

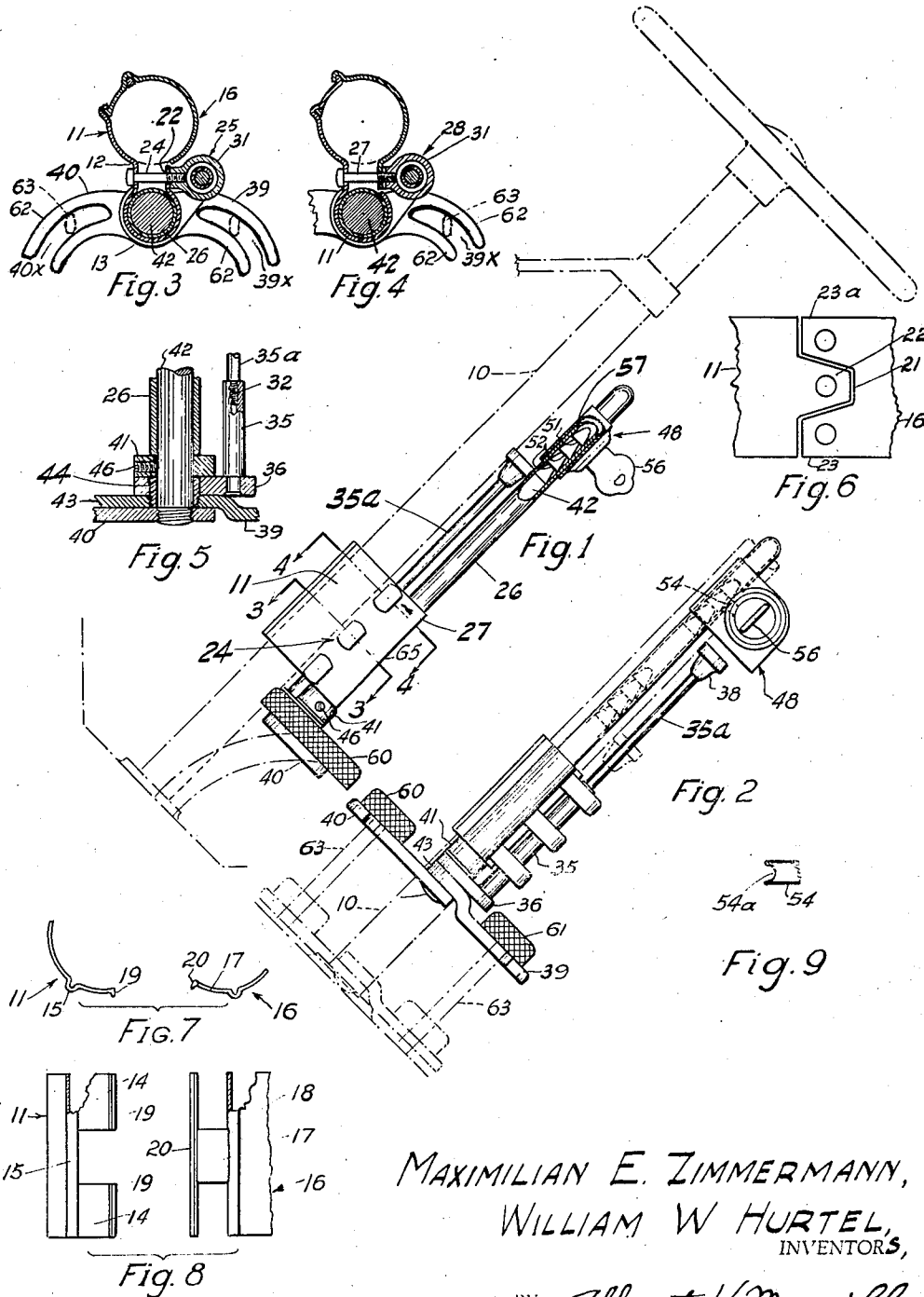
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MEANS FOR LOCKING AUTOMOBILES AGAINST SELF-PROPULSION

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MEANS FOR LOCKING AUTOMOBILES
AGAINST SELF-PROPULSIONMaximilian E. Zimmermann and William W.
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This invention relates to a device for locking automobiles against self-propulsion.

