

### RECENTLY PATENTED INVENTIONS. Pertaining to Apparel.

**CLAMP FOR GARMENT-SUPPORTERS.**—J. C. COPELAND, New York, N. Y. The more particular purpose of the inventor is to provide a metallic member for supporting garters and the like and comprising certain parts, some of which are movable relatively to others, and so arranged as to facilitate the clasping and unclasping of the movable portions and for enabling the movable portions to spring automatically into the positions which they occupy when unclasped.

### Electrical Devices.

**TUBULAR INSULATOR.**—L. STEINBERGER, New York, N. Y. The invention relates to insulators, the more particular object being to produce a high-tension insulating tube suitable for insulating cables, wires, and other conductors energized by high-tension currents, the tube providing a very high degree of insulation and at the same time affording great mechanical strength.

**HIGH-POTENTIAL STRAIN-INSULATOR.**—L. STEINBERGER, New York, N. Y. The invention relates to strain insulators used in connection with electrical conductors, and more particularly to conductors adapted to convey currents of high potential. Among its many purposes, one is to give the various parts of the strain insulator such conformity as will confer upon them a comparatively high degree of mechanical strength coupled with a high dielectric capacity.

**ELECTRIC ISOLATION SYSTEM.**—N. C. MCCLURE, Healdsburg, Cal. In this invention the aim is to enable the operator on a circuit where there are a number of instruments being used, to call up or form connection with any one instrument such as a telephone, telegraph, etc., on the said circuit by ringing a bell or by other signal, without disturbing the others; and when such call is answered, to enable the parties to communicate with each other without being heard by others on the same line.

**INSULATOR.**—J. T. BOND, Palatka, Fla. The insulator is designed for use in inside and outside work, and for outside work where wires pass along buildings and the like, and also for pole work. Under-cut edges of an annular groove form a species of hook for retaining wires in place in certain pole work. This form of groove assists in stringing wires when constructing new lines or renewing old, since the wire may be laid in its grooves during the construction and afterward secured in place.

**METER-LOCK.**—J. H. JACKSON, New York, N. Y. An object in this case is to provide a durable lock for use in electric meters and similar devices, by means of which unauthorized opening of the meter and tampering therewith is prevented, and which, when the seal is broken, can be easily released and can easily be replaced.

### Of Interest to Farmers.

**LINT-COTTON PICKER AND CLEANER.**—J. L. HART, Chickasha, Okla. The machine is adapted for picking and cleaning lint-cotton, either in loose form or as it comes from the bale. Cotton placed in a reception box is pushed and fed forward by a head block to the vertical run of an endless toothed traveling belt, whereby the cotton is picked, subjected to the action of the air, and largely freed from foreign matter.

**THRASHING - CYLINDER TOOTH.**—T. DAGEL, Sibley, Iowa. The object of the inventor is to produce a tooth which may be easily replaced and removed, and which is firmly braced against the cylinder in the direction of the greatest strain. The tooth is not complicated in structure and is easily removed and replaced.

**TROUGH-VALVE.**—B. I. MAULDIN, Ozona, Texas. This automatic float valve is designed especially for use in water troughs wherein the supply of water is conducted from a reservoir into a trough and consumed in the latter, so that the water will be automatically supplied as the water level lowers in the trough.

**VALVE.**—R. H. CHALK, Sonora, Texas. In operation, as long as the float valve operates properly, the water will be shut off whenever the float is in the required position. Should the device fail to operate, the trough will soon fill up with water, which passing out through an overflow pipe, enters a cup, and when this is full, a lever will swing into position, thus cutting off the inlet from the outlet, and stopping the flow until the trouble is remedied.

### Of General Interest.

**ORAR-LOCK.**—T. W. CAREY, JR., New Orleans, La. The purpose here is to improve upon the orar-lock for which application for Letters Patent was made by Mr. Carey, the improvement consisting in the material simplification and lightening of the construction without detracting from its strength, together with an improved means for regulating the rotation of the orar in its bearings, and for regulating the dip of the orar.

