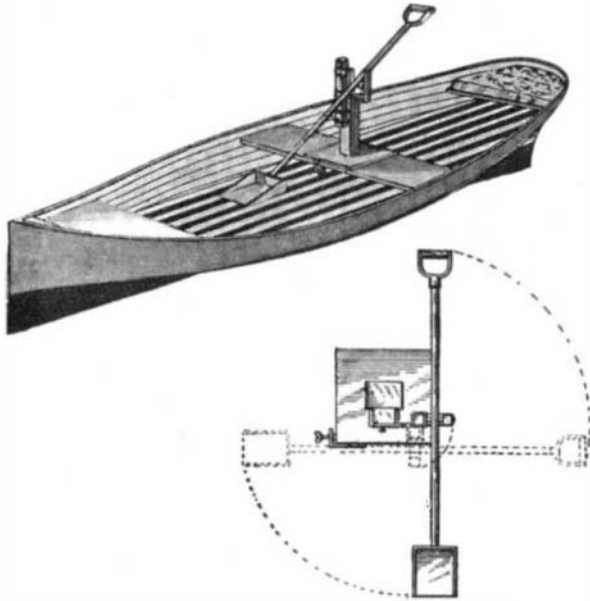




BOAT BAILER.

A patent has just been granted to Mr. Herbert P. Van Wagenen, of Rye, N. Y., on an improved device for bailing out the water from rowboats and the like.



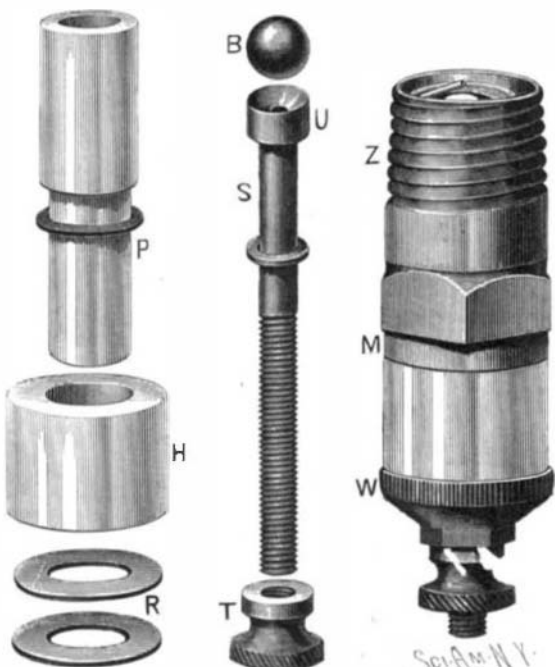
BOAT BAILER.

Such boats are seldom provided with protection from the weather, and after a storm the owner is obliged to undertake the tedious task of bailing out the rain water that has collected in the boat, or the water that has been washed in by the storm. The object of Mr. Van Wagenen's invention is to facilitate this task by providing a simple device which may be readily applied to the thwart and which will not require the operator to stoop or bend over while using it. The improved bailer is mounted on a plate which may be secured to the thwart by means of hinged clamps. A standard extends upward from the plate and is provided with a pair of guide straps within which a post is adjustably supported by pins, which may be set as desired in any of the series of holes in the post. Hinged to the post is a yoke piece in which the handle of a scoop is mounted to swing. The hinged yoke permits the scoop to be swung laterally, as shown in the plan view of the accompanying engraving, while the pivotal connection between the handle and the yoke permits the scoop to be swung in a vertical plane, as well. In operation the scoop is first dipped into the water in the boat, then raised and turned laterally to discharge the water over the side of the boat. Owing to the adjustable connection of the post with the standard, the fulcrum of the scoop may be raised or lowered to suit the convenience of the operator. After the bailing operation is completed the device may be easily removed by unscrewing the clamp which holds the plate to the thwart.

A NEW SELF-CLEANING SPARK PLUG.

The annexed cut shows the general appearance and details of a new spark plug which has just been placed on the market, and which, according to its inventors, Messrs. M. C. Hopkins and James Marini, offers several important improvements.

