RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

HAY OR STRAW STACKER.—ROBERT GRISWOLD, Grover, Colo. This invention relates to portable machines for unloading and stacking loose hay and straw. A characteristic feature of the invention is a very simple construction of directing platform which, when used in connection with a hoisting rope, guide ropes and a swing, can be conveniently utilized to convey the hay in the form of a roll from a wagon to the ground, where the stack is to be formed.

MACHINE FOR TOPPING BEETS.—JULIUS H. LUHRS, Fruita, Colo. The machine is especially adapted for topping beets in the field, and is designed to be drawn between rows of beets in order that it may operate on the tops of two rows simultaneously. The cutters cleanly sever the tops. The distance between the cutting blades and the ground can be readily regulated. The machine can be raised at the front so as to carry the cutters some distance from the ground in driving to and from the field.

CORN-CUTTER. — CHARLEY O. EBERLEIN, Shawano, Wis. The device comprises a metal foot-plate having downwardly-pressed ribs and an extension-plate formed with a slot. A screw passes through the slot into the foot-plate. The channels formed by the depressed ribs are engaged by downward extensions on the front end of the extension-plate. On the front end of the foot-plate a cutting-blade is carried. The operator grasps the corn-stalks, and, by forcing his foot forward against the cutting-blade, severs the stalks near the ground.

KNIFE FOR HARVESTERS, MOWERS, ETC.—HERSCHEL OLDHAM, Orleans, Ind. Mr. Oldham has invented a novel knife or cutter for harvesters, reapers, mowers, lawn-mowers, and like machines. His invention is an endless or chain-knife, which is inclosed in a casing having upper and lower plates provided with flanges at their front and rear edges. Between these flanges the blades of the endless chain-knife are projected. A cover is fitted over the rear flanges and the rear run of the knife. The travel of the knife is the same at all points, since there are no centers to pass. Repairs can be easily made.

Electrical Apparatus.

PUSH-BUTTON. — THOMAS A. NATHANS, Manhattan, New York city. On a bottom plate a casing is removably held; and through the top of the casing a push-button slides. A double contact device is adapted independently to close a normally open circuit when the push-button is depressed, and also when the casing is partially removed from the bottom plate. By reason of this construction the bell can be sounded either in the ordinary manner or when a removal of the parts of the bell is attempted.

CALL-BOX.—EDGAR E. SALISBURY, Chicago, Ill. The object of the invention is to provide a simple mechanism for connection with a telephone system, which may be employed to send a telephone call to the central station or to serve as a messenger call. A telephone cannot be placed in the circuit without first sending a signal; and after one conversation is finished and the receiver replaced, a second conversation cannot be had without repeating a call.

Mechanical Devices.

BARREL MACHINE.—JOHN S. WRIGHT, JR., Churchland, Va. The novel feature of the invention is a form comprising end-rims U-shaped in cross section, and intermediate rims formed with perpendicular annular flanges alternately arranged. Connecting rods are passed through the base of the end rims and through the annular flanges of the intermediate rims. When the rims of the form are made in three segments, as in the present invention, the exertion required for lifting the hinged sections, either in opening or closing the form, is comparatively insignificant when compared with the exertion required for opening and closing one-half the heavy form.

MOTOR TOY.—JOHN H. WHITING, Manhattan, New York city. Mr. Whiting has invented a perambulating toy in the shape of a horse. A motor and lever connections are provided for simultaneously operating the legs of one side in opposite directions, causing the animal to walk. By means of an attachment to the neck the head can be employed for winding the motor-spring.

Railway Appliances.

RAIL-JOINT.—SILAS B. WHARTON, South Bend, Ind. The rail-joint has a sleeve engaging the bases and the webs of the ends of adjacent rails. Bolts extend through the sides of the sleeve and through the rail-webs; and a nut-lock-bar engages the sides of the bolt-nuts. The bar has an extension adapted to extend along the under side of the base of the rails, the extension crossing through the sleeve. A key or wedge securely fastens the nut-lock-bar in position.

Miscellaneous Inventions.

BUDDING IMPLEMENT.—WILLIAM NELSON, Jefferson Parish, La. In the operation of budding it is the usual practice to remove a piece of bark from the tree to be budded, and then to remove a similar piece of bark from the limb of a tree bearing a fine variety of fruit. The piece of bark to be budded on the tree should be of the same size as the piece previously cut from the limb. In carrying out the present invention parallel blades are employed which are operated transversely of the stock to be budded and the tree from which the bud is to be removed. Thus the bud section is made to correspond in size and shape with the space provided for it.

