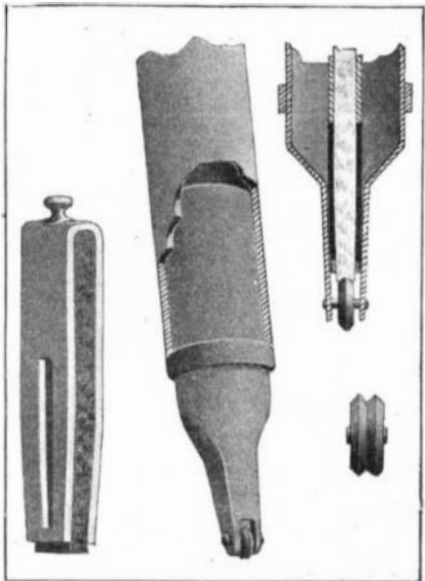


**RULING PEN.**

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.**

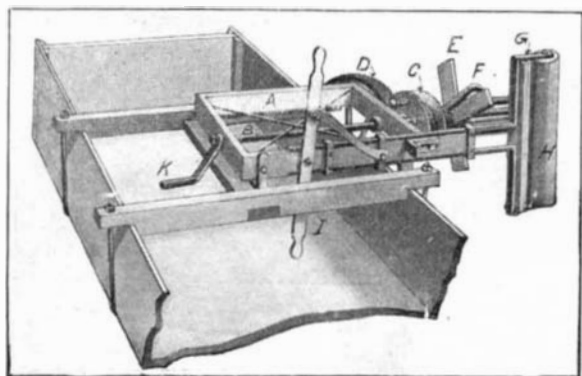
a pair of wheel holders, removably or reversibly fitted in each end of a tubular handle. The wheel holders each comprise a hollow body portion, with a flat extension in which the marking wheel is journaled. The opposite end of the hollow body portion is closed by a cap. Fitted within the holder is a 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.

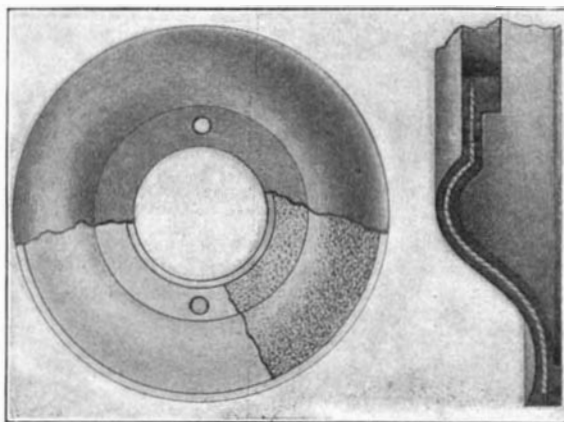
The wire-holding spool *E* is slipped onto the outer end of the shaft *B*, and held by means of a split key against a clutch device *F*, which interlocks with the head portions of a wire-holding spool, causing it to rotate when the wagon is drawn forward. The slidable connection of the friction wheel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

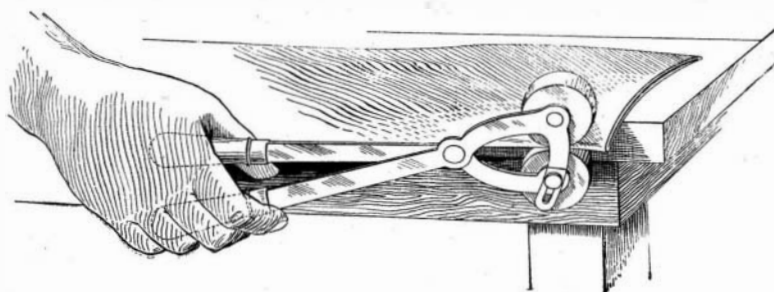
layer of rubber, between which is an interlining of waterproof leather, the whole being firmly cemented together.

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.

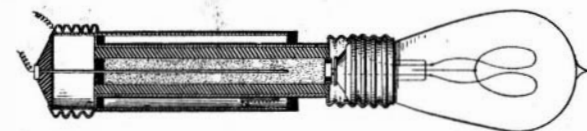
ODDITIES IN INVENTION.