The new plug consists of the usual metal shell, *Z*, having a seat inside upon which rests, through the intermedium of an asbestos packing washer, the hol-



A NEW SELF-CLEANING SPARK PLUG.

low porcelain stem, *P*. The metal rod which passes through *P*, and which seats upon a shoulder in it near one end, is also hollow and has a rounded cavity, *U*, at its inner end, intended to receive a small steel ball, *B*, which stops up the hole in *S*, and keeps the gas from escaping when the motor compresses. Upon the suction stroke the ball is drawn away from the hole in *S*, and fresh air is drawn in past the porcelain at a high rate of speed, thus exerting a cleaning action upon the latter. A stiff wire, which is coiled around and sprung into a groove within the shell, has one end projecting out over the ball and acting as a stop for the latter upon the suction stroke of the motor, while on the compression stroke the ball being driven to its seat forms a gap for the spark to jump between the ball and the wire. The plug is completed by a heavy porcelain cap, *H*, which fits over *P* and is clamped against metal and asbestos packing washers, *M* and *R*, by means of the cap, *W*, and a small nut, both of which are threaded on *S*. A suitable thumb nut holds in place the secondary wire.

One would suppose that the constant hammering of the ball against the wire would spring the latter some and lengthen the spark gap, but this is not the case. Furthermore, the additional air drawn in through the spark plug has a beneficial action on the mixture, and the motor is found to develop somewhat more power with, at the same time, a tendency toward decreased gasoline consumption. Another curious feature is that in starting a motor equipped with the new plug the gasoline mixture does not need to be enriched, as is ordinarily done, by flooding the carbureter. In fact, a very weak mixture will ignite more readily than a rich one which, with most plugs, is requisite. Besides keeping the plug clean under the most adverse conditions, the intermittent influxes of air serve to keep it cool, so that there is no trouble from porcelains cracking owing to the expansion resulting from great heat. The plug would seem to be an ideal one for air-cooled motors on this account. The automobile editor of this journal has given it a thorough test and found it to work satisfactorily.

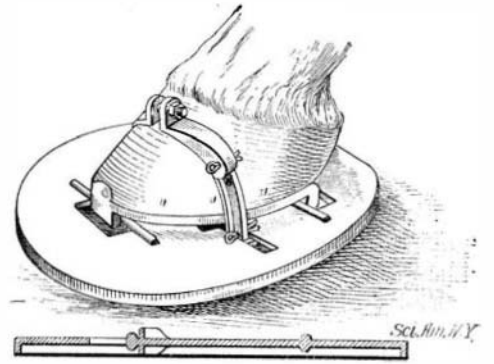
HANGER FOR CABLE HEADS.

Pictured in the accompanying engraving is an improved hanger adapted particularly for use in connection with the heads or portions of aerial conducting cables which are made into distributing boxes, and the like. The hanger is a very simple one and yet makes a perfectly secure support for the cable head. In the illustration, the cable is shown as suspended from a wire or strand in the usual manner. Thence the cable extends vertically upward, terminating in a head, or enlargement, which enters the distributing box. The improved hanger is located on the pole below the box. It is formed of three wrought-iron bars which are fastened together with a single bolt. The two horizontal bars are formed with curved ends adapted to embrace the cable, the distance between them being such that they may be drawn into contact with the cable by tightening the bolt. The third bar, which at the upper end extends between the horizontal bars, serves as a stay for them. The lower end of the stay is bent at right angles so that it may be secured to the post by a lag screw, thus bracing the hanger by taking the downward thrust of the weight upon it. In use the horizontal bars are first secured to opposite sides of the pole, at a suitable distance below the cable head, and the vertical portion is introduced between the curved ends. The stay is then fastened to the pole and the bolt is tightened so as to clamp the curved ends of the bar onto the cable, and thus support it. A patent on this improved hanger has been secured by Messrs. Frank M. Winn and Louis F. Doelinger, Marshalltown, Iowa.

ODDITIES IN INVENTIONS.

