

RECENTLY PATENTED INVENTIONS.
Agricultural Implements.

CANE-HARVESTER.—G. D. LUCE, New Orleans, La. The inventor of this mechanism for harvesting sugar-cane has for his object the provision of a machine by means of which the cane may be rapidly cut close to the ground, topped, and stripped. The machine also embodies means for discharging the stalks into a cart or wagon drawn alongside of the harvester.

CANE-FORK.—L. B. LOTZ, Plaquemine, La. In the operation of this device for handling canes, such as sugar-canes, a tripping-line is drawn upon to lift a bail out of engagement with a carrying-hook, releasing the hook, which swings by the weight of the fork and its contents, and releasing the fork, which drops by gravity and discharges the cane. It is then only necessary to lower the fork to the supply of cane, engage it, and readjust the parts to a locked position and then proceed as before.

HAY OR COTTON PRESS.—R. HAMILTON, Commerce, Texas. Broadly stated, this invention consists in a press mounted on wheels, adapting it to be hauled along in a windrow in position to receive hay picked up with a fork by a man walking on the windrow side of the press. Further, it consists in peculiar operating means located on the other side of the press in position adapted to be worked by the driver.

Hardware.

FAUCET.—F. H. HAVEKOTTE, Cincinnati, Ohio. This gate-faucet improvement is of that class where gate devices are used in connection with heavy or semisolid liquids. In faucets of this sort difficulties occur, and the inventor provides means for securing a gate against accidental and fraudulent opening by supplying a lock device for the gate which with the aid of a key may be thrown into action, thus preventing the gate from being opened. When opening the gate a slight application of the key releases the lock.

Mechanical Devices.

VARIABLE-SPEED MECHANISM.—A. A. DE LOACH, Atlanta, Ga. This variable-speed mechanism is particularly adapted for automobiles, engine-lathes, and various other forms of light machinery. The invention provides for a minute adjustment of speed by the same mechanism, both changes being effected without jar or serious strain.

LATHE.—L. J. SHEAR, Defiance, O., and F. J. SHEAR, Chicago, Ill. The object in view in this invention is the provision of a device for more easily and quickly securing on the spindle of a lathe and releasing therefrom pails or similar articles to be turned off on their exterior surfaces and for quickly and easily removing from the article to be turned the truss-hoop in which the rough staves are assembled and temporarily held.

CHURN.—M. F. STILL, Lapanza, Cal. This improvement consists in the construction and arrangement of the churn-body, its supporting-frame, and actuating mechanism, whereby a simple, economical, and compact power-churn is provided in which the churn, the power mechanism, and frame are so combined as to constitute a single unitary organization, the parts being coordinated to and adapted to each other.

Medical Inventions.

SYRINGE.—J. H. SHEETS, New York, N. Y. The arrangement of this implement permits of conveniently filling the barrel with fluid and carrying the syringe about in a pocket, case, or the like, and allows the user to eject any desired portion of the fluid and safely retain the remainder in the barrel for future use.

SECTIONAL CORN-PLASTER.—W. MAHLER, New York, N. Y. This corn or bunion plaster is arranged to allow its ready use for shielding corns and bunions of various sizes and shapes without danger of pressure on any part, thus avoiding the pain caused by ordinary ring-shaped plaster, which is liable to press on the edge of a corn or bunion and crowd it into the central aperture of the plaster.

INVALID-BED AND COMMODE ATTACHMENT.—W. C. FEELY, New York, N. Y. The bed is made in telescopic sections and means are provided for adjustably and removably supporting a commode beneath so that when the bed sections are closed together the commode-support will be under the head-section. This enables the commode to be readily placed upon the support or removed, and when the sections of the bed are separated the commode will be brought into direct contact with the patient in position for convenient use. Each section is provided with independent springs and mattresses.

Vehicles and Their Accessories.

MOTOR-VEHICLE.—J. D. HARR, Modesto, Cal. The invention in the present case has reference to a new and improved motor-vehicle, and the object more particularly in view is to provide a turning-gear upon the axle to which the driving power is applied for the purpose of propelling the machine.

Miscellaneous.

