

**A SPOON HOLDER ATTACHMENT FOR BOTTLES, ETC.**

An extremely simple and most convenient device for holding spoons for use with medicine and similar bottles, the device being readily attached to or detached from the bottle, is shown herewith, and has been patented by Mr. Alfred W. Hanington, of Ridgewood, N. Y. It consists of a single piece of wire bent upon itself to form the recesses indicated, whereby one or

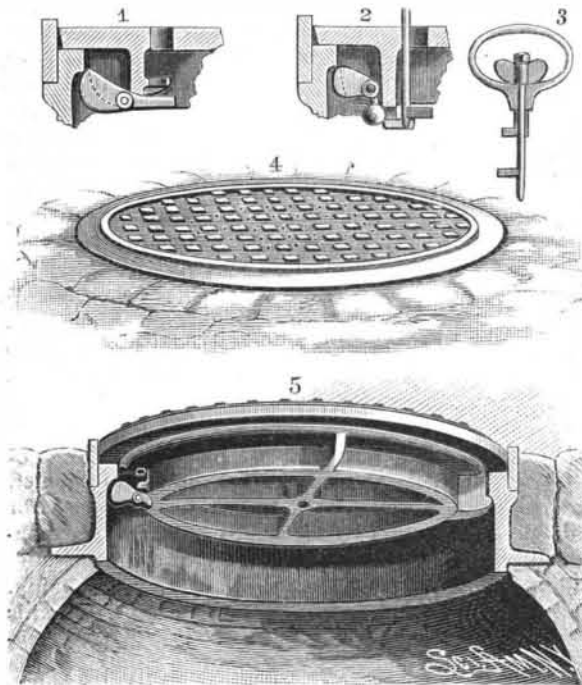


HANINGTON'S SPOON HOLDER.

more spoons may be held in a vertical or horizontal position, the semicircular disconnected ends being adapted to embrace the neck of the bottle, and being made to spring thereon.

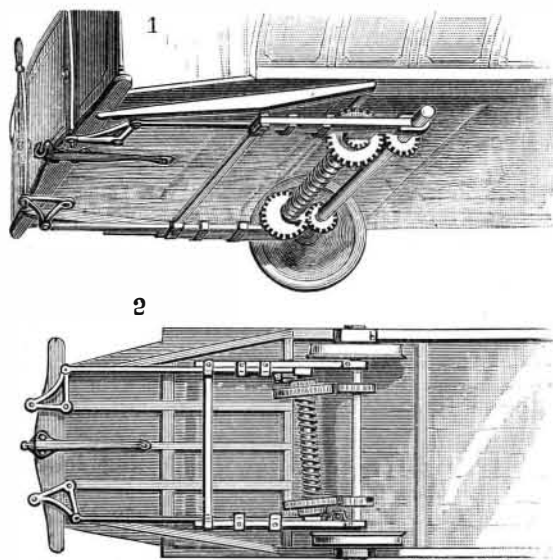
**IMPROVED MANHOLE COVER FOR SEWERS, STREET VAULTS, ETC.**

A manhole cover, which is provided with a simple and effective locking mechanism, is illustrated here-



LOWRIE'S SELF-LOCKING MANHOLE COVER.

with, and has been patented by Mr. Harvey C. Lowrie, City Engineer of Denver, Col. Although devised with special reference to sewer service, the improvement is equally applicable for use with covers to coal holes and other similar outside entrances to vaults located beneath sidewalks or streets, rendering such openings practically inaccessible to unauthorized persons. Fig. 4 is a top view of an improved form of cover, and Fig. 5 is a vertical section, showing a preferred form of man-



DILLENBECK'S CAR BRAKE AND STARTER.

hole curb, with its anchored wide annular flange and the inwardly projecting upper flange, with which engages the pivoted locking bolt or lug. Figs. 1 and 2 show other forms of engaging this locking bolt or lug with the flange of the curb, the line of upward motion of the lug being indicated by dotted lines. This cover is self-locking, when dropped into its seat in the curb, regardless of rotative adjustment, the outer end of the locking lug riding freely over the flange of the curb and then dropping beneath it, so that the cover cannot be again lifted without first lifting the outer end of the lug, which thus serves as a gravity latch bolt. In Fig. 3 is shown a combined key and lifter, the key having a thumbpiece, which may be made integral with its shaft when not combined with the cover-lifting device, this form of key having separately rotative arms or bits. If the key be employed in a simpler form, a permanent handle for the cover can be used, and for covers accessible from below, as for coal holes, etc., the key may be dispensed with.

