RECENTLY PATENTED INVENTIONS.

Industries, Manufactures, Trades, Etc.

CONSTRUCTION OF CEILINGS AND WALLS FOR BUILDINGS. — Franz Kemnitz, Bayreutherstrasse 9, Berlin, Germany. The inventor has provided a new method of arranging and stretching ropes for supporting the mortar for ceilings and walls. Cramps, to which the ropes are fastened, are secured in the walling of the room. Between these cramps the ropes are arranged in a net, their ends being tightened as much as possible and finally knotted together. Upon this strong network the mortar is brought. If ceilings are to be made, a detachable boarding is arranged underneath the network, which boarding is removed after the material has hardened. By this means beton ceilings of very small thickness can be produced quickly and cheaply.

SCREEN FOR STAMP-MILLS.—Martin R. Driscoll, Frisco, Utah. This screen is so arranged that it can be changed without stopping the battery. A frame is employed having a number of apertures. Rolls of screen-cloth are mounted above the apertures. The rolls can be adjusted so as to bring their rear faces flush with the faces of the apertured frame. Clamping-frames hold the screen-cloths in front of the apertures. And an auxiliary clamping-bar receives the lower end of the cloth. When the proper clamping-frame is raised, the worn-out screen is drawn down and the clamping-frame again locked. The bottom portion of the screen is doubled over the auxiliary clamping-bar and clamped in place. By employing two screen-cloths, the operator can change one while the other is in use.

ACETYLENE-GAS GENERATOR.—Thomas E. E. Bartlett, Atlanta, Ga. The inventor has concerned himself chiefly with providing an efficient automatically-operating carbid-feeder. The carbid is contained in the radiating compartments of a rotary receptacle mounted above a chute leading to the generating-chamber. Each compartment is provided with a releasable bottom. As the receptacle mentioned is rotated by the rise and fall of the gasometer, the bottoms of the compartments are successively released by a trip so that the carbid drops into the water of the generating-chamber.

WEIGHT AND PRICE SCALE.—Clark Corbin, Carbon Cliff, Ill. The invention provides a scale for weighing commodities and indicating their cost, which scale is so constructed that the value of an article of any weight can be read (by weighing it at its price per pound) with but one line of graduations to show the value and with one line of graduations to show the price per pound.

SODA-WATER APPARATUS.—Joseph O. Wild, Cottage City, Mass. The sirup receptacles are circularly arranged about a central ice-receptacle and mounted upon a turn-table which can be rotated to bring the proper sirup-receptacle into view. The lower ends of the receptacles are provided with nozzles beneath which glasses are placed. Both nozzles and glasses can be concealed from view by separate doors. The entire arrangement is noteworthy for its compactness and neatness.

Mechanical Devices.

MATCHING-MACHINE.—John M. Kuebler, Wausau, Wis. This matching-machine is so arranged that the cutters can be changed while the head is in motion, that narrower or wider grooves and tongues can be cut, and that the position of the cutters can be changed to locate the groove and tongue at a different height on the board.

MACHINE FOR MOLDING AND CUTTING ICE-CREAM. — George McC. Pinkerton, York, Penn. The machine molds and cuts ice-cream in small blocks to be wrapped in paper, the machine being of such a nature that the blocks can be so quickly and economically cut and wrapped that they can be sold at a very small cost. The machine comprises a reciprocating cutter-knife carried by guide-rods; a tilting slicer-knife provided with a crank; a trip-lever adapted to depress the crank and arranged to be tripped by the movement of the guide-rods; and spring secured to the crank so as to return the slicer-knife to its normal position.

HOISTING APPARATUS.—Robert Watson and Charles E. Stevenson, Nanaimo, Canada. The apparatus is designed to be used for all hoisting purposes, as a fire-escape, as a hoist in mining-shafts, as an elevator, as a painter's scaffolding, and the like. The invention consists in the provision of novel hoisting devices and in means for extending horizontally from the place of hoisting and lowering any persons or goods which are not in the vertical line of the hoisting apparatus.

TRACTION-ENGINE. — Daniel C. Cawley, 1309 Park Building, Allegheny, Penn. The object of the invention is to provide a construction of truck for traction-engines by which to secure a greater bearing and tractive effect on the ground; for it is well known that sandy, muddy, and rough roads present great obstacles to motor-wagons. The invention employs the principle of the endless track-chain revolving around the truck-wheels and bearing directly on the road bed for greater frictional contact; and it provides for accommodating the various adjustments which a rough road renders necessary with such a track-chain.

