

RECENTLY PATENTED INVENTIONS.

Of General Interest.

HOSE-HOLDER.—A. G. BURTON, Denver, Col. The invention is an improvement in hose holders, especially designed for holding hose in use for sprinkling lawns and the like. Construction is simple and easily applied. By bending the points of the tripod so they extend parallel to each other and may be forced straight into the ground it is found in practice that but slight pressure is required to force the points into the ground and that the holder will not turn over, no matter how heavy the force of the water.

TRUCK.—W. H. AR STRONG, Vanwert, Ohio. The invention pertains to improvements in hand-trucks particularly adapted for carrying heating-radiators, the object being to provide a truck that may be readily adjusted to different sizes of radiators and having means for firmly gripping a radiator so as to prevent any movement thereof relating to the truck.

NON-REFILLABLE BOTTLE.—R. BERNSTEIN, New York, N. Y. The purpose of the invention is to provide an economic construction of bottle which after having been once filled and emptied can not be again filled and presented as an original package. Another purpose is to provide a bottle from which fluid can be conveniently and freely poured, and which will require no other stopper than that constituting a portion of the improvement.

MEANS FOR DISCHARGING FLUIDS FROM DRYING-CYLINDERS.—R. D. TACKABERRY, Lewiston, Maine. The invention refers to devices for expelling the air and water of condensation from drying-cylinders—for example, such as are disclosed in a prior patent, No. 643,198. The object of the present invention is to simplify the devices as much as possible, and also to maintain uniform and equal pressures in the various parts of the system. The inventor not only provides very simple and efficient means for removing air from cylinders at the beginning of operation, but also prevents sudden rises of pressures in the trap and erratic action incident thereto.

TROUSER STRETCHER AND CREASER.—H. C. WARFEL, Phillipsburg, Pa. The device in this improvement is adapted for use both for stretching and creasing trousers, is readily collapsible, so it can be folded in a small space, can be readily adjusted at one end to a desired width and be locked in such adjustment and be then spread at its opposite end to stretch the trousers, and can be fastened in stretched position.

CARTRIDGE - PACKET.—J. H. BLAKE, Batavia, N. Y. The object of the invention is to provide a packet for use in magazine bolt-guns, and is especially designed for use with the gun for which a patent was formerly granted to Mr. Blake, and a further object is to provide an efficient packet for such purposes and one which will be durable, economic, and simple in construction, and which may be readily removed from the cartridge-chamber in which it is adapted to be placed.

HYDRANT AND HOSE COUPLING.—W. R. THURSTON, Jacksonville, Fla. In this case the invention relates to improvements in couplings for connecting a fire-hose or the like to a hydrant, the object being to provide a simple and novel mechanism whereby a hose may be quickly connected to a hydrant and practically in instantaneous use, the parts being so constructed that the hose may be turned in any desired direction with relation to the hydrant.

FLUSH-VALVE.—J. P. GOODFELLOW and S. R. RAMSAY, New Westminster, Canada. The objects of this invention which relate to a flush-valve are to improve the construction of devices of this character in such a manner as to do away with the annoyances of the ball-cocks, floats and the like now in use, to simplify the construction of such devices, and especially to provide a valve which will be balanced under all pressures.

FOLDING TABLE.—M. LANDSMAN, New York, N. Y. This improvement has reference to tables, and more particularly to those which may be folded to occupy a comparatively small space. Its principal objects are to provide a device of this class which may be conveniently operated, and which will furnish a table support when in an opened or assembled position. The table is preferably made up of wooden members and is light and strong.

PREPARATION FOR CLARIFYING CANE JUICES.—G. B. WILLIAMSON, Gramercy, La. The invention relates to a preparation for clarifying cane juices and syrups and to a method of using the preparation. The inventor treats the raw juices with paste, then evaporates them to syrups, next treats them with a liquid made from the paste, and finally reduces them to sugar. The paste is likewise used in syrups before filtration through ordinary bone-black, the impurities being removed by mechanical filtration. Neither sugar nor syrup is injured, and percentage of output is greatly increased.

