RECENTLY PATENTED INVENTIONS, Pertaining to Apparel.

SKIRT-SUPPORT. - MARGARET A. MCOUAT. New York, N. Y. This support is such as is worn by ladies for supporting the skirt at the waist. The object of the improvement is to provide a support or fastening which will afford means for supporting a skirt from a shirt-waist in a substantial manner, and, further, to provide such an arrangement as will enable the shirt-waist to be laundered with facility.

RUBBER FOOTWEAR. - P. MACA. MAC KASKIE, Tonopah, Nev. One of the purposes of the invention is to provide a rubber boot which will have ventilating openings in the foot-section thereof leading to channels which are conducted to the upper portion of a boot, for example, the knee type, and also to so construct a hip-boot that sundry of the channels will lead to the top of the hip-section and others to the top of the knee-section when the former is folded down on the latter, thus providing for a thorough ventilation, under all conditions of use.

Of Interest to Farmers.

DRAFT-EQUALIZER .- F. LINDSTROM, Mar quette, Kan. This equalizer comprises a horizontally-rotatable member mounted upon the tongue or draft-beam of the wheeled structure with which the improvement may be employed. together with special means cooperating with said member for effecting the desired equalization of draft, whether three, four, or five draft-animals be employed abreast of each other.

Of General Interest.

MOORING .--- W. H. PEEK, United States Army. Submarine mines are usually anchored to float a fixed distance below the surface, and difficulty has been met in mooring the mines at the desired position. The inventor's object is to overcome this disadvantage, and such end is attained by arranging the anchor to slide on the cable until the anchor reaches a point above the bottom equal to distance below the surface that it is desired to float the mine. This distance is determined by a finder weight and line which automatically throws into action a clutch, causing the anchor to be fixed to the cable, whereupon the anchor in moving into the bottom draws down the mine to desired depth.

SASH-FASTENER.—I. A. SHAW, Leaven-worth, Kan. The invention is especially adapted for use in connection with sashes which open by sliding vertically in guide-strips. It will operate to maintain a saish in desired position. Also to maintain a any window-sash firmly against its guide-strips. In connection with the fastener means are provided that cooperate with the fastener for locking the sash in a closed position, and so that it may not be opened from the outside.

Hardware,

PERMUTATION-LOCK. — O. KATZENBERGER, San Antonio, Texas. The object here is to provide details of construction for a lock, and more particularly to improve and simplify construction of the lock formerly patented by this inventor, said improvements being also applicable to various locks of the class indicated, in which the features of novelty may be advantageously embodied, thus providing a lock convenient to operate, may be unlocked in the dark by the sense of touch or by sound of impinging parts, or by both means.

Heating and Lighting.

GRATE AND FIXTURES THEREFOR .--- J. FERRACIOLI, New York, N. Y. The invention relates to improvements in grates intended especially for use in cooking stoves or ranges and to improvements for mounting the grate. The object is to provide a grate which may be heavily constructed, so as to render it as durable as possible, but which may be made in sections, so that one or more of the sections may be removed when injured and replaced by new sections, thus permitting ready repair.

Pertaining to Vehicles.

MEANS FOR SIGNALING ON AUTOMO-BILES OR THE LIKE VEHICLES .- E. BAR-BAROUX and G. BARBAROUX, Via Ospedale 1, Turin, Italy. In this patent the invention has reference to improved means for giving

Personal Wants. Business and

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. MUNN & CO.

"U. S." Metal Polish. Indianapolis. Samples free. Inquiry No. 8237.-For manufacturers of electroplating outfits.

Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St.

Chagrin Falls, O. Inquiry No. 8238.-For manufacturers of ma-chines for making scapstone packing or braided cotton with powder inside.

I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y. Inquiry No. 8239.-For manufacturers of press-ing machines for making tin toys.

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. 8240.—For manufacturers of wate wheels for irrigating Durposes.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery tools, and wood fiber products. Quadriga Manufacturing Company, 18 South Canal St., Chicago. Inquiry No. 8241.-Wanted, address of Shipman Steam Engine and Boiler Co.

