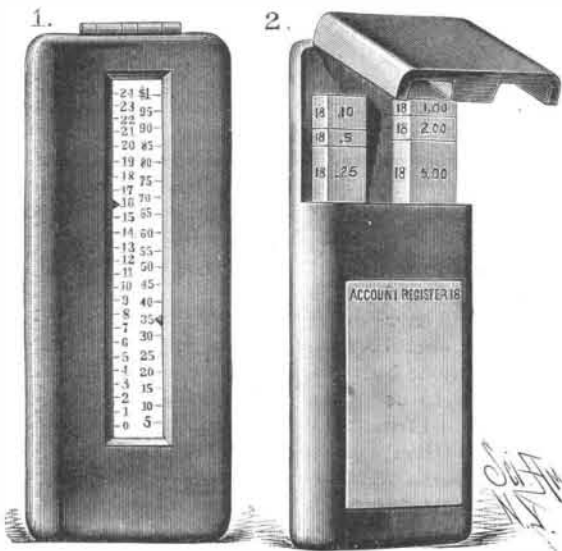


## IMPROVED ACCOUNT REGISTER.

This device is adapted for use in the keeping of accounts between a storekeeper and his customer. The case is arranged to receive and hold two sets of checks, one representing dollars and the other fractional parts of a dollar. The thickness of the checks varies in ac-



BENHAM'S ACCOUNT REGISTER.

cordance with the amount which they represent—as, for instance, the ten cent checks are twice as thick as the five cent ones, while the twenty-five cent checks are five times as thick. Each set of checks is passed upward by a spiral spring, above which is placed a block carrying a pointer ranging along a scale as shown in Fig. 1. As goods are bought, the checks representing their value are removed from the case, and pointers will then show the exact amount the customer owes in dollars and cents. For instance, Fig. 1 shows that \$16.35 have been taken out. The slate of celluloid inserted on back of Fig. 2 is for use to write orders or make out bills upon.

This invention has been patented by Luther Benham, of Marianna, Arkansas.

## IMPROVED NUMBER AND LETTER PLATE.

This number and letter plate is simple in construction and durable, and can be easily and securely attached



KIMBALL'S IMPROVED NUMBER AND LETTER PLATE.

to doors, etc. The letter plate consists of one or more plates formed on their fronts with numerals or letters, and of a dovetailed bar, Fig. 4, fitting into a corresponding groove, Figs. 2 and 3, formed on the back of each plate, which may be made either solid or box-shaped, with an open back. The bar is held to the door by screws passing through its ends. The sidewise movement of the several plates is prevented by a washer placed between each screw head and the bar, part of the edge of the washer fitting snugly against the edge of the plate. If desired, the head of the screw can perform the same function as the washer. The bar is made of varying lengths, to suit the number of plates to be united to form the required number or name.

This invention has been patented by Mr. H. Z. Kimball, of 416 Bedford Avenue, Brooklyn, N. Y.

## EXTENSION TABLE FOR RAILWAY CARS.

This extension or folding table is adapted for use at the side walls of railway cars, boats, rooms, or at the sides of house or office furniture, such as bureaus or desks. As shown in the engraving, the table is designed to fold partly against and partly within a hollow side wall of a car. The wall of the car next the floor is made hollow to provide an inner space, at the top of which is journaled a roller, over which the flexible part of the table top passes. The top consists of slats glued to a flexible backing. The outer portion of the table comprises a shelf fixed to an ornamental leg provided

with a ring or knob for drawing the table out fully into position for use. On the bottom of the leg are a roller and a couple of pins, which do not touch the floor when the leg rests on the roller; but when the table is drawn out the roller enters a recess, and the pins drop into holes in the floor. The pins prevent sidewise movement of the table, which will be thus held steadily. To the face of the wall is journaled suitably, on a vertical axis, a bracket, on which is fitted a spiral spring held at one end to the wall and at the other end to the bracket.

This spring acts normally, when the table is extended, to automatically swing the bracket outward beneath the top of the table; and as the table is pushed or folded, the bracket will be folded flat and in between the leg and wall, as the flexible top runs back over the roller and passes downward within the space in the wall. The slat at the free end of the top is a little longer than the others, to prevent the top from being drawn entirely from the opening. When the table is folded, the top and bracket are concealed from view, and the shelf may be utilized for holding various articles. It is evident that the table leg may be ornamented to correspond with the wall or piece of furniture to which it is connected.

