mon stroke is 18 inches. The development of 5,600 horse power is expected when the engines are making about 400 revolutions per minute.

Steam will be furnished by four Seabury water tube boilers. Each boiler will be equipped with two furnaces. The working pressure will be 250 pounds to the square inch. As arranged, there will be two firerooms. Each boiler will have its own funnel, making aft in the wardroom. four in all.

All steam pipes are to be constructed of steel, and all pipes leading into the bilge must be constructed of copper. The hull plates, frames and angle irons below the water line will be galvanized. The metal used in the construction of the "Bailey" will be so thin and annihilate with gun fire the torpedo boat torments of in rust. Although galvanizing is commonly under- 'the Bailey to do this, and this speed the catcher is ex- 'Carr, United States navy.

stood to weaken metal, it is deemed safer to accept this initial reduction in strength than to trust to the uncertainties of water action and untreated plates.

In the crew space forward there will be folding berths for thirty-three men. Of this number, eight will be for the machinists. The officers' bunks will be Pullman car berths, fitted into the sides of the boat,

The Bailey, like the Dupont and Porter, will be able to do battle with battleships after the fashion of torpedo boats. When thus engaged she will have recourse to her torpedo tubes. But, as above shown, the principal duty of the new craft will be to drive off and light that no portion of it can be afforded to be wasted the battleships and cruisers. Speed alone will enable partment is in the hands of Passed Assistant Engineer

pected, by reason of her size, to maintain in a high sea

The Bailey is essentially a seagoing vessel. Her bunker capacity is deemed sufficient to enable her to steam three thousand knots at economical speed. In time of war she may be expected to accompany the battleship fleet, and to serve both as a scout and defense for the heavier vessels.

From the price to be paid for the Bailey, it will be seen that a torpedo boat catcher is an expensive craft. A torpedo boat possessing a speed of twentythree knots per hour can, nowadays, be turned out for about \$75.000.

The inspection work on the Bailey for the navy de-



THIRTY KNOT TORPEDO BOAT CATCHER ' BAILEY," BUILDING AT NEW YORK FOR THE U. S. GOVERNMENT.





# LONGITUDINAL SECTION AND PLAN OF THE "BAILEY."

## RECENTLY PATENTED INVENTIONS. Engineering.

ROTARY ENGINE. - Ward B. Story, Freehold, N. Y. Two patents have been granted this inventor for an engine in which abutments are mounted to swing on a cylinder, folding into recesses in the cylinder wall, and resting with their free ends against shoulders on the cylinder heads, a piston revolving in the cylinder having a fixed head extending in its working chamber, and the hub of the cylinder having inlet and exhaust ports. The arrangement is such that the steam is cut off during a part of the revolution to allow it to act expansively in the cylinder on the piston head, to which two impulse are given during every revolution of the main shaft. The piston may also have a plurality of piston heads, in con nection with a series of movable abutments in the cylinder, a rotary valve connected with the supply and with an exhaust being adapted to connect with a series of ports leading into the cylinder, each port forming alternately an inlet and an exhaust port.

## Railway Appliances.

veniently operated by one hand is provided by this invention, the pump having the usual cylinder and piston, mounted on an outwardly extending stem to which is attached a handle, and the cylinder having a reduced outlet with which is connected a flexible tube, the other end of the tube being provided with a holder for attach ment to the valve leading through the rim into the tire. The flexible tube allows the pump to be engaged with the valve nipple while the body portion of the pump is at a slight incline relatively to the wheel, the pump being held rigidly in place by the adjustable holder.

DEVICE FOR LOCKING BICYCLES. -Emil Buebel, of Altoona, and Jack Hall, of Juniata Kipple, Pa. This is a device for application to the front fork to prevent the wheel from being turned to the right or left, thereby preventing the unauthorized use of the machine. The lock is applied to the lower head tube fitting, adjacent to the crown of the forks, and the locking device proper and adjuncts are inclosed in a thin metal casing detachably secured to the fitting, the locking bolt sliding vertically, and its lower end when depressed entering a socket in the cone or fork crown bearing. thus locking the fork so that the front wheel cannot be turned

automatically unlocking it for dumping. The platform may be made to dump at either end, and provision is made to prevent the spilling of coal from the car into the shaft.