**FILE.**—E. RUSTIN, Atlanta, Ga. By use of this file the wrapping girl or cashier can sort the sales checks as they are received, so that those received from each salesman will at all times be filed by themselves in the order received. In use it is possible for the girl or cashier to file the sales check by one move-

ment of one hand, and there is no danger of the sales checks being blown away by electric fans while being filed or subsequently.

**FIRE-ESCAPE.**—W. H. JAY, Le Beau, S. D. In this instance the invention refers to fire escapes, and it has for its object to provide a standard which will permit a person to embrace it and slide to the ground, there being means to enable the person to regulate the rapidity of his descent, without burning or chafing his hands or other portions of his body.

**CABLE-SQUEEZER.**—H. D. ROBINSON, New York, N. Y. The object of the improvement is to provide a device which may be easily and quickly applied to the mass of strands going to make up the cable, which will force them together into a perfectly cylindrical mass, and which may be very readily loosened and moved after the permanent securing means has been applied adjacent the point last squeezed into shape.

**PROCESS FOR THE PRODUCTION OF A LEATHER SUBSTITUTE.**—R. WEBER, Vienna, Austria-Hungary. In this case, the product obtained by the process resembles leather very closely, being flexible, extensible, and possesses a high degree of strength and the other physical products of leather, so that it may be used as a complete substitute for that material.

**FEED-BAG.**—D. L. TOLAND, Bayonne, N. J. The bag insures a liberal supply of air to the animal's nostrils, and the construction is such that it will prevent the waste of grain which may fall out under the animal's throat. Such a waste often occurs on account of the habit of tossing the head in order to bring the grain within reach of the lips.

**PISTON-PACKING.**—G. R. THOMPSON, Republic, Mich. The invention pertains to piston packing for air cylinders, and relates more particularly to a packing ring fashioned from hard fiber generally known as indurated or vulcanized fiber, and split so that it can be sprung upon the piston, the ring tending to spread against the walls of the cylinder, owing to its own normal resiliency.

**DIE FOR PRESSING SHEET METAL.**—C. F. STEIBER, New York, N. Y. The improvement refers to dies such as are used for pressing sheet metal to produce certain ornamental designs or patterns. The die is intended especially to be used for forming the risers of metal staircases. The die can be used so as to form a number of different patterns, differing materially in their general form or artistic effect.

**GRAPPLE.**—C. L. SIMMONS, Spokane, Wash. The object of the present invention is to provide a grapple for hoisting concrete blocks and other articles, and having adjustable and reversible means to permit the use of the grapple for hoisting small and large blocks, and for grappling a block either outside or inside. It relates to grapples, such as shown and described in Letters Patent of the U. S., formerly granted to Mr. Simmons.

**CHURCH-OFFERING ENVELOP.**—J. H. EARLE, Richmond, Va. This invention is distinguished by the form of the blank from which the complete envelop is made, by the arrangement of the different sections of the blank so that they are to fold and form opposite pockets which are placed back to back and sealed together and have separate and opposite sealing flaps. The general form of the blank is such that it may be cut economically from large sheets and the complete envelop is of less dimension than those originally used.

**DAYLIGHT DEVELOPING APPARATUS.**—J. W. MEEK, 32 Albert road, Stroud Green, London, England. The invention consists in providing a container with a detachable spool box which is adapted to receive the exposed spool direct from the camera, and from which the film is wound into the container at same time as the apron, the spool box being then removed so as to enable the container, inclosing both apron and film, to be placed in a developing tank.

**VENTILATOR.**—J. JACOBS, Akron, Ohio. The aim of the inventor is to provide a form of ventilator for roofs, adapted to be opened and closed and at all times protect the opening from rain and snow, and when closed, make a very tight connection. It is of the type employed in ventilating shafts or flues of warehouses, factories, etc.

**FIRE-ESCAPE.**—T. R. ANDERSON, Oklahoma, Okla. The purpose of the invention is to provide details of construction for an escape of the inclined slideway type, which afford a safe device that is foldable at the side of a building for protection from the elements, and which may be quickly placed into position for service as occasion may require.

**GAGE AND MARKING DEVICE.**—A. VEITCH, Canton, N. Y. The invention is for employment by woodworkers for marking outlines of mortises or open recesses in casement-jamb and door stiles, to receive hinges; and it is especially well adapted for the purpose, and it may also be used as deepening and outlining gage for forming recesses in other constructions of wood or metal.

