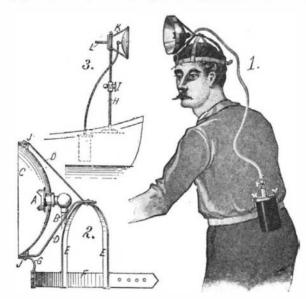
Scientific American

A PORTABLE LAMP.

A very convenient form of lamp has recently been devised for the use of campers, hunters, etc. It consists of a portable acetylene gas generator, and a burner arranged within a reflector which is open at the front for the escape of heat. The walls of the re-



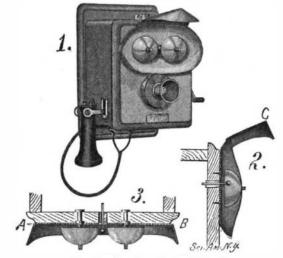
A PORTABLE LIGHT FOR CAMPERS.

flector are imperforate, to prevent the passage of air through the reflector when the lamp is being moved about or is exposed to the wind. In this way the danger of extinguishing the light is avoided. The accompanying illustration shows in Fig. 1 how the lamp may be attached to the head of a man, while the gas generator is secured to his belt. The details of the head attachment are shown in the sectional

view, Fig. 2. The burner A is attached to the flexible tube B, which runs to the generator. The reflector C in which the burner it fitted is provided with a flange along its outer edge, to which the arms D are secured. These arms are fastened to a cage E provided with a strap F, which is strapped about the head of the wearer. As an additional support to the lamp, a small bracket G connects the bottom of the reflector directly to the head strap. When it is desired to use this device on a boat or in camp, it is mounted on a stand H, as indicated in Fig. 3. This stand is formed of two sections, one of which is hinged upon the other, so that the lamp may be moved laterally. By means of a thumb screw I, the two sections may be clamped at any desired position. The lamp is taken out of the head gear by unscrewing the bolts J, and it may be then fastened in a bracket K, which is swiveled on the upper end of the stand. The swiveling bracket is provided with a handle L, which enables one to move the lamp about in any desired direction. The inventor of this portable lamp is Mr. O. A. Loveless of Waters Meet, Mich.

RESONATOR FOR TELEPHONES.

Pictured in the accompanying engraving is a device adapted to augment the sound of telephone bells or other signals, so that the signal may be heard in places where there is more or less noise. The device is particularly adapted for use in shops, pumping stations, and the like, where ordinary sounds are not discernible, especially under heavy atmospheric conditions or in damp or rainy weather. The device consists of an elongated dished body formed with sound reflectors at opposite ends, and a similar sound reflector overhanging the center of the body. This device is placed behind the bells of the telephone, and acts to reflect the sound in a definite direction. The reflectors referred to are indicated at A, B, and C in the illustration. It will be observed that they are of conical form, and the reflectors A and B serve to catch the sounds which ordinarily travel out in a lateral direction from the telephone, and direct them forward. The reflector C serves similarly to collect and reflect the sound waves that pass upward. For convenience in manufacture the reflector C is preferably made in a separate piece, but the portion which



RESONATOR FOR TELEPHONES.

extends to the main body is tangent thereto and flattened, in order that a neat joint with the body may be effected. The device is extremely simple, and can readily be attached to a telephone by means of a couple of screws. The form of the reflector can be modified to throw the sound to one side if desired instead of directly forward. The inventor of this resonator is Mr. Patrick E. Finlay of New Orleans, La. (No. 2 St. Louis Pumping Station.)

RECENTLY PATENTED INVENTIONS. Electrical Devices.

ELECTROLYTIC CELL.-J. McPhail, Carteret. N. J. The inventor seeks to construct an electrolytic cell in which there may be brought about a complete separation of the products, with a minimum of undesirable byproducts, the cell occupying a comparatively small space and being-simple and easily han-

TELEPHONE ATTACHMENT.—B. E. DET-RICK, New Albany, Ind. In view in this case is the provision of a construction comprising a bracket, and a frame for carrying the receiver of the telephone, swingingly mounted on the bracket and adapted to rest on the circuitcontrolling arm of the telephone when swung to a depressed inoperative position, and release said arm when swung upright in position for use.

