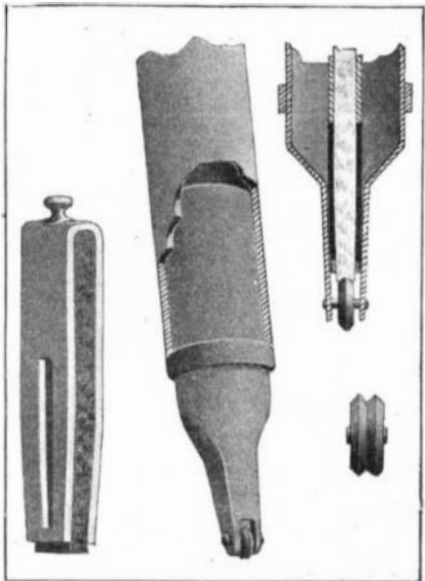




### RULING PEN.

The ruling pen shown herewith is particularly adapted for the use of bookkeepers, and its arrangement is such that when not in use, the ink it carries will be practically prevented from drying out. The pen belongs to the marking-wheel type, and comprises



RULING PEN.

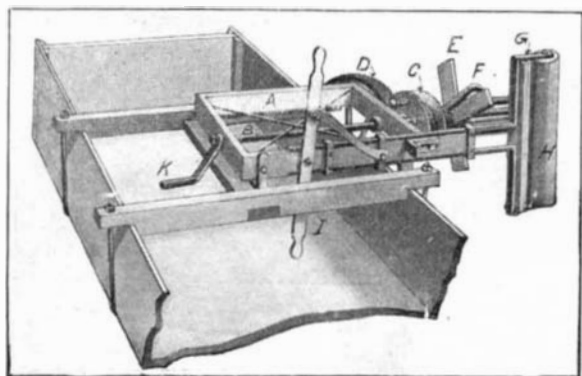
a pair of wheel holders, removably or reversibly fitted in each end of a tubular handle. The wheel holders each comprise a hollow body portion, with a flat extension in which the marking wheel is journaled. The opposite end of the hollow body portion is closed by a cap. Fitted within the holder is a metal plate bent to U-shape, within which an inking-pad is held. The pad presses against the upper edge of the marking wheel, and thus supplies it with ink. The pad holder is formed with a slot in its wall, through which a pin may be inserted to adjust the pad when necessary. Preferably one of the wheel holders is provided with a double wheel, and the other with a single one, so that the same instrument may be used for making a double or single line as desired. Normally, the holders fit snugly in the tubular handle with the wheels projecting inward, so as to prevent injury to the wheels or evaporation of the ink. A collar formed on each wheel holder prevents it from slipping too far into the handle. When using the pen, the desired wheel holder is taken out and slipped back into the handle, with the marking wheel projecting outward. By pressing the flat extension of the wheel holder against a ruler, the marking-wheel may be guided evenly, to make a clear, straight line. Mr. Eugene A. Bagby, of Winchester, Ky., is the inventor of this instrument.

### WIRE-REELING APPARATUS.

The apparatus herewith illustrated is adapted for reeling up a fence wire which is being removed from the posts or for paying out a wire when erecting a wire fence. It is arranged to be carried on a wagon, and may be readily swung from one side of the vehicle to the other, as occasion may require.

The apparatus comprises two rails laid across the wagon, and held in place by bolts. These rails are connected by a cross brace to which a metal bar is secured. A square frame *A*, which carries the reel shaft *B*, is journaled in the upturned ends of this bar. A friction wheel *C* is slidably carried on the shaft *B* in such position as to engage the wheel *D* of the wagon.

The friction wheel is formed with two inclined flanges, which embrace the rim of the wagon wheel, one of the flanges being loosely mounted on the hub of the friction wheel, against which it is pressed by a number of coil springs carried on stud-bolts project-



WIRE-REELING APPARATUS.

ing laterally from the wheel body. By means of nuts on the bolts the springs may be tightened, thus increasing the frictional engagement of the flanges on the wagon wheel.

