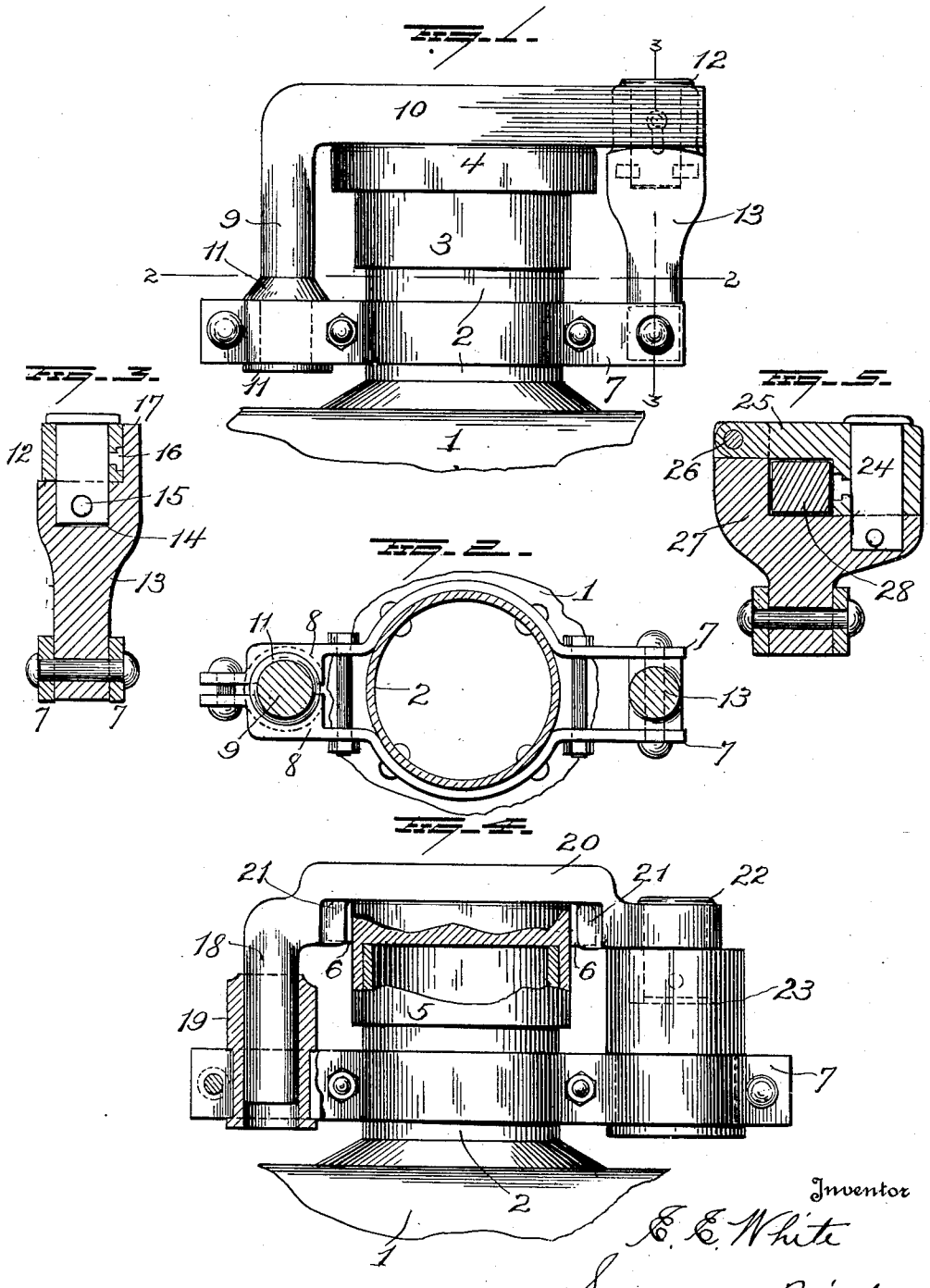
Feb. 18, 1930. E. E. WHITE 1,747,201

LOCKING MEANS FOR RECEPTACLE CLOSURES

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Fig. 6.

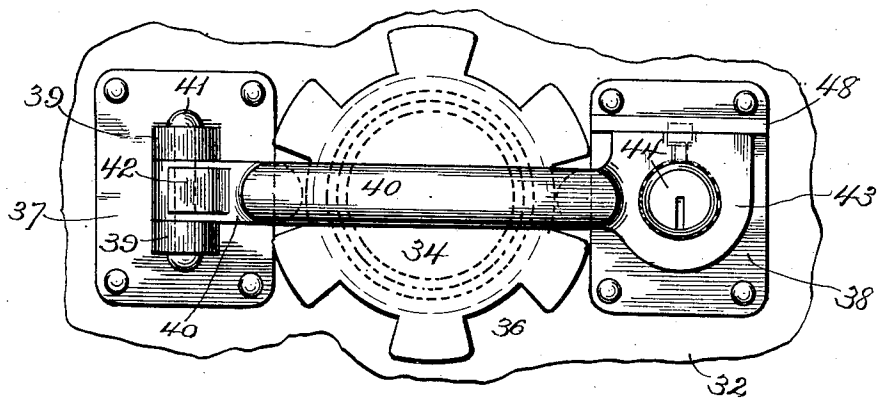


Fig. 7.