This invention has been patented by Mr. George Schmitt, care of Delmonico's, Fifth Avenue and 26th Street, New York City.

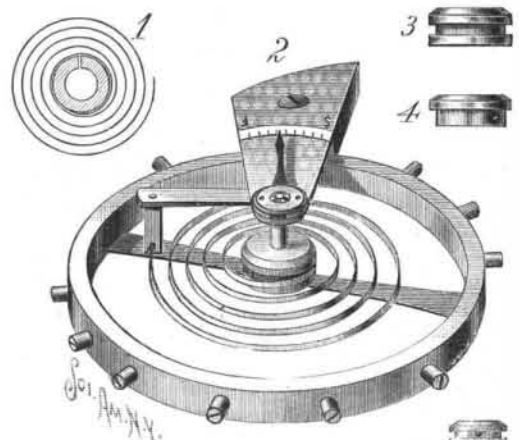
## Cemented Ships.

Portland cement has often been described as the very life of an iron or steel ship; and considering that, as a rule, the tendency to wear and tear from corrosion is much greater on the inside than on the outside of their plating, the substance in question is, says the *Engineer*, fairly deserving of the confidence reposed in it. If the cement is good and well looked after, the inside surface of the plating from bilge to bilge can suffer no injury whatever from the usual acid water lying in the limbers. Ships have been known to "float upon their cement," one case in particular being that of an old passenger steamer, which when examined in graving dock by striking the bottom with a hammer, yielded so dead a sound at one place that a closer inspection was made, revealing the unlooked for fact that cement and not iron was being struck. The bottom plating was, indeed, wholly wasted by corrosion at the place which was struck, but so hard was the cement that only by many and vigorous blows was it broken. But cement was cement in those days, and not the adulterated mixture one sometimes comes across in this degenerate age. Moreover, sharp, fresh-water sand was used in mixing such cement as that, and not the dirty saline substitute now too commonly employed.

## HAIR SPRING COLLET.

Since 1658, when Dr. Robert Hooke, of London, invented and applied the hair spring, or balance spring (then termed pendulum spring), there has been no improvement made in the manner of fastening them to the collet. It was then, and is yet, performed by inserting the inner end into a hole drilled diagonally through the wall of the collet, and then wedged by means of a small pin. By this operation the collet would take the position that the pin or wedge had, and the inner end of the hair spring would force it to one side and make it eccentric. And as the time-keeping qualities of any time piece having a balance and hair spring depend upon the isochronal vibrations of the spring, it was necessary to bend the inner end of the spring in such a manner as to make the spring and collet concentric. This re-

quired both skill and time, and was not perfect at best. The recent invention here illustrated consists of a collet with a groove turned circularly in it the exact width of the spring and as deep as the thickness of the spring, as shown in Fig. 3. The inner coil of the spring is then sprung into this groove, which holds it absolutely central and parallel with the plane of the collet by its tension or contracting force. The collet



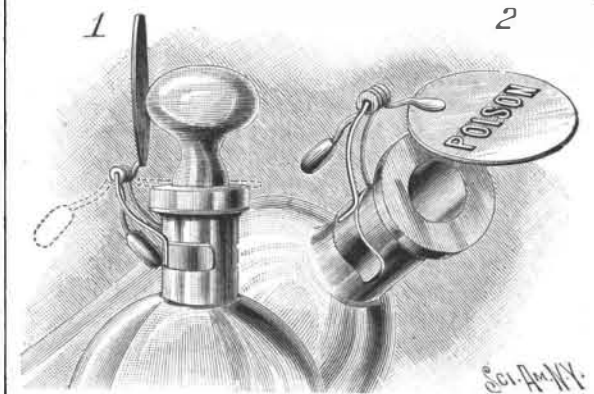
HUNZIKER'S HAIR SPRING COLLET.

may be formed with an annular flange only, Fig. 4, when the inner coil will be sprung over the reduced portion, and will be pressed firmly against the face of the flange. In soft springs, the inner end is inserted in a hole drilled diametrically through the wall of the collet, as shown in Fig. 5. Hardened springs hold sufficiently by the tension of the coil with the inner end.

