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(54) **MOTORCYCLE CHOCK**

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(57) **ABSTRACT**

A motorcycle chock includes a base plate, a pivot plate and a wheel capture plate. The pivot plate is pivotally mounted to the base plate so that the pivot plate can pivot about a pivot axis from an open position to a closed position. The wheel capture plate is mounted to the base plate opposite the pivot plate and projects upwardly from the base plate. Each of the pivot plate and the capture plate has opposing sides depending outwardly, from a center axis transverse to the pivot axis. The pivot plate and capture plate opposing sides define generally continuous surfaces along substantially the entire length of the respective plate for contacting a tire disposed within the opposing sides of that plate.

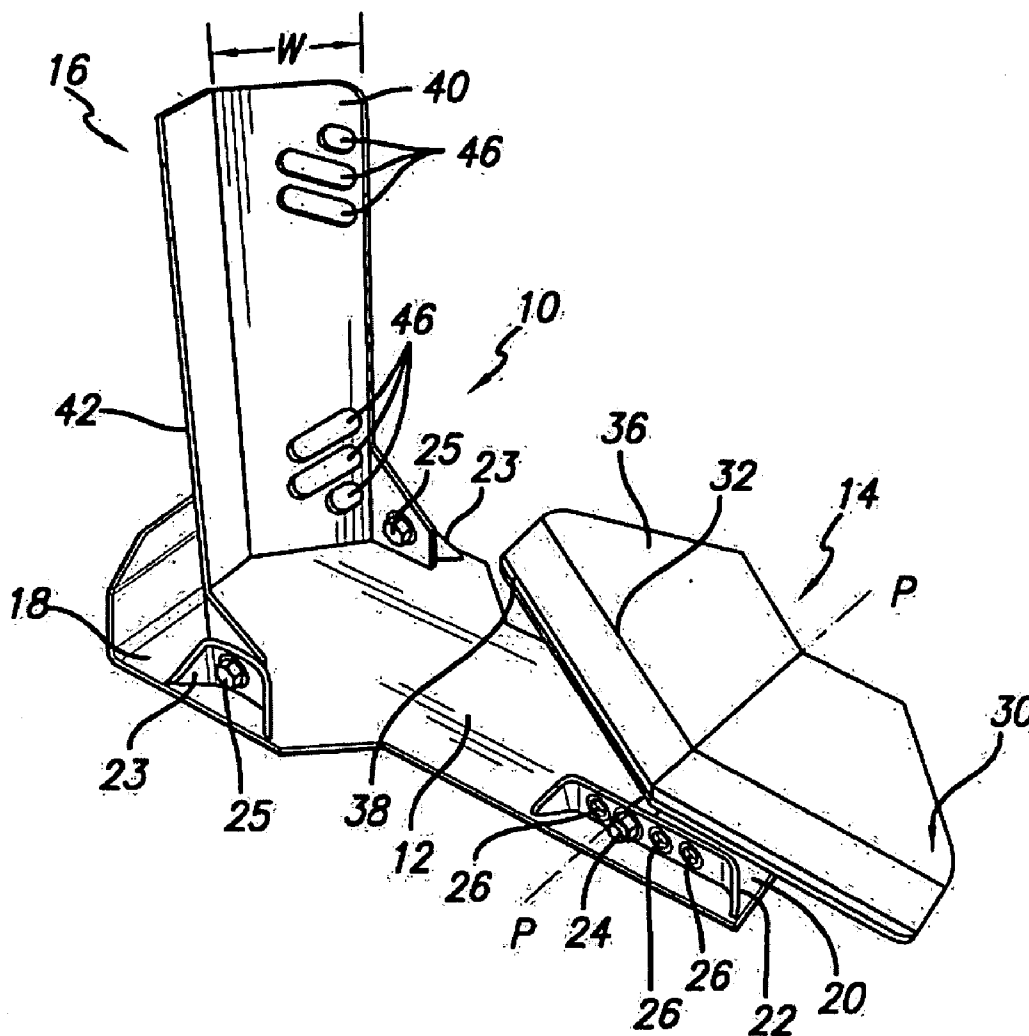
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Related U.S. Application Data

