RAILROAD TICKET HOLDER.

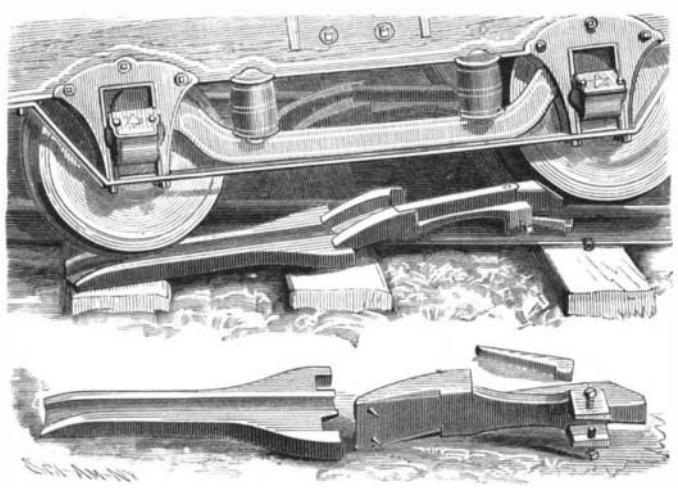
A flat casing, made of metal, rubber, or other material, is provided with a hinged front, adapted to swing downward, in which is held a pane of glass. On the inner surface of the back of the casing is a lock, the bolt of which catches on a spring catch and prevents the opening of the casing. The ticket is held against a spring band, secured transversely on the inner surface of the casing, by a small spring piece projecting upward in front of the lower part of the band. A pin, passing through apertures in the back, has its point and eye on the inner surface of the back; the outer part can be passed through the coat or other garment of the wearer. The pin is passed through the holes in the back when the casing is opened; but when the casing is locked, the pin holds it in place and makes it impossible to detach it. By means of a link the casing is suspended from a piece provided with a pin, by which the holder can be hung on the coat or dress in such a position that it can be easily seen by the conductor. The sectional engraving shows the construction of the holder.

CILLEY'S RAILROAD TICKET HOLDER.

This invention has been patented by Mr. Sherburn E. Cilley, of Turnbridge, Vt.

CAR REPLACER.

By means of the device herewith illustrated, cars and locomotives can readily and with comparative ease be replaced upon the track when derailed. The upper engraving shows the parts of the replacer in position, while those below show the parts separated. Upon the wide end of the frog are formed track flanges having rabbets at their inner ends; to the opposite end is pivoted one end of a tongue of such length that it extends to and fits into one or the other of the rabbets. The pivoted end of the tongue is shaped as shown in the cut. Upon each side of the frog, at the pivot end, is a downwardly extending lug, each provided with a set screw, and by the aid of which the end of the tongue may be adjusted exactly over the rail, a wedge being inserted between the lug—on that side of the rail from which the frog extends—and the web of the rail. The tongues, being then swung to have their free ends in the rabbets, will form continuous bearings for the wheels from the flanges to the rails. By this arrangement of the flanges, the tongue, the lugs, and by the use of the wedge, the frog can be adjusted for use either as a right or left hand frog, as the case in hand may require. Upon the under side of the lower end of the frog are prongs to be forced into one of the ties, to assist in holding the frog in place. The extension piece is a tapering plate having side flanges beveled at the thin end. The plate and flanges are made wider at the thick end of the plate, in which recesses are formed to pass upon the flanges of the frog. The under side of the plate is beveled to fit upon the adjoining part of the frog. One of these extension pieces is used with each frog.



JONES' CAR REPLACER.

