Further, the dates of publication provided may be different from the actual publication dates which may need to be independently confirmed.

[0158] It should be noted that all features, elements, components, functions, and steps described with respect to any embodiment provided herein are intended to be freely combinable and substitutable with those from any other embodiment. If a certain feature, element, component, function, or step is described with respect to only one embodiment, then it should be understood that that feature, element, component, function, or step can be used with every other embodiment described herein unless explicitly stated otherwise. This paragraph therefore serves as antecedent basis and written support for the introduction of claims, at any time, that combine features, elements, components, functions, and steps from different embodiments, or that substitute features, elements, components, functions, and steps from one embodiment with those of another, even if the following description does not explicitly state, in a particular instance, that such combinations or substitutions are possible. It is explicitly acknowledged that express recitation of every possible combination and substitution is overly burdensome, especially given that the permissibility of each and every such combination and substitution will be readily recognized by those of ordinary skill in the art.

[0159] In many instances, entities are described herein as being coupled to other entities. It should be understood that the terms "coupled" and "connected" (or any of their forms) are used interchangeably herein and, in both cases, are generic to the direct coupling of two entities (without any non-negligible (e.g., parasitic) intervening entities) and the indirect coupling of two entities (with one or more non-negligible intervening entities). Where entities are shown as being directly coupled together or described as coupled together without description of any intervening entity, it should be understood that those entities can be indirectly coupled together as well unless the context clearly dictates otherwise.

[0160] While the embodiments are susceptible to various modifications and alternative forms, specific examples thereof have been shown in the drawings and are herein described in detail. It should be understood, however, that these embodiments are not to be limited to the particular form disclosed, but to the contrary, these embodiments are to cover all modifications, equivalents, and alternatives falling within the spirit of the disclosure. Furthermore, any features, functions, steps, or elements of the embodiments may be recited in or added to the claims, as well as negative limitations that define the inventive scope of the claims by features, functions, steps, or elements that are not within that scope.

What is claimed is:

1. A removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle, comprising:
- an outer sleeve;
- an inner sleeve, operable to slidably engage with the outer sleeve;
- an adjustable clamp for securing the outer and inner sleeves in a fixed position with respect to each other;
- a first engagement mechanism coupled with an end of the outer sleeve;
- a second engagement mechanism coupled with an end of the inner sleeve and opposite the first engagement mechanism; and
- a primary coupling mechanism for coupling with a complementary coupling mechanism of a transportation or storage apparatus,
- wherein the first and second engagement mechanisms are operable to couple with a seating post of a bicycle and a post near handlebars of the bicycle for securing the bicycle during transportation or storage.

2. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **1**, wherein the first engagement mechanism is a hook.

3. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **2**, further comprising:
- a first secondary coupling mechanism coupled to the hook.

4. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **3**, further comprising:
- a second secondary coupling mechanism coupled to the hook,
- wherein the first secondary coupling mechanism is coupled with the second secondary coupling mechanism using a strap.

5. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **1**, wherein the primary coupling mechanism is a male engagement piece that is operable to engage with a female engagement receiver for storage and transportation of the adaptor bar.

6. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **5**, wherein the male engagement piece has a trapezoidal cross section.

7. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **1**, wherein the second engagement mechanism is a clamp.

8. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **7**, wherein the clamp comprises:
- a first arm and a second arm that are oriented in opposing positions and are operable to removably and securely grasp a bicycle bar.

9. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **8**, wherein the clamp further comprises:
- a cam locking mechanism.

10. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **8**, wherein the first arm of the clamp further comprises:
- a first threaded hole through the first arm that is operable to receive a threaded post to articulate the first and second arms with respect to each other.

11. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **10**, wherein the second arm of the clamp further comprises:
- a second threaded hole through the second arm that is operable to receive a threaded post to articulate the first and second arms with respect to each other.

12. The removable adaptor bar device for coupling with and securely transporting a bicycle using a vehicle of claim **11**, wherein the first and second threaded holes have opposite orientations and wherein the threaded post has two sections with opposite orientations.