**HORSESHOE-CALK.**—H. W. SCHOEN, Scranton, Pa. In this case the improvement has reference to horseshoe calks, the more particular purpose being to provide a shoe having its calks detachably secured in position so that they may be readily removed from or replaced upon the shoe.

**PAINTING APPARATUS.**—G. A. PRICE, Chelhalis, Wash. An object of the invention is to provide a device having manually operable paint brushes adapted to be provided with paint supplying means, flexible pipes for connecting the paint supplying means of the brushes with the portable tanks, and means for placing the paint in the tanks under pressure to effect a forced feed to the brushes.

**EYEGLASS-CLIP.**—W. G. KING, New York, N. Y. The invention relates to eyeglass clips, the more particular purpose being to provide an improved construction offering various advantages of adjustment, strength, durability and ease of manufacture. The means provided enable the glasses to be adjusted to fit upon the nose without difficulty.

**SQUARE.**—T. C. HOWLAND, Lock Arbor, N. J. One of the separable arms is provided with a longitudinal slot isolated from the outer edges thereof and provided with a groove at one side extending from the slot through the inner side edge, the slot being relatively wider at side of square having the groove than the opposite side, the other arm having an end portion to fit into the slot and groove, and screws and similar devices carried by one of the arms and having heads movable into engagement with the other arm and thus locking the two together.

**TAILOR'S MEASURE.**—M. CIERVO, New York, N. Y. The invention consists of a supporting stand, an upright arm offset from and vertically adjustable on the stand, an approximately horizontal square adjustable transversely on the arm, a height gage adjustable on the square, having a horizontally adjustable rule or gage vertically adjustable thereon, and tapes respectively carried by the post and squares with the tape carried by the square adjustable thereon.

**WINDOW STRUCTURE.**—R. LINKLETTER, Jersey City, N. J., and J. H. DE FREITAS, New York, N. Y. The invention relates to window structures, the more particular object being to provide a number of improvements for use in facilitating the lighting and ventilating of a building or portion thereof, in so far as these objects can be accomplished by aid of window structures.

**FOOD-WARMER.**—R. W. MUNN, Troy, N. Y. The aim of this inventor is to provide a warmer, more especially designed for use on tables in seaside restaurants and like places, in which open-air dining predominates, the arrangement being such that the warmer takes up comparatively little space on the table and allows carving and dishing of the food without removal of the dish containing the food from the warmer.

**HOSE-PIPE.**—W. R. CALVERT, Chickasha, Okla. Mr. Calvert's invention is an improvement in hose pipes, and relates particularly to hose pipes comprising sections of metal pipe united by flexible connections. The sections may be of uniform diameter throughout, or they may be tapered at their ends to facilitate the application of the coils.

### Hardware.

**FARRIER'S TOOL.**—A. I. MERRIFIELD, East Lebanon, Maine. In the present patent the invention has reference to certain improvements in farrier's tools, and more particularly to a special tool for use in trimming the front portion of a horse's hoof to form a curved recess into which the clip on the horseshoe may extend.

**OPERATING ATTACHMENT FOR SCREW-DRIVERS, ETC.**—P. S. PETERSON, Ephraim, Utah. In this instance the invention pertains to improvements in operating attachments for rotatable tools, such as, for instance, screw-drivers, bits, reamers, drills, or the like, but is especially adapted for screw-drivers, as it may be employed for turning the driver in either direction.

### Heating and Lighting.

**HEATER.**—S. KELTONIK, Johnstown, Pa. The object of the inventor is to provide an improved heater, arranged to directly radiate a portion of the heat generated by the burning fuel into the room in which the heater is located, to utilize a portion of the heat for heating air to be conducted to other rooms, and to provide an escape for the dust arising from the ash pit.

**LAMP.**—C. M. DANIELS, Paris, Ill. The invention refers to improvements in incandescent lamps, and more particularly to that type of lamp in which a liquid fuel is vaporized and mixed with air before being delivered to the burner. It involves certain improvements in the vaporizing and mixing chambers and means for regulating the same.

