# RECENTLY PATENTED INVENTIONS.

### Agricultural Impiements.

CULTIVATOR. - JOHN McL. WRIGHT, Oberlin. Kan. This cultivator is so constructed that the weight of the driver will act to hold the shares out of contact with the ground. When no downward pressure is exerted upon the handles of the beams, the weight of the driver in the saddle will be sufficient to raise the plowbeams so that the shares will be removed from the round. By pressing down upon the handles, the shares may be buried in the ground to a previously determined extent.

#### Electrical Apparatus.

ELECTRIC SWITCH,-Max H. Caspani, Manhat tan, New York city. The switch consists essentially of a mercury-containing chamber having attached thereto the two poles or binding posts for the circuit-wires. The binding-posts are insulated from each other and are placed at different elevations. The mercury-chamber may be raised or lowered so as to cause the mercury to cover one or both of the poles in order to make the contact. By means of this device a clean contact-surface between the two parts of the switch is maintained,

#### Bicycle-Appliances.

BICYCLE-FRAME - JEREMIAH C. PARKER, Red Bank, N. J. This bicycle-frame belongs to that class in which the frame is so constructed that it may be adjusted for regulating the tension of the driving-chain. A split socket tube is carried rigidly at the lower end of the central brace, and receives the stem of the lower braces. By sliding the stem longitudinally in the socket-tube, the rear upper braces and the rear wheel will be moved to regulate the tension of the chain. The stem is held in a ljusted position by means of a clamp.

BICYCLE-GEAR.-CEPHAS WHITNEY and ALFRED C. LAZARUS, Kingston, Jamaica. The crank-shaft in this bicycle-gear is provided with the usual cranks. in the free end of each crank a shaft being journaled. On the outer end of the shaftarms are carried provided with pedals. An arm extends from the shaft at right angles thereto. An eccentric has its disk fixed to the bicycleframe and its eccentric-rod pivotally connected with the arm extending at right angles to the shaft. By this arrangement extended crank-arms are produced in which the extension is always at right angles to a line drawn through the center of theeccentric-disk and the center of the crank-shaft. Great leverage is hence obtained without causing the foot to move through a large circle.

## Mechanical Devices.

FRICTION DRIVING DEVICE FOR SHAPING-MACHINES. - WENDELL P. NORTON, Torrington, Conn. The friction driving device patented by this inventor comprises two driving-pulleys loosely mounted to rotate in opposite directions. Between the drivingpulleys a friction pulley is arranged to be moved into frictional contact with the inner surfaces of the pulleyrims. Spring-arms connect the rim of the friction-pulley with the hub and are adapted to yield laterally and longitudinally. Thus there is obtained a uniform contact of the peripheral surface of the rim with the inner surfaces of the pulleys; and shock and jar are prevented,

FIRE-ESCAPE. - JAMES O. MILLER, Coolgardie Western Australia. In the fire-escape provided by the present invention there is mounted within a casing a cord-carrying drum having toothed wheels connected therewith. Reciprocating bars have projecting points engaging the teeth of the wheels, thus providing an escapement mechanism which regulates the speed of the drum's rotation under the weight of the user. The device may be used for descending from any height, and may be advantageously employed in mines and wells.

PAPER-CUTTING ATTACHMENT FOR BOX-COVERING MACHINES.—ISIDOR DREYFUSS, Manhattan, New York city. The invention provides improvements in machines for automatically cutting off strips of paper or like material, which are being glued on pasteboard or other boxes. The machine is so constructed that the cutters can be adjusted higher or lower and forward or back without requiring any regulation of the cutter-operating devices. The cutting de vice can be operated by hand at any time to cut out a defective piece of paper without in any way interfering with the automatic operation of the device.

INTEREST-INDICATOR. - CHARLES C. ADAMS Charlotte, N. C. The interest-indicator is so constructed that by depressing a key corresponding with the principal, mechanism will be operated to bring into proper adjustment figures representing the interest upon that principal for a series of periods, so that the operator can readily determine at a glance the amount of the interest for the desired period. The means whereby the desired results are obtained consist primarily of rollers carrying interest lists adapted to register with period lists.