Automobile experts are in constant demand at high salaries. Our seven weeks' course is the most thorough and practical, fitting men to drive, handle and repair Day and evening classes. Special course for owners New York School of Automobile Engineers, 146 West 56th Street, New York.

Inquiry No. 8242.-For manufacturers of an ap paratus used for cooling a refrigerator in place of ice. Inquiry No. 8243.-For manufacturers of con-crete shingle-making machines.

Inquiry No. 8244.-For manufacturers of clothes-pin machinery.

Inquiry No. 8245.-For manufacturers of char coal machinery.

Inquiry No. 8246.-For manufacturers of sand brick-making machines.

inquiry No. 8247.-For manufacturers of public rifle ranges, especially the glass ball and water jet de-Inquiry No. 8248.-For address of Solar Furnace and Power Co. vice

Inquiry No. 8249.-For address of manufacturer of Benj. Keyes patent egg box or shipping carton.



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 wind 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.

bis turn. Buyers wishing to purchase any article not adver-tised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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price. Minerals sent for examination should be distinctly marked or labeled.

(10081) H. A. says: A cask of water is placed on a pair of scales. It weighs 50 pounds. If a fish weighing 15 pounds (salmon) is placed in the water contained in the cask, will it raise the weight of the cask or not? It is argued by some apparently smart men, but I want to lay down your word to them as proof. I contend that the cask then weighs 65 pounds. A person weighs 140 pounds before dinner: does he weigh any more after a hearty meal, say of 1 1/2 pounds? It is generally contended here that he does not. I say he does. Who is right? A. If a cask full to the brim with water has a live fish put into it, as much water as the fish displaces will overflow. As a fish weighs the same as the water it displaces when floating in water, it follows that the cask full of water and fish weigh the same after the fish has been put into the water that the cask and water weighed before the fish was put into the water, that is,

with experience, need not exceed a tenth. Sometimes voltmeters and ammeters are provided with shunts, which change the value of a division of the scale. Thus you can have a shunt made which will make one division have one-tenth of its present value. This will be much better than to estimate by the eye the fractional part of a divsion indicated by the pointer.

(10083) W. D. O. says: I would like to know the composition of the preparation with which the particles of carbon, in the carbon pencils for electric arc lamps, are held together; that is, the cementing substance. A. Arc light carbons, carbon plates for battery cells, and similar articles are made from coke. The higher grades are made from coke derived from the residue of petroleum stills. The crude material is dried, ground fine, and sorted into different sizes. The binding material may be a coal-tar product, or some other substance containing carbon, and which will be reduced to carbon by the heat of the furnace. These are thoroughly mixed, pressed into forms by hydraulic pressure, and afterward baked in a furnace. For a full description see SUPPLE-MENT, No. 1237, price ten cents.

(10084) R. S. C. asks: Why, if known, does the skin of a chameleon change in color, in moving from an object of one color to one of another color; that is, why does its skin always assume the same color as the object it may be resting upon? A. One answer to the question, "Why does the chameleon change the color of its skin?" is that the chameleon has a better chance of life by reason of this protective resemblance to its surroundings. Those chameleons which had the largest range of change of color in the past have survived, and the capacity of change has been evolved in their descendants to a higher degree, so that all chameleons now living readily change the color of their skins to that of the bark of the tree upon which they at the time may be. They are thus protected from their enemies. There are many such adaptations of creatures to their habitat or environment. TL polar bear, living among Arctic snows, is white. The tiger in the jungles is striped, as if painted to resemble rushes, reeds, or other stiff and straight plants. Many fish have backs of the hue of the sand or sea bottom upon which they lie. Nature has thus attended to the needs of her weaker children. Another answer might be that the effect of the color of the surroundings is to produce a change in the pigment in the cells of the skin, so that the color becomes like that of the surface upon which the animal is resting. In the chameleon this is comparatively rapid.

Cu Cu Cu INDEX OF INVENTIONS For which Letters Patent of the United States were Issued for the Week Ending July 10, 1906. AND EACH BEARING THAT DATE D

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