RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

GARMENT-RACK. — FANNIE WOOD, New York, N. Y. More particularly the invention relates to means for supporting a plurality of garment hangers in spaced relationship. The rack is also adapted for use in supporting skirts, the skirts and garments on the hangers being rotated about the central standard of the hanger. Features of the present patent are modified forms of a prior application filed by F. Wood.

SHOE.—J. E. SHAWHAN, Nevada, Mo. The improvement is in shoes and particularly in the fastening devices of the shoe. The construction will avoid the necessity of lacing the shoe down entirely to the base of the front opening, and provides for preventing the gaping of the opening below the laces by means secured in the shoes and held from twisting or other displacement.

Electrical Devices.

ALARM SYSTEM.—L. GIESE, Fort Worth, Texas. The invention refers more particularly to a circuit breaker adapted to operate upon a predetermined increase in temperature or upon being mechanically bent or broken. The minimum quantity of fusible material need be employed, and so supported that upon being broken or fused, it becomes entirely displaced and the circuit broken.

Of Interest to Farmers.

STOCK-WATERING DEVICE.—G. E. ODELL, Bowen, Ill. The object of the inventor is to provide a device more particularly of the class with means for automatically controlling the supply of water thereto, and having an arrangement of means for intercepting trash and filth, whereby clogging or interference with the water supply is avoided and cleansing of the device is facilitated.

BROADCAST ATTACHMENT FOR PLANTERS AND FERTILIZER DISTRIBUTERS.—B. F. CRANWELL, Henderson; C. F. F. ALLAN and J. H. TRUDGEON, Auckland, New Zealand. The invention provides an attachment to planters, seed drills, fertilizer distributers, and like machines. It will act to automatically spread seed or fertilizing material as it passes through its tubular body from a source of supply, and which will further spread and scatter material at its discharge end and distribute it in a broadcast manner and so that the discharged material will be largely protected from the action of the wind.

COMBINATION-PLANTER. — C. LINDER, Converse, S. C. An object of the invention is to provide a plow beam for use with the planter held in such a manner that the machine is self guiding. Further, to provide a novel form of hopper for the grain and for the fertilizer and means for feeding the fertilizer and the grain simultaneously.

Of General Interest.

PRINTER'S HOOK.—F. C. LEETHEM, Middletown, N. Y. The object in this case is to produce an adjustable printing hook which can be adjusted by an ordinary pin wrench, or by other interchangeable means. From this arrangement a printer purchasing the hooks may select the particular means desired for adjusting the hooks, but if at any time he desires to adjust the hooks in a different manner, or by different means, this may be done.

METHOD OF COATING LEATHER WITH FABRIC.—F. J. GLEASON, Walpole, Mass. Generally speaking this invention relates to the manufacture of articles in which a cement containing rubber or rubber compounds is employed to secure fabric to leather. The object is to provide a process by means of which such cement may be rendered highly adhesive after it has once become dry and substantially non-adhesive, and a cement-coated fabric may be caused to adhere firmly to a surface of leather.

SIGHT.—J. T. PEDDIE, Caxton House, Westminster, London, England. This sight is for use upon firearms, and more particularly when it is desirable to attain a fine vertical adjustment of the cross bar by aid of a screw. Generally speaking, in this type of sight, a long screw is employed, and ordinarily it is impossible because of the slow movement of this screw and all parts actuated thereby, to obtain a coarse and rapid adjustment of the cross bar as, for instance, by sliding it quickly by a direct movement of the hand.

Heating and Lighting.

SMOKE-CONSUMING FURNACE. — P. J. FLANAGAN, New Orleans, La. The inventor provides a furnace which is simple and durable in construction, and arranged to insure a complete burning of the smoke and gas arising from the burning fuel in the firebox, utilizing the burning fuel to the fullest advantage for heating purposes and providing a complete consumption of the fuel.

MINER'S CANDLESTICK.—C. J. RAMSTEAD and P. J. JOHNSON, Ouray, Colo. More particularly the invention relates to candlesticks such as are adapted for use in mines or similar places, and each of which in general consists of an elongated body member adapted to have one end driven into the wall of a mine, a folding hanger pivotally secured on the body member and a bracket for holding a candle in place.

LENS FOR BUILDING-LIGHTS. — P. SCHWICKART, New York, N. Y. In the present patent the invention has reference to building-lights used in walls, skylights, floors and other parts of buildings, and its object is to provide a new and improved lens for building lights, arranged to insure a proper and uniform distribution of the rays of light over a large area.

Household Utilities.

POST-HINGE.—W. S. EMERY, New York, N. Y. The object of the inventor is the provision of certain new and useful improvements in post hinges for water-closet seats, covers and like articles, whereby the spring pressure is graduated and a stop is provided for limiting the upward swinging motion of the seat, cover, or like article.

WATER-CLOSET SEAT.—W. S. EMERY, New York, N. Y. In this instance the object of the invention is to provide a new and improved water closet seat, built up from a number of pieces of wood, formed and joined in such a manner that the greatest amount of strength is had at the sides, that is, at the points most needed.