AUTOMATIC VEHICLE HITCH-BRAKE.—CHARLES KITCHEN, Elwood, Ind. The invention provides an attachment for vehicle-brakes so constructed that, when the brake is fully or partially applied at the time a vehicle is to be left standing, the driving-reins may be attached to the brake-lever and the brake-beam be controlled automatically to such an extent that, while the animal is free to move forward or backward a limited distance in the shafts, an undue forward or backward movement will result in the application of the brake shoe or rollers to the wheels of the vehicle. Thus the horse and the wagon must of necessity remain where they have been left standing.

DISK-SUPPORTING ATTACHMENT FOR GRINDSTONES.—WILLIAM W. HEWITT, Gettysburg, S. Dak. The disk-supporting attachment comprises a post for receiving the disk to be sharpened. Inwardly-inclined rollers of different diameters support the disk, and springs coiled around the post hold the disk against the roller. When the device is carried to a grindstone and the grinding-wheel is brought into contact with the disk, the whole arrangement will revolve during the sharpening process.

COMBINATION PIPE, CIGAR HOLDER AND CIGARETTE HOLDER.—PHILIP FISCHER, Plauderville, N. J. This very novel smoker's article comprises a body having members with connected bores of different sizes. One of the bores is designed to receive the stem of a mouthpiece or a cigar and the other bore is arranged to receive the mouthpiece-stem, a cigarette, or the stem of a pipe-bowl. A pipe-bowl has a stem for engaging one of the bores; and a mouthpiece has the end of its stem reduced to fit the smaller bore of the body. The portion of the stem above the reduced end fits the larger bore.

CARTRIDGE. — ANTONY BARRALLON, St. Etienne (Loire), France. The invention provides a cartridge which, on the one hand, insures the indefinite preservation of the powder charge and on the other hand a complete and quick combustion of the charge, together with its casing, as soon as the shot is fired, in order to reduce the work required for firing the gun.

MICROMETER-GAGE.—ALBERT A. BRANDT, Birmingham, England. This new micrometer-gage is arranged to permit a correcting adjustment in case of deviations in the setting of the micrometer device on a beam and to permit convenient adjustment of the micrometer device in case of wear on the anvil and spindle. On the beam a main micrometer device is movable, adapted to be fastened at measured points. The micrometer comprises a barrel in which a cylinder is adjustable. A sleeve is connected with the cylinder and extends over the barrel. A spindle is likewise carried by the cylinder. The sleeve has a graduated end to indicate micrometer adjustment relatively to the barrel, and a correcting micrometer device indicating on the other end of the sleeve to adjust the spindle of the main micrometer device to any discrepancy in the setting of that device on the beam.

PLEASURE-CANAL. — GEORGE W. SCHOFIELD, Coney Island, Brooklyn, N. Y. The Inventon is a pleasure device having a large waterway in a comparatievly small space, the banks of the waterway being provided with scenery of an amusing character. A novel means has been devised for shifting the boats from the lower level or terminal of the canal to the higher level or starting point.

Designs.

GEM-SETTING.—GERHARDT G. M. F. HARTMANN, Manhattan, New York city. Mr. Hartmann has received two design patents for settings in which the gems are arranged in the one case in two parallel long side members and two parallel end members, together with chains of bead-like figures appearing within the border. In the second design, within a rectangular border chains of globular and irregular gems are arranged in parallel lines.

LOCK AND HINGE FASTENER FOR BOXES.—GEORGE B. SCHMIDT, Brooklyn, New York city. This novel fastener is formed of a single piece of wire which can be readily applied to a box. The simplicity of the device is its chief merit.

LEATHER FABRIC.—CHARLES D. WILLIAMS, Manhattan, New York city. The leading feature of the design consists in forming on one surface of the fabric closely-arranged, irregular and slight projections to give a stippling appearance. Channels are employed to represent veining.

SHADE-ROLLER BRACKET.—WILLIAM R. MADDERN AND EDWARD H. HIGBEE, JR., St. Louis, Mo. The body of the bracket is essentially rectangular and has at one side a bayonet-slot. Between the slot and the opposite edge of the body are two openings: and from the upper end of the opposite edge a spur projects.

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.

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.

