

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

FORK FOR HANDLING SHEAVES.—LEWIS C. STURMAN, Ninemile, Mont. The purpose of the invention is to provide a fork especially adapted for handling sheaves; but also adapted for use as an ordinary pitchfork. The improved device has, therefore, in addition to the ordinary fork, which is movable or may be locked, clamping hooks or arms, which, as the main fork is forced into a sheave automatically close around the sheave, means being provided for opening the arms at will.

LAND-MARKER.—FRANCIS M. ENGLE, Sweetwater, Ill. This land-marker may be readily applied to any seeding or planting machine, and has a simple means for raising and lowering the land-marker. The implement may be operated by a person without leaving his seat, thus saving much time and labor.

HARROW.—JOHN B. GERHARDT, Petersburg, Iowa. The novel feature of this invention is to be found in a hinge which so connects sections of a harrow that they can be extended rigidly or folded one on the other to reduce the size of the harrow when desired.

Railway Appliances.

MAIL-BAG CATCHER.—CHRISTIAN G. SORRENSON and WILLIAM T. ALDEN, Grand Island, Neb. The mail-bag catcher which has been devised by these inventors is designed to deliver bags respectively from and to a car, and to avoid the necessity of throwing the bag from the car to the ground, by providing mechanism for catching the bag which is delivered from the car and holding it safely until removed by an attendant.

Vehicles and Their Accessories.

WHEEL FOR HORSELESS CARRIAGES.—JOHN CAULFIELD, Brooklyn, New York city. It has been the inventor's purpose to provide means for enabling the pneumatic or rubber-tired wheels of motor-vehicles to grip the ground firmly so as to prevent slipping when traveling over mud, ice or snow. To attain this purpose the wheel is provided with teeth or projecting gripping members at each side of the rubber tire, which gripping members, if it be so desired, may be projected or retracted by means of a lever mechanism operated by the occupant of the carriage.

Mechanical Devices.

MACHINE FOR DRIVING SCREW-EYES.—EDMUND SATHER, Brooklyn, New York city. Through the medium of this tool screw-eyes can be readily placed in positions which have hitherto been reached with difficulty. The screw-eyes are held in a magazine and are successively fed to an end of the tool and held firmly in position while entering the object, and conveniently released from the tool after being fixed in position. The tool can be operated by one hand.

ANIMAL-TRAP.—JAMES W. BARNES, Beaverton, Ore. This animal-trap is especially adapted for trapping moles and gophers, which burrow along slightly below the surface of the ground. The tripping-bar of the trap may be set with its lower end in front of the hole. When the gopher finds his way blocked he immediately begins to stop up the hole, throwing dirt down in front of the tripping-bar and going back for more until he has accumulated enough. By pushing the accumulated dirt forward, he will move the tripping-bar and release detent devices which hold a spear. By adjusting the tripping-bar in its connection with a trigger-lever the trap can be readily set for a long or a short animal.

WINDMILL.—ROBERT A. NICHOLL, Marlette, Mich. This direct stroke windmill has a head-block which turns in a support, and which carries a spindle secured at one side of its longitudinal center of rotation. The windwheel is mounted to turn on this spindle, and is provided with an eccentric groove in its hub. On the head-block a crank-shaft is mounted, a member of which enters the groove in the wheel-hub. A pump-rod is located at the center of rotation of the head-block; and an arm is attached to the crank-shaft and connected with the pump-rod. Since the spindle on which the windwheel is mounted is at one side of the center of the pipe through which the pump-rod passes, the wheel is capable of governing itself; for when the wind reaches a certain height the wheel will swing around out of the wind.

ACETYLENE-GAS GENERATOR.—WILLIAM G. ROSS, Benicia, Cal. This generator has in connection with a receiver or gasometer, a number of generators and a means for automatically placing the generator in operation after the carbide of a previously operated generator has been exhausted. The discharge from the generators is automatically controlled to conform with the rate of consumption.

HOISTING OR LOWERING DEVICE FOR BOATS.—SAMUEL BERGSTEIN, Manhattan, New York city. The invention is an improvement in the class of davits which are so hinged as to be adapted to swing outwardly into horizontal position to launch the boat. Each of the davits is hinged to the deck, so that they may swing outwardly. The boat hung from these davits has a gunwale provided with notches to receive the davits. Tackle detachably connects the davits and boat for holding

the latter immovably on the davits until required for service.