**A METHOD OF RUNNING STREET CARS.**

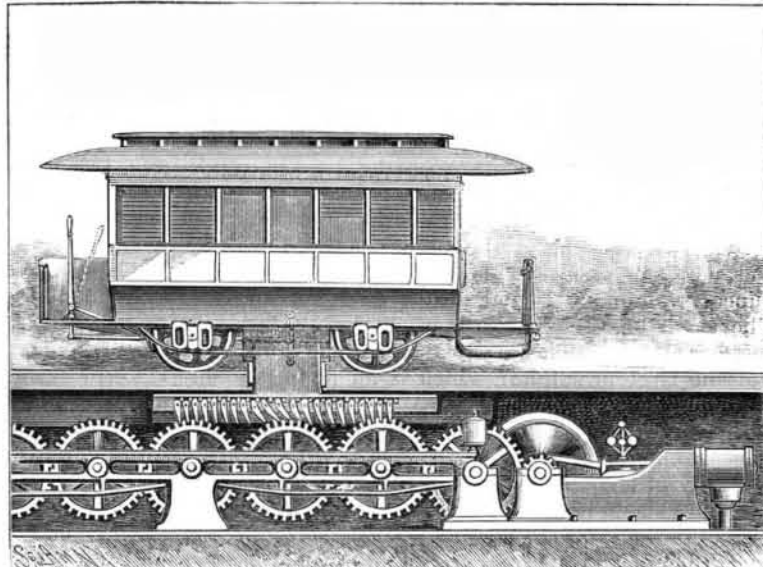
An invention particularly designed to facilitate the operating of street cars, providing for easily stopping and starting the cars, and for propelling them past intersections of car tracks, is illustrated herewith, and forms the subject of a patent recently issued to Mr. Michael McManus, of No. 313 North Second Street, Philadelphia, Pa. Each car has suitable slideways or guides running lengthwise under the center of its bottom, in which the shank of a grip device is fitted for vertical movement, the grip shank passing through a longitudinal slot at the top of a subway casing, in which is a continuous train of gear wheels arranged to engage the grip. The lower part of the grip extends lengthwise within the subway casing sufficiently to cover two or more of the gear wheels, and to this portion of the grip is pivoted a series of pawls, the upper ends of which are adapted to stop against lugs fixed to the grip body, whereby the pawls will swing freely in one direction, but resist pressure in the opposite way. With the motion of the train of gear wheels, each wheel turning in reverse direction with the one meshing with it, the grip pawls are engaged by the wheels turning forward and forced to their respective stop lugs, thus propelling the car, the remaining pawls being swung idly backward by the wheels that are turning in the reverse direction.

The grip shank is connected to the car body by toggle levers pivoted to a rod connected to the lower end of a lever fulcrumed on the car platform, in convenient reach of an attendant, whereby the grip may be lifted or lowered, to free its pawls from or engage them with the gear wheels in the subway. This lever has also connected to it a rod controlling the brake beam, so that when the lever is thrown back, as shown in dotted lines, to lift the grip pawls, the brake shoes will be applied to the car wheels, the pushing forward of the lever taking off the brake. Where two tracks cross each other, the two gear wheels of one line nearest the head of the subway casing of the crossing line are separated sufficiently to allow the grips of the cars traveling on the crossing tracks to clear them, and an intermediate gear wheel is journaled beneath the space between the two separated wheels to continue their motion and allow the grips of the other cars to pass over. For the proper and economical lubrication of the numerous bearings, a pipe extends over the journals of the gear wheels on either side, with necks or nipples entering each bearing, feeding oil or other lubricant thereto from a suitable reservoir, with which the pipe connects. The continuous line or train of gear wheels is intended to be operated by a main driving engine, set up in an underground vault, but auxiliary or relay engines may be set up and connected thereto at different points along the road.