SOFT-GROUND HORSESHOE.—Quite a demand has recently arisen for soft-ground horseshoes, that is, broad, flat shoes which, owing to their large area, will prevent the feet of horses from sinking unduly into the ground. A simple shoe of this type has recently been invented, which is so designed that it can be easily reversed. The advantage of this design will be particularly felt in winter-time, as the shoe is prevented from balling up with snow. As the reversible shoe is smooth at one side, it will be found advantageous for use on horses when mowing lawns. It consists of a

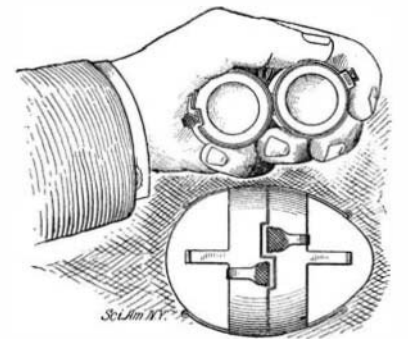
plate with a flange projecting from one face along the periphery and formed with slots to admit the calks of a horseshoe. Ribs on the plate prevent the calks from sliding back and forth on the plate. At each side a T-slot is formed to admit the head of a clamping strap. The two straps are bolted together over



SOFT-GROUND HORSESHOE.

the hoof of the horse, as shown. One of the straps is formed of two members which are adjustably connected by means of a pin. This permits of adapting the shoe to different sizes of hoofs.

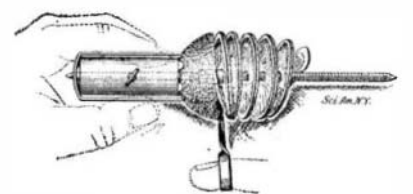
EGG OPENER.—In hotels and restaurants, it is generally the custom, when serving boiled eggs, for waiters to open the eggs in the presence of customers, a practice which is very inconvenient and annoying as it frequently results in spilling part of the egg, and soiling the table linen, and producing an unpleasant effect upon the customer. To avoid such circumstances, Messrs. A. C. V. Merrifield and H. Potter, of New York city, have invented a device which facilitates breaking open the shell, and then serves as a holder for the two parts of the shell, permitting the contents to be removed with ease. The device consists of two bands which are hinged together at one side. Each band is made of spring metal or other resilient material, with the ends overlapping, so that it may be expanded or contracted by a pressure of the hand, thus adapting it to various sizes of eggs. Each band is also provided with spring fingers



EGG OPENER.

to hold the egg, and with a spring arm on the side opposite the hinge. These spring arms terminate in cutter blades, which pass through slots in the bands. In use the two bands are swung apart to admit the egg, and then they are closed upon it. The device is now held with a band in each hand. The spring arms are pressed inward, making two incisions in the shell and then before releasing the spring arms the bands are swung apart, breaking open the shell. As the egg is being broken open it should be inverted to permit the yolk to drop into the glass, and then the two parts may be held in the hand as illustrated, leaving the other hand free to remove the white of the egg.

VEGETABLE OR FRUIT SLICER.—The accompanying engraving illustrates a rather ingenious device for slicing vegetables or fruit. It comprises a threaded rod or pin on which the vegetable or fruit is impaled, and a knife adapted to be revolved spirally around the rod. The handle which carries the rod is formed with prongs which pierce the end of the fruit and prevent it from turning on the rod, while it is being sliced. In addition to the prongs the handle carries a pair of spring arms formed with jaws at their outer ends which assist in holding the fruit during the slicing operation. A nut is threaded onto the rod and carries the knife. In use the device is held as illustrated by dotted lines, and by pressing the finger



VEGETABLE OR FRUIT SLICER.

against the finger piece at the outer end of the knife, the latter is revolved about the rod; but owing to the thread on the nut and rod, the knife is advanced in spiral direction, cutting the fruit into a continuous spiral ribbon. Then, on cutting through the fruit from the circumference to the center, it will be divided into a number of separate slices, all of a uniform thickness. The rod is adjustably held in the handle so that it can be lengthened or shortened for different sizes of fruit. It may also be replaced by a rod with a different thread for slices of a different thickness.