#### Mechanical.

ROUND BAR ROLLING MILL.-Paul J. Delay, Boucan, France. For making straight shafts or axles, and shafts of varying diameter, this mill is made with a series of rollers surrounding a central space adapted to receive the blank, slides carrying the rollers and being arranged to move radially in the frame of the machine, the rollers being carried bodily by the slides so that during the movement of the slides the axes of the rollers remain parallel to their original positions. Means are provided for moving the slides radially with the rollers, and for rotating the rollers while they are being moved inward against the blank. A hollow blank may be worked by inserting in it a mandrel, and blanks of original polygonal cross section may be worked in the mill

SHAFTING COLLAR. - Heinrich Melt-Ratibor, Germany abutment ring or collar for shafting, to diminish the friction between bearings or toose pulleys, is provided by this invention, the collar having an exterior groove at one end forming a neck in which is a channel ring in which are located anti-friction balls. The channel ring bearing against a loose pulley Kahn, Laredo, Texas. According to this improvement, permits the latter to turn independently of the shaft and at the same time holds the pulley from sliding on the

disks. The invention provides for a disk with inner and outer beveled edges, and clamping devices for holding a sheet of sandpaper on the edges, the disks being free to yield according to any unevenness in the work, to insure a proper and smooth sandpapering of opposite faces.

MECHANICAL MOVEMENT. - Sumpter L. Harwood, Uniontown, Ala. To transform reciprocating into rotary movement, and vice versa, this invention provides a shaft divided into two sections, each section being spirally grooved, but in opposite directions, a collar engaging each of the sections, and means being provided for moving one relatively to the other, and at the same time preventing the rotation of the collars except in one direction. The device possesses the advantage of having no dead center, and the stroke of the reciprocating member may be varied without affecting the rotation of the shaft.

NUT LOCK. - Townson Hand, North Vernon, Ind. According to this invention, any attempt to unscrew a nut on which this lock is employed will cause a cam member of the lock to rotate and bind firmly against the nut. The device comprises a fixed member having an inclined surface concentric with the bolt open-ing, and upon which rests the inclined inner surface of an annular locking cam, adapted to rotate and ride up the incline on the fixed member, and wedge firmly against the inner face of the nut, whenever the nut is turned in a direction to unscrew it. PAPER WINDING MACHINE.-William H. Decker, Rumford Falls, Me. A machine more especially designed for use with machines for making wide paper has been designed by this inventor, the machine eing arranged to relieve the winding shaft of its load, to prevent the shaft from springing, and, consequently, prevent irregular winding. Sliding bearings are piovided for the shaft on which the paper is wound, and a supporting drum adapted to support the paper on the shaft is journaled in bearings fitted to slide at an angle to the line of movement of the shaft. The device is simple and durable and entirely automatic in its operation. EDGE SETTING MACHINE. -- Adam H. Prenzel, Reading, Pa. For setting and polishing the edges of the soles of boots and shoes this improved machine affords a novel construction, arrangement and adjustment of the reversible head carrying the setting and polishing tools. The arrangement is such that two tools may be alternately brought into use or nan, Rome, N.Y. An air pump which may be con- after it has been dumped, locking the platform, and and permitting of readily fastening the paper to the thrown out in a very convenient and practical manner;

RAILWAY SIGNAL.-John D. Taylor, to the right or left. Chillicothe, O. This invention relates to highway cross ing signals provided with an electric bell which is automatically thrown into circuit by an approaching train and cut out of circuit by the train when it passes the crossing, the invention being designed to simplify such apparatus and reduce to a minimum the cost of construction and maintenance, while also lessening the liability to derangement.

#### Bicycles, Etc.

SADDLE. - David Basch, New York City. This saddle is made with a removable and interchangeable cushion at each side of its center, the cushions being held firmly in connection with the body of the saddle by a tie plate secured to the saddle body. The cushions are also provided with removable covers, held on by means of the tie plate, the cushions being light, durable and elastic, and resuming their original shape the moment they are relieved from pressure. All the parts of the saddle are readily and quickly disman tled and as readily assembled.