**AN IMPROVED CAR BRAKE AND STARTER.**

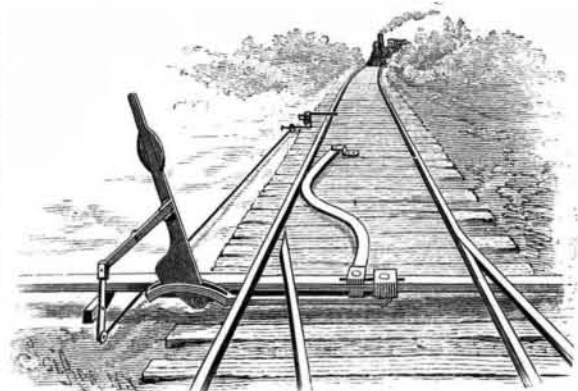
A mechanism by which the force employed in braking or stopping a car is stored in such way that it may be utilized for the purpose of starting the car is shown in the accompanying illustration, and has been patented by Mr. A. V. Dillenbeck, of No. 119 West Main Street, Rochester, N. Y. Fig. 1 is a perspective view of the under side of a car provided with this mechanism, and Fig. 2 is an inverted plan view in which the parts are represented as they appear when the starting mechanism is in position for operation. Small gear wheels are mounted near each end of one of the car axles, and in advance of this axle is held a shaft in bearings carried by rods supported by straps carried by a frame, these rods being free to slide back and forward within the straps, and their forward ends being pivotally connected to bell-crank levers mounted

beneath the platform of the car, the bell crank levers being operated by levers extending above the dashboard, in convenient reach of the driver. A spring is coiled about the shaft that is held in advance of the car axle, and on either end of this shaft are held loose gears, with ratchets engaged by pawls operating in connection with the forwardly extending rods, the spring coiled about the shaft being connected to the



McMANUS' SYSTEM OF RAILWAY CAR PROPULSION.

loose gears on both ends. To stop the car, the movement of one of the levers at the dashboard throws the gear on the shaft held by the rod on that side into engagement with the adjacent gear on the car axle, which winds up the spring and at the same time acts to check the momentum of the car, the gear at the other end of the shaft being held from rotation by its pawl controlled by the other lever. In starting the car, the first gear having been released from its engagement with the axle, and being held by its pawl, the other lever at the dashboard is moved, and throws the gear on the shaft held by the rod on that side of the car into engagement with the adjacent gear on the other end of the car axle, the pawl on that end then permitting the spring which had been wound by the stopping of the momentum of the car to act to

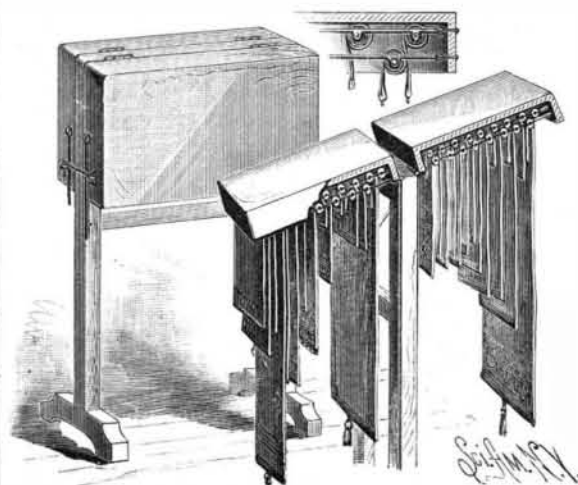


SUFFERN'S RAILWAY SWITCH.  
[FOR DESCRIPTION SEE PAGE 275.]

turn the gear in a proper direction to start the car wheels forward.

**A DISPLAY CASE FOR WINDOW SHADES, ETC.**

A cheap and durable case for storing and exhibiting patterns of window shades, etc., promoting convenience in the selection of styles and protecting the samples from dust, is shown in the accompanying illustration, and has been patented by Mr. Lewis McNutt, of Brazil, Ind. The main frame is mounted on foot pieces, which may be provided with casters, and to each side of the upper cross bar of the frame is hinged a box-like case, with the open side of the box toward the frame. To the ends of the boxes are secured two strips formed with recesses to receive the fixtures upon which the curtains are mounted, the curtains being held from displace-



McNUTT'S SHADE EXHIBITOR.