

piece to be used, which has not heretofore been possible in consequence of the difficulty of making the seams by which the parts whereof the dress is made up are united.

MULTI-COLORED RUBBER MAT.—FREDERIC N. UPHAM, Brooklyn, New York city. The mat presents at all times a very smooth walking-surface, is subjected to even wear, and is arranged to hold the inlaid rubber tiles securely in place in the rubber sheet or plate. When the rubber mat is in use the inlaid pieces cannot work up in the sheet and be broken and forced out.

CLOTHES-LINE ATTACHMENT.—WILLIAM W. PUMYEA, Jersey City, N. J. The purpose of the invention is to provide a means for conveniently holding the ends of the pulley-lines which are commonly used in large cities. Combined with a clothes-line is a body portion with which one end of the line is engaged to form a bight received in an eye in the other end of the line. A dog in a body engages the line adjustably to hold it.

BUTTON-FASTENER.—HERMANN G. C. HÖRNING, Astoria, New York city. The button-fastener is readily applied to fasten a button in place on a garment without danger of tearing the cloth under an ordinary strain and is arranged to permit the use of the fastener on cloth or apertured buttons. The device is very simple in construction, can be cheaply manufactured, and readily applied without, as before said, tearing or injuring the garment.

HEATING AND VENTILATING APPARATUS.—JOHN F. SIMS, Illinois, Ill. The invention is in the nature of a novel construction and arrangement of heating and ventilating register, operating upon the principle of a closed circulation of air currents from a furnace in the cellar up to and through the several rooms of a building and thence back again to the furnace in an endless cycle.

MOUTH-ILLUMINATOR.—EDWARD EBI, Cedar Rapids, Iowa. The device is particularly adapted to the use of dentists and physicians to locate any diseased part. The illuminator consists of a casing arranged to inclose an incandescent lamp. A tube is extended from the casing; and forward of the tube two mirrors are arranged. The mirror nearest the end of the tube is smaller than the other mirror. Arms are extended from the tube; and between the arms and the mirrors are universal joint connections. A device embodying the invention can be quickly applied to an incandescent lamp; and when the lamp is suspended by such flexible connection as wires, the device can be readily moved from place to place.

DENTAL FORCEPS.—JOSEPH B. DAVIS, 727 Julia Street, New Orleans, La. In movable beak forceps heretofore devised the pressure from within outwardly on the end of the beak would tilt it in its socket, and thus have a tendency to loosen the beak in the socket. This invention provides such peculiar construction of joint between the movable beak and the jaw of the handle as will make a firm and secure connection which will resist this tendency and which in use will have a tendency to tighten instead of loosen at the joint.

FIREPLACE.—LOGAN B. ARNOLD, Hanly, Ky. Perhaps the feature of most interest in this invention is a back-plate provided on its front face with upright ribs and on its rear face with upright tubes staggered with respect to the front ribs. The tubes are open at their upper and lower ends. By reason of this construction the back-plate is prevented from warping; and the intensity of the fire can be increased so that the heating of the room is improved.

BILLIARD-CUSHION.—SAMUEL MAY, Toronto, Ontario, Canada. This improved billiard-cushion is intended to insure the proper repelling of the balls by the use of two or more graduated springs, so that the force of the ball will cause the steel springs to exert a repelling effort to prevent loss of speed in the ball and to prevent the hopping or jumping of the ball from the table. The use of this cushion moreover insures deflection of the ball at an angle equal to the angle of incidence.

SPRING-HEEL HORSESHOE.—THOMAS CUSDIN, Orrong Road, Armadale, Melbourne, Victoria. The inventor's peculiar construction of horseshoe has been devised with the intention of diminishing concussion. The shoe consists of upper and lower members welded or riveted together at the toe portion, or formed in one piece and divided toward the heel, in order to receive interposed elastic cushions. By this construction the rubber is protected from wear and all the merits of a cushion are obtained without the disadvantage ordinarily resulting from the wearing of the rubber and the loosening of the nails by which the shoe is fastened to the hoof.

INDICATOR FOR SHIPS.—SAMUEL BENNISON, Galveston, Tex. The indicator is designed to show accurately and readily the draft of a vessel as well as any list and pitch. The essential features of the invention are a vertically extending support on which a swing is hung, having a straight lower portion, normally lying horizontal. A level bar is rigidly attached to the support at right angles thereto. On the swing and level bars, spirit-levels are carried. By means of these levels the pitch of the vessel is accurately indicated, as well as the list.