FOUNTAIN-INKSTAND.—F. N. DORLAND, Humboldt, Neb. In carrying out the present

invention Mr. Dorland has had in view the provision of a simple, useful, and economic article affording a shallow dip-chamber which supplies just the right depth of ink for properly wetting the nibs and slot of a pen, which allows the ink to flow readily into a reservoir and the air to escape therefrom during the operation of filling the stand, which may be easily and quickly washed out in all its parts, which supplies all the ink contained in the reservoir to the dip-chamber, and in which the ink is stored so that dust and dirt cannot have access to the reservoir.

HOG-TRAP.—M. SAGE, McLean, Ill. Embodied in this invention are new and useful improvements relating to traps for receiving and holding hogs for nose-ringing or other purposes, the object being to furnish a portable hog-trap of simple construction that will operate quickly and that may be adjusted to hogs of any size.

BUREAU-TRUNK.—N. BARUCH, New York, N. Y. The particular object of this inventor is to produce a trunk which is practically convertible into a bureau and suitable for use more especially for traveling men, such as drummers, actors, clergymen, etc. The bureau portion may be used in connection with any desired type of trunk.

TROLLING-SPOON.—A. W. WILSON, San Francisco, Cal. Improved means are embodied in this device for connecting the hooks with a spoon and swivel. Heretofore this connection has been effected by means of faulty construction, but avoided in this invention by providing a connecting-link easily applied to the spoon, so as to hold the hooks properly and with much greater strength than in the old construction.

HEAD AND BACK REST FOR BEDS.—W. C. FEELY, New York, N. Y. The purpose of this contrivance is to provide a rest adapted to any form of metal bedstead and which can be readily adjusted longitudinally of the bed to and from the headboard at any inclination and securely held in position; and to so construct the head-rest that it may have a solid or yielding support for the back and head and be compactly folded out of the way against the headboard when not in use.

WINDOW SASH AND FRAME.—G. B. BETERMANN, Louisville, Ky. The invention in the present case refers to a window sash and frame constructed wholly of sheet-iron or other metal in such a manner as to make the construction durable and inexpensive and to insure against destruction by fire. By means of this improvement a building may be rendered entirely fireproof.

DOMESTIC REFUSE CREMATORY.—J. H. COTTER, Winnipeg, Canada. The objects in this case are to provide means to expose a large area of refuse to an incandescent bed of fuel, to allow the refuse to be partially embedded in the fuel-bed in opposition to a mere suspension thereover in order to secure better results, to provide for the ingress of air to the burning refuse so as to support combustion, and to provide means by which a vertical play is permitted to the refuse-container that it may sink into the bed of fuel as the latter is consumed.

NON-REFILLABLE BOTTLE.—B. CLEMENS, Moundsville, W. Va. The object claimed by this inventor is the production of a bottle which, if not literally non-refillable, will make refilling so tedious and difficult as to be unprofitable, while at the same time the parts will have such a conformation and arrangement as to enable the bottle to be manufactured by the usual methods.

CABINET.—S. C. PRICE, Pittsburg, Kan. This cabinet enables one to utilize the entire space along the wall from the floor to the ceiling without using a step ladder or other means for climbing up to points near the ceiling. This is attained by an arrangement of balanced cases placed in pairs, one to move up as the other moves down, and thus while they may be placed one higher than the other for display, when it is desired to remove the goods either of the cases may be lowered convenient for a person standing on the floor.

WAIST-BELT.—L. SANDERS, New York, N. Y. The intention in this case is to construct a belt to neatly fit the waist and to provide the rear of the belt with a downwardly-extending outwardly-flaring skirt member at the back adapted to fit snugly to the rear of the person just below the waist-line to add to the graceful appearance of the belt at the back and to cover any space that may occur between the waist and skirt by reason of sagging and separating.

MUSIC-LEAF TURNER.—W. BALKO, New York, N. Y. The object of this contrivance is to provide a new and improved music-leaf turner which is simple and durable in construction, easily set into an active position, and arranged to enable the performer to readily and periodically actuate the device for turning the leaves at the proper time and in regular order.

BASE-BALL BAT.—J. F. MCCOY, New Orleans, La. This new and improved base-ball bat is not liable to break when in use and it is arranged to readily flex or spring between the handle and butt to allow driving the base-ball with great force and speed and to a greater distance than heretofore possible with ordinary solid bats.

FLOOR CONSTRUCTION.—A. DE MAN, New York, N. Y. The particular object in view in this improvement is to provide a new floor construction preferably made of fireproof ma-

terial and arranged to span large bays without the use of floor-beams and at the same time produce a flat ceiling and render the floor sound-proof.