Machines and Mechanical Devices.

MOUNTING FOR GANG-SAWS.—A. JONES, Oolitic, Ind. The invention has reference to mountings for gang saws, the more particular object being to produce certain improvements in hanger arms for supporting the saw and in parts associated with this hanger arm, in order to improve the general efficiency and safety of the gang saw while in action.

MECHANICAL SCRAPER.—F. R. ABEEL, Tacoma, Wash. This invention pertains to dirt scrapers. A shovel is operated by a cable which passes through an anchored pulley and causes the scraper to travel up an inclined plane leading to a hopper where the load is dumped. The shovel is provided with a novel arrangement of gates and controlling device for ready loading and unloading.

Railways and Their Accessories.

CAR-SEAL.—J. W. BOWERS, Seymour, Ind. The improvement refers to metallic seals for preventing the unwarranted opening of freight car doors without exposure, and has for its object to provide novel details of construction for a car door seal which afford a conveniently applied seal that cannot be detached unless broken.

CAR-DOOR LOCK.—C. H. LEWIS, Chillicothe, Ohio. By means of this device a car door may be securely fastened when either open or closed, or at any intermediate position. It is adapted for employment upon the doors of box cars which are employed in carrying perishable goods, it being desirable in such cases to permit the door to stand open slightly for the purpose of ventilation.

PASSENGER CONTROL.—E. LINHARDT, New York, N. Y. The object in this instance is to provide a control for conveniently and quickly handling passengers in the stations of underground and elevated railways with a view to facilitate the loading and unloading of the cars without discomfort to the passengers entering or leaving the cars.

Pertaining to Recreation.

AMUSEMENT DEVICE.—A. P. LAUSTER, Paterson, N. J. More specifically this device is of the type which employs a car moving along a guide or track, and the object of the inventor is to provide a construction which will operate to give the cars a peculiar movement so that the occupants will have a novel experience.

MECHANICAL TOY.—C. W. CLARK, New York, N. Y. In the present patent the object of the improvement is to provide means for giving one portion of the animal, for instance, the head, one movement, and giving a portion of the head, for instance, the ears, a separate movement independent of the movement of the head.

Pertaining to Vehicles.

WHEEL.—J. S. STRAWN and R. W. DAVIES, Avonmore, Pa. The invention comprises a wheel hub having the inner end counterbored and the outer formed with a lubricating chamber having a hole for the introduction of the lubricant, an annular lubricating chamber near the inner end of the hub contiguous to the bore and connected with the first named chamber by a passage contiguous to said bore, and a hardened bushing wholly arranged in the bore of the hub between the annular chamber and counterbore, the hub being formed as a single piece.

WHIFFLETREE-HOOK.—T. MORCOM, Norwood, Ohio. This invention relates to whiffletree hooks, and more particularly such as are provided with resilient retaining means for securing the end of a trace in position on a whiffletree, swinging-tree or the like. It constitutes an improvement on the device shown and described in the U. S. Patent formerly granted to Mr. Morcom.

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.

Kindly write queries on separate sheets when writing about other matters, such as patents, subscriptions, books, etc. This will facilitate answering your questions. Be sure and give full name and address on every sheet.

Full hints to correspondents were printed at the head of this column in the issue of March 13th or will be sent by mail on request.

(12093) C. D. C. says: In a recent issue you answered an inquiry in regard to the peculiar rusting of galvanized fence wire. Permit me to add, from an experience of ten years with barb-wire, ribbon-wire, and chicken-wire netting, that ribbon wire outlasts barbed wire twice over, ordinary 18-gage chicken-wire netting lasts in the vicinity of New York city not over three years, and always rusts out completely along the upper one-third or one-half of its width, while the remaining portion of its width will still be perfect. The same condition may be observed to a degree with barb or ribbon wire strung parallel in a fence. The bottom wire remains in good condition, while the others are more and more corroded from the bottom upward. The persistency of these peculiar conditions would indicate that it is not due to local or chance conditions. Remembering that all masses of metal show opposite polarity at top and bottom, it would be logical to attribute this peculiarity of rusting largely to galvanic influence. Now in turn I would ask whether it is a common and recognized fact that a tin roof coated in the best manner with graphite paint is sure to corrode in rather minute points and form holes as though fine shot had been fired through it, the body of the sheets remaining uncorroded? Having had sufficient (dear) experience to be sure of my ground, I do not hesitate to assert that graphite paint is solely responsible for such condition. My explanation (which correlates this inquiry with the previous question) would point also to galvanic action as the fundamental cause, probably due to incompatible polarities of graphite and steel. A. We thank you for the particulars of your interesting experience, which seems to confirm the substance of our reply to the question to which you refer.

