

**RECENTLY PATENTED INVENTIONS.**  
Of General Interest.

**HAT-FASTENER.**—L. VEINDER, New York, N. Y. The invention of this improvement is to provide a fastener, more especially designed for fastening ladies' hats in position on the head and arranged to permit the wearer to conveniently place the hat in proper position, and to then fasten it securely to the topknot of the hair without disturbing the position of the hat and to allow the wearer to readily open the fastener whenever it is desired to remove the hat.

**GAGE AND MARKER FOR GARMENTS.**—A. WATERMAN and R. WATERMAN, New York, N. Y. The object of the present invention is to so construct the device that the marking-arm will be capable of vertical, horizontal, and swinging adjustment, thus enabling the arm to be accommodated to different characters of work, and especially for marking skirts in such manner that a hem may be evenly turned up at the bottom of the skirt, having either plain or fancy finish, and to render the adjustment such that the marking-chalk be under complete control of the operator. It improves upon and simplifies the construction for which former Letters Patent were granted to A. Waterman.

**PENCIL-HOLDER.**—W. SCHARRATH and F. A. REJAS, New York, N. Y. The object in this instance is to provide a holder arranged to permit the user to conveniently attach it to a finger and to move it into any desired position thereof or for moving the holder while on the finger into non-use position to permit the user to conveniently employ the hand for wrapping, tying, and other purposes, the holder being arranged for convenient attachment to a pocket or other part of a garment for supporting the pencil when not in use, the holder also serving as a paper clamp for fastening loose sheets of paper together.

**TEMPORARY BINDER.**—L. T. PRUDON, North Bergen, N. J. The invention relates to a binder for use on loose-leaf ledgers, memorandum-books, and analogous purposes. The objects are to provide a binder which may be readily locked in a closed position and readily unlocked and opened by a simple movement of a lever which will securely hold the leaves in position.

**MOVING DISPLAY-SIGN.**—T. B. POWERS, New York, N. Y. In this patent the invention has reference to moving display-signs, Mr. Powers' more particular object being the production of an efficient sign of very attractive appearance, and in which intelligible characters may be displayed in a variety of ways, affording certain advantages. It may be used for election purposes, for advertising, and for bulletin-work.

**LIQUID-RIPENER.**—A. JENSEN, Topeka, Kan. In the present patent the invention is in the nature of a device for agitating and cooling or heating liquids—as, for instance, in ripening cream preparatory to churning it; and it consists in the novel construction and arrangement of receptacle with means for cooling or heating the cream, as may be desired, and at the same time agitating it. Mr. Jensen has also procured another patent on the same subject which is an improvement in construction, and is in the nature of a device for cooling or heating and simultaneously agitating liquids.

**CANDY-HOLDER.** J. JEFFERS, JR., Saginaw, Mich. One object of the invention is to provide a receptacle for holding candy or other similar articles, which will automatically close the opening through which the contents are passed and securely hold the same closed until it is desired to remove such contents. Another, is to provide such receptacle which can be opened as readily in darkness for removing contents as in the light.

**UMBRELLA.**—A. KORTENBACH and K. WÖRNING, Weyer, Rhineland, Germany. The objects in this invention are, to so reduce the upper part of the tubular metal stick in diameter in several steps that it tapers to the end; to apply the umbrella-notch to one of the steps of the stick; to provide the thin end of the stick with a female screw-thread; to provide a screw-threaded top piece which engages in the female screw-thread of the stick; to provide a conical metal tube secured on the top piece and inclosing the reduced part of the stick down to a point near the notch; and, to provide a conical cap for securing the wide end of the conical metal tube on the stick and leading up to the flanges of the notch.

**CHAIR.**—W. D. JONES, Butler, Pa. This invention refers to improvements in folding chairs, particularly adapted for use in theaters, halls, and the like, the object being to provide a chair so arranged that the seat and back may be closely folded together and turned laterally when not in use, so as to provide spaces or aisles between rows of chairs along which people may readily pass.

**FAUCET.**—A. E. ISAACS, New York, N. Y. The purpose of the improvement is to provide an effective form of faucet having inlets for hot and cold water, a chamber in which the two may be mingled, and a single outlet. The particular construction relates to the expeditious and convenient manner in which through the manipulation of a single handle the supply of hot or cold water or the combined supply of both may be turned on, regulated, or shut off.

**SEALING DEVICE.**—C. F. HAIDT, Indian-

apolis, Ind. In the present patent the invention has reference to devices for sealing such gummed wrappers as envelopes. The principal objects of the inventor are to provide a convenient implement which will simultaneously moisten the gummed portion and press the parts together.

**CALK.**—F. F. HEISELMANN, Cincinnati, O. The invention refers to calks, and more particularly to those adapted for use in connection with horseshoes. Its principal object is to provide such a device which will be strong and durable and may be readily applied to the shoe and easily replaced when they are worn out. The calks being very resistive of wear will last for a long time.

