POLICE VEHICLE SAFETY TRAY

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ABSTRACT
The present invention is a vehicle-mounted tray adapted to aid a police officer during a vehicle stop by providing a means for securing articles and a means for temporarily restraining a stopped subject so that the officer can be less distracted during the officer's interrogation, frisk, or arrest. The tray is adapted to be mounted to an exterior surface of the police vehicle, preferably the trunk, and one or more compartments are defined on the top surface for securing articles such as evidence or other contraband. A clipboard clip, a light source, and hand-cuff rail are also mounted to the top surface of the tray. The hand-cuff rail is configured as a longitudinal rail raised from the top surface of the tray, which allows for the collection of fingerprints and allows a hand-cuffed subject to be secured to the tray and thus the police officer's vehicle.
POLICE VEHICLE SAFETY TRAY

SPECIFIC REFERENCE


BACKGROUND

[0002] 1. Field of the Invention
[0003] The present invention relates to article organizers and trays for automobile trunks. In particular, the instant invention is a tray adapted to be mounted on the exterior top of the trunk or hood of a police vehicle to assist a police officer during a vehicle stop. The tray secures evidence and paperwork, provides lighting, and can secure a stopped subject to the tray and thus the police car by means of a hand-cuff rail, thereby enhancing the safety of the stopping officer as the stopping officer’s hands remain free during investigation.

[0004] 2. Description of the Related Art
[0005] Police officers and law enforcement personnel who frequently make traffic stops to issue citations and perform other violation investigations are usually traveling by themselves. Upon demanding the stopped subject to exit the vehicle, in most circumstances present only are the stopping officer and the driver and, in some instances, multiple passengers of the vehicle. The potential for violence or surprise always exists, and such tense and unpredictable situations demand the full attention of the stopping officer. When a stopping officer issues a citation for a traffic violation, collects contraband and other items during a frisk, and otherwise is doing investigatory work in the stopped vehicle or on the person of the stopped subject, there is a need for a device which allows the stopping officer’s hands to remain free and which enables the officer’s attention to be focused on the situation at hand, without distraction from the subject or any other articles. There is further a need for a device which enhances the safety of any stopping officer by keeping the subject restrained, if needed.

[0006] Article organizers for the trunks of vehicles are known in the art. In most instances the trays or organizers are situated within the interior of the trunk, and these are not geared towards enhancing safety. For example, U.S. Pat. No. 5,054,668 to Ricciuti teaches a car trunk carrier having multiple compartments. U.S. Pat. No. 6,149,040 to Walker describes a removable vehicle trunk organizer. Such devices are simply mounted and used within the trunk space of a vehicle for storing items.

[0007] Those few devices which are mounted on the exterior of the vehicle as opposed to the interior of the vehicle are not well suited for enhancing safety and in particular, are not adapted to restrain individuals. For example, U.S. Pat. No. 6,401,994 shows a vehicle mountable carrier for use by law enforcement personnel. The carrier includes a light source, weatherproofing rubber, variably sized compartments, and it is removable fastened to the trunk of the car. Similar to a briefcase, the holder includes a top lid hingedly connected to the lower portion. The objective of this invention is to provide a means for law enforcement personnel to store and transport evidence obtained from a crime scene, such as weapons and other property of a person taken into custody.

[0008] There is a need to account for all variables of surprise, including the actions of the stopped subject. There is also a need to allow for the collection of different types of evidence, including fingerprint evidence. Furthermore, simply mounting a rectangular compartment to a vehicle can cause aerodynamic disturbances and has many other disadvantages. The instant invention addresses these and other needs, as follows.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 shows a perspective view of the instant safety tray.
[0010] FIG. 2 shows a perspective view of the safety tray mounted to the exterior of a police vehicle.

SUMMARY

[0011] It is an object of the present invention to aid a police officer during a vehicle stop by providing a means for securing articles and, if necessary, a stopped subject to the tray and thus the vehicle so that the officer can be less distracted during the officer’s interrogation, frisk, or arrest.