(12094) O. H. T. writes: I have just noted in your issue of the 15th of May your answer to the "coiled watch spring" question, in query No. 12083. I have speculated a good deal on the problem, and wish to give what I think is the explanation, though experimental proof would probably be difficult. In winding up the spring work would disappear and, I believe, an equivalent amount of heat would be produced, which would be dissipated; then when the spring was allowed to unwind, the reverse would take place. Thus, if the wound-up spring were destroyed, its energy would nevertheless not be lost. In the same way, if compressed air were crowded into other substances, and so rendered incapable of giving back the energy expended in compression, that energy is still in existence. Many other problems along the same lines as these, but much more difficult of solution, present themselves on a little thought. A. Your comments upon the dissolving a coiled spring in acid are quite correct. It would be foolish to maintain that the potential energy of the coiled spring would produce more heat of solution than the same weight of steel in any other mechanical condition. As well maintain that the spring would produce more heat if dissolved on a hilltop than in the valley below because its potential energy is greater on the hilltop. Potential energy is not thus convertible. As you say, there are many other problems which involve the same thing.

(12095) W. B. B. asks: To give information that will immensely benefit the public at large, I will be pleased to have you give me, as soon as you can look into the matter thoroughly, the best means and best way to lay sewer pipe, and especially the making of cement joints. We have sanitary sewers here, and they are filled with roots that creep into the crevices and joints of the pipe. The pipes laid in this vicinity are placed in position, a little cement placed on the lower half of the bell or socket end of the pipe, and then the next pipe with a string of oakum on it is inserted into the pipe; the balance of the joint is mortared up with cement. The principal information I am seeking is whether the hemp or oakum string is necessary or of any value, or whether a good Portland cement joint is or is not the better way to make the joint. A. Provided the sewer pipe is laid upon a perfectly solid bed, so that the joints are unlikely to be distorted at all (by the filling in of material above the sewer, subsequent traffic over it, or otherwise) we should say that as far as the prevention of the entrance of roots into the joints is concerned, the oakum might better be omitted and a joint of neat Portland cement substituted. It is of course essential that any flow of water through the sewer should be prevented until the cement has had time to set, otherwise a very small quantity trickling through the joints will wash out a small part of the cement and leave interstices in it. The object of oakum or similar fibrous packing is to provide a small amount of "give" or "spring," so that any slight distortion or settlement of the pipe will be compensated by expansion of the packing, and will not leave openings or break the pipe or flanges; but such roots as you describe are quite capable of growing through the oakum, even when the latter apparently tightly fills the joints.

NEW BOOKS, ETC.

HÜTTE. Des Ingenieurs Taschenbuch. III. Berlin: Verlag von Wilhelm Ernst & Sohn. 20te Auflage. 12mo.; pp. 830.

We have already had occasion to review the first two volumes of this excellent standard work of engineering reference. This, the third volume, has occupied not a little time in its preparation, largely because entirely new subject matter has been introduced. Among the new subjects may be mentioned "Reinforced Concrete," "Rack and Pinion Roads." "Dam Construction" and "Factory Plants." The subject matter of the volume is divided into Mensuration, Structural Iron Work, Heating and Ventilation, Road Engineering, Water Supply, City Draining, Statistics of Building, Reinforced Concrete, Bridge Building, Railway Construction, Rope Tramways, Rack and Pinion Roads, Water Works, Gas Engineering, Factory Plants. The work contains not only the information which is to be found in such American reference books as Trautwine and Haswell, but much mathematical discussion which will simplify engineering calculation.

AN OCTAVAL INSTEAD OF A DECIMAL SYSTEM. An Essay to Show the Advantages of Eight-Figure, and the Disadvantages of a Ten-Figure Notation for Money, Weights, and Measures. By S. S. Buckman, F.G.S., Honorary Member of the Yorkshire Philosophical Society; of the Cheltenham Natural Science Society; late Hon. Secretary of the Cotteswold Naturalists' Field Club. Oxford: Parker & Son, 27 Broad Street. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

ARTIFICIAL WATERWAYS AND COMMERCIAL DEVELOPMENT. By A. Barton Hepburn. 12mo.; pp. 115. Price, $1 net.

This book may be considered a concise statement of the functions of canals in their relation to the economics of this country. After discussing the world's canals in general, the author passes to a fairly detailed account of the canal system of New York, and shows how the failure of New York State to develop and maintain her canal system found yearly expression in loss of commerce to the city of New York. The Panama Canal is rather briefly dismissed in nine pages—an allotment of space which it seems to us is somewhat inadequate for so important a subject. A good chapter is that on "The Waterways Question and Conservation of Our Resources."

OUR INSECT FRIENDS AND ENEMIES. By John B. Smith, Sc.D. Philadelphia: J. B. Lippincott Company, 1908. 12mo.; 314 pp. Price, $1.50 net.

This book deals with the relation of insects to man, to one another, and to plants, and it has a chapter on the war against insects. The author is Professor of Entomology in Rutgers College, and is a member of many learned societies. The book is well illustrated, and there is a welcome absence of the time-honored cuts which we are wont to expect in books on entomology. The book is one which will prove of value to the general reader as well as to the specialist.

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