

RECENTLY PATENTED INVENTIONS. Bicycle-Contrivances.

BICYCLE.—HENRY F. HENDERSON, Ames, Colo. The bicycle is driven by a chainless gear, the novel feature of the invention being found in the use of a fly-wheel connected with the center of a driving hub on the rear wheel.

Railway-Appliances.

CAR.—JOHN M. JONES, Sedalia, Mo. The purpose of this invention is to provide a system of bracing railway-cars which will render the floor more secure and which will, therefore, tend to strengthen the whole structure of the car.

GRAIN-DOOR FOR FREIGHT CARS.—EDWARD W. MORTEN, Farmersville, Tex. Adjacent to the door-opening of the car are two track beams. A grain-door is provided, formed in two sections, arranged one above the other, the upper section bearing on the lower section, and the lower section bearing on the sill of the car.

Miscellaneous Inventions.

PRINTING ATTACHMENT FOR ROLL-HOLDERS.—GUSTAVE H. SCHUBERT, La Porte, Cal. This invention provides an attachment for rolls of wrapping-paper, by means of which it will be possible to print the paper with an advertisement or other matter as the paper is unwound from the roll.

COFFEE-POT.—ARCHIBALD ANGUS, Manhattan, New York city. The purpose of the invention is to construct a coffee-pot so that its parts may be readily detached from one another for cleaning purposes.

TRANSOM-LIFTER.—GEORGE BICKELHAUPT, Manhattan, New York city. This transom-lifter is arranged to lock a sky-light or sash or to swing it open for the escape of persons when the building is on fire.

WASHING AND CLEANING DEVICE.—THOMAS J. WHALEN and JOHN F. WARNER, Portland, Ore. In this washing and cleaning device a reservoir is mounted, having a partition extending from the upper end of the reservoir downward to form two compartments in communication with each other at the bottom.

FOLDING UMBRELLA.—FRANK G. GROVE and FRANK E. STOVER, Luray, Va. The invention provides an improved locking connection between the telescopic or sliding members of a rib employed in folding umbrellas.

COMBINATION-TOOL.—WILFORD A. HAUGER, Pax, Mo. The tool comprises a handle-bar in one end of which a headed stock is adjustably held, having a ratcheted head adapted to engage a pipe.

TRAP.—JOHN D. OLINGER, Pincastle, Ky. This invention provides a simple and efficient trap for large or small game, which trap may be easily set and which, when sprung, will securely hold the captive.

ROD OR FIXTURE FOR SASH-CURTAINS.—FRANK PERRY, Brooklyn, New York city. The fixture has a receiving-arm provided with a notch, which arm engages the vertical bore of a head.

communicates with the vertical bore; and an invisible locking bolt sliding in the horizontal bore locks the rod to the fixture, by engagement with the notch in the arm.

COMPRESSED-AIR WATER-ELEVATOR.—WILLIAM H. SHAFFNER, Louisiana, Mo. In this water-elevating apparatus a tank or chamber is provided having a water inlet and an outlet and supplied with air under pressure. A valve commands the water-inlet and is held closed by the interior pressure in the elevator.

TROUSERS-CLASP.—AVEDESS B. HERALD, 946 New York Avenue, Washington, N. W., D. C. This novel clasp is designed to be used on trousers wrapped around the leg of the wearer by bicyclists who seek to avoid the danger of loose trousers.

THRILL FOR VEHICLES.—CHARLES A. RAY, Bridge-water, S. D. This thrill is so constructed that while the cross-bar when moved rearwardly may be disengaged from the couplings, it is impossible to disconnect the cross-bar when tension is applied thereto in a forwardly direction.

WORK-BOX.—EMMA BENTON, Butte, Mont. This work-basket for holding buttons, spool-thread, scissors, and the like, has a central compartment or body portion on which the basket rests and by which it is supported.

FOLDING-COOP.—CARL H. THOMSEN and HERMAN J. M. JÖRGENSEN, Memphis, Tenn. To provide a light, simple coop especially adapted for poultry and capable of being conveniently folded for shipment when empty is the purpose of the present invention.

FOLDING GO CART.—ELISE DEPENSENAIRE, Manhattan, New York city. The go cart has sides connected to move toward and from each other, to which handle-bars are joined. A transverse bar extends between the handle-bars and is removably connected therewith.

WATER-WHEEL.—PATRICK HENRETTY, Mankato, Minn. The water-wheel comprises pulleys provided at intervals with peripheral sockets. The bucket-chain used consists of a series of buckets equally flared on both sides of a central line and provided at their juncture with eyes.

Designs.