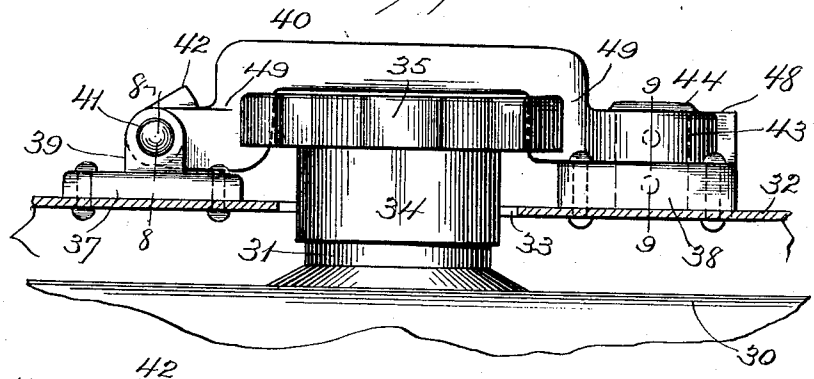


Fig. 8.

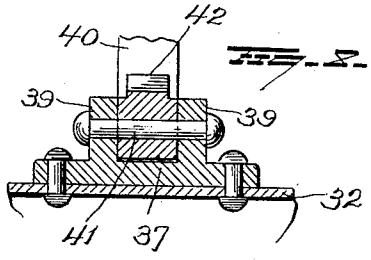
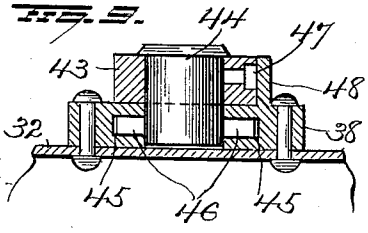


Fig. 9.



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UNITED STATES PATENT OFFICE

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LOCKING MEANS FOR RECEPTACLE CLOSURES

Application filed September 13, 1928. Serial No. 305,707.

This invention has for its object the provision of compact means whereby unauthorized access to containers will be effectually prevented, the invention being designed primarily to guard against theft from the fuel tanks of motor vehicles but being capable of use in other fields. This invention is illustrated in the accompanying drawings and consists in certain novel features which will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is an elevation of one form of the invention;

Figure 2 is a horizontal section on the line 2—2 of Fig. 1;

Figure 3 is a transverse vertical section on the line 3—3 of Fig. 1;

Figure 4 is a sectional elevation showing a slightly different form of the invention;

Figure 5 is a section similar to Fig. 3 but showing a modified structure;

Figure 6 is a top plan view showing still another form of the invention;

Figure 7 is an elevation of the arrangement shown in Fig. 6;

Figure 8 is a detail section on the line 8—8 of Fig. 7;

Figure 9 is a detail section on the line 9—9 of Fig. 7.

A portion of a fuel tank is shown at 1, said tank having the usual filler tube 2 which is closed by a cap in the usual manner, Fig. 1 showing a cap 3 having a smooth peripheral flange 4 and Fig. 4 showing a cap 5 having spaced lugs 6 on its periphery at its top. Clamping bands 7 are firmly secured around the filler tube by riveting, welding or otherwise, and project laterally from the opposite sides thereof. At one side of the device, the clamping bands are formed with bearing lugs 8 on their opposed inner faces between which is rotatably received the lower end of a spindle 9 from the upper end of which extends an arm 10, said arm and spindle constituting an integral latch bar which operates to prevent removal of the filler cap from the tube. It will be noted that the spindle is expanded immediately above and below the clamping bands to form annular shoulders 11 which resist vertical movement of the spindle, and it will be understood that securing bolts are inserted through the bands in sufficient numbers and at proper points to effectually prevent spreading of the bands and consequent release of the spindle. The latch bar is so proportioned that its free arm will extend entirely across and bear on the top of the cap and project beyond the same, a lock 12, preferably of the cylinder type, being mounted in the free end of the arm. A post 13 is secured between and rises from the clamping bands below the free end of the latch bar to meet and suport the same, and this post is provided in its upper end with a socket 14 to receive the lower end of the lock and cooperate with the bolts 15 to secure the latch bar in cap-securing position. The lock, when the bolts are retracted, is movable vertically in the latch bar to avoid interference with the post, and complete withdrawal of the lock is prevented by a stop screw 16 fitted in the latch bar and engaging the lock, as indicated in Fig. 3. To prevent access to this screw, when the device is locked, a guard flange 17 is formed on the post and the bar abuts the flange so that the screw will be covered.