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

**TROUSERS CREASER.**

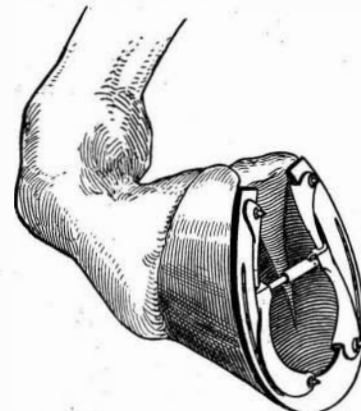
device lies in the fact that it may be used for creasing the trousers without removing the garment from the wearer.

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.**

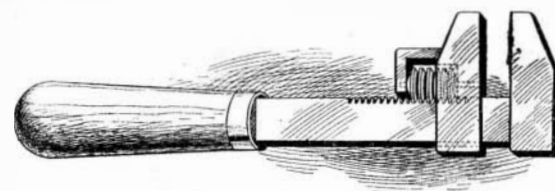
the lamp socket, and extending into this graphite is a central pin carried by the outer tube, but insulated therefrom. When the proper electrical connections are made with this pin and with the outer tube, the lamp will glow with a brightness depending upon the amount of graphite interposed between the 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.**

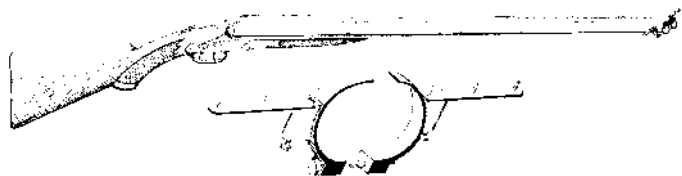
shoe. These members carry calks at each end for engaging the ice. The side members are held in position by a turnbuckle which is operated to spread them apart. Each side member is formed of two sections, one of which is threaded into the other, so that they can be adjusted to any desired size or form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

GUN SIGHT.—It is estimated that at a distance of thirty feet a huntsman should aim his gun two feet in advance of a flying mallard duck, and four feet in advance of a teal duck, in order to properly cover the bird. To assist the hunter in thus aiming his gun, an Iowa inventor has devised the gun sight here illustrated, which may be quickly applied to any shotgun. It consists of a pair of curved members, which may



GUN SIGHT.

be clamped to the barrel of the gun by means of a clamping screw. These members each carry an arm provided with a number of sights, spaced at suitable intervals thereon. The hunter can determine, at a glance, which one of these sights it is desirable to use, and by keeping the proper sight directly on the game, will be able to fire with great accuracy.

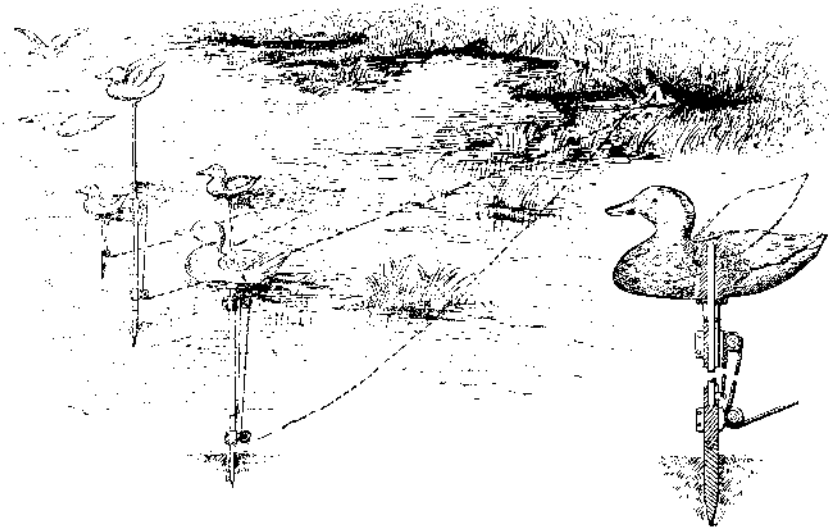
SUNSHADE.—A sunshade has recently been invented, which can be carried by a person without interfering with the free use of his arms. As shown in the engraving, the sunshade is attached to a wire yoke-piece adapted to be fitted over the wearer's shoulders and strapped in place. Aside from its pivotal connection with the two upwardly-projecting arms of the yoke-piece, the sunshade is also provided with guy



SUNSHADE.

cords which extend through eyes on the yoke-piece. By this arrangement the shade may be tilted to any desired position, and held by inserting plugs in these eyes. This invention will be found useful to travelers in tropical countries, as it will provide a good protection from the sun's hot rays or from rains without in the least encumbering the wearer.