STEEPLECHASE OR HURDLE FENCE.—ANTONIO PASCOBELLO, 174 Grand Street, Man-

hattan, New York city. The upper portion of the hurdle is composed of a piece of rubber which preferably extends from post to post and is provided on its upper edge with a series of vertical fingers whereby a horse that falls to clear the fence will strike one or more of the yielding fingers and thereby be saved from falling or stumbling in passing over the hurdle. The rubber fingers or pieces return to place after being struck and bent over.

PHOTOGRAPHIC VIGNETTE.—WILLIAM D. CORNELIUS and FRANK L. TODD, Enid, Oklahoma Territory. The inventors have devised a vignette attachment to a camera, which is of novel simple construction, is adjustable relatively to the position of the film or plate held in the camera, so as to terminate the image of a vignette photograph at any desired point.

JOINING METAL RODS AND BARS.—OTTO SCHULTZ, Berlin, Germany. This improved method of joining metal bars will be found of particular service in forming grates. Heretofore such bars have been joined either by welding or by means of rings, rivets, or screws. The present invention consists in forming an opening in one bar, inserting the other bar in the opening, bending the bar on opposite sides of the opening, and then subjecting the bar with the opening to pressure.

BELT.—CHARLES M. BUTLER, Wonevoo, Wis. The belt is to be used by men and is adapted to be worn upon the trousers to receive the waistband. Cut-out portions fit over the hip and can be adjusted properly to different positions by means of an adjustable fastening at the back of the belt in connection with adjustable fastenings on the front, these cooperating in securing a proper fit of the belt.

LOAD-BINDER.—JOHN MORTENSON, Nehart, Mont. The improved binding apparatus comprises a forked lever to which the binding-chain is attached. The chain has a swivel and terminal hook whose slot is elongated and parallel sided. The lever can be secured in the locking position by means of a rope.

LAMP-HANGER.—HERBERT L. WHITE, Bonham, Texas. This electric-light hanger comprises a casing in which a lamp-supporting tube is arranged to slide. Electric conductors extend into the tube, and pass over a pulley in the upper portion of the casing. Means are provided in connection with the conductors whereby a pull can be exerted on the conductor to move the tube upward.

PROCESS OF OBTAINING IANTHONE AND IONONE.—FERDINAND SEMBRITZKI, Holzminden, Brunswick, Germany. The process is based upon the action of phenyl-hydrazin and similar substitution products of ammonia upon ionone and lanthone, the former of which readily forms condensation products with such substitution products of ammonia, while the lanthone is not attacked at all or combines with difficulty with the hydrazins. Thus it is possible to effect the separation of lanthone from the simultaneously formed ionone obtained upon the condensation of citral and mesityl oxide and by the subsequent inversion of the resulting intermediate product.

MATCH-SAFE.—FREDERICK SCHNECKENBURGER, Wilkesbarre, Pa. The match-safe is of such construction that but a single match can be removed at a time and that an alarm is sounded when the match is removed. A sliding device is provided whereby one match at each operation of the slide will be carried from a receptacle through which the slide works, and automatically delivered at the exterior of the safe in such position that it can be quickly and conveniently removed.

CRATE.—JAMES W. SAYRE, Seneca, Mo. This berry, fruit, butter, or egg crate is arranged to hold ice in order to keep the contents cool for a long time during transportation. By allowing air to circulate the contents are kept in a perfect state of preservation for a considerable length of time.

CURTAIN POLE RING.—FRANK PERRY, Brooklyn, N. Y. Mr. Perry has invented for the John Kroder and Henry Reubel Co. a pole ring formed of tubular split rings having the ends fastened together and carrying a depending eye for engagement by a curtain hook. Mr. Perry's object is to provide a pole ring arranged securely to hold the ends of a tubular split ring in position and prevent accidental opening of the ring, and firmly to support the eye. The several parts are fastened together without the use of solder or like fastening devices.

CANDELABRUM.—HENRY F. NEHR, Brooklyn, N. Y. The candelabrum is of such construction that the arms can be quickly and conveniently adjusted to different positions relatively to the standard by which they are carried. Auxiliary standards can be attached to a support from the main standard, and are provided with adjustable candlestick supports. The entire device can be easily set up and as easily dismembered, so that each part can be separately packed in a suitable case.

SHIPPING AND FILING DESK.—CHARLES LOHRMAN, Brooklyn, N. Y. The purpose of the invention is to locate within compartments which may be termed "filing compartments," pliable partitions, so placed that a series of pockets are formed. The pockets are classified alphabetically and numerically, preferably in sections corresponding to those of the cover. To each pliable partition a spring member is applied, which will permit the partitions to be

forced to one side when a letter or memorandum is to be placed in a pocket, and which serves to restore the partitions to their normal positions when the hand is removed from the pocket.