ACETYLENE-GAS GENERATOR.—JACOB H. WILLERS, Manhattan, New York city. The generator is arranged automatically to feed the carbide into water, to generate gas in measured quantities according to consumption and to permit the immediate removal of the carbide residue without interrupting the working of the machine, and without danger of the passage of air into the machine or the escape of gas therefrom.

EXERCISING-MACHINE.—EMIL R. ERNST, Manhattan, New York city. The object of the inventor is to provide a device which will not only bring into action and exercise all the muscles of the body, but will also afford amusement and pleasure. With these ends in view Mr. Ernst has devised a machine which, when manually operated, has a teetering and rotary motion.

BURNISHING-MACHINE.—JAMES B. CAROLIN, Newark, N. J. For burnishing cheap metal caps, buttons, and like articles without the aid of skilled labor, the present burnishing-machine is especially adapted. The machine has a tool post with a guideway in which the burnishing tool slides and turns. The tool-post is adjustable to bring the burnishing tool into desired angular position relatively to the chuck holding the article to be burnished. The sliding movement of the burnishing-tool in the tool-post is limited by a stop on the tool.

Miscellaneous Inventions.

NON-REFILLABLE BOTTLE.—LEON F. BIZOUARNE and EMIL KUGLER, 34 Rue des Appennins, Paris, France. The inventors broadly employ the siphon principle to prevent the refilling of bottles. A siphon is inserted in the mouth of the bottle and controls the flow of liquid, the outer end of the siphon-tube extending inwardly. The outer end of an air-vent extends inwardly beyond the outer end of the siphon-tube.

HAT-STAND.—JOHN F. KENNEFICK, Cripple Creek, Colo. This invention relates to that class of hat-supporting stands employed for the display of hats in show-windows. Mr. Kennefick has provided a novel, simple device of this character which is better adapted for the support of stiff or soft hats in different positions than the hat-stands ordinarily employed.

STAYSAIL-RIGGING.—PETER J. McDONALD, Noank, Conn. The purpose of this invention is to provide means for mounting staysails on vessels, particularly the jib-topsails of fore-and-aft rigged vessels, so that the sail may be set firmly at the luff and held at the clew in such a way that it will be allowed to yield to unusual strain, thus easing the rigging and spars, and particularly the topmast.

SKETCHING INSTRUMENT.—THOMAS A. MCFARLAND, Chicago, Ill. The frame of the instrument has two mirrors arranged at an angle to each other and provided with a peephole. The frame can be adjustably secured to an inclined drawing-board and held so that the larger mirror will at all times be parallel to the board. The reflecting angles are fixed one relatively to the other. By the employment of this device a landscape or an object can be easily and accurately drawn on paper or canvas.

PROCESS OF MANUFACTURING LIME AND CARBONIC ACID.—GUSTAF M. WESTMAN, Manhattan, New York city. The object of this invention is to provide a new and improved process for manufacturing lime and carbonic acid in such a simple and economical manner that both the lime and the carbonic acid are almost immediately in condition for the market. The process consists essentially in passing a mixture of highly-heated carbonic acid and steam up through a column of limestone to expel the carbonic acid contained in the limestone and to convert the latter into calcium oxid. The expelled carbonic acid is then charged with water to cause the heat of the carbonic acid to convert the water into steam and thereby reduce its temperature. A portion of the cooled carbonic acid charged with steam is conducted into a regenerator and highly heated and used in turn for expelling carbonic acid from the lime. Calcium oxid is drawn from the base of the column.

ANTISEPTIC BROOM.—OSCAR S. KULMAN, Box 299, Savannah, Ga. Mr. Kulman, who is well known as the inventor of several antiseptic brooms, has made a decided improvement in the invention with which his name is particularly associated. Formerly he employed only a single retainer to hold antiseptic material. In the present invention he has provided a double retainer, made of two bags connected by wires and held in the broom by the rows of stitching through the straws, which stitching is made to cross the wires so that the retainers are held by the stitching. The bags are not perforated by the stitching.

Designs.

KETTLE OR POT-SCRAPER.—GUSTAV HOFFMAN, Yonkers, N. Y. The pot-scraper is a plate having a curved edge and a straight and curved edge. A hole in the center offers a means for the insertion of the hand.