# Misceilaneous Inventions.

KNOCKDOWN BARREL.-PHILIS MAYOTTE, Es canaba, Mich. In certain industries, especially in that of beer brewing, it is a matter of considerable expense to return the empty kegs -an expense which might be greatly reduced by employing collapsible barrels. It is the purpose of the present invention to provide such a barrel. The inventor has therefore constructed his barrel, not with the ordinary strap hoops, but with stout chains, the ends of which are bolted together. By removing the chains the barrel falls apart.

LINE-GUARD FOR VEHICLE-POLES.—FLETCHER M. BIRD, Wenatchee, Wash. The object of the invention is to provide a line or rein-guard for the tongue or pole of a vehicle, which will effectually prevent the inside check-lines of a double harness from becoming entangled with or lodging upon the end of the pole or tongue of the vehicle in front of the neck-yoke ring. The guard is so constructed that it may be permanently secured to the pole or tongue in such a manner that it will not interfere with the bitching or unhitching of the neck-yoke, it being possible readily to slip the neck-yoke ring on or off the tongue or pole at pleasure.

PHOTOGRAPHIC DEVELOPING APPARATUS.-ALBERT GOODER, Brookville, Pa. This film-developing device consists essentially of a tray containing the de veloper, in which tray, frames are mounted adjustable relative to each other and relative to the tray. Rollers are located within the tray and upon the frame, and serve as supports for the film. The device may be adjusted to accommodate any size camera-film, and is designed to prevent scratching of the bromid emulsion.

PIANO-HAMMER. - JOHN OSTER, Jr., Newport Ky. This piano-hammer comprises a rotatable elastic disk clamped peripherally by spring clamping-jaws received and embraced by a socket-holder. The jaws are held and locked down in the socket to grip the disk Should any portion of the felt or other els become hard from frequent impact, the disk may be readily loosened and turned. There are, moreover, no projecting parts on the side of the disk to cause interference between the hammers, or objectionable noise in playing.

HACK-CLAMP.-James G. B. Rouse, Way Cross Ga. The invention is in the nature of an improved clamp for holding turpentine producing and gathering tools-such as hacks, pullers, or scrapers--when it is desired to cut out the tool. The clamp comprises a hody having a flat bearing edge provided with means for securing the body to a tree or post. The front edge has a seat portion and a clamping slot and screw. When the clamp is in position, a reamer may be applied to the seat of the clamp in order to cut out the tool.

MONEY-ORDER-BLANK PROTECTOR, CUTTER, AND HAND-REST.-George Johnson, Jersey City, N. J. By providing a device comprising a base, sup porting-posts carried on the base, and a hand-rest having transverse arms for extending over the face of a block of money-order-blanks and engaging the posts, this inventor enables a postmaster conveniently to fill out a money-order-blank and to separate the several parts from one another and the filled coupon from the block.

LANTERN-HOLDER.-GEORGE A. CORNISH, Gillette, N. J. This invention is a device for holding lanterns se that the rays of light will be effectively shed therefrom. The means by which this end is attained consist primarily of a wire structure forming arms and hooks by which the lantern is held in place,

TILTING-CHAIR. -ALFRED E. QUINLAN, Sheboy gan Falls. Wis. This tilting-chair is provided with a post on which a yoke and a vertically-disposed bearing are mounted to turn. The bearing is formed with longitudinal flanges terminating in lateral arms arranged to support the pivot for the yoke at one side of the bearing and below the upper end thereof. The entire device can be readily applied to a chair-seat. By the arrangement described, the bearing is well above the pivot, on which the rocking takes place, thus reducing friction on the bearing surface.

CHART FOR DRAFTING GARMENT-PAT-TERNS .- MARIE TUCER, Manhattan, New York city. The purpose of this invention is to provide a garment drafting pattern designed accurately to draft the outlines of ladies' waists and skirts and arranged to permit an easy and convenient adjustment of the various parts. The device consists of pivotally-connected sections slidably or otherwise adjustable to one another, the necessary graduations being marked on the sections.

