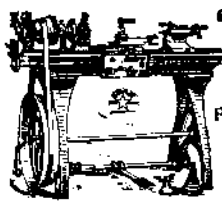


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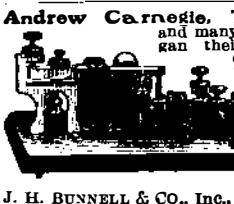
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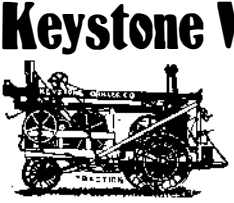


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RECENTLY PATENTED INVENTIONS.

Of Interest to Farmers.
FENCE-POST.—G. R. WYATT, Redwood City, Cal. One object of this case is to provide a metal fence-post well adapted for receiving and supporting fence-wire material, that may be either separate wires or material woven from wires. A further object is to provide novel means which co-operate with the posts for stretching and locking fence material upon a plurality of novel posts. Also braces for supporting the fence-posts and for maintaining the fence-wire material stretched taut; also protecting-casing for the base portion of the posts.

STACKER FOR GRAIN OR THE LIKE.—J. H. BULLOCK, Millerton, Kan. Mr. Bullock employs a stacker comprising a base-section of special construction, in connection with which is employed a crown or superposed section of special construction, imparting to the completed stock of grain, hay, or the like a contour or shape resulting in the effectual shedding off of rain or snow from the upper part of the stack and at such a distance from the base of the stack as to prevent material of the stack from being affected or injured thereby.

Of General Interest.
CONFORMER-CORSET.—C. MUNTER, New York, N. Y. One purpose of the invention is to so construct the health brace-corset that it will conform to and fit the body practically as smoothly as the natural skin, the shaping of the various parts being devoted to that end, especially at the armholes and shoulders, so that when the corset is tightened up upon the person it will gradually restore the bones and muscles at the chest, shoulders, and back to normal position, smooth the skin, and cause the lungs and bronchial tubes to be unobstructed, thus permitting regular easy breathing.

STAIR STRUCTURE.—M. PLOTKIN, New York, N. Y. This invention relates to improvements in the construction of sheet-metal stairs, the object being to provide a metal stairs with a means for securing rock-asphalt, concrete, or the like on the treads in such a manner as to prevent breaking or cracking thereof.

FEED-BAG.—J. A. SKINNER, Denver, Col. One purpose of the inventor is to provide a bag for animals, particularly horses, which will be simple, durable, and economic and so constructed as to effectually prevent waste of feed and so that free and perfect ventilation is obtained. The bag is self-accommodating to different sizes of heads and permits an animal to have perfect freedom in raising and lowering the head.

WATERPROOF EYEGLASS-CASE.—MIRIAM DAVIDSON, New York, N. Y. The article is intended to be used especially by bathers, and while intended especially for carrying eyeglasses it is intended also as a receptacle for articles such as smelling-salts or a vial of brandy, which may be used in an emergency. The case is water-tight and attractive in appearance.

CARRIER FOR PHOTOGRAPHIC PLATES.—E. L. HALL, New York, N. Y. One purpose of the inventor is the provision of a receptacle in which the plates may be placed and supported on end, it being adapted to contain liquid, so that the plates may be transported in a wet condition, enabling them to be subsequently thoroughly washed and preventing the possibility of the hypo drying on the plates and staining them during transportation.

SHINGLE-PRESS.—J. W. THURSTON, Maple Falls, Wash. Mr. Thurston's invention is an improvement in shingle-presses, and his object is to provide a novel construction by which to re-press or tighten-up bundles of shingles for shipping after they have come from the dry-kiln. The bundles may be pressed tightly together without injury to the shingles, and means are provided by which the short lap of the shingles at the middle of the bundles enables them to dry out much more rapidly than when a greater lap is made at the middle of the bundles.

PIN-RETAINER.—W. C. MAYNARD, Miami, Fla. This device is adapted for application to a scarf or hat pin for preventing its accidental or surreptitious detachment. To apply the retainer to a pin or remove it therefrom, the notched end is held disengaged from the pin and the end provided with an opening at one end of a curved spring is slid upon the pin, and when the retainer has been adjusted to desired position the notched end is placed in engagement with the pin, whereby the retainer as a whole is put under tension.

OUTSIDE DRY-EARTH CLOSET.—J. R. KOONS, Huntington Mills, Pa. The said invention has for its object to provide for supplying coal-ashes, earth, or suitable material to the excrement contained in the box or chamber of the closet or privy as an absorbent for such excrement, rendering the latter odorless and otherwise desirable from a sanitary point of view.