Among the objects of the invention are: to improve upon prior devices of a similar class in the following particulars:

To provide an improved arrangement of movable members which are manually adjustable to occupy different horizontal positions so as properly to underlie, in a locked condition, foot pedals or other depressible automobile controls to prevent operation of the latter; to provide improved means to prevent unauthorized persons from tampering with the device in such a manner as to defeat its purpose; to provide a device which may be attached without difficulty to, and as readily removed from, and adjusted to efficiently operate upon, all the leading makes of automotive cars; and to improve upon the operation, the durability, simplicity and sturdiness of devices similarly classifiable.

The device whereby we attain the foregoing objects is very easy to operate and is attractive in appearance, the present preferred embodiment thereof being illustrated in the drawing.

The invention includes a new article of manufacture mountable upon self-propelled vehicles, in general, for the purpose of providing a means for locking, against unauthorized self-propulsion, the vehicle to which it is attached.

Other objects, advantages and features of invention will hereinafter appear.

Fig. 1 is a side elevation looking from left to right (from the viewpoint of driver), some conventional parts being shown in broken lines, and parts being broken away to show interior construction.

Fig. 2 is an elevation looking, at all except the upper portion of the structure shown in Fig. 1, from the viewpoint of the driver. In this view, full lines indicate positions of parts of the instrument in the pedal arresting position and broken lines their position for pedal release. Also some conventional parts are shown in broken lines.

Figs. 3 and 4 are cross sections respectively on lines 3-3 and 4-4 of Fig. 1.

Fig. 5 is a vertical section of the lower part of the instrument itself, the plane of section extending through the axis both of the handle carrying operating rod and the supporting rod which carries the pedal arresters.

Fig. 6 is an enlarged fragmental side elevation looking at the right side of the clamp as shown in Figs. 3 and 4, the means for drawing the sides of the clamp together being omitted.

Figs. 7 and 8 are respectively plan and elevational views of the interlocking portion of an improved clamping means for attaching the supporting means to the steering post column, the two interlocking parts of said clamp being in each view shown adjacent to each other in readiness for assembling.

Fig. 9 is a plan view of a fragment of the locking bolt.

Referring in detail to the drawing, the instrument is shown attached to the conventional steering post 10 by means of a clamping structure which includes the stationary wing 11, said wing portion having a basal central part 12 continuous with its C-shaped or partly cylindrical portion 13. The stationary wing 11 has upper and lower ears 14 and a crimped part or arcuate rib 15 along the edge thereof from which said ears extend, said ears each carrying along its outer edge a short, outwardly deflected lip or flange 19. With the stationary wing 11 that has been described cooperates a movable wing 16, having a central ear or flange 17 and a crimped or arcuate rib 18 at its outer edge from which the central ear or flange 17 extends; and this central flange 17 also carries at its outer edge, a narrow, angular strip portion 20 extending the full width of the clamping structure. When the two wings are united the single flange 17 of the movable wing 16 occupies the space between the ears 14 of stationary wing 11, while said outer angular strip 20 of wing 16 passes under and into arcuated rib portion 15 of wing 11. In uniting the two wings when thus positioned the arcuated rib portion 18 of wing 16 closes down on the angular strips 19 of stationary wing 11; thus forming an interlocked, practical, secure and slightly union of the clamping wings, or jaws, 11 and 16, without hinge, pin, bolt, or rivet.

