 plates. Price, $2.

This subject is a most important one to the engineer who has to deal with beams and channels for constructional work. With the aid of this book the work of the engineer will be greatly lightened.

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Carbureting and coil-separating apparatus, F. A. Sylva 896,422
Cardboard box, J. E. Thornton 896,600
Carding machine, Woll & Schofield 896,604
Cart lock, dump, Dickinson & Winder 896,694
Cash carrier, M. R. Collins 896,625
Caster, ball bearing, H. Denton 896,089
Cement block machine, C. S. Wert 896,259
Chain, drive, E. F. Morse, reissue 12,844
Chuck, F. Rahm 896,663
Churn, W. F. Templeton 896,482
Cigar cutter and match box, combined, F. J. Aagland 896,263
Cigar forming machine, E. J. Lake 896,219
Cigar lighter, E. Berg 896,348
Cigarettes, machine for making envelop-like cases for, M. D'Alessandri 896,693
Circle comb, A. Long 896,403
Circuit breaker, magnetic, R. Scott 896,469
Clock, recording, A. Kopckin 896,119
Clothes hanger, E. Montgomery 896,139
Clothes line reel, G. P. Kinkennon 896,641
Clutch, friction, K. G. Johnston 896,389
Clutch mechanism for dumb waiters, etc., A. Svenson 896,421
Clutch, spring, T. D. Carter 896,699
Clutch winding arrangement, electromagnetic, H. Ast 896,608
Coin controlled mechanism, Nicholes & Jones 896,235
Coin repository, B. vom Eigen 896,364
Collar stay, C. B. Patterson 896,143
Collar supporter, F. E. Farnham 896,367
Comb, I. Frechette 896,373
Compensator, recoil, Mellen & Edwards 896,136
Composition of matter, F. A. Lobert 896,558
Composition of matter and making the same, W. A. Phillips 896,240
Concrete beam, reinforced, H. B. Andrews 896,679
Concrete building block mold, C. J. Scheelky 896,330
Concrete construction bar, J. H. Schlafly 896,589
Concrete spreader, J. E. Briggs 896,616
Condenser superheater, vacuum, C. T. & R. R. Rogers 896,247
Condenser, vacuum, C. T. & R. R. Rogers 896,414
Conduit rod, R. H. Villard 896,182
Contact member, H. D. James 896,210
Conveyer rolls, train of, A. Thomas 896,172
Coop, knockdown, E. C. Mudd 896,567
Copper, hardening, H. V. Draper 896,632
Corner socket, S. M. Chuse 896,085
Corrugating device, W. W. Stout 896,170
Couch, drop side, H. B. Arnold 896,506
Crane, portable jib, Maxfield & Gardner 896,406
Crate, collapsible, I. V. Holloway 896,542
Crate cover fastening device, shipping, J. M. Wentz 896,495
Crate, folding, M. Hutchinson 896,299
Crucifix holder, J. L. Paul 896,238
Cuff and wristband fastener, R. Onffroy, Jr. 896,659
Cultivator, W. E. Johnson 896,450
Culvert, D. C. Boyd 896,354
Deck plate and the like, W. H. Durkee 896,282
Desk and seat, combined, W. Kimmel 896,640
Die block, W. R. Forsyth 896,372
Display card for sample cases, E. T. Marsh 896,131
Display stand, G. E. Fredericks 896,445
Distillation apparatus, H. O. Chute 896,434
Distillation process, H. O. Chute 896,435
Distilling wood, T. B. Gautier 896,292
Dividers, proportional, G. H. Benedict 896,614
Door check, W. L. Perkinson 896,146
Door check, W. A. Ralston 896,242
Door hanger, Banks & Tatum 896,265
Door hanger track, S. W. Beeson 896,682
Door lock, sliding, D. H. Piquotte 896,149
Door, metallic, A. H. Bobb 896,513
Door spring, J. A. Fretz 896,291
Doors, roller support for edgewise movable, Miles & Poirier 896,562
Draw gage and cutter, N. Hughes 896,385