SHOE LACING.—ELIZABETH FALCONER, Louisville, Ky. The object in this method or system of lacing shoes, is to obviate the annoyance of the tangling loops and ends and also to dispense with the necessity of daily lacing and unlacing the shoe, thereby providing a system of lacing which requires no attention except when a new lace is needed to replace a lace worn and useless. The invention is adapted and suitable for all kinds of laced shoes.

Heating and Lighting.

APPARATUS FOR MIXING AIR AND GAS FOR ILLUMINATING PURPOSES.—H. L. KARGER, 26 Frankfurter Allee, Berlin, Germany. In accordance with this invention uninterrupted operation is provided for by means of circulation-conduits in appliances for mixing gas and air; and also for the supply of the mixture at a high pressure, so that in this case both air and gas or two different kinds of gas are sucked in and forced out. Suction of two kinds of gases may be effected either into a common chamber or separate chambers. Employment of special circulation-pipe for gas and another for air is not possible, because exact co-operation of the valves leading back to the pressure-main is unattainable.

Household Utilities.

SHADE ATTACHMENT.—J. K. PUTNAM, Montpelier, Ind. This improvement pertains to shades such as used upon the inner side of windows in order to exclude the light. It concerns itself especially with the construction of the shade attachments, the purpose being to facilitate the mounting of the shade and to provide improved means for controlling the position of the same.

Machines and Mechanical Devices.

GEARING.—H. H. GOODSSELL, Leechburg, Pa. Mr. Goodsell's invention relates to heat-controlled gearing, and admits of general use, but is of peculiar importance in connection with furnaces and the like for the purpose of compensating the effects of expansion and contraction, which otherwise tend to disturb the relative positions and proper working relations of the various movable parts. It is preferably employed in connection with furnaces of the general type described in this inventor's application formerly filed, but the present invention is not limited to use upon furnaces of that kind.

APPARATUS FOR COALING VESSELS.—L. A. DE MAYO, New York, N. Y. The prime object of this invention is not only to elevate the coal to and distribute it into the coaling-port of the ship, but to provide means for distributing the coal into the bunker-hatches, thus reducing to a minimum the work of hand-trimming. Mr. De Mayo attains this end by providing, in combination with the elevator proper, a peculiarly arranged distributor, which takes coal from the elevator proper and conducts it to any point within the interior of the ship, this means being extensible and adjustable and being of such structure that it may be taken apart and removed from the ship through the coaling-port.

LINOTYPE - MOUTHPIECE.—R. COLLINS, San Francisco, Cal. In the present patent the object of the inventor is the provision of a mouth piece for the metal pot or crucible of a linotype machine, by means of which mouth-piece to allow a better flow of metal into the mold and also to allow for the thorough venting of the mouth piece, thus preventing defective slugs.

REVERSIBLE TRANSMISSION-GEARING.—C. W. CASE, JR., and T. E. CASE, New Orleans, La. This invention refers to a means for transmitting rotary movement in either direction, and in its preferred embodiment the apparatus comprises clutch-faces acting directly to connect the two shafts or other parts, and friction-gears and an intermediate pinion serving to connect the two parts to turn them in the opposite direction, the clutch and gears having a peculiar arrangement whereby upon shifting the device the clutch and gears go alternately in and out of action.

Railways and Their Accessories.

CAR-UNLOADER.—W. P. WHITNEY, Veedsburg, Ind. The aim in this instance is to provide a construction whereby any material that will slide—such as coal, shale, grain, etc.—may be readily unloaded from a car. The conveyer or conveyers may be extended over the ends of the car in order to dump material higher or lower or to side or sides or at any suitable distance from the car and under certain construction may be operated to unload from both ends of the car at the same time.