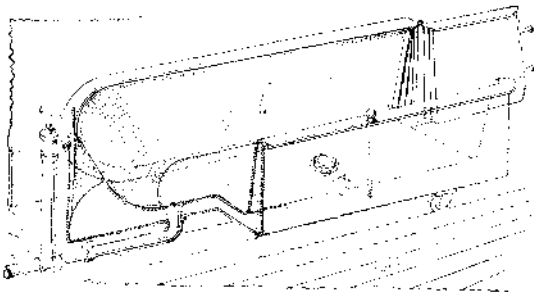
IMPROVED DECOY FOR WILD BIRDS OR FOWLS.—Sportsmen will find interesting a recent invention of a decoy for birds, which may be operated from a distance to rise and fall and to move the wings, thus giving a life-like appearance, and immediately attracting wild birds or fowls. The decoy is mounted on a rod which fits into the tube provided with a pipe at its lower end, whereby the decoy may be anchored. A lug on the rod projects from a slot in the tube, and is attached to a cord which passes over a pulley at the top of the



IMPROVED DECOY FOR WILD BIRDS OR FOWLS.

tube and under a pulley at the bottom. Thence the cord passes to the operator, who is concealed. The top of the rod, above referred to, passes freely through the body of the decoy, and its upper end engages a pin attached to the wings, which are hinged to the main body of the decoy. Now, when the operator draws upon the cord, the rod will be raised, lifting the pin and causing the wings to move in a very life-like manner. On further drawing the cord, a pin on the rod is brought into contact with the lower side of the decoy, lifting the decoy bodily from the water.

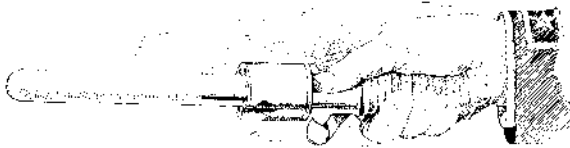
BATHTUB FOR INVALIDS.—It is sometimes a very difficult matter to lift an invalid or a decrepit person into or out of a bathtub of the usual type. A New York woman has invented a new type of bathtub particularly adapted to overcome this difficulty. The tub is provided with a water-tight door at one end, which may be opened to afford entrance to or exit from the tub. The tub is formed with double walls between which the water is first let in and brought to the proper degree of temperature. After the person has entered



BATHTUB FOR INVALIDS.

the tub the door is closed and the water is admitted through a large opening in the bottom of the tub.

POLICEMAN'S MACE.—In certain emergencies it would be of decided advantage to a policeman if he could carry a revolver ready for instant use, without disclosing the fact that he was armed with anything more than the ordinary mace. For such emergencies, a Chicago inventor has devised the combined mace and revolver, which we illustrate herewith. The mace, which is of ordinary appearance, comprises a



POLICEMAN'S MACE AND REVOLVER COMBINED.

handle portion and a club portion, which are screwed together. The handle carries a hammer or trigger mechanism, and when desired the handle and club may be separated and a revolver cylinder applied between them, thus converting the mace into a revolver. However, the revolver cylinder on the club is inconspicuous, and will not be observed except on close scrutiny.

Brief Notes Concerning Patents.

According to the Washington Star elaborate tests of considerable scientific value have been made in the Potomac River of a continuous sounding machine, by which a profile can be made of the river bottom. The value of such a machine will be apparent to almost anyone. The present method of performing this operation is by "heaving the lead," which time-honored process is necessarily crude and incomplete. It has the disadvantage that between two points where a sounding may have been made, there may be quite a considerable obstruction in the shape of a rock or some sunken piece of wreckage, capable of doing serious damage to the bottom of a craft striking it. The device referred to consists

of the graduated rod about thirty feet in length, running freely up and down and adjusted to the side of a launch or any character of boat. This is approximately perpendicular to the water, and terminates at the bottom in a wheel of sufficient weight to insure contact with the bottom at any speed otherwise suitable for sounding. By proper adjustment the rod is compelled to roll along on the bottom while maintaining its vertical position, and this is extremely sensitive to any change whatever in the profile of the bottom of the river at the point of the boat's passage. At the

test referred to, the device indicated at one point an obstruction which could hardly have been of greater proportions than a barrel half covered in the mud of the river bottom. The device is the patent of a young Marylander now resident in Washington.