Drill, W. R. Down 896,280
Drill attachment, post, R. Valliant 896,601
Dust remover, pneumatic, M. E. Freeman 896,290
Egg strainer, Walz & Butler 896,493
Electric apparatus, gas or vapor, M. von Recklinghausen 896,243
Electric cable branch connection, J. J. Dossert 896,200
Electric circuit breaker terminal piece, C. Aalborg 896,192
Electric currents, means for regulating the supply of, C. M. P. Montbarbon 896,227
Electric heater, E. M. Hewlett 896,297
Electric machine, dynamo, H. G. Reist, 896,322, 896,323
Electrical testing instrument, C. D. Jarvis 896,300
Electrode, H. Pauling 896,144
Electrode for electric furnaces, F. M. Becket 896,429
Electrolytic cell, G. C. Landis 896,555
Elevating and dumping apparatus, I. S. McBride 896,568
Elevator safety brake, A. A. Brown 896,270
Elevator shaft safety net, J. S. Kerfoot 896,213
Engine, S. Lawson 896,399
Engine, S. H. Brundige 896,514
Engine, device for simultaneously controlling the spark and throttle of an internal-combustion, H. Lemp 896,305
Engine starting device, hydrocarbon, R. Huff 896,112
Engine starting safety clutch, gas, W. S. Jones 896,451
Engine stop, automatic, N. C. Locke 896,402
Engines and the like, cylinder for gas, C. Houben 896,543
Engines in self-propelled vehicles, starter for explosion, D. B. Gardner 896,375
Engines, incandescent igniter for gas, J. S. Lang 896,398
Eraser holder, chalk, F. C. Woods 896,605
Escalator landing, E. L. Gale, Sr. 896,098
Evaporating and concentrating apparatus, liquid, Prache & Bouillon 896,460
Exhaust and signal control, J. D. Maxwell 896,455
Explosive, W. Rickmers 896,325
Explosives, shipping and storing, F. L. Chamberlin 896,622
Extension table, J. Haut 896,535
Eyeglasses, G. J. Lowres 896,697
Fabric striping apparatus, W. H. Adams 896,504
Fan, O. Selg 896,165
Fan, H. E. Walker 896,492
Fare recorder, J. J. Joines 896,550
Fare register setting and operating device, J. F. Ohmer 896,315
Feed bag, L. M. Burke 896,619
Feed box, F. M. Bennett 896,268
Feeder, F. M. Mott 896,656
Fence, A. O. Huffman 896,113
Fence post, Wolfe & Peddle 896,500
Fender, W. J. Birchell 896,351
File, revoluble cabinet, W. A. Hadden 896,294
Filing cabinet Trautman & Jacobs 896,486
Filler, Easley & Buckles 896,202
Filter, A. A. Bowser 896,353
Filter frame, G. H. Clevenger 896,436
Filter, water, M. Ray 896,574
Filtering apparatus, vacuum, C. Butters 896,360
Fire escape, M. Pike 896,241
Fire escape, L. Jansoone 896,548
Firearm, automatic, S. Mangle 896,453
Firearm, automatic, W. J. Whiting 896,496
Fireproof shutter, H. L. Turner 896,176
Flask hinge and pin corner, foundry, W. Hales 896,380
Floor jack, H. T. & E. M. Spedden 896,477
Flue cleaner, W. Deuchar 896,520
Flue thimble, J. L. Droesch 896,521
Fluid motor, F. E. Jenkins 896,211
Fluids, apparatus for electrolysis of, E. Weichert 896,184
Folding machine, A. Baruch 896,509
Freezing to the sides of a receptacle, preventing moisture-containing material from, S. G. Stevens 896,595
Fume arrester, H. Howard 896,111
Furnace, F. T. Snyder 896,167
Fuse, mechanical time, Meigs & Gathmann 896,135
Game board, W. J. M. Walker 896,340
Garment clasp, M. W. Schloss 896,331
Garment hanger, E. J. Noble 896,570
Gas analysis, apparatus for automatic and continuous, W. S. Hubbard 896,544
Gas and air mixing apparatus, E. Dankelmann 896,519
Gas burner, incandescent, Harrison & Noad 896,533