CAR-DOOR LOCK.—T. CODE, Chickasha, Indian Ter. The invention pertains particularly to improvements in locking devices for grain-car doors, the object being to provide a locking or securing device that may be readily operated and that when in locking position will hold the door closely against the inner side of the door-frame, thus preventing the leaking out of grain.

MAIL-CRANE.—W. E. WESTERMANN, Oldfort, N. C. This inventor's improvement is in that class of devices or apparatus arranged alongside a railroad track for holding a mail-pouch or mail-bag suspended in such position that it may be seized by a person or a passing train or removed by a device forming an attachment of a mail car.

CAR-BRAKE.—C. J. SPECHT and C. R. KRUEGER, New York, N. Y. This invention is mainly intended as an improvement over a brake previously patented by the same inventors. The subject of the present improvement relates largely to the means for supporting the shoe, separate sustaining means being arranged to coact respectively with the upper and lower portions of the brake shoe, whereby to better insure the desired movements of the shoe for its effective action.

Pertaining to Recreation.

MERRY-GO-ROUND.—B. KIPPELS, Moorhead, Minn. This invention is an improvement in what are variously termed "merry-go-rounds," "carousels," and "roundabouts." It is more particularly an improvement upon the machine or apparatus for which Mr. Kippels obtained a former Letters Patent. The inventor forms a merry-go-round which is distinguished by maximum strength, lightness, and ease of propulsion. It may be produced at small cost and easily set up or removed.

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 the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

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- Marine Iron Works.** Chicago. Catalogue free.
 - Inquiry No. 7200.**—For manufacturers of balloons which can lift a weight of about 2 pounds.
 - For logging engines. J. S. Mundy, Newark, N. J.
 - Inquiry No. 7201.**—For manufacturers of metal castings.
 - "C. S." Metal Polish. Indianapolis. Samples free.
 - Inquiry No. 7202.**—For manufacturers of laboratory supplies and all kinds of chemicals.
 - Drying Machinery and Presses.** Biles, Louisville, Ky.
 - Inquiry No. 7203.**—For manufacturers of oxide of tin.
 - 2d-hand machinery. Walsh's Sons & Co., Newark, N. J.
 - Inquiry No. 7204.**—For manufacturers of bottle-capping machines.
 - Perforated Metals, Harrington & King Perforating Co., Chicago.
 - Inquiry No. 7205.**—For furniture manufacturing concern capable of working up hardwood into a superior article of sufficient novelty and utility to insure a good mail order business.
 - Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.
 - Inquiry No. 7206.**—For manufacturers of machinery for sawing and splitting cord wood.
 - Adding, multiplying and dividing machine, all in one. Felt & Tarrant Mfg. Co., Chicago.
 - Inquiry No. 7207.**—For manufacturers of invalid's tricycles.
 - Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
 - Inquiry No. 7208.**—For manufacturers of aluminum gas (p) burners.
 - WANTED.—Patented specialties of merit, to manufacture and market. Power Specialty Co., Detroit, Mich.
 - Inquiry No. 7209.**—For manufacturers of wooden button moulds.
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 - Inquiry No. 7210.**—For manufacturers of luminous paint.
 - The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company, Foot of East 138th Street, New York.
 - Inquiry No. 7211.**—For manufacturers of large gasoline burners.
 - WANTED.—Information concerning manufacturers of vacuum pans for evaporation of liquids. Sligo Furnace Co., Sligo, Dent County, Mo.
 - Inquiry No. 7212.**—For manufacturers of mimeographs.
 - Gut strings for Lawn Tennis, Musical Instruments, and other purposes made by P. F. Turner, 46th Street and Packers Avenue, Chicago, Ill.
 - Inquiry No. 7213.**—For manufacturers of colored glassware; also address of a dental supply house.
 - Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, wood fiber machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.
 - Inquiry No. 7214.**—For manufacturers of yacht and launch supplies and fittings.
 - Absolute privacy for inventors and experimenting. A well-equipped private laboratory can be rented on moderate terms from the Electrical Testing Laboratories, 548 East 80th St., New York. Write to-day.
 - Inquiry No. 7215.**—For manufacturers of looms for weaving woolen blankets.
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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.