Of Interest to Farmers,

DUMPING-VEHICLE .- P. BRAND and C. G. GLASRUD. Shevenne. N. D. The invention relates more particularly to a vehicle having a running gear of any suitable type, a frame rigidly carried by the rear axle of the vehicle. and a wagon body mounted upon the frame, the rear axle serving as a pivot to permit the body to be tilted so that its contents can be dumped.

INSECTICIDE.-J. W. Woods, Portland, Ark. The ingredients composing this destroyer are to be thoroughly mingled by agitation, and applied to the plants infested with boll weevil or other insects, by sifting the same over the The compound may also be applied to the infested plants in any other desirable man-

COMBINED BED-SHEET AND SHELTER-TENT.—F. WHITNEY, Cimarron, New Mex. The sheet is for use by stockmen which may be quickly supported in the form of a shelter tent, the device being so constructed that it can be readily packed for transportation and which is complete in one piece with ropes at tached so that it may be adjusted with supports as a tent, or when desired may be used as a bed sheet, the stockman having the complete device in compact form at all times, ex-cept the supports, which can readily be ob-to hold the foot rigidly in position and at the

Of General Interest.

ton, D. C. The tapper is of that form in which a bung casing is screwed into the head of the barrel and is provided with separate ports, through one of which compressed air is admitted to the barrel, while beer is drawn out through the other. With this form a detachable coupling bearing separate tube connections, for the air and beer, is arranged to be turned into the casing and in the movement to operate a valve which simultaneously opens or closes the air and beer ports.

(METAL-DEPOSITING APPARATUS.-J. K. REYNARD, East Elmhurst, N. Y. It has been found that the distinctness of the sound produced by phonograph records is much increased by depositing upon the wax a fine layer or film of metal previous to electro-plating. The ing of a bolt insertable in the overlapping por-

perfect seal for the vacuum chamber in which the depositing operation takes place.

BOX.-W. L. HOWLAND, Cedar Rapids, Iowa. In the present invention the improvement pertains to boxes, and has for its object the provision of a box preferably made of wood which while strong can be easily and cheaply manufactured and may be quickly put together by the user when desired.

METHOD OF TREATING WOOD DURING DISTILLATION.—H. W. DOUGHTY, Amherst, Mass. In this instance the intention is to provide a new and economical method of utilizing the waste from resinous pine wood, in the form of saw-dust, mill-chips, etc., to recover, in commercially valuable forms, the various constituents of such wastes.

CONCRETE-MOLD .- R. N. NEIL, Cozad. Neb. One provision in this case is that for a mold with side members which are connected by spools supported by rods disposed therein, the spools having hollow heads in which the rods are screwed, there being additional threads in recesses in extremities of the heads in which nuts having orifices are adapted to mesh, means in the heads preventing the rotation of heads on bolts which are disposed on the orifices in the nuts.

ENVELOP-FASTENER.-J. E. A. THOLLAN-DER. Piedmont. Fla. An object here is to provide a fastener which can be applied to any ommon form of envelop, which prevents the unauthorized opening of the envelop without leaving traces of such an act, which is inexpensive, and which adds but slightly to the weight or bulkiness of the envelop.

SHADE-BRACKET .- H. WITTMANN, Cincinnati, Ohio. In this patent, the invention is an improvement in curtain fixtures and has for an object among others to provide a novel construction by which the brackets may be readily applied and adjusted to suit any suitable length of curtain and then clamped in position.

FOOT-REST FOR SHOE-SHINING STANDS. -G. F. OLIVER and R. ROUSSEAU, Ilion, N. Y. The invention pertains to foot rests such as used at shoe-shining stands for supporting the feet when the shoes are being polished. The same time permit the sides of the shoe to be exposed.

DOOR-LOCK .- G. W. NORTHRUP, Brainerd. BEER-TAPPER.—R. B. SPIKES, Washing- Minn. This invention refers to door locks of the class known as mortise locks, which are embedded in a door by forming a recess in the body of the door from the free edge inward. The purpose is to provide a lock of simple construction, and while possessing all the advantages of the mortise lock, may be placed on thin doors, or those of greater thickness.

MITER-BOX .- F. W. McLEAN, West Monroe, La. The patentee has for his object the provision of a device which is light and compact, and one that will permit the use of an ordinary hand saw by drilling a single hole therein, and with which the full length of the saw will be

SASH-LOCK .- L. H. GRAU, San Francisco, Cal. The invention may be defined as consistmetal preferably used is gold. The invention tions of the sash frames at each corner, the reduces the consumption of gold and preserves bolts passing from the inside through the lower

sash into the upper sash, and guard plates movable over the heads of the bolts to prevent the bolts from being punched out from the outside of the window.