This invention has been patented by Mr. Edward Hunziker, of 64 Nassau Street, New York City.

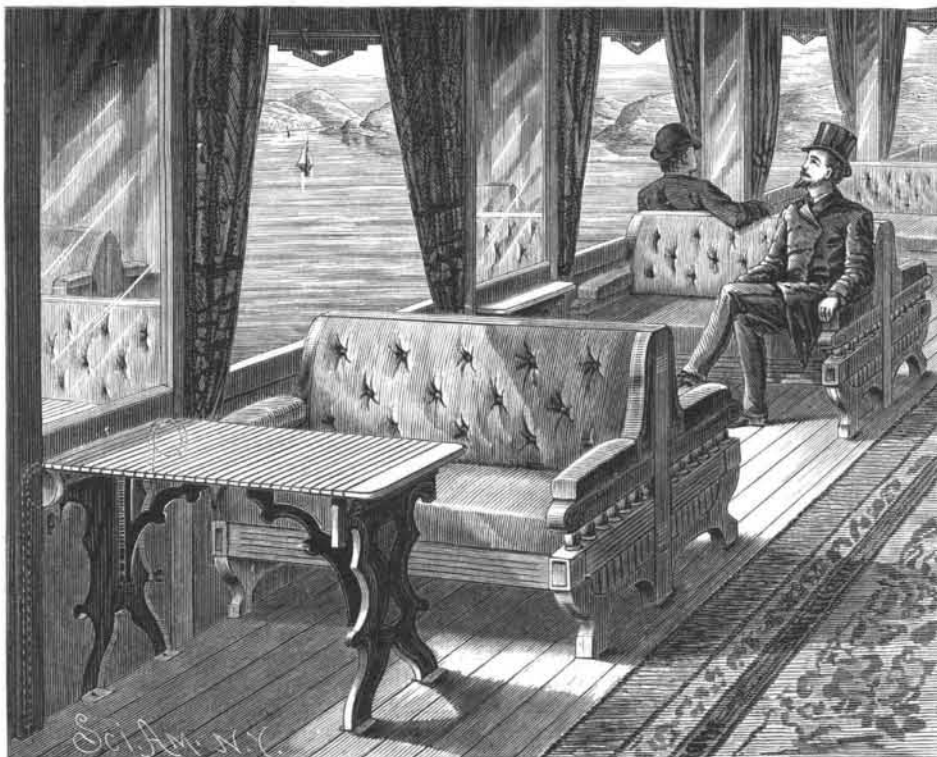
## BOTTLE ATTACHMENT.

The object of this invention—which has been patented by Mr. J. F. Herbert Sugg, of Sabula, Iowa—is to prevent mistakes in dispensing medicine, by bringing before the eyes of the druggist a movable label,



SUGG'S BOTTLE ATTACHMENT.

which will notify him of the nature of the contents of the bottle. Embracing the neck of the bottle is a spring clip, provided with a wire loop, upon the middle part of which is loosely pivoted a lever, formed of a wire bent spirally at its center, to form a spiral spring, which is placed on the loop. The ends of the lever extend in opposite directions, and one is secured to a plate marked with the word "poison," while the other carries a counterweight. The plate and weight are below the fulcrum, so that the lever is always in a state of stable equilibrium when the stopper is removed; and thus, when the bottle is tipped, the lever will maintain its position and allow the contents to be poured out. When the stopper is in the bottle, it holds the spring under tension, and the plate then stands vertically and presses against the stopper. When the stopper is removed, the plate is thrown forward over the mouth of the bottle by the spring. The sharp click of the plate striking the bottle calls attention to the word "poison," and, if the bottle remains in a vertical position, the plate will continue to cover the mouth and display the warning word. Should a mistake be made in dispensing the contents of the bottle, the druggist will be notified of it when he attempts to return the stopper, as the plate will be in the way, and must be removed before the stopper can be inserted. This attachment will also prevent drinking from the bottle in the dark by mistake, as it will interfere with the direct use of the bottle in that way.



SCHMITT'S EXTENSION TABLE FOR RAILWAY CARS.