(9743) P. E. F. says: On rear of St. Patrick's Church, Elizabeth, N. J., is a large copper cross. When it was put up about ten years ago it was turned northwest and southeast; now it is turned about 80 deg. to the right. It turned by degrees and is still turning. Can you or any of your readers explain how or why it turned? A. We can only suggest what seems to be a possible cause for the turning of the cross on the top of the church, that it may be due to some slight inequality in the length of the arms of the cross, so that the wind is able at times of storms to turn it by its unequal pressure on the two arms.

(9744) R. E. S. says: In your valuable paper, the SCIENTIFIC AMERICAN, of July 29, 1905, under the heading, "Five Thousand Degrees of Heat," I find these words: "We have a heat that cannot be surpassed, and we obtain, in fact, a heat of 5,000 deg." Now, are you aware of the fact that the Carborundum Company, of Niagara Falls, uses 7,000 degrees of heat in producing its so-called carborundum? A thousand horse-power of electric energy, furnished by Niagara, is said to be converted into over 7,000 degrees of heat. In fact the heat is said to be so intense that it burns and vaporizes every known element. I have heard, from various sources that Thomas Edison, in trying to produce diamonds, led to the discovery and manufacture of carborundum. Carborundum is a mixture of sawdust, sand, and salt fused with coke at the tremendous heat of 7,000 deg. It is said to be diamond in character, of the same hardness, and even more indestructible. It is made up into wheels for grinding purposes and also made into hones and the like, and is, I assure you, absolutely the best grinding substance known. The above facts I take from a paper furnished by the Carborundum Company to one of its agents. A. We note your criticism of the phrase used by our Paris correspondent, "A heat of 5,000 deg." It is doubtless true that the electric arc furnishes the highest known temperature, and that this is the temperature at which carbon volatilizes. It is not so easy as you seem to assume it to be to determine just what that temperature is. The latest book on the electric furnace, by J. Wright, published 1905, contains this statement, page 9: "The temperature of the electric arc itself has never been determined." The highest authority in the world upon the electric furnace is without doubt Henri Moissan, of Paris. In his book, "The Electric Furnace," published July, 1904, page 19, he says, "We do not know the temperature of these pieces of apparatus; it depends upon the temperature reached by the electric arc which may be, according to Violle, 3,500 deg." This corresponds to 6,300 deg. F., since Violle used the Centigrade scale. The temperature of the electric arc is probably limited by the temperature at which carbon is volatilized. This has been variously estimated at from a little above 5,000 deg. F. to about 7,000 deg. F. In Chatelier's "High Temperature Measurements," published September, 1904, page 302, the "extreme temperature of the electric arc" is given at 3,600 deg. C., which is 6,500 deg. F. Woot-ham, in his book, published 1904, "Recent Development of Physical Science," page 77, gives the temperature of the electric arc as 3,000 to 4,000 deg. C., or 5,400 to 7,200 deg. F. We have given you the results as stated by the most reliable authorities. And we can say that we are not aware that it is certain that a temperature of 7,000 deg. exists in the electric furnace. It appears that our Paris correspondent used the lowest estimate of the temperature, while the advertising circular which you quote and which we have at hand uses the highest estimated temperature of the apparatus, as is natural that it should do. We do not know why our correspondent used the lowest figures, and personally we are accustomed to give both extremes when we use any figures on this point. One way or the other there is nothing to dispute about. If you will read the books we have quoted, especially the "High Temperature Measurements," which we can furnish for \$3, you will appreciate the work done in this direction and the difficulties of the problem. Moissan's "Electric Furnace" is also a book well worth reading by any one who would know the facts in the matter. We send it for \$3. This book contains the full history of the effort to produce diamonds arti-