Heating and Lighting.

PREHEATING LIGHTING-FIXTURE. -N. BEST. SR., New York, N. Y. The invention relates to improvements in fixtures and more particularly to that type in which combustible gas is burned and the products of the combust'on of the flame are lelivered to the interior of an inverted mantle. The device supports the mantle and permits the gas to be heated to a high temperature before it is burned and before it is delivered to the mantle.

REMOVABLE FURNACE-OVEN. - N. E. STORMS, Minneapolis, Minn. The object here is to provide an oven for removable attachment to a furnace or regular heater, to permit using the oven for baking and other purposes, and without placing the oven and its contents directly over the burning fuel in the fire-box or subjecting the contents of the oven to the action of the obnoxious gases incident to burning of the fuel in the fire-box.

THERMOSTAT.—W. ENTERLINE, Big Run, Pa. Mr. Enterline's invention relates to a thermostat which may be disposed against a boiler and which, while inexpensive to construct, may be readily adjusted to a boiler of any type and will automatically and accurately regulate the supply of gas which is supplied to the burner under the boiler.

Household Utilities.

REGULATING VALVE.-H. C. BENWITZ, Chicago, Ill. The invention is an improvement in regulating valves for the hot and cold water supplies leading to wash stands, bath tubs, and other similar places. The valve includes an actuating-lever or handle which is operable not only to control both the hot and cold water supplies, but also to control the water or outlet.

MEASURING APPARATUS.—R. HOYT, New York, N. Y. The invention pertains to apparatus for measuring various materials, it being particularly useful in connection with packwith substantial accuracy.

STRAIGHTENING-M'ACHINE.-E. A. LANE, Fulda, Cal. The invention refers to machines for removing bulges, dishes, dents, and the like from metal, especially from band saws, and relates more particularly to a machine having removable rolls, one of which has an annular concave part spaced inwardly from the edges of the roll whereby the latter has flat parts at each side of the concave part, and a second roll having at each side of the convexed part, flat portions.

CHANGEABLE - SPEED GEARING. - W. SCOTT, Sheridan, Wyo. One object of the improvement is to supply a gearing more especially designed for use in the driving mechanism of automobiles and other machines, and arranged to enable the operator to use any one of four different speeds for driving ahead and a single speed for driving backward.

HOISTING-MACHINE. - C. F. DALLMAN, Antigo, Wis. The machine is for use whenever

ing loads, power being applied through a shaft. which through its connection with a second shaft rotates the gear wheels at each end of the drum. Mechanism is arranged to operate the drum from a distance, the operation of the drum being the same whether it is manipulated directly by a bar lever or intermediately by the three-armed lever.

HYDRAULIC GOVERNOR.-A. DICKERSON, American Fork, Utah. In this mechanism, which in part is operated upon the same general principle as in the steam governor formerly patented by Mr. Dickerson, the hydraulic piston constitutes an automatic check to the movement of the whole gate mechanism. The gate follows every move of the governor, and if there is any change of pressure of water on the gate, the whole will automatically readjust itself without necessitating a change in the speed of the engine.

MACHINE FOR MAKING MACARONI AND THE LIKE.-J. RIVARA, Natchez, Miss. The aim in this case is to simplify the construction of machines of the pastry class and to adapt the screw, which operates the plunger or piston, to be quickly withdrawn from the cylinder in which dough or other material is pressed to produce macaroni or other product.

YARN-PRINTING MACHINE. - N. Cos-TIKYAN, Leicester, England. The intention of this inventor is to provide a machine for use in printing warp yarns, especially carpet or pile yarns, according to a predetermined pattern, and arranged to permit printing at one operation as many knots or spaces as desired and in one or more colors.

Machines and Mechanical Devices.

DUMB-WAITER OR ELEVATOR .-- C. A. STURM and R. N. FLACK, Portland, Ore. This invention is intended especially to be where the waiters or cages are operated from a point outside of the cage or waiter. An object is to provide means for indicating to the operator when the car has arrived at the end of its travel up or down.