**GRATE FOR STEAM-GENERATOR FURNACES.**—R. A. TARR, Melville Terrace, Westminster, England. The special feature in this case is that the grate is composed of rocking bars which turn the fuel over several times during its passage through the furnace. The fuel is thus broken up and a light open fire is produced, whereby practically perfect combustion is obtained. The stoker thus accomplishes all that can be effected by the best hand stoking by the constant use of the slicing box.

**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.

(12116) H. B. says: Would you kindly tell me whether a sewing machine motor run on the New York city lighting circuit would run on a 110 volt alternating current? Would you also kindly tell me whether the dynamo described in SUPPLEMENT No. 1558 would run as a motor on alternating current if the armature windings were all connected in the same way, or rather making the polarity of the armature magnets the same, provided it was wound with heavy enough insulation to stand the current? Have any transformers, suitable to be constructed at home, been described in the SUPPLEMENT for changing alternating current at 110 volts pressure to steady current? A direct-current sewing-machine motor is not likely to run on an alternating current, although some direct-current motors will run with the alternating current if brought up to speed before the current is thrown on. In large portions of New York city the alternating current is used. If your motor were used in one of these regions, it is all right for the current you name. We do not consider the little alternator of SUPPLEMENT No. 1558 well adapted for use as a motor. Much better forms can be bought for a moderate price nowadays. We have not published any plans for a rotary converter to change an alternating current to a direct current.

(12117) E. F. W. asks: Will you kindly give a solution for removing paint from window glass? Also the amount of weight that two pieces of leader pipe, galvanized, 10 feet in length and 3 1/4 inches in diameter, will support in salt water with ends closed without being more than half submerged. A. To remove paint stains on glass, take 3 parts of potash and 1 of unslaked lime. Lay this on with a stick, and let it remain some time, when the paint may easily be scraped off. Two pieces of pipe 10 feet long and 3 1/4 inches inside diameter will displace 1 1/3 cubic feet of water submerged, or 2/3 cubic foot when only half under water. 2/3 x 62.4 pounds (weight of a cubic foot of water) = 41.6 pounds, which is the weight the pipes will sustain when half submerged, including their own weight.

(12118) D. H. says: In your issue of June 5th is an article headed "Auroras; Some Recent Theories." In this article appears the expression "a tropical month (27.3 days)." I have heard that expression before, but do not know just what it means. A. The time you name as a tropical month, 27.3 days, is the time required by the moon to go around the heavens from a star till its return to that star again. It is the synodic period of the moon, while a lunation is the time from new moon till new moon again, which is a little more than 29.5 days. The word tropical in this sense refers to the tropic in the sky, as the Tropic of Cancer or Capricorn, and not to a zone of the earth.

(12119) B. P. asks: I wish to know the difference between iron and steel. A. Steel is differentiated from iron by the amount of carbon it contains, but the distinction is complicated by the fact that whereas any kind of steel contains more carbon than wrought iron, cast iron contains more carbon than any kind of steel. The qualities of hardening and tempering, which formerly distinguished steel from iron, now no longer apply, since soft steels are produced, which by ordinary blacksmith's tests will not harden. All products of the Bessemer, crucible, and open-hearth processes are described as steel. Cast steel contains from 0.06 to 1.5 per cent of carbon, according to the purpose for which it is to be used, the dividing lines between soft, mild, medium, hard, and semi-steels not being well defined.

(12120) A. L. D. asks: We have at our plant a concrete and cement reservoir six feet deep, ten feet wide, thirty feet long, but which is not waterproof, and when half full of water allows the water to seep through the pores of the cement walls. Will you please advise whether there is a preparation that can be used as paint on the inside of the reservoir which would close up these pores and keep the water from forcing through the walls, and at the same time withstand the action of soda ash and lime, which we use in the water. Kindly give us what information you have or refer us to the proper authorities. A. No ordinary cement concrete is perfectly waterproof and much of it both absorbs water like a sponge and lets it through like a sieve, a fact which builders are insufficiently aware of or refuse to recognize, many of them claiming to put up waterproof concrete and the market being flooded with waterproofing compounds for mixing dry with the concrete ingredients, most of which are of no use whatever. Concrete can only be waterproofed by external treatment, and then with difficulty and uncertain success.