LIQUID FORCING OR PUMPING DEVICE.—L. J. C. LARSEN, New York, N. Y. More especially this invention has reference to devices for forcing or pumping temperature-reducing liquids—as alcohol, for instance—into and through the gas-service pipes for houses leading underground from the usual street-

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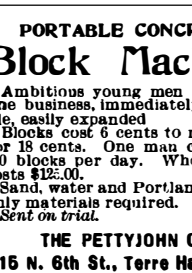
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main of the gas-distributing system for the purpose of relieving the passage through the service-pipe when the same has become choked or stopped up by the freezing or congelation of moisture therein.

SAFETY-RAZOR.—P. A. BENET, Boston, Mass. The object of the inventor is to provide a razor which can be conveniently carried in one's pocket and readily adapted for immediate use. A special object is to provide a device of such construction that it will have little tendency to wear the lining of a pocket and which will also occupy a small space.

Machines and Mechanical Devices.
SIDE BRACE OR ANCHOR FOR DREDGERS.—J. P. KARR, Monticello, Ind. By means of this attachment for dredging-machines, particularly such as are adapted for excavating canals, Mr. Karr provides a side anchor which not only prevents lateral movement of the screw, but also movement either forward or back, and also the anchoring attachment proper may be quickly and conveniently raised and locked whenever required, and also it may be instantly unlocked and turned again into working position.

ROTARY FOR OIL-WELLS.—H. D. BERNARD, Beaumont, Texas. The invention relates to pipe-rotaries such as used in sinking oil-wells. The object is to produce a rotary of this class which will enable the application of power in the screwing together or unscrewing of the pipe-sections which constitute the casing of the well.

CUTTING AND MEASURING MACHINE.—A. P. SWENY, Helena, Mont. The invention relates to apparatus for cutting and measuring fabrics and like sheet material, it being particularly adapted for trimming window-shade cloth and dividing it into definite lengths to furnish the shades. It will successfully cut and measure lengths automatically and perform either of these operations separately.

OIL-CLOTH-PRINTING MACHINE.—W. H. WALDRON, New Brunswick, N. J. The improvement refers to machines for imprinting a design in various colors upon oil-cloth and other fabrics by the use of intermittently-reciprocating printing-blocks. The object is to provide a machine arranged to insure solid impressions with a comparatively small amount of color.

BEAMING-MACHINE.—F. A. BAER, Paterson, N. J. It is the essential object of the inventor to provide means for automatically cutting out the picks as the warp is beamed, leaving only short lengths in the warp, which may be readily removed by the weaver. In attaining this end Mr. Baer prefers to provide the machine with a number of automatically-operating knives, which run between the warp-threads and as the picks approach the knives serve to sever the same.

MOLDING-MACHINE.—H. C. STEELE, W. STENSON, and F. J. TROUT, Jacksonville, Fla. The principal objects of the invention are to provide means for smoothing the sides of the molded articles as they are removed from the mold, to provide for quickly and efficiently removing them from the molds, to provide for attaching two articles together by means of an insert placed in them in the act of molding, to provide for a convenient and efficient introduction of the molding material into the molds, and to provide for adjustments to accommodate one set of molds to articles of different lengths. It relates to improvements in machines and molds for molding plastic materials.

Railways and Their Accessories.
AUTOMATIC AIR-COUPLING.—E. V. SEXSMITH, Fond du Lac, Wis., and D. E. MOULTON, Belle Plaine, Iowa. The improvement pertains to a coupler for use upon either passenger or freight trains; and the principal objects thereof are to add to the efficiency without increasing the cost of these devices and to provide a construction which will operate effectively to conduct air from one car to another, as well as to provide for the automatic coupling of the parts and to secure means for allowing adjustment to suit various kinds of cars.

SIGNAL.—C. R. DOWLER, Lamar, Col. More definitely stated the invention refers to means indicating dangerous high-water level at a railroad or other bridge. The object had in view is to provide a signal involving new, improved, and simplified means for effecting the display of a visual or audible signal indicating dangerous high level of the water in a river at a bridge or other place.

Pertaining to Recreation.
AMUSEMENT DEVICE.—E. S. BENEDICT, New York, N. Y. The principal object in this case is to provide an artificial flow of water directly in line and falling over the track upon which the vehicle moves and for shutting off the flow as the vehicle enters it and then starting flow again when vehicle has passed. This is accomplished, first, by having the flow represent a waterfall, second, by having it represent a fountain. Either can be electrically lighted in any of the ordinary ways or can be provided with any features employed for beautifying artificial falls and fountains.