AUTOMATIC FIREARM .- J. J. REIFGRABER, St. Louis, Mo. In operation when the breech block has reached its rearmost position the cartridges may be fed up from the magazine and the block may then move forward with the barrel and the block latch will adjust in rear of the block and travel therewith and with the barrel forwardly locking the block from any rearward movement until the barrel has again been pushed back in position in which the locking latch may be released to release the block.

SINTERING-MACHINE .- A. B. Young, Salt Lake City, Utah. One of the purposes in view in this improvement is the provision of a device in which finely divided ore may be brought into a conglomerate mass by a sintering process and then may be delivered free from the machine in blocks of convenient size for subsequent treatment in a blast furnace.

MACHINE FOR MAKING CELLULAR BOARDS.—S. M. LANGSTON, Camden, N. J. In the present construction the machine is especially adapted for making asbestos board, and involves mechanism for pasting together two sheets corrugating the combined sheets, heating them to dry the adhesive material and retain the corrugations in permanent form and a hoisting drum is desired for raising or lower- then securing a third sheet to the crowns of

ELEVATOR .- E. C. PORTER, Telluride, Colo. The invention is an elevator for water, slimes, grain, and other fluid matter, and provides a machine which will do a large amount of work with comparatively small power and contains no valves or other parts apt to wear out or get out of order, and which is capable of use at any inclination from vertical to horizontal.

MACHINE FOR MAKING CARTONS .-- S. M. LANGSTON, Camden, N. J. This invention pertains to certain improvements in machines for making cartons, and more particularly for making that type of carton in which a strip of sheet material is bent to form a tube and in which the meeting edges are secured together by a strip of tape or the like.

STEAM-HAMMER.-T. E. HOLMES. 8 Oakdale road. Sheffield, England. In this invention the object is to provide improved controlling gear whereby to render a self-acting hammer more perfectly amenable than heretofore to the will of the operator, so that the latter will be enabled to regulate, with greater certainty than hitherto, the frequency, intensity, and length of stroke of individual blows.

VARIABLE-SPEED GEARING.—J. Hemm, Winnipeg, Manitoba, Canada. The principal object in this invention is to provide a plurality of non-rotatable gear members, any one of which may be brought into engagement with a rotatable gear member to cause a rotation of the latter as it moves bodily along the face of the stationary member.

LOOM-TEMPLE .- A. FORTUNA, Manchester, N. H. This invention prevents unequal wearing of the slide bar and tipping even when the bar a tendency of the bur roll to tip downwardly at its outer end a bar is lowered toward a lateral lug to correct tipping after which it is secured by a set screw. Means assist in supporting the torsional pull; and making the leverage of resisting force more nearly equal to that of the opposing force.

DRILL AND CUTTING-MACHINE.-E. A. CUNNINGHAM, Oskaloosa, Iowa. This mechanism includes a rotating bit and is arranged so that the bit is normally free to travel forward slowly as it turns, but is stopped or checked automatically in its forward travel whenever it encounters an obstacle unusually hard to penetrate, yet the bit is free to vel rapidly forward when the boring through the unusually hard obstacle is complete.

AIR-SHIP .- C. J. BERTHEL, Pinetown, N. C. The wings of the aeroplane spread a greater distance transversely to the line of flight than the fore and aft distance. This follows the analogy of the wings of a bird and founded on the principle of physics essential to success ful aeroplanes, which secures a short transverse impact of the wings upon the relatively still air whose inertia gives the resultant upward pressure to buoy up the aeroplane and allow quick clearance of the air in the rear.

Prime Movers and Their Accessories.

METHOD OF UTILIZING HEAT OF COM-BUSTION AND STEAM-POWER IN PRIME MOVERS. - T. SCHTSCHERBAKOFF, Moscow, Russia. In this apparatus an internal combustion chamber is inclosed within a steam boiler so that steam is generated from heat developed in the combustion chamber and the products of direct combustion are conducted through certain controlled passages to the engine cylinder.

Railways and Their Accessories.

SPIKE.—C. D. Walcott, Washington, D. C. This spike is one that may be cheaply formed from rolled bars and one that avoids the splitting of the tie and which does not turn or rotate about its longitudinal axis in driving, and which withal possesses a much greater than spikes of ordinary cross-section.

RAILROAD-TIE. - G. WHITAKER, Temple, Texas. This invention is an improvement in drum in position. railroad ties and fastening and has for an object to provide a simple, novel tie that can be used in connection with the ordinary wooden ties, and can be used on any ordinary ballast, will form in itself a track gage and will facilitate the fastening and releasing of the rails invention are first, to provide means by which considerable sale. be desired.