[0012] Accordingly, the invention comprises a tray which generally has a bottom surface, a top surface, and an outer perimeter. The tray is adapted to be mounted to an exterior surface of the police vehicle, preferably the trunk, with the bottom surface maintained against the exterior surface. One or more compartments are defined on the top surface for securing articles such as evidence or other contraband. A clip board clip is also mounted to the top surface, which is well-suited to secure paperwork such as tickets or other papers obtained from a stopped subject. Furthermore, a light source is removably mounted to the top surface, and a hand-cuff rail is connected to the top surface. The hand-cuff rail is configured as a longitudinal rail raised from the top surface having two ends and traveling most of the length of the tray with each end connected to the top surface such that a handcuffed subject may be secured to the tray and thus the police officer’s vehicle.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] With reference then to FIGS. 1-2, shown is the police vehicle tray 10 of the instant invention. The tray 10 has a top surface 16 and a generally smooth bottom surface 18, which is designed to conform or otherwise rest on the exterior surface of a vehicle 1 such as a police officer’s vehicle. The exterior surface may be the hood, the trunk, or even the side of the vehicle. In the preferred embodiment, the tray 10 is adapted to be secured to the exterior top of the trunk of a police vehicle, for instance, by using bolts 100 or other fasteners driven through the tray 10 at or near its corners and down through the metal trunk. In one aerodynamic embodiment, the tray 10 is slightly tapered towards its back 17. In this manner, the tray 10 and the hand-cuff rail 11 can resemble a spoiler at the rear of the vehicle. As termed herein, the back 17 of the tray 10 typically would be situated at the rearmost portion of the vehicle, closest to the latch of the trunk and thereby proximate and parallel to the rear bumper of the police vehicle. The front 19 is positioned closest to the rear windshield. The tray 10 could be made of rubber or any rigid, lightweight composite or hard plastic material. The tray 10 could also be made of aluminum or any other suitable metal. Furthermore, as an alternative embodiment, the tray 10 can be formed integral with the trunk lid, for instance by being stamped or pre-formed into the metal trunk lid.

[0014] A flashlight 14 is mounted to the tray 10. The flashlight 14 can be hard-wired into the existing trunk lighting of
the police vehicle, or removably fastened to the tray 10 using a clip-like fastener 20. As shown, the flashlight 14 is mounted at the left side 21 of the tray 10. In this manner, an easily accessible light source is provided for the stopping police officer, and should the need arise to maintain the lighting while the stopping officer requires his hands to perform other tasks, the mounted, hands-free flashlight is beneficial.

The top surface 16 of the tray 10 are multiple compartments 13. The compartments 13 are raised containers or indentations in the top surface 16, and are adapted to hold articles or contraband found on the stopped subject's person. Each compartment 13 preferably has a compartment lid 15 for storing the articles. The lids 15 can slide horizontally about the top of the compartment 13 as shown, or be hinged and collapse down thereon. For instance, the compartments 13 include slots 13a defined at each side of the compartment 13, and the lids 15 are configured to slide horizontally about the top of each compartment with each edge 15a of the lid 15 mating with each slot 13a. Accordingly, compartments 13 allow contraband or other evidence to be secured immediately when found so that the stopping officer does not have to hold the evidence or take the time to locate an area on his person for storing these variable articles, which could potentially be dangerous and, again, distracting items.

For securing citations or other paperwork resulting from a police stop, a clipboard-like clip 12 is mounted to the tray 10 at the top surface 16 thereof, preferably toward the front 19, near either the left side 21 (as shown) or the right side 22.