BICYCLE AIR PUMP.-Albert S. Noo-

### Mining, Etc.

PORTABLE GOLD WASHER. - Felix two rotatable basins are mounted one above the other on a spindle or shaft held in suitable bearings in a small shaft. tank, means being provided for breaking up clods and stirring the pulverized ore as the basins rotate and also for discharging the liquid contents of the tank as required. The basin, spindle and connected parts are adapted to be easily removed from the water tank, and mercury may be placed in the basins to amalgamate the free gold. The device is particularly adapted for use by prospectors and m laboratory work

AUTOMATIC DUMPING CAGE. - William K. Gordon, Thurber, Texas. For use in the shafts of coal mines, etc., this inventor has devised a platform so made and hung as to avoid pounding and racking of the guides and tower building, the platform turning on a true circle. Means are provided for automatically restoring the platform to a horizontal or carrying position

PATCHING SAWS.-Michael D. Ahearn, Green Bay, Wis. For cutting or grinding a concave recess in the side of a metal plate for the purpose of patching fractures in saws by brazing across such places cross sections, this inventor has devised a machine comprising horizontal guide rods on which slides a nonrotary frame, an oscillating frame being arranged within the non-rotary frame and carrying a horizontal shaft with drive pulley and cutting wheel, there being means for vertically adjusting this shaft and wheel.

SANDPAPERING MACHINE.-George C. Bonniwell, Hickory, N. C. A machine more especially designed for sandpapering the edges of door panels, etc.. is provided by this invention, the machine having abrading disks with oppositely arranged abrading faces,

and, if desired, a hand rest may be employed below the shee to hold it steady in turning the tool, a lamp or gas fiame being placed adjacent to the tool not in use for alternately heating the tools.

#### Agricultural.

ANIMAL CLEANING DEVICE. - Orson P. Fretwell, Cedar City, Utah. This device comprises a rotary brush mounted in a framework in which is also mounted a gear wheel and connections, with a rubber or similarly covered tire on one or more operating wheels, the rotary brush being operated by pushing the device along in contact with the animal's body. Different forms of brushes and cleaners may be used, to be operated by the gear connections, for doing rapid and effective work in cleaning horses and other animals,

CANE PLANTER.-Jacob C. D'Azevedo, Brooklyn, N. Y. This invention relates to machines in which the operations of making a furrow, planting the cane, and covering the furrow are accomplished in successive and closely following steps, the machine facilitat ing the planting of cane of any desired length, planting the cane in multiple in the same furrow, and dropping the various pieces simultaneously. When the ground is covered with pea or other vines. the machine provides means for cutting the vines in advance of the plow, so that they will not interfere with the planting, and the machine is also provided with a marker not liable to be rendered inoperative by contact with an obstruction.

CONNECTING ROD FOR REAPERS, MOW ERS, ETC.-Daniel J. Crosby, Kadina, South Australia. This rod is designed to facilitate actuating the knives of reapers and mowers, etc., in such a manner that, when obstructions are met with, the connecting rod, which converts the rotary into reciprocal motion, shall lengthen or shorten, and thus avoid breaking of the knife or other part of the machine. The rod has a spindle longitu inally movable through two bearings of a frame, a spring being located between the bearings, while two pins slidable in the spindle confine the spring, the pips being capable of engaging the bearings as the spindle reciprocates in the frame

BAND CUTTER AND SELF-FEEDER. Henry J. Fourtner, Hazelton, Iowa. This machine is separate and distinct from a thrashing machine, with which it is connected only when it is desired to automatically feed the grain to the feeder of the thrasher. It is a simple and durable machine, readily applied to any thrashing machine and arranged to feed the grain in regular quantities corresponding to the capacity of the thrasher, to prevent over-feeding and consequent inferior thrashing. The operator, by throwing off the driving belt, may stop the band cutter and self-feeder at any time, to feed the grain by hand.

## Miscellaneous.

PHOTOGRAPHIC CAMERA.-Daniel P. O'Leary and Samuel B. Kull, New York City. This invention covers an improvement upon a formerly patented iuvention of the same inventors, in which the movement of the film is automatically controlled by a shutter mechanism. The camera has a partition forming a guide for the portion of the film to be exposed, a casing for the film at the rear of the partition, a guide board secured to the rear of the partition near one side, the rear face of the guide board at the top and bottom being formed with recesses, while an index roller has its ends provided with toothed wheels adapted to engage the film at the rece

TRANSFERRING DESIGNS.-William R. Fish, Brooklyn, N. Y. To facilitate taking prints from lithographic stones or metal, etc., and converting them into sensitive transfer sheets, regardless of the age of the print or the number of times it has been used, this invention provides for first treating the sheet or film containing the drawing or design with a mixture of water and albumen, gelatine or one of the mucilaginous gums, then washing in water, then treating it with a greasy or printing ink, and then transferring to a stone. plate or printing surface.