Hogan, Durand, Mich. The invention is an the guides; third, to provide means by which improvement in heads of the character shown the front end of the body or springs of the and described in Letters Patent formerly granted to Mr. Hogan, the said coupler head having for its purpose to serve as a substitute for a broken coupler head of the "Master Car Builders" type and is connected to engage the draw-bar of the broken coupler at the rear of the head and project a slight distance in advance thereof.

AUTOMATIC RAILROAD-SWITCH .-- I. A. CALL, Salt Lake City. The object here is to provide a switch which may be operated from the train or engine while the same is in motion, or by hand in the usual manner, and a switch of the stub rail type which will not be liable to clog from snow, dirt, or other causes, nor from contraction or expansion of the rails at the switch.

TURN-TABLE. - M. J. LEONARD, Long which always remains at the same level, the the invention, and date of this paper.

the corrugations of the double corrugated descent of the weight thus being independent of the upper level of the table—the weight being raised by the forward movement of the locomotive or other piece of rolling stock to be turned.

> CAR-DOOR.-C. W. LEANING, Yankton, S. D. This invention has reference to car doors, and more particularly such as are formed of a number of independently movable sections arranged on guideways and adapted to be moved into operative positions away from the doorway of the car when not in use.

> TRACK DEVICE FOR RAILWAY-SIGNALS. -M. M. KANE, Montgomery, Ala. The aim of this inventor is to produce a device which can be operated by a train passing in either direction, and which is constructed in such a way that it can be readily actuated by a switch point so that a signal near a switch may be controlled from the switch through the device to indicate whether the switch is open or

CAR-WHEEL-I. P. Topp, Middleshoro, Kv. In the present patent the aim is to provide a wheel especially adapted for mining cars, and provided with a detachable hub, which may be removed when worn out, and replaced by a and energy; to save time by providing applicanew one, or should the wheel proper be intions of the calculus useful in mechanics; to jured it may be replaced by a new one, using the old hub.

AUTOMATIC SIGNAL AND STOPPING DE-VICE FOR RAILROAD-TRAINS.—F. J. MIL-LER, Cincinnati, Ohio. This inventor's purpose is to avoid collisions and his device comprehends the electro-magnetic devices in the roadbed, acting in connection with electro-magnetic devices on engine or car, whereby the entry of a train upon a section of track already occuis already worn. When worn so that there is pied, will actuate in the on-coming train a signal and will cause automatic devices to be set into action by which the throttle valve is closed and the train is automatically stopped.

> CAR-BRAKE .- H. HOFFMANN, New Rochelle, N. Y. The improvement is on a patent formerly issued to Mr. Hoffmann, and the present invention is particularly applicable where a brake drum is provided upon which a cable or chain is wrapped, the braking force being applied to the brake mechanism through the said chain.

RAIL-FASTENER .- J. ENGEL, Millersburg, Ohio. In operation, the rail can be fastened or loosened with a sledge, and the use of nuts and bolts is avoided. The fastener can be applied to a joint as well as any part of a rail between joints, and the gage of the track can be changed by removing the metal plate fasteners from one side of the rail and placing them on the opposite side. The tie and fastener are thus adapted for use on a curved and straight track.

NUT-LOCK .- W. R. GARNER, Palestine, Texas. The device is a combination nut lock and washer and is especially for use on railway rail joints. In application the nuts should be loosened sufficiently to permit the driving of the depending washer plates between the nuts and the back plate or angle bar. These plates are attached to a top plate and the shoulder springs are also attached at their upper ends to the top plate, but all are detached thence to their lower ends. Mr. Garner has also patented another nut-lock in which the nuts will not only be prevented from turning, but the plates and angle bars will be held tightly in position on the rail joints to prevent the rails from moving or spreading, and the rails going down or dropping in a soft road bed, and nuts prevented from rattling or turning back over the bolts and lost motion of nuts and angle bars will be followed up by the spring washers and spring arms.

Pertaining to Recreation.

DRUM.—A. D. CONVERSE, Winchendon, Mass. In this improved construction, the head is formed with a hoop section at one end of greater diameter than the body of the drum, holding effect when sunk into the wooden tie and the head is also provided with a hoop section which engages with the hoop section of the body and is locked thereto to hold the

Pertaining to Vehicles.

