

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**ELECTRIC SIGNAL.**—Edgar C. Wiley, Bristol, Tenn. This invention provides an improvement on a former patented invention of the same inventor, being a circuit-closing device for use in connection with a system employing a rotary commutator. The invention consists of a peculiar construction and arrangement of devices whereby a depressible bar acted upon by the car wheel is made to adjust the commutator to position for making the circuits, hold it in this position for a limited time, and then allow it to be restored to its normal position.

**ELEVATED RAILROAD.**—Elbert D. Wilson, Birmingham, Ala. In the railroad construction contemplated by this patent the cars may be propelled by a power in the car or by hand. Brackets projecting from a line of posts support a cable on the top of which grooved wheels are mounted to travel, a frame carrying the wheels, while upon a downwardly extending rod is hung a car, there being a gear wheel on the shaft of one of the grooved wheels, a spring-pressed pawl engaging the gear wheels, a lever fulcrumed loosely on the shaft of the gear wheel carrying the pawl, and a bell crank lever fulcrumed in the car and connected with the pawl lever.

## Mechanical Appliances.

**SAW SET.**—James M. Basket, Leota Landing, Miss. This is a self-acting device in which the hammer is first raised against the action of its operating spring by pressing the handles together, and then released by a further pressing together of the handles to act on the saw tooth, an improved gauge being provided by which the angle of the saw and its teeth may be readily adjusted. The implement may be moved rapidly along the saw from tooth to tooth and operated by a quick succession of grasps, the quick block given the tooth not bending it to any great extent, but bevelling it on one side.

**WINDMILL LUBRICATOR.**—Benjamin J. Sykes, Sykesville, Pa. This device consists of a vertically swinging can or receptacle and a discharge tube extending up through the receptacle, and having a horizontal fixed extension at its lower end projecting in the direction that the receptacle is to be swung, so that when the receptacle is swung upward the contents of the horizontal extension will flow into and through the tube. At any moment all the journals or bearings may be lubricated by simply tilting upward the lubricating can.

**CLAMP.**—Walter H. Robinson, St. Paul, Minn. This clamp comprises two arms pivoted on the same base, and each provided on its free end with a fork and a screw rod for moving the arms toward and from each other. The device is simple, and is more especially designed to facilitate the removal of the spring and cap in air brake cylinders or other similar devices, to clean the same, and to assist in replacing the spring and cap after the cylinder is cleaned.

## Agricultural.

**CORN HARVESTER.**—Peter J. Garber, Potwin, Kansas. This invention relates to a harvester in which the wagon frame is provided with a detachable hinged and obliquely arranged knife, the device being applicable to an ordinary farm wagon. The improvement also consists in a peculiar construction of the knife and the means for connecting it to the wagon frame, and also in a carrier or shorker for the cornstalks, to receive and transport them to the side of the field, the land being left ready for the plow.

**TOBACCO HANGER.**—Horace L. Freeman, Lexington, N. C. This is an improvement in hangers which consist of a portable supporting stick and a series of arms or needles pivoted thereto and adapted to swing, to fold against or swing outward from the stick. Each arm or needle has two adjacent eyes and is pivoted at such points to two parallel sticks or stick sections, which are movable relatively to each other to adjust or allow adjustment of the arms or needles, for opening them outward or folding them inward.

**THRASHING MACHINE TABLE.**—Joseph B. McChesney, Dane, Wis. This table is made in two longitudinal sections, connected by hinges on the under faces of the table, and the inside edge of the inner section of each table is connected by hinges with the side extension beam of the hopper of the machine, or with any other projection at the delivery end of the hopper. The table is capable of being supported in a horizontal position when required for use, and of one section being folded upon another, and both sections made to occupy a vertical position close to the thrasher when not in use.

**CENTRIFUGAL HONEY EXTRACTOR.**—Charles W. Metcalf, Santa Paula, Cal. Vertical shafts are journaled in the ends of the arms of a frame mounted to turn in a vessel, there being swinging comb holders supported on the shafts, a pin turning and forming a bearing for one end of the frame, a sprocket wheel on the pin and means for imparting a rotary motion thereto. The filled honeycombs can be readily inserted and the empty ones removed from this extractor, and the complete extraction of the honey from the inside and outside of the comb is assured.

## Miscellaneous.

**BADGE.**—Charles A. Tripp, Brattleborough, Vt. This is an improvement in ornamental badges or pins to be worn upon the clothing, the invention providing a simple and secure fastening for the badge, so that it cannot accidentally become detached. The fastening consists of a spiral and a hook projecting from the back of the badge at opposite ends, and is adapted to hold the badge on the clothing in such way that it will be displayed to advantage.