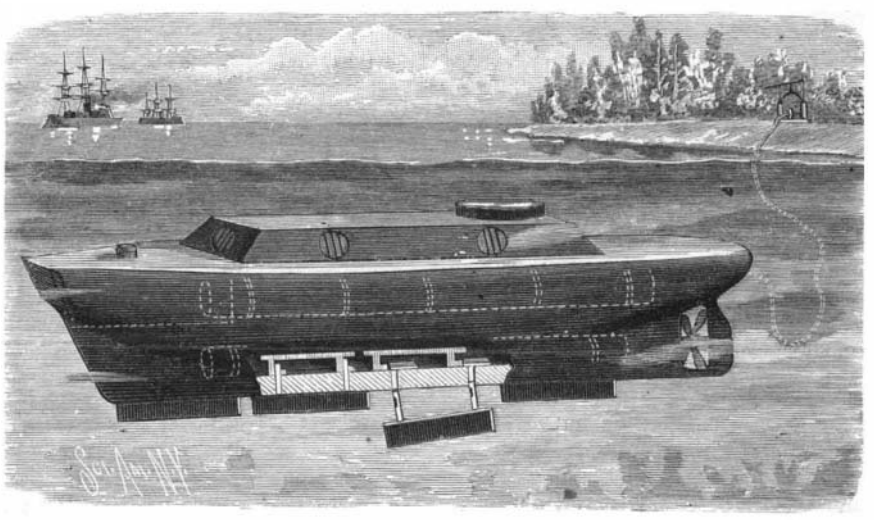
This invention has been patented by Mr. Robert Jones, whose address is P. O. box 1059, Salt Lake City, Utah.

KEEL FOR SUBMARINE BOATS.

The boat is provided with air tubes, water tanks, a detachable keel, a propeller, rudder, and a torpedo box, all adapted to work together and to be controlled by attendants within the boat; by these means the boat may be raised and lowered, or suspended at any point and may be removed to any location. The detachable iron keel is constructed of one or more parts provided with lugs, which pass through slots made in the keel of the boat. Suitable slide valves prevent the water from entering the boat when the detachable keels are dropped. The water tanks have valves to admit and discharge the water, and hose couplings to admit the air, and are used in combination with the air tubes and detachable keel to raise and lower the boat in the water. The air supply is received from an air pump placed either on shore, on a second boat, or in the submarine boat. At one end of the boat is a torpedo box that may be used as a place from which to work a drill to bore holes into a ship, for the purpose of introducing explosive material. This box is provided with water tight doors, which are used when preparing and liberating a torpedo beneath a vessel. An armor plated shell on top of the boat is used when the latter is employed in torpedo service.

The air tubes are partially filled to balance the weight of the extra keel, and the boat is moved to the place where it is desired to sink it. Water is then admitted to the tanks, and the air is allowed to escape; the boat sinks, and the equipoise is maintained by the inflation or discharge of the air cylinders, shown by the dotted lines. The boat is then moved forward under water by means of the propeller.

Further particulars regarding this invention can be obtained by addressing the patentee, Mr. Walter Hammond, of 409 Lanvale Street, Baltimore, Md.



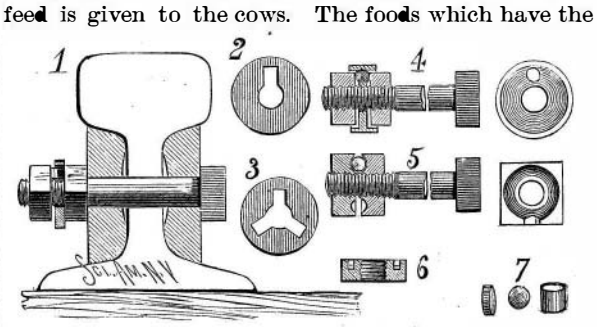
HAMMOND'S KEEL FOR SUBMARINE BOATS.

IMPROVED NUT LOCK.

The invention shown in the engraving, recently patented by Mr. James A. Campbell, of Brenham, Texas, consists of a friction roller held loosely between two nuts, or between a nut and any object to be held by the bolt, and which binds the nut upon the bolt, and locks it when the lock nut is screwed down. Between the nut and nut lock is placed a washer formed with a rectangular recess, Fig. 2, which receives a cylindrical roller. In Fig. 3 the washer has three recesses. In Fig. 4 the washers are provided with circular apertures for receiving spherical rollers; this washer is formed with a rim covering the space between the nuts, to keep out dirt.