A hand-cuff rail 11 is formed integral to or fixedly mounted towards the back 17 of the tray 10, for instance at the perimeter 23 of the tray 10 where the tray 10 may be thicker in cross section than the top surface 16. The hand-cuff rail 11 is a horizontal, raised rail traveling most of the length of the tray 10. Rail top 11a has a width preferably wider than the width of the rail arm 11b. The rail can be made of a hard rubber or metal such that subject fingerprints can be gathered from the surface of the rail top 11a. In an alternative embodiment, the interior of the rail top 11a can be reinforced with steel or the like. The hand-cuff rail 11 allows a subject stopped by the police to be secured to the police vehicle while other investigations can continue at the scene without the threat of violence or fleeing. This is especially critical where only the one stopping police officer must subdue the subject after demanding he exit his own vehicle. Importantly also is that when the stopping officer is alone, the hand-cuff rail can be used to temporarily restrain an arrested driver while he questions other individuals present at the scene.

The hand-cuff rail 11 further includes vertical rail supports 11c, which serve not only to reinforce the rail 11, but also provide lengthy laterally movement of a subject's hands along the rail 11 since the fastened end of the hand-cuffs cannot pass through the supports 11c.

1 claim:

An officer safety device for a police vehicle, comprising: a tray, said tray having a bottom surface, a top surface, a front and a back, said tray adapted to be mounted to an exterior surface of a trunk of said police vehicle with said bottom surface maintained against said exterior surface of said trunk with said back situated proximate to a rear bumper of said police vehicle; one or more means on said top surface for securing articles; a hand-cuff rail connected to said top surface, said hand-cuff rail configured as a longitudinal rail raised from said top surface having two ends and traveling most of the length of said tray along said back of said tray parallel to said rear bumper of said vehicle with each said end connected to said top surface such that a hand-cuffed subject may be secured to said tray.

2. The officer safety device of claim 1, further comprising a light source removably mounted to said top surface.

3. The officer safety device of claim 2, wherein said light source is hard-wired into existing wiring of said police vehicle.

4. The officer safety device of claim 1, wherein a top of said rail has a width wider than the width of said ends.

5. The officer safety device of claim 4, wherein said top is adapted to allow fingerprints to be taken therefrom.

6. The officer safety device of claim 5, wherein said tray is tapered upwards from said front to said back such that said hand-cuff rail resembles a spoiler at said rear of said vehicle.

7. The officer safety device of claim 1, further comprising vertical hand-cuff rail supports.

8. An officer safety device for a police vehicle, comprising: a tray, said tray having a bottom surface, a top surface, and an outer perimeter, said tray adapted to be mounted to an exterior surface of said police vehicle with said bottom surface maintained against said exterior surface; one or more compartments defined on said top surface for securing articles; a clipboard mounted to said top surface; a hand-cuff rail connected to said top surface, said hand-cuff rail configured as a longitudinal rail raised from said top surface having two ends and traveling most of the length of said tray with each said end connected to said top surface such that a hand-cuffed subject may be secured to said tray.

9. The officer safety device of claim 8, further comprising a light source removably mounted to said top surface.

10. The officer safety device of claim 9, wherein said light source is a flashlight.

11. The officer safety device of claim 10, wherein said flashlight is hard-wired into existing wiring of said police vehicle.

12. The officer safety device of claim 10, wherein said flashlight is mounted near said outer perimeter of said tray.

13. The officer safety device of claim 8, wherein said compartments are defined as indentations in said top surface.

14. The officer safety device of claim 8, wherein said compartments are defined as containers raised from said top surface.

15. The officer safety device of claim 8, wherein said compartments include slots defined at each side of said compartment, and wherein said compartments include lids configured to slide horizontally about the top of each said compartment with each edge of said lid mating with each said slot.

16. The officer safety device of claim 8, wherein said compartments include lids hingedly attached thereto.

17. The officer safety device of claim 8, wherein a top of said hand-cuff rail has a width wider than the width of said ends to allow fingerprints to be taken from said hand-cuff rail.

18. The officer safety device of claim 8, further comprising vertical hand-cuff rail supports.