WAGON-LOADING DEVICE.—Leonard C. Wood, Aldeu, Iowa. The purpose of this invention is to provide a means for loading wagons from scrapers, by which means the scrapers are lifted bodily into the wagon and dumped therein. The invention consists of a chute, a scoop, a mechanism which when engaged with the wagon axle causes the scoop to travel up the chute into the wagon.

Marine Inventions.

PROTECTIVE ARMOR FOR HULLS OF VESSELS.—Robert F. B. Walsh. Brooklyn, New York city. This armor protects a vessel when passing over suspected mines or torpedoes. The armor forms a false keel and slants from the keel-line upwards at the sides in opposite directions, the upper longitudinal edge of the armor being some distance from the sides of the hull. When the false keel, which is more or less sharp, strikes an explosive, the shock of the explosion will not be in a vertical direction, but will be divided and sustained by the inclined sides of the protective armor, thus preventing the hull from being blown upward out of the water.

MARINE VESSEL.—Peter U. and Anna M. J. Riess, Williamsbridge, Bronx, New York city. To prevent a vessel from capsizing the wooden keel-body is provided with a longitudinal recess in its under side. Against the sides of the keel-body ribs abut, which are secured by flanged irons and screws. A weight is fitted in the recess and is secured to the body independently of the ribs. A strong construction and great stability are thus secured.

LIFE-BOAT.—Peter U. and Anna M. J. Riess, Williamsbridge, Bronx, New York city. The hull is provided with a series of side compartments extending slightly below the water-line. A bow-compartment extends the whole length of the hull. A stem-compartment only slightly below the water-line. The bow and stern compartments are divided by longitudinal partitions. The rudder has its post mounted in the partition of the stern-compartment. The arrangement of air compartments, extending all around the hull, prevents the boat from capsizing. Even if filled with water the boat cannot sink. The arrangement described in the foregoing notice can be combined with the presentconstruction to produce a remarkably efficient vessel.

MARINE PROPULSION.—Peter U. and Anna M. J. Riess, Williamsbridge, Bronx, New York city. This propelling-gear for boats comprises a propeller shaft which passes through a sleeve driven by foot-actuated gear. Between the sleeve and the propeller-shaft power-transmission gearing is arranged. The persons in the boat propel the vessel very much as they would a bicycle. Handle-bars are provided, after the pattern of bicycle handle-bars, one of which is connected with the rudder so that the boat can be readily steered.

Railway-Appliances.

NUT-LOCK. — Asa W. Webb, South Union, Ky. The inventor has devised a novel lock for two nuts, which comprises a lock-bar having notched ends adapted to engage the inner and side faces of the nuts. The rear walls of the notches are inclined in parallel lines obliquely to the length of the bar, so that a backward turn of the nuts will bind their side faces against the rear walls. So long as the lock-bar is in place the nuts will be prevented from turning.

AUTOMATIC AIR-PIPE COUPLING. — John W. Spurlock, Ty Ty, Ga. This inventor has provided a new automatic air-pipe coupling which is arranged to insure a positive coupling of the hose between adjacent cars at the time the latter are coupled and to allow one member of the coupling to be coupled with the member of an ordinary coupling, if the adjacent car be equipped with an ordinary coupling.

Vehicles.

VEHICLE-BRAKE.—Ruben H. White, Princeton, Ky. The brake is so arranged that it can be applied either by the team or by hand. The vehicle to which the brake is applied is propelled by the rear wheels, the draft being at the rear axle and the two trucks being rigidly connected. The team draws directly from the center of the hind axle.

TIRE AND RIM FOR VEHICLE-WHEELS.—William F. Rae, 36 Holland Villas Road, Kensington, London, England. The wheel-rim is made of aluminium and has an outer peripheral opening, through which the tread of the solid outer tire projects, the opening being bounded by flanges projecting outwardly. The circular portion of the rim is of a single thickness, the flanges being formed by bending the edges of the metal outward and then inward upon themselves, so that the portions of the flanges which are outside the rim are of double thickness of metal and the portions inside the rim, forming shoulders therein, are of single thickness. Thus a rim is produced combining maximum lightness and strength.

Miscellaneous Inventions.

WATCHMAN'S REGISTER. — John A. Demuth, Oberlin, Ohio. This invention is arranged to compel a watchman regularly to visit various points within his precinct and show any irregularity in his work. By furnishing a double check on his visits the chance of fraud is eliminated. A novel feature of the register is that it need never be set or visited by any person other than the watchman, who can wind the clockwork without being able to tamper with the mechanism. It is also useful as an employé's time register.