The movable wing 16 has at its inner end portion a central recess 21 which receives a central projection 22 from the opposite clamping wing 11, projections 23 and 23a resulting in movable wing 16 both above and below said recess. These interlocking projections are preferably beveled, as shown. A central clamping bolt 24 extends through an aperture provided for it in said projection 22, the head of the bolt abutting against the outer side of the opposite portion of the clamp. Said bolt has a nut 25 screwing onto it, said nut serving to clamp the supporting tube 26 against movement in relation to the clamp, and carrying the instrument thereby. Also through each of the projections 23 and 23a of wing 16 extends a clamping bolt 27, the upper bolt 27

being shown in Figure 4. Nuts 28 are screwed onto these bolts to tighten clamp onto the steering post 10. All these nuts have heads 31. The aperture of each of these nuts extends through it at substantially a right angle to its screw-threaded portion. The clamping action of the central bolt 24 is entirely separate from that of the upper and lower bolts 27.

When the three apertured nuts 31 have been screwed into place upon the three bolts to which they are attached in the manner which has been described, with the assembled instrument in position with supporting and guiding tubular portion 26 of the instrument clamped to the steering post 10, the lower section 35 of the operating stem or rod, carried by the basal operating plate 36 will be directed upwardly towards and into position for passing through the aligned apertures of the aforesaid three clamping nuts. The upper end portion of stem 35 is provided with a screw-threaded socket 32 into which is detachably screwed the upper handle portion 35a of said operating stem, after said handle portion has been passed downwardly through the aligned apertured nut heads 31. The upper section 35a of the operating stem carries at its upper end a head 38 for the operator to grasp. As a measure of protection against tampering with the instrument this head 38 fits closely in behind the locking structure when the instrument is in a pedal released position. The operating stem sections 35 and 35a connect to the operating plate 36 through the aligned apertured clamping bolt heads 31 and make these bolts and nuts secure against any tampering by unauthorized persons, making it practically impossible to defeat the purpose of the instrument.

The pedal arresting arms 39 and 40, together with the basal operating plate 36 which carries said arms, are connected with and extend outwardly from an upwardly extending supporting bar 42, and said pedal arresting arms and the operating stem sections 35 and 35a move vertically as a single unit, this movement being guided by the tube 26 within which said bar 42 slides. The pedal arresting arm 39 is not only apertured, but for added strength and smoothness and ease of operation, it is furnished with a circular up-standing part 44, which may be formed integrally with it or, as shown in Fig. 5, may consist of a short sleeve having its lower end screwed into said aperture. However made, said part 44 should be securely combined with the part 39. Said part 44 extends through the basal plate 36 and has a working fit in relation thereto and also in relation to the supporting bar 42. The arresting arm 39 has an upwardly offset attaching part 43 so that the two arresting arms may remain always on a comparatively level plane in relation to each other as they, together with the movable structure are operated.

The supporting bar 42 extends through the sustaining collar 41, which is secured to it by set screw 46, or by other means, and bar 42 continues downwardly through the combination of operating plate 36, circular part 44 and the inner portions of the pedal arrester arms, and projects therebelow where it is furnished with screw threads. The lower pedal arrester arm 40 is furnished with a screwthreaded aperture into which the threaded part of bar 42 is screwed. The lower end of said bar 42 is then peened, thereby securing it fixedly to the arresting arm 40 and securely supporting in place the movable members which it carries.

By the structure which has been described, the arresting arm 40 is secured fixedly to supporting bar 42 to swing freely and easily therewith, and therewith is movable up and down in relation to the supporting tubular portion 26 of the instrument, and may also swing freely and easily in relation to the operating parts 35, 35a, and 36 and the arresting arm 39. And the pedal arresting arm 39 is freely and easily swingable in relation to said bar 42 and arresting arm 40 and adjacent parts, the sleeve 44 swinging freely with said arm.