**CLOTHES-PIN.**—J. S. BANKS, Portsmouth, Va. This improvement relates to clothes-pins such as used to suspend clothes upon a line to dry. The object is the production of a device of this class which is very simple in construction and which may be readily applied to a line at any point, operating effectively to support the clothes which may be attached thereto. The device is preferably to be formed of wire.

**CIGAR-PERFORATOR.**—C. BLUMER, Guttenburg, N. J. The object of the improvement is to provide a perforator more especially designed for penetrating the sides of the cigar at or near the point thereof to provide draft-holes for drawing the smoke through, the arrangement being such that the wrapper is not loosened or unraveled when forming the draft-holes by the instrument.

**OPTICAL TOY.**—M. ABRAMOWITZ, New York, N. Y. The device being held in one hand and the eye applied to the eyepiece and an illuminated scene or object viewed through this becomes visible, multiplied by the facets and of the color of the eyepiece. Moreover, because of prismatic refraction there is also seen a plurality of spectra, and upon rotating the eyepiece by means of the operating member both the objects and spectra revolve, producing a most attractive effect.

**RESPIRATOR AND INHALER.**—G. N. GUTHRIE, JR., Cookeville, Tenn. Mr. Guthrie's invention is attached to the face in order to permit the subject to breathe air from other rooms or purified air and prevent inhaling of undesirable gases and vapors. His objects are to provide inhalers and respirators with devices for purifying air, removing solid matter therefrom, and for conveniently connecting them to such purifying devices or to outside air. It is capable of universal use and attachable to any subject, being made in various sizes. It is light, inexpensive, prevents air from entering the lungs except through the filtering medium, permits no rebreathing of exhaled air, and is not likely to become clogged.

**Heating and Lighting.**

**HEATING APPARATUS.**—N. M. EBY, Alpena, Mich. The purpose in this case is to so construct the air-escape valve for heating apparatus that but one valve is required in the length of the air-line for the entire apparatus and so that the valve will be simple and not liable to be affected by heat, and, furthermore, to so construct the valve that it will greatly add to the speedy and economic operation of the heating system in connection with which it is used, permitting air to readily escape, but positively preventing a return of the air through atmospheric pressure.

**Household Utilities.**

**SCREEN-FASTENER.**—C. W. GREENE, Brown Valley, Minn. The purpose of this invention is to provide a fastening device which can be expeditiously secured in a casing and which may remain therein when the screen or the storm-sash is removed and also to so construct the device that it will be provided with a spring retaining-arm capable of being quickly and readily brought to a bearing against the frame fitted in the casing.

**SWINGING SLIDING DOOR AND MEANS FOR SUSPENDING SAME.**—R. H. JONES, Portland, Ore. The class of sliding doors provided for houses, barns, stables, warehouses, etc., is improved by this invention, so that when duly adjusted in position for closing the entrance they may be swung laterally in the same way as a hinged door. In other words, the improved door and attachments are adapted to be slid longitudinally for opening and closing the entrance and also enable it to swing on a pivot-support, so that the entrance may be opened without sliding the door.

**Machines and Mechanical Devices.**

**PUMP-ROD LIFTER.**—T. H. TREGEILLAS, Inka, Kan. In this device hanger bars are carried by a clevis to which a draft rope is connected, and at the lower end the bars carry a gripping dog to which a bail is pivoted. The bail and arms slide downward on the pump rod when the rope is slackened and an upward pull on the rope causes the pump rod to be gripped between the dog and the inner surface of the bail whereby the rod may be readily drawn upward.

**DYEING-MACHINE.**—J. LEISEL, Charlotte, N. C. The object of the invention is the provision of a machine arranged to keep the material submerged, to prevent the material from coming in contact with the air during the dyeing operation, to carry on the dyeing operation

economically both in time and labor, to expedite unloading of the machine after material is dyed, and to remove foreign and insoluble matter from the dyeing liquor during the process of dyeing, to facilitate circulation of the dyeing liquor through the material, and to prevent uneven and spotted shades in the dyed material.

**Railways and Their Accessories.**

**AUTOMATIC RAILROAD-SWITCH.**—G. CURRIER, St. Paul, Minn. Mr. Currier's invention is in the nature of a switch designed more particularly for rapid-transit street-railways, but applicable also to all kinds of railways. It relates to that form of railroad-switch in which the switch is connected to and operated by a movable device in the road-bed which is struck by a projection on the car as it passes over the device, whereby the switch is automatically adjusted by the passage of the car without having to stop and adjust the switch by hand.

**RAILWAY-SWITCH.**—E. G. MICK and J. M. GILLILAND, Newcastle, Pa. In the Messrs. Mick and Gilliland invention the improvement is in railway-switches. As the train passes from the siding onto the main track the switch opens automatically by the pressure of the flanges of the wheels, permitting the train to pass through the switch onto the main line. In this operation as the train comes from the siding passing onto the switch-rail the flange of the wheel will force the rails into position to permit the train to pass onto the main track and also operate the pressure-bar in moving thereon.