OLIVER, Richland, Mo. The objects of this The price is so low the book should have a a cable running from a wheel on the hind axle AUXILIARY COUPLING-HEAD. - P. W. will be guided onto a wheel on the front axle; second, to reduce the friction of the cable on automobile will rest directly over the front

VEHICLE-WHEEL.-W. L. HOWARD, Trenton. N. J. In a prior application Mr. Howard disclosed mechanism for detachably securing tire-carrying rims to wheels, including curved sections moving circumferentially away from each other and radially to grip the rim. The mechanism for spreading apart the gripping sections includes a worm wheel carried by a rotatable rod, the opposite ends of which are provided with threads of opposite pitch. The present invention utilizes substantially the same general features but provides mechanism for spreading the gripping sections and locking them in position.

Note.-Copies of any of these patents will Branch, N. J. Mr. Leonard's invention combe furnished by Munn & Co. for ten cents each. prehends a turntable the upper surface of Please state the name of the patentee, title of

NEW BOOKS, ETC.

THE INTEGRALS OF MECHANICS. By Oliver Clarence Lester, Professor of Physics in the University of Colorado; formerly Instructor of Physics in the Sheffield Scientific School, Yale University. New York: Ginn & Co., 1909. 8vo.; 67 pages; with diagrams; cloth. Price, 80 cents.

The aim of this book is to furnish the conclusion to courses in the integral calculus such as are usually given in colleges and technical schools, and at the same time to provide for the beginning of theoretical mechanics, which usually follows the calculus. The subjectmatter is concerned entirely with such applications of the calculus as the calculation of lengths, areas, volumes, densities, centers of mass, moments of inertia, and ellipsoids of inertia. These subjects are treated in great detail, all principles being fully illustrated by examples worked out in the text and by numerous problems set as exercises. Since the ground covered is common to both integral calculus and to theoretical mechanics, the author hopes in this way to save both time save energy by treating the purely mathematical parts of mechanics entirely apart from the ideas of force and motion. This method avoids breaks in the continuity of the mechanics course proper, and minimizes the liability of the student to such troublesome confusions as moment of inertia with the moment of a force, or center of gravity with the force of gravity. Whereas the book is intended strictly as a college textbook and has little interest for those unfamiliar with the calculus, it has the additional value of illustrating the practical applications of the latter to those who have commenced its study at college and considered it purely as mental gymnastics.

AZIMUTH. By George L. Hosmer. New York: John Wiley & Sons, 1909. 16mo.; 73 pp. Price, \$1.

The purpose of this volume is to present in I compact form certain approximate methods of determining the true bearing of a line, together with the necessary rules and tables arranged in a simple manner so that they will be useful to the practical surveyor. It is a hand-book rather than 'a text-book, hence many subjects have been wholly omitted which are ordinarily included in books on Practical Astronomy but which are not essential in learning to make the observations described in this book. In all of the methods here treated the object sought is to secure sufficient accuracy for the purpose of checking the measured ana survey with the least expenditure of time. For this reason many approximations have been made and many refinements omitted which simplify the calculations without introducing serious error into the results, and although such a treatment would scarcely be proper in a text-book the gain in simplicity and convenience would seem to justify its use in a book of this character. The methods which are here presented are not new, but have all appeared in one form or another in works on Navigation, Astronomy, and Surveying. Much valuable matter written on this subject is so scattered, however, that it is difficult to find in one small book all that would be needed by the surveyor in making azimuth observations.

SCIENCE AT HOME. Simple Experiments for Young People. By P. Baron Russell. New York: R. F. Fenno & Co., 1909. 16mo.; 183 pages. Price, 75 cents.

The present volume is an attempt to interest young people in simple physical and chemical experiments. The aim of the book is admirable, and the experiments are not beyond the powers of average children.

MISSION FURNITURE. How to Make It. Part I. Chicago: Popular Mechanics Company, 1909. 18mo.; 94 pages. Price, 25 cents.

This little book, which is neatly bound in cloth, belongs to the Popular Mechanics series of twenty-five cent books. It gives a number of illustrations showing how mission furniture AUTOMOBILE FIFTH-WHEEL. — E. A. can be constructed at home at a small cost.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending August 10, 1909,

AND EACH BEARING THAT DATE

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

Legal Notices

PATENTS

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

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. Hand-Book on Patents will be sent free on

Ours is the Oldest agency for securing patents; was established over sixty years ago.