GAS GENERATING MACHINE.-Frank A. Hutter, New Haven, Conn. This machine is designed to make gas for illuminating or heating purposes, and has a cylindrical generator, with perforated partitions, and packed with an absorbent material, the generator being mounted to be partially rotated occasionally, to facilitate the complete combustion of heavy oil An uninterrupted flow of air is secured by means of two pumps with flexible plungers, the air being forced from an air pressure cyl inder through the generator, from which the gas formed is forced out through service pipes, and the motor being automatically stopped or retarded when the air pressure becomes too great, there being no danger of bursting.

SPRAYER. - Jules Bengue, Paris, France. This invention relates to devices for spraying ethyl chloride and other volatile liquids, employing therefor a capillary discharge opening with a protecting filter, but instead of the ordinary closing valve having a movable plug, a washer is used of suitable soft material, inclosed in a metallic cap. The washer is pressed against the orifice of the capillary opening by a spring and intermediary mechanism, such as levers, the apparatus being readily manipulated, while it may be tightly closed. MOVEMENT OF FLUID IN PIPES. ETC.-Orville Carpenter, Pawtucket, R. I. This invention re lates to fire sprinklers and other apparatus containing a fluid normally dormant, but adapted to flow when a valve or other device is opened, and to apparatus containing a fluid normally in motion and liable to have its flow interrupted. A new and improved method and means are provided by the invention for indicating the movement and cessation of movement of a fluid in a pipe, boiler or other apparatus, whereby an alarm is automatically given when the fluid is flowing or its movement cease

ing of the nibs, it being designed to so construct an ordinary writing pen that, at one dipping of ink, it will take up and retain sufficient of the fluid to accomplish the writing of one or more letters of medium length without the necessity of a second supply. The pen, therefore, becomes practically a fountain pen without the aid of the extended reservoir and other accessories of an ordinary fountain pen.

CASH RECEPTACLE.-Alpheus C. Sine, Stanford, Ky. At the foot of the main casing of this recentacle is a drawer, over which is a casing supporting a shell which holds a rotary coin carrier, where coins may be placed or from which they may be removed at will, the upper casing holding gearing by which the coin carrier is operated, and the base casing carrying a receptacle for notes and also an alarm mechanism by which notice is given when the apparatus is operated.

AXLE BOX. - Franz A. Surth. Dortmund, Germany. This invention provdes novel forms of plates and ring to constitute a closure for the space between axles and the walls of the openings in axle boxes, through which openings the axles pass, the closures serving to prevent the passage of dust in such spaces and also preventing the escape of the lubricant from the axle box. The construction allows free move ment of the axle box and axle.

KITCHEN TABLE. - Rudolph J. Hentze, Jersey City, N. J. This table is provided with a bin for holding flour, etc., protecting the contents from insects and dust, the bin being also so placed in the table as not to interfere with the ordinary use of the table. In the body of the table is also concealed a pastry board, which may be drawn entirely out and placed on top of the table. The table is also provided with drawers.

SHOESTRING HOLDER. -- Henderson T. Small, Chanute, Kansas. This is a simple device, composed of a bracket having at one end a screw shank, the bracket being provided with a contact surface and with an elastic band sprang into seats thereon. The device is adapted to be readily applied to a cabinet or other support to hold a number of strings in such manner as to permit the ready removal of any one of the strings without displacing or disarranging the others.

FENCE WIRE STRETCHER.-John W. Schaal, Logan, O. The wire clutch mechanism em-braced in this invention comprises a bar to which a series of clutches is attached, a tension bar and arms being attached to the bar and pivotally connected to the clutches, the apparatus being adapted to stretch one wire or to stretch several wires simultaneously. It is adapted for application at any point in a section of fence, whether the ground be flat or undulating, and releases the tension automatically as the pickets are inserted, or as the wires are depressed or raised for attachment to the posts.