TOBACCO PIPE.—EARL D. BUSSERT, Lima, Ohio. The pipe can be very conveniently cleaned. Passage of nicotine from the bowl along the stem to the mouth of the smoker is prevented. Liquid accumulation is arrested and prevented from escaping at the tip end of the pipe stem into the mouth while the pipe is in service. The number of parts of the pipe has been reduced to a minimum to adapt them for quick separation.

WAISTBAND.—MOSES W. WINSTON, Manhattan, N. Y. The invention relates particularly to improvements in attachments to waistbands for boys' trousers; and the object is to provide suspending attachments adapted to be engaged with buttons or with the buttonholes of suspenders, these attachments consisting of metal and being, therefore, not apt to break, as is the case with the suspending devices made of tape or elastic.

STOVE-PANEL.—NIELS N. PETERSON, Milwaukee, Wis. When a panel is made in a single section or in sections joined together, it soon becomes warped by the heat and practically useless because vessels cannot sit level thereon. To obviate this warping, the stove panel is made of inner and outer sections, each consisting of two unconnected members, the joint or conjunction of two members of one section being at right angles to the joint or conjunction of the two members of the other section.

SPINNING-TOP.—RICHARD A. LANGERMAN, Louisville, Ky. The invention is an improvement in conical wooden tops spun by the unwinding of a cord or string. The wooden body of the top is provided with a metal cap or cover secured by a spike passing axially through the body, and constructed with a large conical head having a flat portion abutting the truncated head of the top body. The weight of the head of the spike places the center of gravity of the top comparatively low and serves to prevent the cracking or splitting of the body.

Designs.

STOVE BOARD.—EDWARD M. KEMP, Rhinelander, Wis. The distinguishing features of this design are a centerpiece, a border, and a background of peculiar form or ornamentation. The background is mosaic; the centerpiece is essentially a circular figure inclosing a smaller one formed of a series of overlapping rings. The border is double-lined and tessellated.

BLANK FOR SHOE UPPERS.—JOSEPH BRUNO, Haverhill, Mass. The leading feature of the design comprises a body having side flaps, tongues, and angular arms, all so arranged that they can be bent and sewn into proper position in the completed shoe.

GARMENT SUPPORTER JAW.—THOMAS F. MCCULLOUGH, Memphis, Tenn. The jaw has a concave serrated edge which runs into the serrated edge of an extension. The serrated edges serve the purpose of holding the garments securely.

EXHIBITING TRAY.—WALTER T. HATHAWAY, Brooklyn, N. Y. This tray has been especially designed for the purpose of exhibiting Colgate's soaps, and consists of a rectangular box in which is arranged a partition transversely inclined and provided with openings for the soap cakes.

MEMORIAL TABLET.—MYRON S. TELLEB, Kingston, N. Y. The design represents a memorial tablet which is to be used as a commemorative monument to soldiers. The features of the design are, therefore, appropriate to the particular purpose for which the tablet is to be used.

WALL PAPER.—PERRY WEARNE, Rixheim, Alsace, Germany. The novel feature of this design consists of a medallion, a suspended wreath around the medallion, and a pendant carried by the wreath, all appearing between parallel stripes.

WALL PAPER.—PERRY WEARNE, Rixheim, Alsace, Germany. The design in its entirety consists in the representation of panels of fancy woodwork arranged parallel and intertwined by ivy.

WALL PAPER.—PERRY WEARNE, Rixheim, Alsace, Germany. The essential feature of this design is to be found in a garland of flowers in a panel surrounded by a border ornamented with scroll work.

WALL PAPER.—PERRY WEARNE, Rixheim, Alsace, Germany. A bamboo trellis and leaves intertwined therewith form the subject of the present design for wall paper.

WALL PAPER BORDER.—PERRY WEARNE, Rixheim, Alsace, Germany. In this border roses are interlaced with ribbons crossing each other.

LAMP-SHADE.—HARRISON D. MCFADDEN, East Orange, N. J. The lamp-shade has a flaring body with bands at the top and bottom, between which the body is plaited. The top and bottom bands are connected at intervals by straps giving the complete shade a paneled effect.

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.

MUNN & CO.