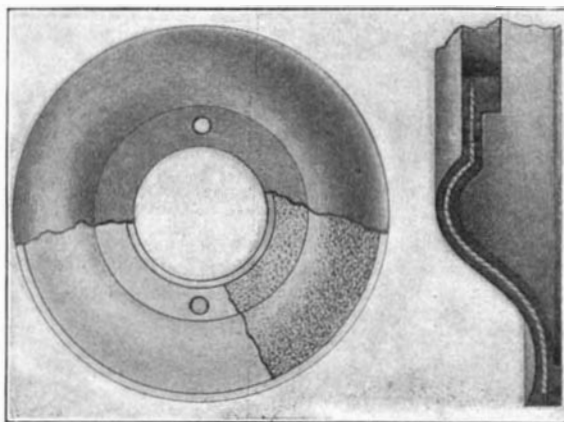
The wire-holding spool *E* is slipped onto the outer end of the shaft *B*, and held by means of a split key against a clutch device *F*, which interlocks with the head portions of a wire-holding spool, causing it to rotate when the wagon is drawn forward. The slidable connection of the friction wheel *C*, with the shaft *B*, adapts it to yield laterally, so as to compensate for any wobbling of the wagon wheel.

When reeling up the wire, it is guided between a guide bar *G* and a vertical guide roller *H*. These are carried between the ends of a pair of straps, which are slidably secured to the forward member of the reel frame *A*. By means of the operating lever *I*, the roller and guide bar may be moved back and forth to lay the wire evenly on the spool. When the end of the line of fence is reached, the frame *A* is swung over on its pivots to the other side of the vehicle, and the wagon is turned around for the return trip. When approaching a corner of the fence, or some place which is inaccessible to the wagon, the spool may be turned by a crank handle *K* applied to the squared inner end of the shaft *B*. The bar in which the frame *B* is pivoted is secured to a cross piece by a central pivot bolt and a removable bolt. When paying out wire the latter bolt is removed, and the bar is held instead by a wooden pin. In case the tension on the wire becomes too great, this pin will break instead of the wire. A patent for this wire-reeling apparatus has been granted to Mr. Benedict Reichenberger, of Huron, Kansas, Rural Route No. 1.

### PUMP DIAPHRAGM.

A new type of pump diaphragm has just been invented by Mr. Edwin George, Jr., of 28 South Street, New York city.

This diaphragm is made of an upper and lower



PUMP DIAPHRAGM.

layer of rubber, between which is an interlining of waterproof leather, the whole being firmly cemented together.

Diaphragms have heretofore been made with a cotton duck interlining, but considerable difficulty has been experienced in making such a diaphragm sufficiently strong to do certain kinds of work, such as pumping out trenches filled with water containing sand, gravel, or sewerage. The canvas is also apt to deteriorate under conditions of usage, thereby rendering the diaphragm practically useless in a comparatively short space of time.

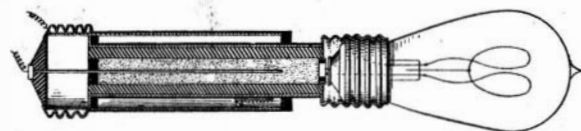
All these difficulties are obviously overcome by the use of a rawhide interlining. The leather is practically as pliable as the cotton duck, so that the resiliency of the diaphragm is not destroyed. Furthermore, its tensile strength is much greater than the best cotton duck, and being unaffected by water, it makes the diaphragm more serviceable, and adds greatly to its life.

### ODDITIES IN INVENTION.

**TROUSERS CREASER.**—An Illinois inventor has recently devised a novel form of iron for creasing trousers. It consists of a pair of rollers mounted upon a pair of handles, which are hinged together in the manner of a pair of tongs. The device may be heated by a gas jet or otherwise, and the garment is then creased by being passed between the rollers. The inner ends of the rollers are slightly beveled so that no noticeable line will be formed between the pressed and unpressed portions of the trousers. One of the handles is formed with an arm which extends from one of the rollers to the other, and is provided with a slot adapted to engage the pivot stud of the latter roller, thus limiting its movement. The arm also serves as a guide to limit the extent to which the cloth may be inserted between the rollers. The principal advantage of this

device lies in the fact that it may be used for creasing the trousers without removing the garment from the wearer.