# Designs.

MINERS' CANDLESTICK. - WILLIAM H. PLEAS-ANTS, Victor, Col. The essential features of this design consist of a candlestick having a shank, and spiral convolutions at one side of the shank, which embrace the candle. At the other side a hook rises vertically. A transverse member emanates from the convolutions and has a return-bend which joins the shank of the hook,

DISPLAY-BOX, -MAX W. BECTON, Manhattan, New York city. The box is designed to display fountain-pens or similar articles, and is, therefore, longitudinally divided into compartments for the reception of the articles to be displayed.

LOCK-BAR FOR COVERS,-HERMAN KAHN, Troy N. Y. The principal feature of this design is found in a body, having at its ends lips decreasing in thickness in opposite directions, and projections rising from the upper face of the body. The device is especially serviceable in locking the covers of jars, which operation the previously-mentioned projections facilitate.

BOX.-RICHARD M. COLGATE, West Orange, N. J. The box is rectangular in shape and is ornamented by decorative panels. At one surface circular intaglio figures triangularly disposed are arranged. The box is designed primarily to contain soap.

ERRATUM.-In our issue of March 25, 1899, we de scribed in these columns a new surgical splint invented by Robert W. Barton, whose address was given as Marion, Kansas. The address should have read Marion, Arkansas.

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

# NEW BOOKS, ETC.

A SELECT BIBLIOGRAPHY OF CHEMISTRY, 1492-1897. By H. Carrington Bolton. First Supplement. Washington: Smithsonian Institution. 1899. 8vo. Pp. 489.

A few years ago we received the first section of this work, and now we have a Supplement half as big as the parent volume. At the time we noted the original work we congratulated Prof. Bolton upon his wonderful achievement, and also complimented the Smithsonian Institution for the remarkable services which they have done to scientific literature in publishing such a notable volume, which could never be issued by any private publisher. In the preparation of the present Supplement Prof. Bolton has been fortunate in securing the cooperation of eminent men of science and letters in various parts of the world. They promptly responded, and have contributed more than 2,000 titles, including 760 Russian, 20 Finnish, and 13 Arabic. The same general method he used in the first volume has been adopted. The volume is a monument of American scholarship,

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For Sale or on Royalty-Patents Nos. 435,805 and 584, 219-game apparatus. R. F. de Grain, 643 G St., S. E., Washington, D. C.

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#### 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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Ninerals sent for examination should be distinctly marked or labeled.

(7698) A. L. N. asks: 1. Should the condenser for an induction coil be in the primary or in the secondary circuit? If in the primary, should the condenser be between the coil and the zinc or between the coil and carbon of the battery? A. The condenser of an induction coil is not to be put in either the primary orthe secondary circuit. The condenser is connected across the primary circuit. Attach one side of the condenser to the same place as the wire from the zinc of the hattery and the other side to the same place as the wire from the carbon side of the battery. It thus receives the extra current which originates in the breaking of the primary circuit. 2. In a Supplement you write that a magnet made of tubes, and every tube inside the largest one wound with a layer of wire, is many times stronger than one made out of a solid piece; hence, would it be a good idea to put some of the iron wires in the core of a coil between each layer of the primary circuit? A. No; it would be a very bad idea to build the primary of an induction coil on the basis of an electro-magnet, 3. Have you published any article about making liquid air? If so, in which Supplement? A. There are twenty articles on liquid air in as many SUPPLEMENTS. We can send them to you at 10 cents each. 4. What substance would be best to mix in lard to get a good corn cure? A. Purchase corn cures ready prepared of your druggist, We have no formula for a corn cure, using lard