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Anchor or anchor post, earth, J. L. Perry. Annealing oven, A. Veghte. Antirall spreader, J. L. Denson. Antiseptic card, ticket, and package de- livering case, E. E. Russeil. Apparel, renovating, M. L. Weiss Atomizer or burner for liquid fuel. H. Braby Automatic flood gate, J. A. Bolling Automobile chasses. R. M. Llova. Automobile muffler cut-out, Hawley & Baker Automobile rebound checking device, F. Mes- inger	930, 792 930,507 930,941
Annisptic care, licket, and package de- livering case, E. E. Russeil	930,619 930,522 930,346
Automatic flood gate, J. A. Bolling	930,82 9 930,551 930, 011
Automobile rebound checking device, F. Mes- Automobiles chain drive adjustment and casing for, L. S. Chadwick. Automobiles. wind shield for, b. Parizek. Baby chair, collapsible and suspensible, T. Bag frame fastener, B. vom Eigen Bales, identification means for cotton, C. H. Ivers	930,677 930,362 930,531
Automobiles, wind shield for F. Parizek Baby chair, collapsible and suspensible, T. W. Cleary	930,560
Bag frame fastener, B. vom Eigen Bales, identification means for cotton, C. H. Ivers	930,594
Bank, savings, H. C. Schmidt	930,496
Bales, identification means for cotton, C. H. Ivers Baling press, W. H. Stewart Bank, savings, H. C. Schmidt Batteries, current-testing device for electric, W. C. Hood. Beam shaping press, N. H. Davis. Bearing, boll, H. Hess. Bearing double thrust ball, A. Hirth Bearing for high speeds, arr, S. Z. de Ferranti	930,460 93 0 ,599 930,600
ranti Bearing for shafts rotating with great speed, C. A. & O. W. Hult.	930,851 930,760
Beam shaping press, N. H. Davis. Bearing, boulbe thrust ball, A. Hirth. Bearing for bigh speeds, air, S. Z. de Ferranti Bearing for shafts rotating with great speed, C. A. & O. W. Hult. Bearings, roller side, A. Stucki. Beatings, roller side, A. Stucki. Beatings, roller side, A. Stucki. Beatings, T. F. Dixon. Beds, attachment for, J. N. Moody. Bedsteads, third rail and fifth leg attachment for, F. F. Berry. Binder, loose leaf, J. L. McMillan. Beatersyling elements, covering for, F. Hodgkinson Binder, loose leaf, J. L. McMillan. Binder, loose leaf, J. L. McMillan. Bolier, W. A. Berry Boiler cleaner, J. H. Cilpperton. Bolier, W. A. Berry Boiler cleaner, J. H. Cilpperton. Bolier, J. Heimlicher. Bolt. See Stay bolt. Boot and shoe shop lotter, J. J. Smith. Boot and shoe shoper, J. B. Robuck. Boots and shoes, holder for the eyeleted edges of, C. N. Leonard. Borting tool, F. Thomas. Bottle, T. J. Dunn. Bottle cap, J. S. Alston. Bottle cap, J. S. Alston. Bottle cleansing machine, F. Retzman. Bottle cap, J. S. Alston. Bottle cleansing machine, F. Retzman. Bottle chansing machine, F. Retzman. Box and writing desk, combined, E. P. Lynch Breast drill and valve grinder, combined, J. R. Saneberg Bride bit, N. W. Bennett. Brooder, freless, E. S. Adams. Brooder, freless, E. S. Adams. Brooder, freless, E. S. Adams. Broom corn header, H. L. Tonkinson. Brush, H. W. Hascy. Brush holder, N. C. Bassett Brush holder, M. S. Battee. Burgy top support, J. P. Cline. Building construction, J. C. Pelton Building construction, A. M. Hilbig. Building construction, A. M. Hilbig. Building construction, J. C. Pelton Bulletin, J. P. Keeg, In. Bundle loader, H. S. Battee. Burner, T. S. Leese. Burter making process, Wygal & Burges. Butter making process, Wygal & Burges. Butter making process, Wygal & Burges. Butter making process,	930,540 930,538 930,554
Bedsteads, third rail and fifth leg attachment for, F. F. Berry	930 ,340 930 ,7 83
Hodgkinson Blind and screen, window, W. R. Derr Boiler, W. A. Berry	930,858 930,743 930,341