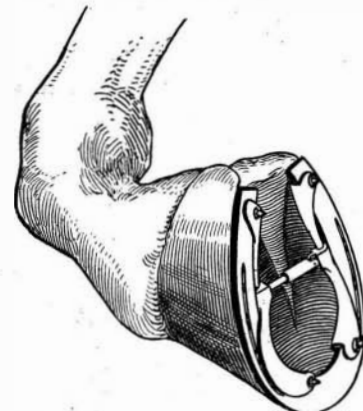
**SIMPLE RHEOSTAT FOR ELECTRIC LAMPS.**—The desirability of varying at will the intensity of the light produced by an incandescent electric lamp has given rise to a great many inventions. One of these, which we illustrate herewith, is very simple and not liable to get out of order. It consists of a rheostat formed of two telescoping tubes. The inner tube, which is formed of insulating material, carries the lamp socket. The sleeve of the lamp socket extends to the top of the inner tube, where it is bent out to make contact with the inner wall of the outer tube. The inner tube is filled with a quantity of resistance material such as graphite, which rests on the central contact piece of



SIMPLE RHEOSTAT FOR ELECTRIC LIGHTS.

the lamp socket, and extending into this graphite is a central pin carried by the outer tube, but insulated therefrom. When the proper electrical connections are made with this pin and with the outer tube, the lamp will glow with a brightness depending upon the amount of graphite interposed between the pin and the central contact in the lamp socket. By means of a pinion journaled in the outer tube, which engages a rack on the lamp socket sleeve, the inner tube may be drawn in or out to any desired extent, thus regulating the intensity of the light to a nicety.

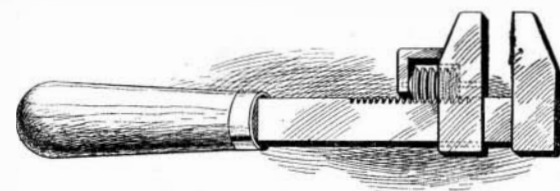
**HORSESHOE ICE CREEPER.**—Illustrated herewith is an inexpensive device which can be detachably connected to a horseshoe to prevent the horse from slipping upon the ice. The device is so arranged that it can be adjusted to horseshoes of different sizes. It comprises curved side members formed with grooves so that they can be fitted on to the inner edges of the horse-



HORSESHOE ICE CREEPER.

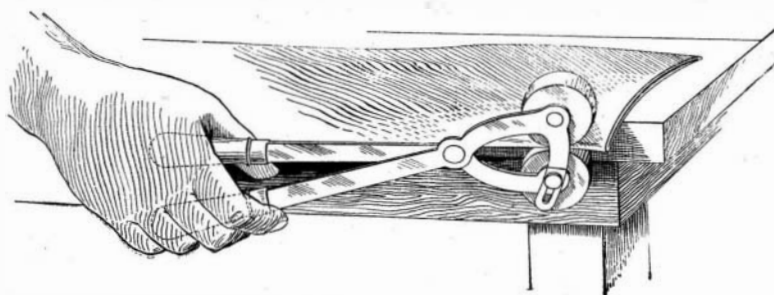
shoe. These members carry calks at each end for engaging the ice. The side members are held in position by a turnbuckle which is operated to spread them apart. Each side member is formed of two sections, one of which is threaded into the other, so that they can be adjusted to any desired size or form of horseshoe.

**QUICK-ACTING WRENCH.**—The wrench shown herewith is arranged to permit a rapid adjustment to any desired position. The worm which operates on the rack to raise or lower the movable jaw is cut away at one side, so that it can be turned to clear the rack. The jaw can then be adjusted up to any desired position.



QUICK-ACTING WRENCH.

tion, and its hold tightened by bringing the worm again into engagement with the rack. To hold the worm, it is turned far enough to bring a depression in its upper face into register with a spring-pressed pin. The worm is normally pressed upward by a disk spring, which will yield to permit the worm to turn far enough to engage the pin.



TROUSERS CREASER.