FLUTE.-Carlo T. Giorgi, New York City. This flute has a mouthpiece curved in direction of the length of the flute, with a mouth hole on its top and a resounding chamber extending below the line of communication between the mouthpiece and the body of the flute. It has all the eleven holes necessary to the chromatic scale, each hole being adapted to be closed independently without cross fingering, and keys are not necessary. The mouthpiese is at the upper end of the pipe, along which the air is blown straight, the notes being of perfect intonation and equality of sound from the lowest to the highest,

LOCK FOR FLUSHING VALVES. - Charles H. Shepherd, New York City. Combined with the flushing valve lever, according to this invention, is a lock which engages the lever when it is raised and holds it in elevated position until released by the descent of the float ball of the supply pipe, the design being to accomplish thorough flushing when the valve is raised by a quick pull of the handle and the ordinary quick closing of the valve. This lock is of simple construction, and can be readily attached to many forms of tank and valve mechanism without making any change in the existing construction.

FIREPROOF FLOOR CONSTRUCTION. -Francis Omeis, Moultrieville, S. C. As an improvement in steel frame buildings, this invention provides for hangers suspended from the floor beams, auxiliary beams whose ends enter the hangers and are supported thereby between adjacent heams, the auxiliary beams having holes through which pass wires or rods connected to the main floor beams, while the auxiliary beams and wires are surrounded by concrete or similar material. The auxiliary beams are of novel form and may be cheaply constructed of flat plate material.

BIN.-Walter Thomas, Palatka, Fla. TIFIC AMERICAN. September 11, to light two or three 16 This invention provides an improved bin for granular candle power 110 volt lamps? A. Five bichromate of potash cells will he required in series. Wind 120 turns foods, the bin having a novel arrangement of a number of No. 18 magnet wire on each spool, About 35 feet. of compartments in one entire and inseparable structure, Approximately, 350 feet for the ten poles. 2. How many the elements of which are very closely combined and each of which has an essential structure and relative amperes will this little dynamo give ? A. Two amperes, The se compart washed and cleaned. (7275) O. J. asks how to make a good LEMON SQUEEZER - William H. Cox strong battery to use with a gas engine and to run small motors, and if there is any advantage in using copper in the place of carbon. A. The bichromate plunge battery described in SUPPLEMENT, No. 792, is a very powerful battery, one of the most powerful. It can be easily made and recharged. You cannot use copper in place of the carbon in this battery. (7276) L. S. asks for a formula or formulas for flash light powder, for use in photography, which vided therefor. can be set off with fuse, and work with a minimum MERRY-GO-ROUND.-Thomas T. Temof smoke and noise? A. Valuable formulas for fiash plin, Paris, Ky. This is a circular swing of simple and light powders are given in SUPPLEMENT, Nos. 1062, 1088, 1115 and 1116; price 10 cents each by mail.

## Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

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# HINTS TO CORRESPONDENTS.

HINTS TO CORRESPONDENTS.
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References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.
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inch call bell be worked by the incandescent light wires (current about 104 volts), or should the magnets be wound especially for that purpose? A. The magnets of call bells should be wound to a very high resistance, if they are to be connected directly to a lighting circuit. 2. Should there be lamps in series with the bell, and how many? A. A bell with a lower resistance may be used in series with an incandescent lamp. 3. There are bells made especially for light current; where can they be got, and who are manufacturers of German silver wire, the size used in electric car heaters? A. Any dealer in electric supplies can furnish both bells and German silver wire. 4. Can the 3 inch diameter carbons that are used in the aluminum furnace be used for call bell batteries? A. It will work as a negative plate, but is needlessly heavy. A thin plate, 1/4 inch thick, is quite sufficient.

(7273) J. L. T. says : Can a meerschaum pipe be cleaned so that it will color again by boiling in milk, or otherwise, and what is the process? A. When once burnt the pipe cannot be satisfactorily colored unless the burnt portion is removed and the surface again treated by the process by which the meerschaum was prepared. We are not familiar with the process of boiling in milk. The bowls of the pipes are prepared by oaking them first in tallow, then in wax (beeswax) and finally polishing with shore grass or silk. The pipe is preferably boiled in the wax. The oil from the tobacco is retained under the wax and gives the color. It is said that the color can be developed by careful heating, which drives the oil toward the surface. A new pipe should never be smoked out of doors in cold weather