Boiler cleaner, J. H. Clipperton	930,647 930,752 930,450
Boot and shoe fly holder, J. J. Smith Boot and shoe hanger, C. B. Robuck Boots and shoes, holder for the eyeleted	930,426 930,887
eeges of, C. N. Leonard	930,485 930,436 930,651 930,916
Bottle cleansing machine, F. Retzman Box and writing desk, combined, E. P. Lynch Broke heart detector C. H. Williams Ir	930,493 930,774
Breast drill and valve grinder, combined, J. R. Sandberg Bridle bit, N. W. Bennett	930,620 930,827
Brooder, hreless, E. S. Adams	930,915 930,438 930,375 930,816
Brush holder, N. C. Bassett	930,337 930,427 930,864
Buggy top attachment, T. A. Brethouwer Buggy top support, J. P. Cline Building construction, A. M. Hilbig Building construction. J. C. Pelton	930,641 930,352 930,377 930,610
Bulletin, J. P. Keegan	930,479 930,719 930,672
Butter packer, M. G. Olson	930,787 930,579 930,491
Can cover coating machine, L. C. Sharp Can fusing and soldering machine for square, rectangular, or polygonal cans, Young & Symonds, reissue.	930,802
Can locking device, T. Scott	930,566 930,414
Caps or disks, mechanism for feeding, I. F. Warme Car center and end sills, reinforcing plate	931,003
Car door hanger, C. L. Bundy	930,348 930,434 930,790
Car, dumping, G. P. Ball	93 0 ,33 5 930,970 930,381
Car roof, W. P. Murphy	930,679 930,623 930,463
way, V. V. Moore	930,779 930,933 930,443
Carbureter, H. H. Boore	930,724 930,483 930,596
Card record card. W. C. Martineau. Carriage, F. W. Zingsheim. Carriers, mechanism for regulating the speed	930,488 930,716
sheet metal, R. H. Peacock. Sheet metal, R. H. Peacock. Caps or disks, mechanism for feeding, I. F. Warme Car center and end sills, reinforcing plate for railway, F. Koch. Car door hanger, C. L. Bundy. Car door operating mechanism, J. F. Streib. Car, dump, S. Otis. Car, dump, S. Otis. Car, dump, S. Otis. Car, dump, S. Otis. Car tender, automatic, J. O. Keilum. Car loader, automatic box, J. E. Jones. Car replacer, J. Lanius. Car reoof, W. P. Murphy. Car switch, automatic street, G. Flessa. Cars, friction buffer and head block for railway, V. V. Moore. Cars, stream pipe coupling for, J. E. Brodie. Carbureter, Vaughan & McKenzle. Carbureter, Vaughan & McKenzle. Carbureter, H. H. Boore Carbureter in like device for mixing gas or vapor and air, P. B. W. Kershaw. Carriage, F. W. Zingsheim. Carriage, F. W. Zingsheim. Carriage, F. W. Zingsheim. Carriares, mechanism for regulating the speed between traveling, B. Manischewitz. Carton, collapsible, L. P. Brown. Carstings, machine for removing cores from, Sharp & Williams Celluose substitute, O. Miller Cement and making the same, waterproof, J. F. Schoelkopf. Cement applying machine, G. F. Dunn. Cement burning apparatus, Portland, T. A. Felison	930,673 930,835 930,543 930,402
Castings, machine for removing cores from, Sharp & Williams	930,892 930,874
J. F. Schoelkopf	930,69 7 930.593
Besser	930,455 930,949 930,374
Centrifugal apparatus for separating purposes, E. Jahn	
Centrifugal apparatus for separating purposes, E. Jahn Check receiving and sales indicating machine, J. F. Lynch Check selecting mechanism, C. H. Hamilton Chemical reaction furnace, J. L. Tufts Churn, H. F. Dorsey Cigarette shells with tobacco, machine for filling, L. Lindelof Cigars, ash guard for, T. A. Tubbs Circuit controller, thermostatic, W. H. Kirman	930,872 930,544 930,441 930,942
Cigarette shells with tobacco, machine for filling, L. Lindelof	930,395 930,5 76
Circuit controller, thermostatic, W. H. Kir- man Cleaning apparatus, air suction, A. H. Squier Cleaning fluid or compound, N. A. Hut- chins Clip. See Hame clip,	930,9 7 2 930,628
chins	930,965