CHURN.—Charles W. Bowling, Fulton, Mo. The purpose of the invention is to provide a churn-dash so constructed that it can be readily cleaned or turned either way. The dash both agitates and aerates. When the dash is in operation, which will cause a partial vacuum to be formed at the bottom portion of the body of the dash, the air rushing in at the upper portion of the body of the dash passes downward and causes the milk or cream to be aerated while agitation is in progress, thereby combining two forces, either of which will cause the butter to be separated from the cream, but which when combined produce much better cream.

IMPLEMENT FOR EXTRACTING CARTRIDGE-SHELLS. — Peter Bergersen, Cheyenne, Wyo. By means of this implement, headless or broken shells are quickly extracted from a gun-barrel through the action of the ejector or extractor constituting a part of the fire-arm. A supplementary extractor is provided which can be quickly introduced into a broken or mutilated shell and which can be so engaged with the muzzle of the cartridge that the shell and supplementary extractor will be simultaneously withdrawn. The supplementary extractor is provided with an expanding member having a flange adapted to be engaged by the main extractor of the arm, which flange acts as a substitute for a missing head.

EDUCATIONAL GAME.—James R. Hughes, Bellefonte Academy, Bellefonte, Penn. To provide a means for teaching Latin conjugations in a simple and impressive manner, so that even dull pupils will learn verbs, Mr. Hughes has devised an ingenious game which he calls "Railroading Through Latin Verbs." The game includes a "Verb Station" and four gates leading to as many tracks, each gate and its track being named after one of the principal parts of a Latin verb. At intervals along each track are arranged small stations representing the several tenses derived from the principal parts of the verb, the active voice being placed on one side of the track and the passive voice on the other. The game is to be played by spinning an indicator, which, stopping at the name of a certain tense, calls for the pupil to take a mannikin representing a tense, to place it on the proper car, so that it will reach the proper station.

ROUTING TABLE AND CASE FOR POST-OFFICES.—Marcellus S. Field, Office of Sup't of Delivery, Boston Post-Office, Mass. The table requires no more lighting than the ordinary desk and can be readily equipped with fixtures without interference with its maximum case elevation, even though loaded with "Long Tom" letters. The lower shelves may be drawn forward, which feature, together with the vertical shelf motion, affords great convenience in routing letters. The desk furnishes each carrier with 6 square feet of table area. The use of additional tables with illuminating fixtures for arranging papers is obviated, and consequently the expense of lighting is reduced to a minimum and the overcrowding of offices with unnecessary furniture is avoided. The concentration of the entire work on one desk is of great advantage, especially when substitutes are performing temporary service. The desk is now in practical use at four Massachusetts post-offices.

HORSESHOE-PAD.—Jacob Kronenberg, Brooklyn, New York city. The pad has a raised rear or heel portion, the lower face of which is provided with suction-cups. When the horse plants his foot down, the higher rear portion is first compressed, so that the suction-cups come immediately into action to insure a secure hold of the pad on the roadbed. The cups take the place of the ordinary heels of the shoe now used.

GARMENT-FASTENER.—Fannie B. Mathewson. Manhattan, New York city. This hook and eye is secured by barbs which enter the garment, thus avoiding sewing. One of the securing devices of the eye is hook-shaped and provided with a guard. The hook member of the fastener, in addition to its securing barbs, has a sleeve-like receiver at the back, which receives a common pin. The ease of application is the chief merit of the device.

CONVERTIBLE TUB. — Richard W. Levy and Joseph Holt, Paterson, N. J. This tub comprises two sections separable from each other. A bottom is secured to one of the sections and has a segmental portion extending beyond the ends of the section and adapted for engagement with the other section. The parts are so disposed that they can be converted either into a wash-tub or a bath-tub, the change being effected by the removal of one section and the substitution of another. A watertight locking device is provided for the sections.

SHOE-FASTENER. — Dan M. Young, Newburg, N. Y. The inventor has devised a fastener arranged to enable the shoe to be conveniently and quickly opened so that it can be slipped on the foot, and to be closed simply by pulling the string or lace without first lacing as heretofore.

APPLIANCE FOR SECURING COVERS OF CULINARY VESSELS IN CLOSED POSITION.—Johann Weidner, Amberg, Bavaria, Germany. The appliance secures the covers of culinary vessels, whether for boiling, steaming, or roasting, in closed position. The appliance is of simple construction and so arranged that it can be readily applied to any kind of culinary vessel with a projecting rim or top.

SCAFFOLD-HANGER.—John F. Barron, Rumford Falls, Me. The bottom of the hanger consists of adjustable sections; and to the bottom sides are hinged, pivotally connected at their ends, one of the sides being arranged to be lengthened or shortened. The hanger enables the workmen to level the scaffold. The hangers can be readily moved to any desired point in the length of the platform and are completely independent of the cross-beams of the platform.