Gas burner valve, distance lighting, R. N. Oakman 896,237
Gas cleaner, A. Ernst 896,365
Gas engine, G. B. Petsche 896,318
Gas forming chemicals, portable container for, H. J. Mittell 896,138
Gas nozzle dirt retainer, H. Sussmann 896,479
Gases, apparatus for washing iron blast furnace, B. H. Thwaite 896,175
Gasket, J. H. Glauber 896,204
Gear, change speed driving, A. T. Collier 896,691
Gearing, power transmission, G. Milner 896,654
Glass cutter, F. W. Roller 896,159
Glass holding receptacle, molten, A. J. Bates 896,511
Glass, shaping, Dixon & Marsh 896,631
Glue testing process and apparatus, C. M. Zimmerman 896,191
Governor, steam engine, J. W. Gardner 896,376
Grate, J. G. Crowdes 896,692
Gravity lock, O. Wiegmann 896,260
Green or hot house, P. Minder 896,565
Gun closure locking device, M. Hermsdorf 896,636
Gun pointing attachment, M. H. Gardner 896,099
Hair tonic, S. R. Mackay 896,647
Halter, C. W. Schreiter 896,164
Hame hook, A. B. Rosson 896,666
Hames, manufacturing, J. M. Masteller 896,651
Hand operating gate, J. O. Marks 896,648
Harness, horse, J. Caubert 896,621
Harvesting machine, beet, I. C. & D. W. Lesh 896,557
Hat blocking apparatus, L. Flicker 896,370
Hat pin, Schloss & Hawley 896,253
Hay cocking machine and hay loader, Holliday & Hawks 896,541
Heater, A. I. D. Kyle 896,554
Heating pipes, sanitary dirt guard for, Stoker & Jones 896,420
Heels of boots and shoes, machine for finishing the, Evans & Taylor 896,285
Hoof trimmer, J. D. De Celle 896,088
Horn, L. L. Terhune 896,672
Horse blanket, W. Gordon 896,446
Horse detacher, C. L. Burge 896,618
Horseshoe attachment, W. J. Magee 896,128
Horseshoe calks, die for producing, E. A. Burns 896,433
Hydraulic engine and pump, E. C. Roberts 896,327
Hydraulic motor and air compressor, combined, G. E. Ocain 896,571
Hydraulic separator and classifier, C. E. Seymour 896,471
Ice cream freezer, C. F. Barry 896,077
Ice creeper, W. J. Roche 896,158
Ice manufacture, apparatus for, C. M. Smith 896,594
Incubator, J. A. Swenson 896,597
Incubator heating mechanism, J. L. Nix 896,236
Indicating stations, advertisements, and other announcements, apparatus for, Hayn & Leilich 896,206
Insoles, filling, W. A. Zickerman 896,677
Internal combustion engine, L. S. Watres 896,183
Internal combustion engine, J. Tinlin 896,485
Kneading and molding machine attachment, bread, C. & E. J. Kruse 896,396
Labeling machine, F. C. Williams 896,675
Ladder, fire, A. L. Haines 896,295
Ladder, folding, B. B. Neal 896,569
Ladder, step ladder, and scaffold, combined, C. Flatland 896,286
Lamp, S. B. & H. Clarke 896,275
Lamp, arc, G. N. Chamberlin 896,274
Lamp, arc, R. Scott 896,417
Lamp, arc, Steinmetz & Dempster 896,698
Lamp burner, oil, J. & M. Lawson 896,645
Lamp, filament, incandescent, W. R. Whitney 896,341
Lamp, gasolene, J. J. Weyer 896,425
Lamp socket, plural, E. A. Lefebre, Jr. 896,122
Lamps, elastic suspension for the filaments of electric incandescent, P. Druseidt 896,092
Lantern, signaling, H. G. Hohnsbeen 896,384
Lap board and book support, student's, J. Doeserich 896,091
Lathes, audible signal device for, H. A. Steinkamp 896,419
Leather blank cutting die, H. Stockman 896,478
Leather stretcher, Hysore & Barnstead 896,387
Lens, W. K. Kight 896,393
Letter opening machine, A. D. Ross 896,415
Level attachment, spirit, A. Forrer 896,371