(7639) E. J. W. asks: 1. What is the compound that is used in dry hatteries? A. There are many formulæ for the paste used in dry cells. The active material is usually ammonic chloride dissolved in water and mixed with an inert substance to hold it in place between the zinc and carbon plates. 2. Can a  $4\times5$ photographic lens (single or double view) be used for a magic lantern? A. Yes; any lens can be used to project a slide which will cover a photographic plate of the size of the slide. 3. How do you find the distance that the lens should be from the plano-convex condensing lenses? A. The distance is usually found by experiment, and depends upon the distance of the lantern from the screen. It may be found from the formula

y be found from the 
$$\frac{1}{D} + \frac{1}{a} = \frac{1}{F}$$

in which D is distance of lens from screen, d is distance of lens from slide, and F the focal length of the lens. 4. Can one large magnifying glass lens be used in place of a pair of plano-convex lenses for a lantern? A. A magnifying glass can be used as a condenser for a lantern, if nothing better can be had. It answers well with sunlight, but is not powerful enough to bend in the widely divergent light from a lamp.

(7640) Reader asks: Is the line current, e, the current induced in the secondary of the induction coil, in a telephone circuit an alternating current or only a pulsating current? A. An alternating current.

(7641) G. W. D. writes: 1 am desirous of procuring the best formula for making or casting phonograph cylinders for making records. Also instructions for casting same and any other information necesfor casting same and any other information are sary for their successful manufacture and manipulation for my own personal use. Please inform me how such information can be got. A. The composition of the phonograph cylinder is a carefully guarded trade

### TO INVENTORS

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### INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending APRIL 4, 1899,

AND EACH BEARING THAT DATE.