**CATAMENIAL SACK OR BANDAGE.**—Emma H. Carpenter, Springfield, Vt. This bandage is made with side rolls having a tape fastened in the cen-

ter of each roll, so that strain is relieved from the material of the bandage, and a novel arrangement of belt straps and tapes is employed to apply the bandage to the person.

**WAGON TOP.**—William Leonhardt, Baltimore, Md. Combined with the supporting standards is a collapsible or folding canopy frame composed of two horizontal rails and a series of short bows pivoted to the rails, all adapted to fold, with means for holding the bows in a normal vertical position. By this improvement the canopy or upper portion only of the wagon top is adapted to fold, the body or main portion being supported rigidly, although made removable from the wagon body. This improved top may be easily and quickly lowered to enable the wagon to pass under barriers.

**OIL RESERVOIR.**—Frank W. Mosby, Jr., Birmingham, Ala. This invention relates more particularly to an improved tank adapted for use upon locomotives, the tank being provided with a heating chamber whereby the oil is always maintained in a fluid state. The tank consists of independent oil chambers, each provided with a cover, supply vent, and discharge pipe, a heating chamber being arranged adjacent to the oil chambers, and a steam pipe entering the heating chamber. If desired, the tank is to be surrounded with a wooden casing.

**CHECK CONTROLLED LOCK.**—James R. Buckingham, Mount Vernon, Ohio. This is a simple and efficient lock to hold articles such as umbrella handles, canes, billiard cues, etc., and which may be unlocked by dropping into the lock a check especially adapted to the lock, and which releases the locking mechanism. In the lock case is pivoted a swinging crooked lever having an arm adapted to fit upon an article to be locked up, a locking lever having a shoulder engaging the crooked lever, and a releasing catch at one side of the lever adapted to release a check.

**SEWING MACHINE ATTACHMENT.**—Mary L. Birdsong, Arco's, Miss. This is a device for attachment to machines operated by a treadle or pedal. It is a simple and readily applied removable hand lever attachment for the treadles, comprising inclined spring arms provided with a handle at their upper ends and having their lower ends bent to receive and clasp the edges of a treadle, whereby the machine may be readily run by the hand instead of by the foot of the operator.

**RULER.**—Victor M. Ariza, Maracaibo, Venezuela. This is a ruler for the use of draughtsmen and others which is designed to avoid the blotting and soiling of the paper by any ink that may accidentally get on the ruler, there being also a stop for indicating the length of the lines and mechanism for spacing. The casing is semi-cylindrical and provided with an absorbent lining, a roller fitted to the casing touching the lining, a pawl and ratchet mechanism turning the roller, and there being a scale and an adjustable arm for gauging the length of the lines.

**CHECK PERFORATING MACHINE.**—Albert R. Abbott, Boston, Mass. This is an improved machine for perforating dates and amounts in checks or documents of all descriptions. The invention provides a means whereby a table may be conveniently slid beneath any one of a series of punches to present a check, and the punches be expeditiously and conveniently operated, while the machine has a feed at once simple and positive, which may be readily thrown out of gear to receive the check or paper and will automatically return to its normal position, in clamping engagement with the article to be perforated.

**PENCIL SHARPENER.**—Orton H. Robinson, Grand Rapids, Mich. This sharpener comprises a tube having a longitudinally extending slot the side edges of which are sharpened and converge toward one end of the tube, the tube admitting or receiving the end of the pencil at an angle thereto for rotary action first against the diverging ends of the cutters formed by the sharpened edges. The pencil is sharpened by passing its point end through the oblique slot, and turning the pencil while the sharpener is firmly held. When the pencil is not in use the sharpener may be slipped over its pointed end to form a point protector.

**INK BOTTLE.**—William F. Hall, Rapid City, South Dakota. This bottle has an externally threaded neck in combination with an internally threaded thimble adapted to be screwed on to the neck of the bottle, and having an outwardly projecting flange at its upper end for supporting it in an aperture of the desk top. The bottle is particularly adapted for use on school desks, affording means for securing the filled bottle in an aperture in the desk, the mouth of the bottle being located flush with the upper surface of the desk top and the body of the bottle being hung in the desk.

**SPRAYING DEVICE.**—William J. Ruff, Quincy, Ill. This is an improvement on a former patented invention of the same inventor, forming a simple and durable device in which the sprayed liquids will be well mixed and which will not be liable to clog. The casing has two different sized compartments, a spraying nozzle being held on the end of the smaller one, and a spring-pressed piston valve held in the casing above the inlet opening and adapted to be seated on the part of the casing between the two compartments, while a valve carried by the piston valve projects into the opening of the spraying nozzle.