POCKET-KNIFE.—James H. Cables, Thomaston, Conn. This pocket-knife embodies a knife-blade, a fork, and a spoon, so that it constitutes an instrument which can be readily carried in the pocket and used in camp.

Designs.

ENGINE-FRAME. — Henry V. A. Parsell, Jr., and Arthur J. Weed, Manhattan, New York city. The base of the frame has pyramidal supports at each end, with a depressed central portion, and parallel braces extending from one pyramidal support to the other. The frame is noteworthy for its rigidity and strength.

Note.—Copies of any of these patents can 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.

AIR, WATER, AND FOOD FROM A SANITARY STANDPOINT. By Ellen H. Richards and Alpheus G. Woodman. New York: John Wiley & Sons. 1900. 8vo. Pp. 230. Price $2.

The authors who can speak with authority deal with three essentials for healthful human life. Sanitary chemistry deals with these three commodities in their relation to the needs of daily existence. A larger portion of the problems of public health come under these heads. The pages deal chiefly with such portions of the subject of sanitary chemistry as come under individual control. The book is an admirable and scholarly treatment of the subject.

THE LEATHER WORKERS' MANUAL. By H. C. Standage. London: Scott Greenwood & Company. New York: D. Van Nostrand Company. 1900. 8vo. Pp. 163. Price $3.50 net.

A good book on this subject has been much needed. Leather formulas have been hard to obtain and notoriously unreliable It deals with blackings, polishes, glosses, renovators, harness blackings, compositions, soaps, leather grinders' supplies, dyes and stains for leather. It is a very valuable book and is an eminently satisfactory contribution to technical literature.

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.

(7943) G. W. K. writes: In our water works system the reservoir is said to be 195 feet above the pump and lower ends of the town. The gage at the pump shows 85 pounds when pump is at rest; at work 115 to 125 pounds: Query.—With reservoir full and free communication through all the mains to reservoir and to city, will a gage in the main on lower levels near the end of system, indicate a higher pressure with pump running than when at rest? Water company asserts that a much better or more forcible stream at fire nozzle will be developed with the pump running than not running. My opinion is that the pump will be only useful in keeping up supply in reservoir. A. The difference in pressure when the pump is standing or running shows the amount of water friction in the pipe line between the pump and reservoir. If the town supply is taken from the pump line, the increased pressure by the gage at the pump will be felt in all parts of the distributing system in proportion to the frictional difference of the whole length between the pump and reservoir and the length from the pump to the point of connection with the town supply. Under such conditions the running of the pump will increase the force of the fire streams.

(7944) S. L. W. writes: 1. I have a United States storage battery that I charge with the eight-light dynamo described in your Supplement. I charged the battery and used it one day, but did not use the charge all out, as I wanted to use it the next morning. I tried to charge it again, but when I connected it to the motor it would not run. I tried to charge it again, but without success. I would like to know what the matter is. A. It appears as if you had connected the dynamo wrongly in the battery when you tried to charge it, and so discharged it in place of charging it. 2. How can you tell the positive and negative poles on a dynamo? I would like to find the positive and the negative pole on my eight-light machine. A. You would better buy a pole detector. These can be had through electrical supply houses. See our advertising columns. 3. Can you tell me where I can get the spring motor of a clock. Name some firms that make spring motors. A. We do not know any spring motor on the market.

(7945) I. B. A. writes: I have been thinking that for a small number of 'phones in towns where it would not pay to have a central station the Morse telegraph alphabet could be used as a call, using the bell as sounder; with it a great number of combinations could be made. I do not know that I have ever read of its being used. If you think it would be practicable, you might mention it in your paper. A. The only difficulty in carrying out this suggestion lies with the users of the telephones. They must learn the Morse alphabet.

(7946) A. H. C. writes: Some time ago I noticed an inquiry from some one who wished to know if the small dynamo described in Supplement No. 161 would ignite a gas engine. Having recently tried one on my gasoline launch I think some of your readers would be interested in learning how it worked. By using a spark coil in the circuit it works to perfection. I can readily start engine without using the battery. If the engine has closed circuit sparking device the dynamo connected in series will ignite it, and the shunt connection if open circuit; mine works well either way.

(7947) J. J. V. writes: I made some observation of the so-called "Hertzien" waves and having seen no account anywhere of what I am to describe, I take the liberty to give you the facts. We have a series path-line in our village running in the shape of a horse shoe, and there are eight telephones in the circuit. I have noticed that during thunder storms the bells ring, sometimes more than one stroke, simultaneously with a lightning flash that was at least one mile away from the line, at a right angle to it. I have three wires running into my office; the incoming line, the outgoing line and