**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. 6551.**—For manufacturers of machines for desiccating coconuts and other nuts and machinery for a coconut plant, as slicing, shredding, grating, etc.

"C. S." Metal Polish, Indianapolis. Samples free.

**Inquiry No. 6552.**—For makers of paper tape, such as used in stock machines, telegraph instruments, etc.

Perforated Metals, Harrington & King Perforating Co., Chicago.

**Inquiry No. 6553.**—Wanted, a machine for perforating pianola music rolls.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

**Inquiry No. 6554.**—For makers of marine engines, h. p. from 20 to 300 single, compound and triple explosion.

Adding, multiplying and dividing machine, all in one. Felt & Tarrant Mfg. Co., Chicago.

**Inquiry No. 6555.**—Wanted, a machine for cutting out envelopes.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

**Inquiry No. 6556.**—For manufacturers of sheet iron or steel powder kegs in which blasting powder is usually shipped.

Robert W. Hunt & Co. bureau of consultation, chemical and physical tests and inspection. The Rookery, Chicago.

**Inquiry No. 6557.**—For the address of the manufacturer of Golden's all metal weather strips; or for makers of any other weather strips.

If you wish to buy patents on inventions or sell them, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y.

**Inquiry No. 6558.**—For apparatus for making and burning charcoal.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc. Metal Novelty Works, 43 Canal Street, Chicago.

**Inquiry No. 6559.**—For a machine for sifting sand and gravel, also for lifting the same into cars at height of 20 to 30 feet.

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. 6560.**—For makers of the silver or "G" strings for violins, guitars, mandolins, banjos, etc.

The SCIENTIFIC AMERICAN SUPPLEMENT is publishing a practical series of illustrated articles on experimental electro-chemistry by N. Monroe Hopkins.

**Inquiry No. 6561.**—For makers of woven wire pillows.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

**Inquiry No. 6562.**—For manufacturers of persulphate of ammonia.

VALUABLE U. S. PATENT FOR SALE.—I will dispose of the American rights of my Patent Thill. A necessity for farmers and drivers. Price reasonable. Address Harry Turner, Koolunga, South Australia.

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**WANTED.**—Revolutionary Documents and Autograph Letters Prints, Washington Portraits, Eighteenth Century Illustrated Magazines and Books, Early Patents signed by Presidents of the United States, Valentine's Manuals of the early 40's. Correspondence solicited. Address C. A. M., Box 773, New York.

**Inquiry No. 6564.**—For manufacturers of home illuminating outfit also wood-burning furnace.

I have every facility for manufacturing and marketing hardware and housefurnishing specialties. Wm. McDonald, 190 East Main St., Rochester, N. Y.

**Inquiry No. 6565.**—For machinery for square self-opening paper bags.



**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.

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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.

(9540) J. L. C. says: Which of either brass, iron, tin, steel, copper, or aluminium is the most affected by temperature, and what will its expansion be with a change of 60 deg. on a Fahrenheit thermometer? A. Tin has the highest coefficient of expansion of the metals you name. A bar of tin 100 feet long will expand 0.87 inch if the temperature is increased 60 deg. F. Lead will expand 1.14 inches, and a mixture of one part tin and two parts lead (white solder) will expand 1 inch under the same circumstances.

(9541) B. B. B. asks: Under the conditions stated in query No. 9513 in your issue of December 31, 1904, if a gun is discharged in the rear of a train traveling one mile a minute—the bullet speeding one mile a minute in the opposite direction from which the train is going—will the bullet leave the muzzle of the gun? If in query 9513 the bullet gathers momentum from the train, why will not the momentum overcome the speed of the bullet? A. A bullet will certainly leave the gun under the conditions stated in query 9513. The expansive force of the gas will carry the bullet out of the gun. This expansive power is evidently not affected by the motion of the train. It is this which produces the motion of the bullet in the direction opposite to that of the train. When the backward motion produced by the gas reaches one mile a minute, the ball will come to rest so far as a point on the earth under the ball is concerned. The ball can only get a mile a minute forward from the train. It gets a mile a minute backward from the powder. The two are equal.

(9542) F. B. M. says: We have our own electric outfit. We have a switchboard with ammeter and voltmeter. We carry 110 volts, but the lights are much dimmer than our city lights, whose voltage is only 104. How can I determine whether our voltmeter is correct or not? I believe it is very far from being correct. A. The easiest way to settle the comparative readings of your voltmeter and that of the city plant is to take one of the instruments to the other plant and compare the two on the same line. Another way would be to connect the voltmeter which is suspected of being in error to a storage battery of known voltage. There is no way of testing an instrument without a standard of some sort. If there is no standard nearby, you can send it to the manufacturer and have it put in order. During its absence you may be able to get along by regulating the current till the lamps are of a proper brightness.

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