**BARROW COAT.**—Elise Halford, New York City. This invention relates to underwear for infants. The coat has a waist open at the front and provided with separable shoulder straps, a separate skirt open in front having the front edges overlapping one another, with means for fastening the overlapping parts, while a waistband attached to the upper edge of the skirt is adapted to be buttoned on the lower edge of the waist.

**SHELF SUPPORT.**—Henry M. Hart, Auburn, Ill. This is a support especially adapted for supporting the shelves of book cases, being so made that any shelf can be quickly and easily moved to bring it to a desired height in the case, even if the shelf is loaded. A semicircular plate attached to the under side

of the shelf has curved slots in which slide curved spring-pressed bolts adapted to project from the end of the plate and extend into apertures in the end walls of the case, the bolts being withdrawn by pressing upon attached flush buttons.

**FRUIT JAR COVER AND LOCK.**—John B. Johns, Findlay, Ohio. This invention provides a cover and a bail lock capable of being quickly and conveniently applied to or removed from the cover, causing the jar to be hermetically sealed. The bail is pivotally connected with the jar, and the cap, having a transverse channel with teeth in its bottom and a locking lever, is eccentrically mounted on the bail, the lever having a semicircular surface with teeth for engaging the teeth of the cap.

**BED SPRING.**—Wilbur L. Gillette, Yalesville, Conn. This is a simple form of spring and support, very cheap and durable, adapted for attachment to any ordinary bedstead rail to support the slats, and form a cheap, simple, and easy spring bed. The bracket which supports the spring is adapted to be secured in the notches of the rail where the bedstead slats are usually inserted, and the spring, which is a common form of spiral bed spring, is readily so attached to the bracket as to be supported in a vertical position, while the upper end of the spring is doubled to form a keeper adapted to receive a slat.

**HARMONY HARP.**—George W. Ellsworth, Bowling Green, O. This is similar in all points of construction to the ordinary orchestral harp, but reduces the number of strings to twenty-six and pedals to two. It comprehends all the keys of music both major and minor and by its peculiar stringing and tuning reduces performance upon it to the very minimum of ease. It is especially intended and adapted for a supplementary harmony instrument in large orchestra, dance, and street orchestra, and for accompaniments to vocal or instrumental parlor music.

**NOTE.**—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention and date of this paper.

## NEW BOOKS AND PUBLICATIONS.

The Ingersoll-Sergeant Drill Company, in their recently issued catalogue No. 8, present very full details of complete plants of mining, tunneling and quarrying machinery, together with a great deal of useful information touching a great variety of business of this nature. There have been many improvements made within a few years past in mining machinery and outfits, and this book represents the latest efforts in this line. It is profusely illustrated.

## SCIENTIFIC AMERICAN

## BUILDING EDITION.

## APRIL NUMBER.—(No. 78.)

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1. Elegant plate in colors of a cottage in the American style of architecture, erected at Rochelle Park, N. Y. Perspective view, floor plans, etc. G. W. Thompson, architect. Cost \$5,200 complete.
  2. Plate in colors of a residence at Bensonhurst, Long Island, N. Y. Perspective elevations and two floor plans, an excellent design.
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  5. A residence at Montclair, N. J., from plans prepared by Munn & Co., architects, New York. Two perspective views and floor plans. Cost \$8,500 complete.
  6. A mountain side residence erected for W. A. C. Chase, at Montclair, N. J. An excellent design. Floor plans and two perspective views, also an interior view. Cost \$6,500 complete. Munn & Co., architects, New York.
  7. An Asbury Park, N. J., cottage. Cost \$3,000 complete. Floor plans and perspective view.
  8. Sketch for a cemetery chapel of moderate cost.
  9. View of the Richmond Hill Congregational church and parsonage.
  10. Design for a family burial vault.
  11. Design for organ, All Saints, Compton, Leek.
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## Notes &amp; Queries

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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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(4212) C. H. G. writes: We have in our school a barometer whose cistern is full of mercury. The mercury rises about seven inches when it should rise about twenty-six inches. Please state in the columns of your paper the cause and remedy for this. A. The barometer should be refilled. There is air in the tube.

(4213) A. A. writes: I never take up your journal without finding much to interest me. The letter on vision in the issue of March 12 leads me to ask if your correspondents or you will explain why the elevation of objects at a distance seems greater when the head is in its ordinary position upright than when it is turned to a horizontal position as when lying down. Look for instance at a distant mountain, and observe carefully its apparent height. Then turn the head down, so that the eyes, instead of being on a level with each other, are one directly above the other, and observe the difference in apparent height. Is this change due to the influence of some habit in estimating distances? And which appearance is more conformable to actual proportion? A. Such effects as you describe are due to changing parallax. In our ordinary position there is no vertical parallax; lying on the side