FISHING-REEL.—F. L. DICKSON, El Paso, Texas. This invention relates to fishing-reels such as are used by anglers for "playing" a fish after it has been struck. The object of the inventor is to produce a reel of simple con-

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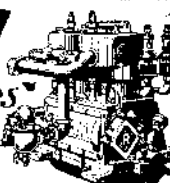
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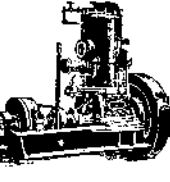
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TRUCK.—J. D. SMITH, Cheraw, S. C. Mr. Smith's invention relates to trucks especially adapted for handling lumber in mills and elsewhere; and the purpose of the improvement is to provide a truck in which the frame is in one piece, and, further, in which the axles are of such construction as to act as braces and spreaders for the frame as well as axles.

VEHICLE.—J. H. HANSON and J. J. PETRA-BORG, Aitkin, Minn. The improvement has reference to vehicles, and more particularly to the running-gear thereof. Its principal object is to equalize the movement of said gear. Used in connection with automobiles it will relieve the engine and its associate parts to a great extent from ordinary wear and tear incurred. It will greatly reduce the liability of upsetting a vehicle or displacing its load.

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361 BROADWAY NEW YORK.



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.

(9894) F. G. H. asks: Will the range (actual and theoretical) of a 30-caliber bullet (any other caliber probably would not matter) fired from a gun weighing ten pounds suspended by a wire, i. e.—free to recoil without friction—be the same as a bullet of the same caliber fired from a gun having an equal bore and similarly suspended, but having a weight or mass of 10,000 pounds? This has puzzled the writer and a number of his friends who are readers of your valuable paper. Any light you can throw on the subject, together with explanation of how you arrive at the correct solution will be greatly appreciated. A. Newton's Third Law of Motion is, "The mutual action of two bodies is equal and opposite in direction;" or, as it is usually expressed, "action and reaction are equal and opposite in direction." The action of the gases upon the gun and the ball are equal in quantity, and each has the same momentum, the ball forward, the gun in the opposite direction. No account need be taken of the weight of either unless the velocity of the two need be determined. The velocity of recoil of the guns will be in proportion to their weight.

(9895) J. K. asks: How cold is it when it is twice as cold as two degrees above zero? The above problem appeared in a publication recently, which caused considerable discussion. Some considered it as a joke, and others more serious. Following issues published different solutions. If I may be permitted to trespass upon your time, please favor by answering the above problem if possible. A. It is not twice as cold when it is one degree above zero, F. as it is at two deg. above zero. To get an absolute comparison of temperature we must measure from absolute zero. Temperatures above absolute zero correspond to the heat required to produce them. Two above absolute zero is twice as hot as one above. Absolute zero is 459 deg. Fahr. below its zero. The real temperature when the Fahr. thermometer shows 2 deg. above is 461 deg. absolute Fahr. Twice as cold, or as it should be expressed, half as hot as this, is 230.5 deg. absolute Fahr.

(9896) S. R. says: I have a maximum and minimum thermometer, the principle of which I find it difficult to understand, and so far have not been able to find any description in any books that I have. It is the bent tube thermometer, containing quicksilver, but with no bulb as a reservoir of the metal. It carries two glass rods with iron pins in them, which mark the maxima and minima, and which are drawn back to place by means of a small horseshoe magnet. A. The thermometer which you describe is a Six's thermometer. The liquid is usually the same on both sides of the mercury, and is usually alcohol. A space above the alcohol in the bulb has in it only vapor of alcohol. When the temperature rises, the expansion of the alcohol in A pushes the mercury and the iron wire above the mercury in B along to the highest point reached by the mercury. When the temperature falls, this wire is left at the highest point it has reached, the alcohol contracts in A and draws the mercury over to the side A. The iron wire is not pushed in front of the mercury in A to the lowest temperature reached by the contraction of the alcohol in A. The thread of mercury is the indicator; the change of volume of the alcohol measures the change of temperature.

(9897) W. A. W. asks: Can it be proved that light is not electrical energy generated by the sun, which energy in coming in contact with the resistance of the earth's atmosphere produces light by friction? Does the wireless telegraph operate through waves of ether or waves of air? A. Scientists believe that light is due to the same waves as electricity, and that these come through space, from any body which can produce them, to the earth. When these waves strike the earth, they are ultimately absorbed as heat waves. If they strike an eye, they are converted into light waves. Any object which is hot enough can emit such waves. Objects which can reflect these waves may send them to the eye, as flowers and other visible objects on the earth do send them. Friction is not involved in the action. Wireless telegraphy is performed by waves which are electro-magnetic in character, and which pass through air or ether on their way, supposedly with the speed of light.