(7274) F. H. asks: 1. How many bichromate of potash batteries will it take to magnetize the field of the little alternating current dynamo of SciEN-

pounds of wire No. 20 double cotton covered in 12 layers, 120 feet for each spool. Armature teeth must be wound with four even layers of No. 22 double cotton covered magnet wire, about 2 pounds in all approximately 80 feet on each prong. 3. Could it be charged with four cells of the primary battery ? A. No. Four cells of bat. terv are not enough to charge the field. When wound as above it should be charged from an incandescent lighting circuit

#### NEW BOOKS, ETC.

THE AMERICAN ANNUAL OF PHOTOGRA-PHY AND PHOTOGRAPHIC TIMES ALMANAC FOR 1898. Edited by Wal-ter E. Woodbury. New York: Sro-vill & Adams Company. 1898. Pp. 370. 8ve, 300 illustrations. Price 75 cents.

This annual, now the twelfth of the series published, appears this season embellished with a beautiful collec tion of the latest and best examples of process work, and is typical of the progress that has been made in this line. The book is replete with many useful articles and hints representing the experience of well known writers ou photography, particularly as regards its relation to the amateur worker. Details regarding process work are fully explained, while such topics as printing, develop. ment, enlarging, lantern slide making, camera making, astronomical photography and other subjects are well treated in a practical way easily understood. Printing in colors (the tr color process) is also described and examples shown. There is the usual collection of the best and latest formulas conveniently arranged for usc. The book is in fact a necessary adjunct to the library of every photographer. The editor is to be congratulated on the improvement shown over previous issues.

CENTRIFUGAL ANALYSIS. A manual for the use of the centrifuge in everyday work. Illus-trated. Rochester, N. Y.: Bausch & Lomb Optical Company. Pp. 36. This neat pamphlet is supplied gratis to persons interested in the centrifugal analyses of water, milk, urine, blood and other liquids or semi-liquids. It describes the apparatus and methods of arriving at results. The book is readable and instructive,

## TO INVENTORS.

An experience of nearly fifty years, and the prepara-tion of more than ane hundred thousand applications for patents thom can dabroad, enable us to understand the laws and practice on both cottinents, and to preseas unequaled facilities for procuring patents everywhere. A synopeis of the patent laws of the United States and all foreign countries may be had on application, and per-sens contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

## (7272) G. B. C. asks: 1. Can the 3 or 6 INDEX OF INVENTIONS For which Letters Patent of the United States were Granted

### DECEMBER 7, 1897,

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

Alarm device, electric, Fitz Gerald & Fay	595.096
Armature for dynamo-electric machines, S. H.	
Short	595.081
Ashestos, manufacturing mouldable mass or ar-	
ticles from L. Grote	595,168
Automatic signal C B Hunter	591 995
Arle hor, car, Sheehan & Laun	591,912
Baking, cooking and heating furnace, O. K. Harry	594,993
Balance, postal H. B. Seaman	5.)4.911
Bath See Needle hath.	
Battery See Electric hattery. Secondary hat.	
tory Storage hattery	
Bearing antifriction G O Gridley	59.5.060
Boaring for a vice ball N. Rousselle et al	595 210
Boaring shaft J W Smith	595 214
Ded hottem anring W S Simpen	501 015
Bad brace S B. Payne	505 201
Rod invold A B Bonnott	504 946
Bode dottion for helding onversion H D Viser	595 991
Bells, device for hording covers on, 11. D. Viser.	505 057
Boll biorolo A I. Tayoon	505,001
Dell, Dicycle, A. D. Taveau	505 950
Belt, F. C. Missiller	501 020
Dicycle, A. C. Faubanas	504 001
Bicycle, J. M. Gilbert.	504.049
Bicycle brake, L. C. Hall	0314,947
Bicycle orake, U. Kraus	5:10, 100
Bicycle Irame, L. H. Coob	000,140
Bicycle frames, construction of, Beranger & Cho-	E 0/ 00/
Dert	090,000
Bicycle luggage carrier, 1. N. Lancoln	395,240
Bicy cle luggage carrier, W. H. Logan	590,185
Bicycle or velocipede driving device, w. wannes.	594,921
Bicycle saddle, J. A. Hunt.	554,876
Bicycle support, G. W. Prentice	5.55,204
Blind, Venetian, R. Churchill	595,146
Blowpipe, C. A. Webster	594,922
Boiler. See Steam boiler.	
Boiler attachment, W. I. Miller	595,190
Boiler setting, L. Bernhard	514,848
Bolt, L. H. Bigelow	594,931
Boring machine table, Poertner & Fix	594,902
Bettle, Seibel & McCarrell	544,970
Bottle and stopper, non-refillable, G. W. Shailer	595,00
Boundary stone, C. Branzke	595,038
Bex, E. Oldenbusch	595,070
Box filling machine, J. P. Wright	595,234
Bracket, C. F. Deebler,	594,862
Brake. See Bicycle brake. Railway brake.	
Brake shoe and wheel dresser, W. E. Gorton	595-00
Brush, scrubbing, P. F. Barrett	595,012
Butter, etc., device for cutting, weighing and	