In Fig. 5 the nuts each have an annular groove for retaining a spherical roller, and one of them may have a short groove extending to the edge of the nut. The nut Fig. 6, is formed with a rectangular groove, and when two are placed together the grooves receive a flat, disk-like roller. Instead of using a tightening nut and nut lock, only one nut may be used, with the roller between the nut and the object to be secured. The washers are intended to be used between the fish plate or other object and the tightening nut, so that their rollers will prevent the fish plate from turning the nut by any movement it may have imparted to it.

When a spherical or disk roller is used without a washer, and with but one nut, the face of the object is grooved to correspond with the nut. With nuts having annular grooves, Fig. 5, the nut can be screwed nearly to place, and the roller then inserted through the groove leading to the edge. Fig. 7 shows forms of friction rollers. This nut lock is simple and sure in its operation, and can be varied in form as circumstances may require.



CAMPBELL'S IMPROVED NUT LOCK.

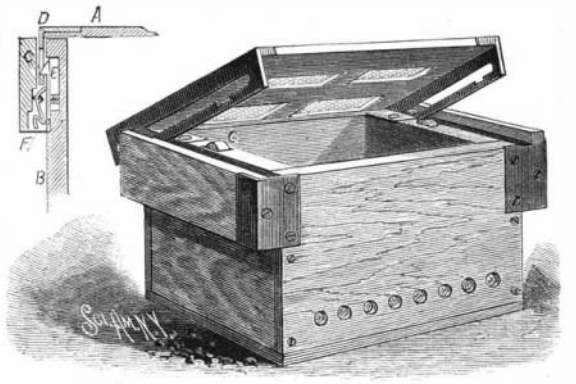
A Good Disinfectant.

The following compound has been presented to the Berlin Medical Society for purifying the atmosphere of the sick room:

Oils of rosemary, lavender, and thyme, in the proportions of 10, 2½, and 2½ parts, respectively, are mixed with water and nitric acid in the proportion of 30 to 1½. The bottle should be shaken before using, and sponge saturated in the compound and left to diffuse by evaporation. This compound is said to possess extraordinary properties in controlling odors and effluvia.

IMPROVED SHIPPING CASE.

The cover of the box is formed with end flanges, each having a longitudinal slot in the bottom edge of which, a short distance from the front end, is a recess. Passing through the slots are pins projecting from angle pieces secured on the top rear edges of the end pieces. On the outer surface of each end piece is a guard, C, formed with a recess to receive one of the cover flanges. On the inside of the guards are upright plates, formed with holes, in which the threaded ends of the pins can be screwed, thereby forming a support for the outer ends of the pins, and also firmly holding the inner ends of the guards. In the top edges of the ends, rollers, G, are journaled, on which the cover can slide.



MITRUCKER'S IMPROVED SHIPPING CASE.

When the cover is closed, the flanges rest in the grooves, and the hooks of spring latches, E (the sectional view shows the construction and position of the latches, and also that of the lever by which the latch hooks may be forced away from the recess in the longitudinal slot), rest in the bottom edges of the slots, thus holding the cover. When the box is to be opened, the fingers are placed in the V-shaped plates, F, formed on the lower end of a pivoted lever; the lever is moved away from the box, thereby pressing the upper ends of the hooks away from the notches in the flanges. The cover can be swung down against the back of the box, the rollers on the pin holding it in a vertical position. In closing the box the latches automatically catch on the edges of the slots. The cover can be opened more or less, as desired, can be pushed back, or can be raised. The cover flanges prevent damage to the box from the driving of nails through the cover.

This invention has been patented by Mr. Christian Mitrucker, whose address is care *Illustrated Staats Zeitung*, Chicago, Ill.

Bad Flavor in Milk.

Complaint is often made at the disagreeable taste of milk, especially in the autumn, when succulent or green feed is given to the cows. The foods which have the most marked effect on the flavor of milk are turnips and cabbages, many farmers feeding turnips throughout the year. Investigators of the subject recommend the use of boiling water to eradicate the unpleasant taste. While the adulteration laws of this and other cities may not allow its use by dealers, the consumer has the privilege of watering his own milk. To every gallon of new milk a pint of boiling water is recommended, and it is said it will almost invariably remove any flavor caused by any particular food on which the cows have fed.