(8023) M. J. H. asks: 1. Can the continued use of an electric generator or small dynamo have any ill effect on a person if it is used about three times a week as hard as it can be stood? A. Yes; most certainly. Our advice to all is to use electricity only under the direction of a competent physician. Then there will be no danger of ill effects. 2. How may a piece of gold be dissolved and made into a plating solution to be used with batteries? A. Gold is dissolved in aqua regia 3. Can any kind of plating solution be made by dissolving the salts of the metal in water or anything they will dissolve in? A. For preparing plating solutions see Watt's "Electroplating," price $1 by mail. 4. Can an alternating current dynamo be changed to a continuous current without altering the dynamo? A. An alternating current dynamo may be converted into a continuous current machine by replacing the collecting rings with a commutator. You can probably make a commutator from the plans in SUPPLEMENT 600, price 10 cents.

(8024) E. A. M. asks: 1. Is there a SUPPLEMENT in which I may find a description of an arc-lamp suitable for lantern use? A. Information on arc electric lights for lanterns will be found in SCIENTIFIC AMERICAN, Nos. 12, vol. 66; 11, vol. 74, and 6, vol. 75; also SUPPLEMENT, Nos. 756 and 956. Price of above, 10 cents each. 2. What would happen if a shunt-wound dynamo were short-circuited across its terminals while running under full load? A. If a shunt-wound dynamo is short-circuited it will develop heat in the circuit very rapidly and burn out the short circuit if possible. If this does not happen it may throw the belt or be stopped by the excessive load thrown upon the armature.

(8025) H. H. asks: Can you answer through your information department, in a general way, the proportion of gas required to run gas engines of 6 H. P., and less alone, bare of any load, to the quantity required to produce the power to run machinery attached to such engines? I have been using a gas engine (4 H. P.) some time to operate printing machinery intermittently, and with varying loads, with very satisfactory results economically and otherwise. But a test shows that it requires as much gas to operate the bare engine as the guaranteed quantity for 1½ H. P. in the machinery. At price of gas here to run the engine continuously would cost $100 a year, if the driving belts were removed and the shafting wholly disconnected, while the additional consumption of gas for small printing machinery, such as platen presses, paper cutters, etc., is almost nothing. That makes this power very economical for short runs, but hugely expensive for continuous work, especially where a single light machine is the chief load required. Can the engine be taking the normal quantity of gas, or is something wrong with the adjustments? Apparently nothing is out of order. If there is an approximate rule governing the amount of gas to drive the engine alone—in proportion to its power—it would aid materially in solving a perplexing problem. A. The best gas engines of 6 H. P. use about 18 cubic feet of illuminating gas per H. P. per hour for full load with gas and air inlet properly adjusted. The gas consumption does not decrease directly with the load. The friction of engine, belting and shafting is a constant quantity that does not vary by the throwing on and off of small machines, but you should have an efficient governor on the gas inlet to save waste.

NEW BOOKS, ETC.

VICTOR VON RICHTER'S TEXT-BOOK OF INORGANIC CHEMISTRY. Edited by Prof. H. Klinger. Translated by Prof. Edgar F. Smith. Fifth American from the tenth German edition. Philadelphia: P. Blakiston's Son & Company. 1900. 8vo. Pp. 430. Price $1.75.

The present edition differs materially from those that have preceded it, and includes the very latest discoveries. The form of presentation is excellent and the subject matter is carefully proportioned. The great and well-deserved reputation of von Richter and also that of the editor and translator is sufficient guarantee of the adequacy and accuracy of the text. It is an admirable text-book and is one of the best chemistries we have seen.

COMMERCIAL ORGANIC ANALYSIS. Vol. III., Part 1. Tannins, Dyes and Coloring Matter, Writing Inks. By Alfred H. Allen, F. I. C., F. C. S. Third edition. Rewritten and enlarged. Revised and edited by J. Merritt Matthews, Ph. D. Philadelphia: P. Blakiston's Sons. 1900. 8vo. Pp. 589. Price $4.50.

This volume is a chemical classic and merits unstinted praise. It deals with the properties, proximate analytical examination and modes of assaying the various organic chemicals and products employed in the arts, manufactures, medicine, etc., with concise method for the detection and determination of their impurities, adulterations and products of decomposition. These remarks apply to the whole series, and the present volume deals with such important subjects as tannins, dyes and coloring matters, also writing inks.

INDEX OF INVENTIONS

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

JANUARY 1, 1901,

AND EACH BEARING THAT DATE.