It will be understood that the latch bar is swung laterally into position over the cap 3 and this movement brings the lock into position over the post. When the bolts are thrown, the cap will be secured against removal until the lock has been opened through the use of the key fitted thereto.

In the form of the invention shown in Fig. 4, the spindle 18 of the latch bar fits rotatably and slidably in an extended sleeve 19 carried by the clamping bars, and the laterally extending arm 20 has the form of a shallow inverted U, lugs 21 being provided on the sides of the U to engage between coacting lugs 6 on the cap. The free end of the latch bar is equipped with a lock, indicated at 22, to cooperate with the post 23 to secure the cap against removal. The operation of this form of the invention is the same as the first described form, except that the latch bar must be lifted vertically to clear the lugs before it can be swung horizontally to release or secure the cap.

In Fig. 5 I have shown a variation in which the lock, indicated at 24, is not carried by the latch bar but is mounted in the free end of a bridge or keeper bar 25 which is pivotally secured, as at 26, to the upper end of the post 27 in position to extend over the free end portion of the latch bar, shown at 28. It will be observed that the bridge or keeper and the upper end of the post are so shaped that the end of the latch bar is completely housed and no movement can be imparted thereto until the lock is opened.

While it will be generally desirable to support the locking mechanism on the filler tube, as has been described, it will be understood that the supporting elements may be formed or secured on the tank or some other part. There are many tanks located under a shield and having a very short filler tube which rises through an opening in the shield, with its upper end just above the shield. In Figs 6 to 9 I have shown the invention applied to such a structure, the numeral 30 indicating a portion of the tank, 31 the filler tube, 32 the shield having an opening 33 therethrough to accommodate the tube, and 34 the cap fitting over the end of the tube and shown as having a peripheral flange 35 with notches 36 therein. Upon the shield adjacent the opening 33 and at diametrically opposite points with respect thereto, are secured lugs or blocks 37 and 38, the lugs 37 having upstanding ears 39 thereon. A latch bar 40 is pivoted at one end between the ears 39 and extends across the cap 34 to be locked to the lug 38 and thereby secure the cap against removal. The latch bar is mounted to swing in a vertical plane and, adjacent its pivot, is formed with a check or stop lug 42 which is adapted to abut the lug or block 37 and form a rest for the latch bar when the latter is in cap-released position, supporting the bar in a manner to relieve strain on the pivot and avoid buckling of the shield, and also overcome rattling if the vehicle should be in motion with the latch bar released.

The free end of the latch bar is formed into a head 43 in which is mounted a lock 44, preferably of the cylinder type. The lug or block 38 is formed with a central opening or socket to receive the lower end of the lock cylinder and in the wall of said socket are recesses 45 into which the bolts 46 of the lock may be projected to positively secure the latch bar in closed position. The lock may have some sliding movement in the head 43 to accommodate the angular relation of the head to the locking block 38 in the movement of the latch bar. The lock is held against complete withdrawal by a check screw 47 mounted in the side of the head 43 and being covered, in the active position of the latch bar, by a flange 48 on the block 38 and against which the head abuts, as shown in Figures 6 and 9.

It will be noted that the intermediate portion of the latch bar has the form of a shallow inverted U, the sides 49 of the U fitting within notches 36 of the cap and the base or shoulder of the U bearing on the top of the cap so that the cap will be positively held against side movement as well as upward movement and attempts to pry the cap loose will be effectually resisted. With this invention, the latch bar extends entirely across the cap and is secured at its opposite sides thereof so that the holding force is applied over a wide area and utilized in a highly efficient manner.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. The combination with a filler tube, and its cap, of a latch bar free of the cap mounted at one side of the tube for movement over or from the cap, means adjacent said side of the tube to support the latch bar in a position away from the cap, and locking means at the opposite side of the tube to secure the latch bar in position extending over the cap.

2. The combination with a filler tube, and its cap, of a support at one side of the tube, a fixed element at the opposite side of the tube having an upstanding flange, a latch bar pivoted at one end upon the support and adapted to extend across the cap, a lock mounted in the free end of the latch bar and adapted to engage the fixed element for securing the latch bar across the cap, and a lock-retaining device mounted in the latch bar, the latch bar in active position abutting the flange on the fixed element with the flange passing over said retaining device.

3. The combination with a filler tube, and its cap, of a latch bar having an inverted U-shaped portion fitting down on the top and against the sides of the cap, means for pivotally mounting one end of the latch bar at one side of the tube, and means at the opposite side of the tube for locking the bar against movement.

4. The combination with a filler tube, and its cap, of a latch bar adapted to extend across the cap and having a vertical spindle at one end, means at one side of the tube for pivotally mounting said spindle whereby the latch bar may swing laterally over or from the cap, and means at the opposite side of the tube for locking the latch bar.

In testimony whereof, I have signed this specification.

EDWIN ELLIS WHITE.