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.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you name and address to the party desiring the information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

- Marine Iron Works, Chicago. Catalogue free.
- Inquiry No. 356.**—For manufacturers of ice plants.
- "U. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 357.**—For manufacturers of pinking machines.
- Motor Vehicles, Duryea Power Co., Reading, Penn.
- Inquiry No. 358.**—For the manufacturer of the "W. & C." gage glass cutter.
- WATER WHEELS. Alcott & Co., Mt. Holly, N. J.
- Inquiry No. 359.**—For machinery for making mailing tubes.
- Yankee Notions. Waterbury Button Co., Waterbury, Ct.
- Inquiry No. 360.**—For manufacturers of gold extracting machinery.
- Brass Cups, Threaded. Bliss Chester Co., Prov., R. I.
- Inquiry No. 361.**—For manufacturers of steel springs similar to those used in large clocks.
- Building Edition for April, 25 cents.
- Inquiry No. 362.**—For manufacturers of presses for pressing sawdust into shapes.
- Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
- Inquiry No. 363.**—For a cuff holder which fastens to the coat sleeve.
- Rigs that Run. Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.
- Inquiry No. 364.**—For a manufacturer of small experimental hydraulic pumps.
- Rushion Boats and Canoes. Morris Canoes. The H. & D. Folsom Arms Co., 314 Broadway, N. Y.
- Inquiry No. 365.**—For parties who sell an absolutely water-proof parchment paper.
- SA WMILLS.—Variable friction feed. Send for Catalogue B. Geo. S. Comstock, Mechanicsburg, Pa.
- Inquiry No. 366.**—For dealers in model chains, chain wheels, gears, etc.
- Ten days' trial given on Daus' Tip Top Duplicator. Felix Daus Duplicator Co., 5 Hanover St., N. Y. city.
- Inquiry No. 367.**—For parties to make a special gas mantle.
- Special and Automatic Machines built to drawings on contract. The Garvin Machine Co., 141 Varick St., N. Y.
- Inquiry No. 368.**—For manufacturers of wax images of noted persons and wax anatomical specimens.
- 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.
- Inquiry No. 369.**—For a machine for peeling potatoes, about 150 pounds per day.
- For Sale.—Right to take out foreign patents on my invention. Suspender End Attachment. U. S. patent to issue May 4, 1901. Address C. H. Dome, Prescott, Ark.
- Inquiry No. 370.**—For machinery for manufacturing twin wooden pocket combs.
- "Why Some Houses Are Good."—April Building Edition. 25 cents.
- Inquiry No. 371.**—For modelers' tools for pottery models.
- 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.
- Inquiry No. 372.**—For aluminium manufacturers making small tubing for pencils.
- Wanted.—Skilled artist in mechanical art work. No one need apply who has not a knowledge of mechanics coupled with artistic ability and experience. Address Artist, P. O. Box 773, New York.
- Inquiry No. 373.**—For manufacturers of light aluminium or steel taper mandrels for talking machine records, also manufacturers of sheet aluminium and tubing.
- Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.
- Inquiry No. 374.**—For manufacturers of stamping machines.
- Inquiry No. 375.**—For hand dies for making punchings for small motors and dynamos.
- Inquiry No. 376.**—For manufacturers of wooden mill machinery.
- Inquiry No. 377.**—For manufacturers of needles.
- Inquiry No. 378.**—For a machine to make round and flat head staples of brass.
- Inquiry No. 379.**—For manufacturers for mail order business.
- Inquiry No. 380.**—For targets for a mechanical shooting gallery.
- Inquiry No. 381.**—For parties to make an adding machine.
- Inquiry No. 382.**—For fans with power generated from storage batteries or springs.
- Inquiry No. 383.**—For small friction buckles such as used on roller skates.
- Inquiry No. 384.**—For the address of the makers of lomo board.
- Inquiry No. 385.**—For manufacturers of portable houses.
- Inquiry No. 386.**—For parties to make a patent oyster case consisting of wooden outer case and cover lined with galvanized iron, and inner case of galvanized iron—could substitute aluminium.
- Inquiry No. 387.**—For manufacturers of compressed paper for car wheels and wood fiber for making trunks; also for manufacturers of aluminium.
- Inquiry No. 388.**—For the manufacturers of Dewey steel armor for hose.
- Inquiry No. 389.**—For the manufacturers of a pulverizer and automatic sampling machine exhibited at the World's Fair.
- Inquiry No. 390.**—For small patent suitable for mail order business.
- Inquiry No. 391.**—For folding opera glasses.
- Inquiry No. 392.**—For manufacturers of eyelets and eyeletting machinery.
- Inquiry No. 393.**—For parties to manufacture a new, improved coal-dumping wagon.
- Inquiry No. 394.**—For manufacturers of gas meters attachable to gas wells.
- Inquiry No. 395.**—For manufacturers of malleable iron castings.
- Inquiry No. 396.**—For manufacturers of electric furnaces for burning brick.
- Inquiry No. 397.**—For manufacturers of an electric machine for taking and finishing a tintype at one operation.