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

	Adding and recording machine, H. Hollerith
١	Air bed or cushion. J. J. Lane. 622,607, 622,608 Air beating and agitating apparatus, L. P. Hager 622,424 Amalgamating ores of gold and silver, J. E. Sut-
	Amalganating ores of gold and silver, J. E. Sut- phen. 622,245 Animal shears, R. D. Dixon 622,632
	Wassell
	C. Shimoneck
	Ax head, E. Roberts
	Artists' tablets, folding support or noider for, W. C. Shinoneck. 622,640 Audiphone, electrical, R. Hutchison 622,363 Autographic register, L. Ehrlich 622,454 Ax head, E. Roberts. 622,365 Axle cutter, W. B. Sherman 622,548 Back pedaling brake, G. E. McElroy 622,523 Bag. See Traveling bag. Bag fastener, J. A. Moore. 622,851 Bail and cover for vessels, combined, J. 8 Brooks. 622,441
	Bail and cover for vessels, combined, J. S. Brooks
111	Bedstead, invalid, L. Zucker
	Bell ringing mechanism, W. R. Livermore
	Bicycle frame and gear case, Nies & Dunn 622,526 Bicycle bandle bar, W. E. Kelly 622,490 Bicycle saddle, Hitchcock & Galbraith 622,357 Bit. See Expanding bit.
	Boats in upright position, device for holding, T. Emerson
	Rottle filling apparatus, J. Jackson 622,483 Bottle holder, nursing, A. J. Bradbury 622,414 Bottle, non-refillable, E. J., Ewbank 622,612
	Bottle stopper, A. Lieber
	Bowling alley, J. N. McIntire
	Bracket, W. C. Homan
	Brake shoe, W. D. Sargent.       622,337         Brick drier, O. Howl.       622,626         Brush, dusting, H. H. Ham       622,621
	Bit. See Expanding bit. See Expanding bit. See Expanding bit. Emerson.   622,338
	Burner. See Gas hurner. Incandescent burner.   Torch burner.   Torch burner.   Bush, hung hole, W. J. Ritter.   622,286   Butter worker, J. T. Killin.   622,441   Cabinet. W. D. Allison.   622,195   Cabinet. W. D. Allison.   622,195   Cabinet. Kitchen, A. W. & T. J. Eales.   622,335   Calcining furnace, T. Calvert.   622,337   Camera focusing attachment. L. H. Wallace.   622,574   Camera, kinetographic, D. B. Depue.   622,451   Camera, photographic, L. Wreede.   622,315   Can. See Powder distributing can.   622,315   Can. See Powder distributing can.   622,574   Camera, photographic, L. Wreede.   622,315   Can. See Powder distributing can.   622,574   Camera, photographic, L. Wreede.   622,451   Camera, photographic, L. Wreede.   622,451   Camera, photographic, L. Wreede.   622,451   Camera, photographic, L. Wreede.   622,574   Camera, photographic, L. Wreede.
•	Butter worker, J. T. Killin   522,434   Cabinet, W. D. Allison   622,195   Cabinet, grocer's, W. E. Hewit   622,624   Cabinet, bischen   W. & W. I. Eslan   622,624
•	Calcining furnace. T. Calvert
1	Camera, photographic, L. Wreede. 622,315 Can. See Powder distributing can. Construct feature I Moll 622,250
	Car bolster, G. L. Harvey     622,465       Car coupling, J. P. Autrie     622,590       Cardor, J. M. Honkins     622,559
	Car, dumping, M. J. McKinnon
ì	Camera, photographic, L. Wreede
3	Carbureter, G. W. Benedict
1	Carriage and cradle. combined baby, M. Lucak 622,244 Carrier. See Parcel carrier. Cash receptacle, C. Hutchinson
,	Cash register, J. P. Cleal.       622.445         Cash register, O. A. Gatrell.       622.517         Caster, A. Cousen.       622.441
•	Cellulose into a dense material, transforming fibrous, H. Brunswig
1	Cash register. J. P. Cleal.   622.415
	Chesse cutter, A. J. Bartlett. 622,196 Chisel, turner's hand, Glardon-Jaquet & Berger. 622,461 Churn motor W. L. Morris
9	Clip or binder, U. Dudley 622,610 Closet, W. H. Burnett 622,2015 Cloth spanging attachment L. A. Thieme 622,566
	Cloth sponging attachment, L. A. Thieme. 622,586 Clothes pin, S. J. Miley. 522,880 Cock or faucet, self closing, I. N. Glauber. 622,380 Cock or faucet, self closing, I. N. Glauber. 622,374 Conduit threader, F. A. Pooler. 622,374 Conduit threader, F. A. Pooler. 622,375 Confectionery package, F. H. Roberts. 622,386 Contact for controllers, G. H. Condit. 622,606 Continuous kiln for baking pottery or burning cement, E. Gobbe. 622,218 Copying documents, drawings, etc., apparatus for, N. Ponsolle. 622,388 Corn husker and fodder shredder, combined, E. A. Steubenson. 622,287
e 1	Conduit threader, F. A. Pooler
1 1	Continuous kiln for baking pottery or burning cement, E. Gobbe
, a t	for, N. Ponsolle. 622,388 Corn husker and fodder shredder, combined, E. A. Stephenson. 622,287
9	Coupling. See Car coupling. Stovepipe coupling.
ζ	Cream separator, centrifugal, A. H. Reid
1	G. & F. E. Hoffmann
	Currette, E. W. Peery         522,386           Currycomb, J. A. Hackenherg         622,347           Curtain flature, F. L. Meyer         622,508
e	Curette, E. W. Peery
	Cutting tool, H. Hill
_	Cycle frame brazeless joint, H. S. Rainforth. 622,537 Cycle or other wheeled vehicle, J. Huck. 622,477 Cycle stand, H. W. Toulisson. 622,477
e e	Damping envelops, etc., apparatus for, C. Kanitz 622651 Dental engine, H. D. Hermany. 622,467 Dental engine, Hood & Reynolds
	Desk, adjustable school, A. C. Davis 622.547 Detachable chair, G. Terlinden 622.297 Diaper, pinless, A. Schiff 529 279
t	Display rack, J. T. Xander 622,316 Ditching machine, W. W. Hunter 622,228 Door check, J. Speirs. 622,556
	Door check and no der, P. C. Greenawalt. 622,520 Door, pressure, T. Shaw. 622,546 Door spring, W. M. Thomas. 622,546
f -	Draughting apparatus, garment, E. E. Cunning- ham
8	Drier. See Brick drier. Grain drier. Mechanical drier.
-	cal drier. Drill. See Miner's drill. Driving mechanism, H. B. Collins

(Continued on page 239)