Many new thrills and novel sensations are being experienced by the guests at the St. Louis Exposition, and a company has undertaken to put up the great American refreshment, ice cream, in the most novel and convenient form which has ever been devised. This company utilizes the collapsible tube in which paint has been so long sold for the use of artists. This tube was used first for this purpose, and later came into favor for tooth-paste, some forms of soap, and similar commodities. The inventor is of the opinion that this invention will appeal to the great majority of visitors to the Fair, for the reason that it will be a time-saver.

A vestibuled cattle train is the invention of W. A. Buckner, of Cleburne, Texas. This is a device to facilitate the loading and unloading of cattle being shipped alive, and also to provide means by which the cattle may be separated or treated in case of accident or sickness if necessary without the necessity of stopping the train. The arrangement is a very simple one, merely calling for the construction of double doors at each end of the car and a folding platform. As the doors are opened and the platform extended and held in this position by means of hooks, the vestibule is formed, and thus the cattle can be driven in at one end, and may pass the whole length of the train. As each car is filled, the end doors are closed and the cattle allowed to fill the next one. In this manner the train is loaded very rapidly.

One of the trials of the brickmaker is the loss occasioned sometimes by the destruction of the cubes of clay which are in the course of drying, preparatory to being burned. It is said that a year ago, during the prevalence of some unusual floods, the brick-making companies along the Hackensack River lost \$10,000 in this manner. A system by which this is entirely overcome has been worked out by H. H. Walsh, who is a brickmaker and a member of the North Jersey Brick Company at Carlstadt, N. J. He has arranged at the works named a continuous drying plant, into which the bricks are placed in lots of fifteen hundred at a time. The bricks are carried along on an endless chain, slowly progressing through the chamber from one end to the other. The moisture in this manner is quickly driven from the green bricks, and when they emerge they are ready for the burning kiln. This drying chamber is operated in a very economical manner, for the reason that the heat is supplied by the exhaust from the boiler.

Despite the fact that in the course of the past two years a number of labor-saving devices have been introduced into the glass factory of Ball Brothers in Muncie, Ind., there are to-day more men employed in the establishment than ever before. Most of the inventions which have been lately installed in this plant are the work of one of its employes, Albert Bingham, who has been exceedingly energetic in devising improvements by which manual labor has been supplanted by machinery. An automatic cut-off attachment which this gentleman is responsible for was given a test a few weeks ago, and its initial operation was pronounced a success from every standpoint. By its use, all the work now done by the "pressers" and "set-up boys" will be performed in an entirely satisfactory manner, and the services of these hands dispensed with. This means, in this particular case, nearly one hundred employees. A year ago, a similar innovation was put into service in this establishment, and a like saving of labor effected; but as stated above, these introductions did not result in actually cutting down the pay roll, for the business of the concern has been so great that additional employees have been taken on from time to time, to enable the firm to keep abreast of the orders.

William Jennings Holman, who was well known in scientific and mechanical circles, died recently at his home in Minneapolis, Minn., at the advanced age of eighty-four years. He had done a number of things which have been the means of attracting public notice to himself, but nothing did this more successfully than the invention and construction of the Holman locomotive speed truck, which has been experimented with by several railroads. The merits of this invention have been the subject of much discussion, but the device never worked its way into any great popularity. Mr. Holman led a remarkably active career, and only a week before his death submitted to the Baldwin Company in Philadelphia the drawings of a locomotive improvement which he had recently invented. He built the old Peru & Indianapolis Railroad, which was the first line in the State of Indiana, and which was constructed in the early fifties, and he occupied the chair as president of the company for a number of years. He also figured in the discovery of the South Park gold fields in the southern part of Colorado.