RESERVOIR PEN.-Carl J. Renz, New York City. This pen has a tapering tubular shauk open at its inner end and provided with barriers, and an inte gral tongue extending beyond an opening at the branch-

and Charles Hughes, Red Bluff, Cal. This is a simple and inexpensive device with which, by a single movement, the operator may cut a lime or lemon and extract the juice. It is so made that the lime or lemon may be cut from its bottom nearly to the top without severing the upper portion, thus preventing any upward escape of juices during the operation of compressing, and compelling all of the juices to pass out through the exit pro

cheap construction, to be operated by one of the riders, and consists of two seats suspended from the ends of a pivoted beam, there being means by which one of the riders may be shifted in relation to the central post, to maintain an even balance between the two occupants. and the rotation being effected by a rope from one of the seats connected with a pulley on the central standard.

NOTE.-Copies of any of the above patents will be furmshed by Munn & Co. for 10 cents each. Please send name of the patentee, title of invention, and date of this paper.

(7277) C. W., writing about the small alternator recently published in the SCIENTIFIC AMERI-CAN, asks (1) whether the ring and armature core can be cast with as good results? If so, can they be cast with the same kind of iron as sash weights are made of, that is scrap tin and pig iron? A. No. You must use the best soft iron to be had for field and armature cores of a dynamo. Sash weights are made of the poorest quality of iron. 2. About how much wire would it take for the whole machine? A. The field spools will require about 4

1	Butter, etc., device for cutting, weighing and	
1	measuring, L. H. Davis	595,049
I	Buttons, fastening heads to posts of collar, R. E.	
1	Byrne	595.143
ł	Calculating machine, E. V. Williams et al	595 (10)
1	Camera nhotographic E Bloch	595 436
1	Can See Sheet metal can	000,000
	Canapa O H Basquin	505 957
	Canopy, O. H. Dasquill.	505 100
1	Car coupling, C. J. Grence	605 MT
1	Car coupling, J. La Durt.	333,001
1	Car deer, J. M. Smith.	591,916
1	Car draw bar platform, railway, T. L. McKeen	234,891
	Car fender, Brown & Smith	594,851
1	Car fender, Dickerson & Towne	595.095
1	Car fender, Jarvis & Jones	595.105
	Car fender brake actuating mechanism, Ferguson	
1	& Glenn,	594,940
	Car fender, street, C. D. Derman	594,938
1	Car fender, tramway, W. J. Calvert	594.855
	Car section partition, sleeping, Reese & Willis	595,207
	Car stock I Davisson	595 151
ł	Car ventilator A J McArthur	595 127
1	Car vostibulo railway T L. McKoon	505 970
1	Care controllor for meters and brakes of electric	000,210
	Cars, contrener for motors and brakes of electric.	504 040
	Conding ongings grinding moch onion for flats of	004,040
1	Carung engines, grinning mechanism for hats of	504 0et
1	travening nat, C. wintaker	394,973
1	Carriage attachment, baby, C. Blakely	595,139
	Carriage body hanger, S. R. Balley	595,133
1	Carriage, folding child's, J. L. Crowley	595,150
1	Carriage top support, E. Gallaway	594,943
d	Case. See File case.	
1	Caster case, L. B. Denten	594.937
	Centerboard for boats, etc., J. W. Gibb.	595,161
1	Chain and chain link, H. B. Morris	594.959
•	Chart dress, M. D. Len	595,239
	Chimney cowl . [ W. Hunt	594 877
	Chuck C L Teske	594 919
	Churn I Weggemen	504 093
1	Outrin, o. HORBOILAIL	001,040
	(Continued on page 907)	

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