The guide tube 26 carries at its upper end the modified conventional locking structure 48 serving releasably to support the bar 42 at the desired elevation. In order to vary the points at which the bar 42 is locked against depression, said bar is provided with an upper, downwardly facing locking shoulder 51 and with one or more like shoulders 52 in a downwardly spaced relation to said shoulder 51. With these shoulders cooperates the special spring pressed bolt 54 of the aforesaid conventional lock 48, it being necessary to use a key 56 to release the bar and allow it to descend by gravity from any of its locked positions. The projecting part of this locking bolt 54 is concavely shaped in order that it may work with precision and security in receiving and retaining the round bar with its circular locking shoulders. Superjacent to each of its locking shoulders the bar 42 will be suitably beveled as indicated at 57 above its upper shoulder 51, to cause the bolt 54 to glide over and then pass under the locking shoulder. Elevating the bar 42 to a locked condition is manually accomplished by lifting upon the operating handle 38 which, as already explained, is rigidly connected with the lifting plate 36, which is in turn held in a constant operating relation to bar 42 by the sustaining collar 41.

The instrument may be clamped to the steering post 10 at any chosen point, but it must be correctly positioned. When the bar 42 is in an elevated locked condition the pedal arresting arms underlie the control pedals 60 and 61 of the vehicle thus preventing the operation of these pedals and the use of the car by any unauthorized persons. These pedal arresting arms 39 and 40 are respectively deeply bifurcated at 39x and 40x, and are curved at the proper degree, as shown, thereby providing protective guide and supporting fingers or furcations 62 to receive the pedal stems 63 and properly underlie and support either or both of the pedals in a locked condition at whatever distance they may be one from the other or that both or either may be from the steering post of the vehicle, or from the supporting structure of the locking instrument; or at whatever position either pedal may be in relation to the other pedal, or at whatever position either or both may be located in relation to the steering post or to the locking structure of the instrument. These pedal arresting arms 39 and 40, as they are moved upwardly into the position wherein they will be locked, both or either of them at the same time may freely swing horizontally in any direction. This swingable mounting combined with the curvatures of the pedal arresting arms qualifies them to cooperate with the variously inclined differently shaped stems of the pedals of different makes of automobiles some of which have curved pedal stems. To whatever make of car the device is applied, the bifurcated portions of the pedal arresting arms slidably follow up along the stems of the pedals

till said arms reach their pedal obstructing positions. In other words, as said arms are manually lifted their curved fingers or furcations 62, through automatic swingable adjustment, follow the pedal stems (even though the latter be curved and/or inclined) till said arms properly underlie and support the pedals in a locked condition at whatever distance it is necessary to lift the movable portion of the device to make its arms contact with the lower sides of said pedals. This construction which permits one arm to swing freely on the turnable bar and the turning of said bar in the guide, allows both arms to swing freely. Hence both arms swing freely in relation to other parts of the device, and the bifurcated arms and their curved fingers as they are raised automatically follow up the pedal stems till said arms reach and properly underlie the pedals for obstructing any downward movement of the latter.

The arrester arm contact with the pedals may be at the inner portion of the guiding and supporting fingers, their outer portion, or at any point along their length. The guiding fingers follow the pedal stems as the bar 42 is being lifted into the locked condition, and at the same time the pedal arresting fingers 62 of the arresting arms 39 and 40 automatically take the correct locking position properly underlying the foot-engaging portion of the pedals. All pedals can be locked where positioned in relation to the various related factors working together in performing and maintaining the locking operations. Therefore our invention operates satisfactorily upon all designs and makes of automotive vehicles.

In coming into the position for locking, the supporting bar 42 will turn as the arresting arm 40 swings but, as the locking shoulders 51 and 52 are circumferential in relation to it, turning of the bar does not affect the operation of the locking bolt 54. Said bolt can only be released by a key, and the nuts of the clamp are protected against being unscrewed by the interengaging relation to them of the rod 35, passing said rod through apertures in said nuts being a preferred way of protecting them.

The separable, interlocking clamp leaves detailed in Figs. 6 to 8, is the invention of the second named only of the two inventors named in this application, and is therefore not specifically claimed in detail in the present application.