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

Advertising-rack, C. H. Epple	664,843
Air-brake, J. E. Normand	665,341
Air-compressing machine, J. J. Isler	665,222
Air-cooling device, S. B. Waters	665,392
Air in explosion-motors, utilizing liquid, C. Linde	664,958
Air, insulating-receptacle for holding, T. Sewall	665,349
Animal-shears, H. R. Boettcher	664,924
Armature-shaft alarm device, F. W. Garrett	665,319
Asbestos-felt covering for boilers, steam-tubes, etc., C. Lamprecht	664,873
Ash-determining apparatus, G. M. Tucker	665,041
Atomizing apparatus, R. L. Benson	664,923
Auger, earth, Scott & Gerry	664,902
Ax, H. S. Earle	665,075
Axle box, car, W. F. Richards	665,268
Axle or journal box, W. E. Prindle	665,345
Bag-holder and sifter, combined, M. H. Shanley	665,275
Bag-machine, L. D. Benner	665,387
Baling-press, C. W. Davidson	665,191
Baling-press, L. Trabue	665,284
Baling-press, A. Wickey	664,987
Ball-bearing seat, H. P. Scott	664,973
Barrel-elevator, C. W. Levalley	665,022
Barrel, metal, H. B. Haigh	665,003
Bearing, shaft, A. Haenichen	664,946
Bed casing, folding, C. A. Warner	665,151
Bed-couch, folding, H. J. Daschbach	665,189
Bedclothes-supporter, P. C. L. Harris	664,855
Bedstead, F. Wood	665,299
Bedstead canopy-frame, I. E. Palmer	665,126
Bedstead, corner fastening, W. E. Frank	665,367
Bedstead lock corner-fastener, Foster & Camp	665,366
Belt tightener and guide, C. H. Remick	655,132
Bicycle-brake, N. E. Boyd	665,306
Bicycle-chain adjustment, E. S. Leayeraft	665,018
Bicycle-frame pump, J. B. Fermoyle et al	664,936
Bicycle-pump, J. Hanna	664,947
Binder twine-pickling-cylinder attachment, S. B. Whitehead	665,292
Boiler-furnace, W. F. Beecher	664,165
Boiler-handle, J. A. Brooks	664,829
Book and paper holder, C. S. McComb	665,256
Book, sale or account, W. S. Banner	664,828
Boot or shoe and forming same, T. Watters	665,289
Boring-machine, W. R. Abrams	665,158
Bottle, non-refillable, L. Anderson	665,046
Bottle, non-refillable, H. S. La Barge	665,233
Bottle, non-refillable, A. C. C. Liardet	665,023
Bottle-stoppering-machine feeding attachment, N. Muslar	664,884
Bottles, apparatus for automatically washing, A. A. Pindstofte	665,344
Bottles, apparatus for making glass, C. Boucher, Aine	665,055
Box, E. L. Czarniecki	664,835
Box-tops open, device for holding, E. Egg	664,935
Bracket, M. Schonbachler	664,900
Brake-clamp, C. E. Goodwin	665,208
Brake mechanism, H. E. Putney	664,895
Brake-shoe, B. Wolhaupter	665,298
Brander, keg, Hehr & Fritz	664,859
Bread-cutting apparatus, C. H. Cooley	665,066
Bridge, D. E. Fisher	665,317
Bridle-bit, H. Richter	664,970
Bridle, safety, J. Walla	664,913
Brush-machine work-feeding mechanism, M. Young	664,989
Bug-trap, P. J. McAtee	665,029
Bung and air connection for beer-kegs, etc., J. Merawetz	665,252
Bureau and washstand, combined, F. G. Caswell	664,991
Burglar-alarm, J. H. Howard	664,865
Burner heating attachment, C. P. Dart	664,994
Button, M. E. von der Linden	665,042
Button-blanks, etc., machine for swaging hollow, A. J. Langelier	665,331
Button-drilling machine, S. P. MacCordy (reissue)	11,879
Button-fastening machine, E. A. Griffith	665,211
Cabinet, stamp, C. E. Greene	664,850
Calcinatory, C. Thackeray	664,980
Can-body machine, J. Gould, Jr	665,088
Canning apparatus, food, G. Lees	665,021
Candlestick, miner's, Cornell & Troughton	665,067
Cane-distributing device, J. M. Cooper	665,182
Cap, vessel closing, A. A. Low	665,334
Car, convertible, J. O'Leary	664,890
Car-coupling, T. Hickling	665,009
Car-coupling, R. F. Ludlow	665,242
Car-door, C. Linstrom	665,239
Car-door fastener, L. A. Hoerr	665,095
Car, drop-bottom dump, E. H. Wise	664,988
Car, etc., fender, G. Hipwood	664,863
Car, freight, F. A. Delano	665,071
Car grain-door, George & Scott	665,205
Car propulsion, means for electrical, J. H. Hertner	665,094

(Continued on page 29)