CIGAR BOX-LID HOLDER.—ALEXANDER W. GRELE, Logansport, Ind. The leading feature of the design consists of a U-shaped clip having one of its flanges provided with an extension bent outwardly in its lower portion and with a rib on the outside of the extension.

WALL-PAPER.—HARRY WEARNE, Rixheim, Germany. The papers which form the subjects of the three present designs are decorated with flowers of various kinds tastefully combined in panels.

INCANDESCENT-LAMP SOCKET.—RUDOLPH MEYER, Brooklyn, New York city. The socket is made of porcelain and provides a simple means for making the contacts.

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

NEW BOOKS ETC.

DIE EISENKONSTRUKTIONEN DER INGENIEUR-HOCHBAUTEN. Ein Lehrbuch zum Gebrauch an technischen Hochschulen und in der Praxis. Von Prof. Max Förster. Erste Lieferung. With 174 illustrations and 1 plate. Leipzig: Wilhelm Englemann. 1899. Small quarto. Pp. 112. Price, paper \$2.

Most German text books on iron framed structures have long outlived their usefulness; a new work in which the principles of modern engineering are concisely and yet exhaustively explained is certain to meet with success.

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.

Marine Iron Works. Chicago. Catalogue free.

"U. S." Metal Polish. Indianapolis. Samples free.

Yankee Notions. Waterbury Button Co., Waterbury, Ct. Pocket Folding Umbrellas. Grove & Stover, Luray, Va. Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Machine Work of every description. Jobbing and repairing. The Garvin Machine Co., 141 Varick St., N. Y.

Ferracute Machine Co., Bridgeton, N. J., U. S. A. Full line of Presses, Dies, and other Sheet Metal Machinery.

Machinery for R.R. contractors, mines, and quarries, for hoisting, pumping, crushing, excavating, etc., new or 2d-hand. Write for list. Willis Shaw, Chicago.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

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.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special written information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(7780) F. C. S. asks for a process to prevent sweet cider from souring. A. When the cider has reached the flavor required, add 1 to 2 tumblers of grated horseradish to each barrel of cider.

(7781) J. Z. asks: Can an open circuit battery be used on an induction coil as well as a closed circuit battery, and what is the difference? A. An open circuit battery can be used in running an induction coil for a time. A closed circuit cell is one which will furnish its current indefinitely or till its materials are used up.

(7782) J. B. writes: Seeing in your most valuable paper an article headed "Eyesight of Children," I have long wondered why all writers, including the celebrated "Webster's Unabridged," use the word at all, unless to distinguish between foresight and hindsight.

(7783) C. K. asks (1) how to harden the horseshoe magnets for the D'Arsonval galvanometer described in "Experimental Science." A. Heat the ends of the steel re 1 hot for about one inch in length, and cool by plunging vertically into water.

(7784) C. A. S. asks: Given two bodies of same size but of unequal weight (decidedly unequal) like spheres or cars, started with same initial velocity down an inclined plane, which will have the greater velocity, which will reach the bottom quicker, and which will travel quicker on a plane surface at foot of incline? A. The best answer to this inquiry is, try it and see.

(7785) R. E. H. asks: 1. Can you give directions for making the so-called moist water colors? A. Dry colors, mixed with gum tragacanth, will remain moist as desired. 2. In photography exposure tables it is stated that the amount of light depends on the altitude of the sun at the time of exposure; then in the body of the table 1 second is given for March 20, noon, and for June 20, noon, is 2 seconds; while those from September 20 to March 20 appear to be correct, if in direct proportion to altitude of sun, those from March 20 to September 20 appear to be too short.

A. You do not give the latitude; but, taking the degree of latitude New York city is located in as a standard, we think the light values given are substantially correct. Comparing the above values with Lieut. W. Very's tables, found on page 801 of "The Scovill Encyclopedic Dictionary of Photography," we find only a slight variation. At noon in March, he advises 1 second; April, 1 second; May, 0.5 second; June, 0.3 second; July, 0.2 second; August, 0.5 second; September, 0.5 second; October, 1 second; November, 1.5 second; December, 1.7 second.

(7786) S. C. asks for process of reclaiming gold from a gold toning-powder containing borax and soda. A. Dissolve the powder in water, then add a solution of sulphate of iron, which will precipitate the gold down in the form of a black powder. The solution is then poured or decanted off and the powder washed and then dried. The powder may now be re-dissolved with nitro-muriatic acid, evaporated and re-dissolved once or twice, when chloride of gold, free from acid, will result. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 377.

TO INVENTORS.

An experience of fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

DECEMBER 26, 1899,

AND EACH BEARING THAT DATE.

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

Table listing various inventions and their corresponding patent numbers, including items like 'Acids, apparatus for making', 'Air brake coupling', 'Air compressor', etc.

(Continued on page 13)