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Machinery designed and constructed. Gear cutting, The Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

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Inquiry No. 4351.—For makers of machinery for making eyelets for balls, etc.

Inquiry No. 4352.—For makers of aluminium wash boilers.



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.

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(9063) J. C. R. asks: Will you explain the following experiment? I set the front wheels of a bicycle in motion and then I placed one end of the axle on my first finger. The result: While it revolves on its axle it also tends to revolve in an orbit around me. If you revolve it with the axle vertical, it tends to revolve in an orbit as before. A. The bicycle wheel in your experiments is a form of gyroscope and revolves as this instrument does. You will find it explained in Hopkins' "Experimental Science," where many forms of the gyroscope are illustrated.

(9064) W. M. F. says: Please inform me what would take away the echo from a hall which is on the third floor of a building. I do not want to use a sounding-board, as it is too expensive. I have inclosed a small plan of the hall. A. We do not think a sounding-board would assist the acoustics of your hall. It is just as bad as a hall can be; a square box with a curved ceiling (if we read your drawing aright) and with a hard wall. An abundance of soft hangings along the side walls, such as heavy curtains upon poles, as if there were windows in the wall, is advisable. Such echoing halls are often much improved by stringing fine wires across them, several feet above the heads of people; in your hall this might be done nine feet above the floor. Another decoration can be added which would deaden the noises, by putting up an abundance of bunting or cheesecloth from the center of the ceiling to the sides and corners as when the hall is dressed for some patriotic occasion. A gallery with rising rows of seats would assist much in breaking up waves of sound. You cannot hope to destroy the echoes except by such means as these. The idea is to replace the hard surfaces of the wall by soft and yielding materials, and to break up the rectangular character of the room, and particularly the vaulted ceiling, as much as possible.

(9065) L. S. M. writes: I am a student in engineering at the University of Pennsylvania, and in looking over Notes and Queries noticed the statement made in answer to query No. 3979, that "There is no possible way in which a man can do one horse power work for even a moment." Also, "A man's power does not much exceed 70 foot pounds per second." I would like to state that this answer is in error, and to illustrate by a familiar example, the horse power that an average man is capable of exerting. A man in walking upstairs, at an average rate of speed lifts his weight 1 1/2 feet per second; thus, a man of average weight, say 160 pounds, is doing 160 x 1 1/2, or 240 foot pounds per second. As 550 foot pounds per second is one horse power, the man exerts more than 1/2 horse power, without undue exertion. By running upstairs the same man can lift his weight 3 1/2 feet per second, thus doing 160 x 3 1/2, or 560 foot pounds per second, or more than a horse power. The truth of these statements can be easily verified by any of your readers. A. The figures we gave for a man power were derived from Kent's "Mechanical Engineering Pocket Book," and may be taken as reliable. We deem it certain that an average man cannot take 560 pounds of iron and raise it one foot per second, even though he might run upstairs at the rate you state for a few seconds. Sandow perhaps does a horse power of work for a time, but such facts do not vitiate our statement as we understand it. The turning of a dynamo machine is not the same as running upstairs. We do not believe an average man can bring the eight-light dynamo to full current even for a moment.

(9066) J. D. asks: 1. The first sheet of tinfoil in a condenser has a lug on the right; over this sheet is placed a sheet of insulated paper and then a sheet of tinfoil with a lug on the left. I cannot understand how there is a circuit. I find there is. A. A condenser is put together as you describe. There must not be any circuit through it. It would be of no use whatever if a metallic path were made through the sheets of foil. If you have a circuit, the condenser should be opened and rebuilt with better insulation between the sheets. 2. Is it advisable to put a fuse (and if so, what size) outside the window—where the vertical is brought into the coherer? A. A lightning arrester should be put into the

circuit of the vertical wire before it is brought to the coherer. 3. Can a good ground be made by going down 4 or 5 feet and filling the hole with good conducting material? Should the ground be very dry below this depth, would the above labor be in vain? How would a zinc can 3 1/2 inches high filled with moist earth do? In this country you must go to the ocean or a water pipe. The ground is no good as a conductor. A. By a "good ground" is meant a ground permanently moist. Nothing else will answer. The connection had better be run to water, even if the distance is great.

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INDEX OF INVENTIONS

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

June 23, 1903,

AND EACH BEARING THAT DATE.

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

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