As the operator, by means of the handle 38, raises the pedal obstructing assembly, each of the bifurcated, relatively swingable arms follows up the pedal stem which it straddles, the curvatures of the fingers 62 of said arms being of the proper degree to adapt them automatically to follow up variously shaped and positioned pedal stems until they properly underlie the pedals. This is one of the reasons why the device operates efficiently on many different makes of automobiles.

In Fig. 5 the pedal obstructing assembly is shown in a fragmentary manner in its uppermost position, with the collar 41 in contact with the lower end of the tubular guide 26, but in case the bar 42 is locked by any but the lowest of its locking shoulders, said collar will not be drawn up far enough to contact with said guide.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the subject matter claimed.

We claim:

1. In a device attachable to the steering wheel column of an automobile for controlling the operation of the vehicle, a manually slidable bar, means carried by said bar and movable therewith to and from a position for obstructing the operation of a pedal of the vehicle, a guide member for said bar, a clamp whereby said guide member is secured to said steering wheel column, said clamp including a plurality of clamping bolts provided with nuts furnished with screw-threaded bores and each with an aperture extending through it at substantially a right angle to its bore, a manually operable rod extending slidably through said apertures, means uniting said rod with the aforesaid bar, pedal obstructing means carried by said bar and movable therewith to and from a position for preventing the operation of the aforesaid pedal, and means for locking said bar in a position wherein it maintains said pedal obstructing means in the pedal obstructing position.

2. In a device attachable to the steering wheel column of an automobile for controlling the operation of the vehicle, a manually slidable bar, means carried by said bar and movable therewith to and from a position for obstructing the operation of a pedal of the vehicle, a guide member for said bar, a clamp whereby said guide member is secured to said steering wheel column, said clamp including screw-threaded members whereby it is tightened, said members each having an aperture extending through it, a rod extending through a plurality of said apertures to prevent unauthorized loosening of the clamp when said pedal obstructing means is in the pedal obstructing position, a key controlled catch means whereby said pedal obstructing means is releasably maintained in the pedal obstructing position, and means turnably connecting said rod with said bar to provide for manually lifting the latter, said connecting means including a sustaining collar fixed to said bar.

3. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to the control pedals thereof, a bar mounted upon said guide member and slidable therealong, a pair of pedal obstructing arms carried by the lower portion of said bar, said arms being connectible in a slidable manner with automobile pedal stems and being swingable in a plane extending at a right angle to the axis of said bar, thereby adapting them to follow the stems of the pedals as said bar is lifted, means to manually lift said bar, and key controlled means to releasably lock said bar in an elevated position with the arms carried thereby in an underlying obstructing relation to said pedals.

4. The subject matter of claim 3 and, said arms each having a bifurcated extremity to straddle the stems of the aforesaid pedals.

5. In a device attachable to the steering wheel column of an automobile for controlling the operation of the vehicle, a slidable bar, a guide member for said bar, a clamp whereby said guide member is secured to said steering wheel column, said clamp including a plurality of clamping bolts provided with nuts to tighten the clamp, a manually operable rod, means uniting said rod with the aforesaid bar, pedal obstructing means carried by said bar and movable therewith to and from a position for obstructing the operation of the aforesaid pedal of the vehicle, and means for locking said bar in a position wherein it maintains said pedal obstructing means in the pedal

obstructing position, said rod being in an inter-engaging slidable relation to said nuts thereby preventing the unauthorized loosening of the latter.

6. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to the control pedals thereof, a bar turnably mounted upon said guide member and slidable therealong, two pedal obstructing arms carried by said bar, said arms being shaped to follow up the stems of automobile pedals, and for locking said bar in a position wherein it maintains said pedal obstructing arms in a pedal obstructing position, said bar having a locking shoulder extending around it a sufficient distance to permit a material turning movement of the bar without disengaging said shoulder from said locking means, said arms both extending outwardly from said turnable bar, one of them being fixed thereto and the other being swingable thereon.

7. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to the control pedals thereof, a bar turnably mounted upon said guide member and slidable therealong, two pedal obstructing arms carried by said bar, said arms being shaped to follow up the stems of automobile pedals, and for locking said bar in a position wherein it maintains said pedal obstructing arms in a pedal obstructing position, said bar having a locking shoulder extending completely around it to maintain the bar in an operative relation to said locking means to whatever position the former is turned, said arms both extending outwardly from said turnable bar, one of them being fixed thereto and the other being swingable thereon.

8. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to a pair of control pedals thereof, a bar turnably mounted upon said guide member and slidable therealong, two pedal obstructing arms carried by said bar and extending radially therefrom in a plane extending at substantially a right angle to the axis of the bar, one of said arms being in a fixed relation to said bar and the other being swingably connected thereto, said arms having forked end portions to straddle and slidably follow the stems of the aforesaid pedals, and means to releasably maintain said bar in an elevated position in relation to said guide member in which position said arms obstruct the operation of said pedals.

9. In combination, a tubular guide member, a cylindrical bar slidably and turnably fitted within said member, a locking means carried by the upper portion of said member, said bar having a shouldered upper portion to cooperate with said locking means to releasably maintain the bar in an elevated position, clamping means to secure said member to the steering wheel column of an automobile thereby maintaining said member in an upstanding position, a portion of said slidable bar at all times extending below said clamping means, an operating arm in a parallel spaced relation to said bar, a lifting member whereby the lower end portions of said bar and arm are connected to each other, and pedal obstructing means carried by the lower end portion of said

bar to underlie the pedals of an automobile and to be moved by said operating arm to and from the pedal obstructing position.

10. In combination, an elongated guide member, a bar slidable along said member, a locking means carried by the upper portion of said member, a bar having a shouldered upper portion to cooperate with said locking means to releasably maintain the bar in an elevated position, clamping means to secure said member to the steering wheel column of an automobile in an upstanding position, said clamping means including bolts having tightening nuts furnished with screw-threaded bores and with apertures extending through them at right angles to said bores, an operating stem in a parallel spaced relation to said bar, a lifting member whereby the lower end portions of said bar and stem are connected to each other, and pedal obstructing means carried by the lower end portion of said bar to underlie the pedals of an automobile and to be moved by said operating stem to and from the pedal obstructing position, said operating stem extending through said apertures of said nuts to protect the nuts against unauthorized loosening.

11. The subject matter of claim 10 and, the upper portion of said stem consisting of a handle section which is detachably connected with the remainder of the stem.

12. As an article of manufacture, a nut for a clamp, said nut having through it a locking aperture and having a screwthreaded socket extending at substantially a right angle to said aperture.

13. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to a pair of control pedals thereof, a bar mounted upon said guide member and slidable therealong, two pedal obstructing arms carried by said bar and extending outwardly therefrom in a plane extending at substantially a right angle to the axis of the bar, said arms being swingable in said plane in relation to each other, said arms having end portions provided with separate parallel curved furcations to receive between them and follow the stems of the aforesaid pedals, and means to releasably maintain said bar in an elevated position in relation to said guide member in which position said arms obstruct the operation of said pedals.

14. The subject matter of claim 13 and, said bar being turnable and one of said pedal obstructing arms being fixed to it.

15. In combination, a guide member mountable in an upstanding position upon an automobile adjacent to a control pedal thereof, a bar turnably mounted upon said guide member and slidable therealong, a pedal obstructing arm carried by said bar and extending outwardly therefrom in a plane extending at substantially a right angle to the axis of said bar, said arm being curved and being bifurcated to straddle and slidably follow the stem of the pedal adjacent to which the device is mounted, and means to releasably maintain said bar in an elevated position in relation to said guide member, in which position said arm obstructs the operation of said pedal.

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