- Marine Iron Works. Chicago. Catalogue free.
- Inquiry No. 1783.**—For parties to make porcelain sparking plugs for gas engine ignition.
- For mining engines. J. S. Mundy, Newark, N. J.
- Inquiry No. 1784.**—For a spring power for running peanut roaster; motor to be about $\frac{1}{2}$ to $\frac{3}{4}$ horse power.
- "C. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 1785.**—Wanted, to purchase patents on articles suitable for general consumption, such as novelties, etc.
- WATER WHEELS.** Alcott & Co., Mt. Holly, N. J.
- Inquiry No. 1786.**—For a cardboard match scratcher with space for advertising thereon.
- Stencil Machines.—A. J. Bradley, 101 Beekman St. N. Y.
- Inquiry No. 1787.**—For manufacturers of canning machinery.
- Gasoline Lamps and Systems. Turner Brass Works, Chicago.
- Inquiry No. 1788.**—For machines for printing names on aluminum tags.
- Machine chain of all kinds. A. H. Bliss & Co. North Attleboro, Mass.
- Inquiry No. 1789.**—For a double crank forging. cranks to be 180 degrees apart and 4 inches stroke, for a double cylinder gas engine.
- Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.
- Inquiry No. 1790.**—For manufacturers of water fountains, etc., for lawns.
- Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
- Inquiry No. 1791.**—For parties dealing in small armature punchings in large or small quantities.
- Rigs that Run. Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.
- Inquiry No. 1792.**—For castings for small gasoline engines.
- Ten days' trial given on Daus' Tip Top Duplicator. Felix Daus Duplicator Co., 5 Hanover St., N. Y. city.
- Inquiry No. 1793.**—For the necessary apparatus for establishing a "Shoot the Chutes" resort.
- CANS.— $\frac{1}{2}$ pint and $\frac{1}{4}$ pint tin cans are manufactured by National Cement Co., Toledo, O. Write for prices.
- Inquiry No. 1794.**—For a machine for painting board fence signs.
- Machinery designed and constructed. Gear cutting. The Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.
- Inquiry No. 1795.**—For dealers in carbonized papers.
- Manufacturers of patent articles, dies, stamping, tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.
- Inquiry No. 1796.**—For manufacturers of brass and aluminum castings for small model engines.
- Constructor and operator of wood chemical plants, including refineries and by-product apparatus. O. A. Myers, 626 West Fourth Street, Cincinnati, Ohio.
- Inquiry No. 1797.**—For manufacturers of boxes and crates.
- Designers and builders of automatic and special machines of all kinds. Inventions perfected. The W. A. Wilson Machine Company, Rochester, N. Y.
- Inquiry No. 1798.**—For dealers in magnetized steel.
- The celebrated "Hornby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.
- Inquiry No. 1799.**—For manufacturers of rubber figures, such as men, boys, etc.
- The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.
- Inquiry No. 1800.**—For manufacturers of hard rubber goods.
- WANTED—Patent articles of merit to manufacture and place on the market. Will buy or pay royalty. Give full particulars. Address Sidney Folder Co., Sidney, Ohio.
- Inquiry No. 1801.**—For a machine for sandblasting buttons.
- WANTED.—A practical mechanical engineer of good executive ability in a large textile manufacturing company. State age, experience and references. Engineer, Box 773, New York.
- Inquiry No. 1802.**—For manufacturers of locked-rubber floor covering and machinery for making the same.
- FOR SALE AT A BARGAIN.—100 tons 66 lb. steel girder relaying rails, 30 feet lengths. Wheelock twin high-pressure engines, 24 x 48 cylinders, A1 condition. M. Braudy & Sons, Grand Rapids, Mich.
- Inquiry No. 1803.**—For a patented article for general use that can be manufactured in the South.
- WANTED.—Experienced draughtsman on mill machinery and machine tools. Permanent employment assured to rapid and accurate draughtsman. Bethlehem Steel Company, South Bethlehem, Pa.
- Inquiry No. 1804.**—For manufacturers of centrifugal pumps for raising water for irrigating purposes.
- WANTED.—First-class mechanic, thoroughly familiar with, and capable of keeping in repair, engines, boilers, pumps and all labor-saving devices in use by general contractors. Apply with references to Mechanic, P. O. Box 773, New York.
- Inquiry No. 1805.**—For manufacturers of water wheels.
- The Excelsior Machinery Co., of 25 Whitecross Street, London, England, proprietors of inventions in special machinery, are prepared to develop, exploit and negotiate the sale of patented inventions, protected in Great Britain and Europe, also open to undertake the exhibit and sale of any class of machinery; having spacious warehouse and showroom accommodation with power, etc.
- Inquiry No. 1806.**—For manufacturers of hard or spring aluminum.
- EXPERIMENTAL MACHINE SHOP.—We are not using our shop at present. Well equipped with lathe, shaper, woodworking machinery, etc. Will rent use and power very low. Fine place for automobile work. Billings Clapp Co., Boston, Mass.
- Inquiry No. 1807.**—For manufacturers or dealers in spring or clock motors.
- Inquiry No. 1808.**—For manufacturers of hot water heaters for boilers.
- Inquiry No. 1809.**—For materials used in boat building.