- Inquiry No. 398.**—For parties to make a hair clamp of steel wire and ickel.
- Inquiry No. 399.**—For a machine for making a wire clothespin.
- Inquiry No. 400.**—For machinery for the manufacture of hames.
- Inquiry No. 401.**—For manufacturers of irons for ironing hames.
- Inquiry No. 402.**—For manufacturers of automobiles with four seats for carrying twelve people.
- Inquiry No. 403.**—For machinery for making thread spools.
- Inquiry No. 404.**—For manufacturers of rotary cement furnaces.
- Inquiry No. 405.**—For parties to make a separable steel carpenter's square.
- Inquiry No. 406.**—For parties making blankknives, forks and spoons ready for plating.
- Inquiry No. 407.**—For manufacturers of sheet copper and brass.
- Inquiry No. 408.**—For manufacturers of castings for kerosene and gasoline motors suitable for a bicycle.
- Inquiry No. 409.**—For parties to forge out bridle bits and spurs from spring steel.
- Inquiry No. 410.**—For parties to draw brass tubing to a point about 3/8 or 1/2 inch long, with the point smooth, or a No. 24 wire gage hole in the end.
- Inquiry No. 411.**—For manufacturers of tools for making cigarette boxes.
- Inquiry No. 412.**—For a manufacturer or dealer in "Mocking Bird" fire alarm whistles.
- Inquiry No. 413.**—For manufacturers of laundry machinery.



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.

(8153) D. Mc. C. writes: 1. A says that a certain amount of gas from water decomposed by electricity can be used in a motor of some kind (steam or explosive) driving an electric water-decomposing apparatus and the same amount of gas produced that was used to produce it. A. The amount of gas produced will depend upon the efficiency of the apparatus. It cannot equal the amount that was used to produce it, until perpetual motion has become an accomplished fact. We need not say that that will never be accomplished. Nor do we see any reason why one should think that half the amount of gas should be produced. Some percentage of the gas can be produced. What percent, we do not know. 2. A says that in decomposing water by electricity the gas can be confined in the apparatus as it is produced (like steam in a boiler) up to a high pressure. In regard to the first question, B says that only half the quantity of gas would be produced. To the second, he says the apparatus will not produce the gases when the pressure is above 15 pounds per inch above the pressure of the air. Question 1—How much gas would be produced? Question 2—How high a pressure in producing? A. We have no doubt that a very high pressure can be produced in this way. Whether it was ever tried, we do not know. It would be easier to try it than to discuss it.

(8154) E. C. K. asks: Is it true that objects exposed to sunlight absorb light which is radiated at night, and to what extent? A. The sulphides of barium, calcium, and some other substances, when properly prepared, have the property of shining in the dark after they have been exposed to the light. When these are applied to a surface as a paint, the property may be made useful. A clock face painted with this paint will be visible from all parts of a room at night. The property is called phosphorescence. The paint loses its luminosity after some hours in the dark, but regains it upon exposure again to the light. Such paints have been known for a long time, but have not come into any extensive use.

(8155) F. A. R. asks: I wish to make a dry battery. On what do the battery constants depend? Does the size of both zinc and carbon affect the voltage? Is there any rule for determining the voltage? A. The amperes of a cell depend upon the size of the plates and their distance apart, the liquid employed, its concentration, in one phrase, the internal resistance, and the resistance of the external circuit. The voltage depends upon the materials used. In a dry cell these are zinc, carbon, and sal ammoniac in solution with water. The voltage is about 1 1/2 volts. The voltage of a dry cell is the same as that of a Leclanche cell. The size of plates has nothing to do with the voltage.

(8156) W. C. H. writes: Please give me an estimate of the current that passed through my body from one hand to the other, under the following conditions: I had hold of one leg of direct incandescent line, current 104 volts 120 amperes, and accidentally