(60) **Provisional application No. 60/937,810, filed on Jun. 28, 2007.**



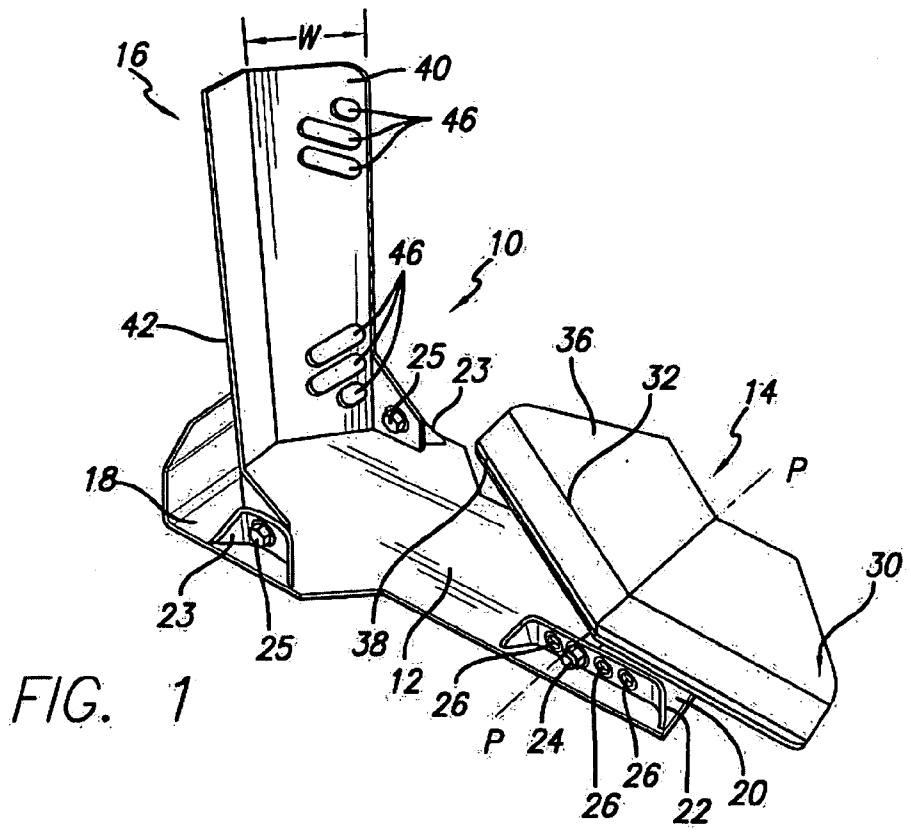


FIG. 1

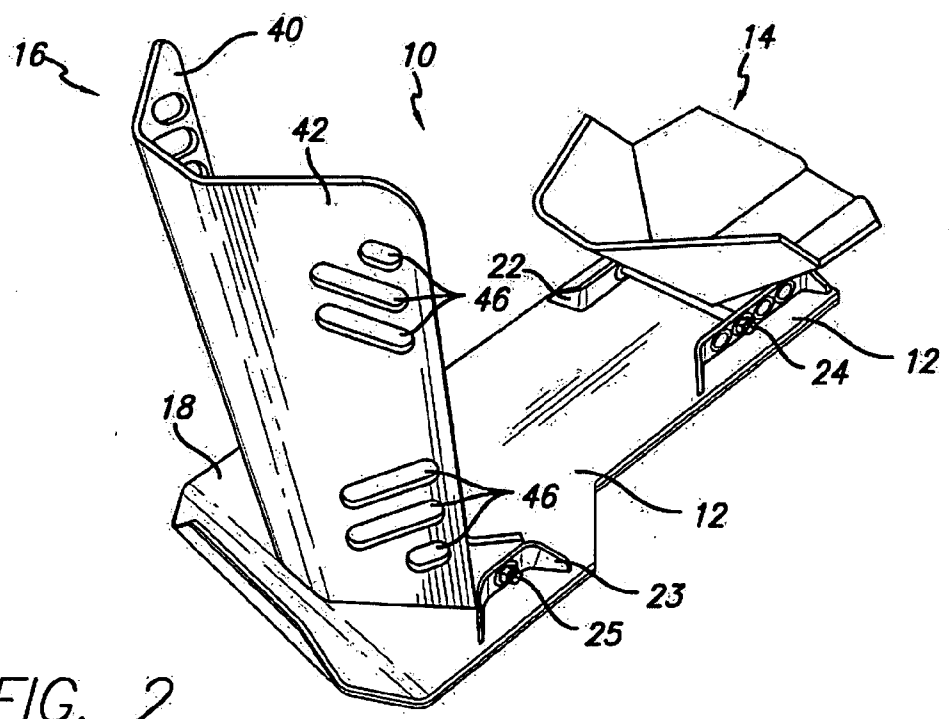


FIG. 2

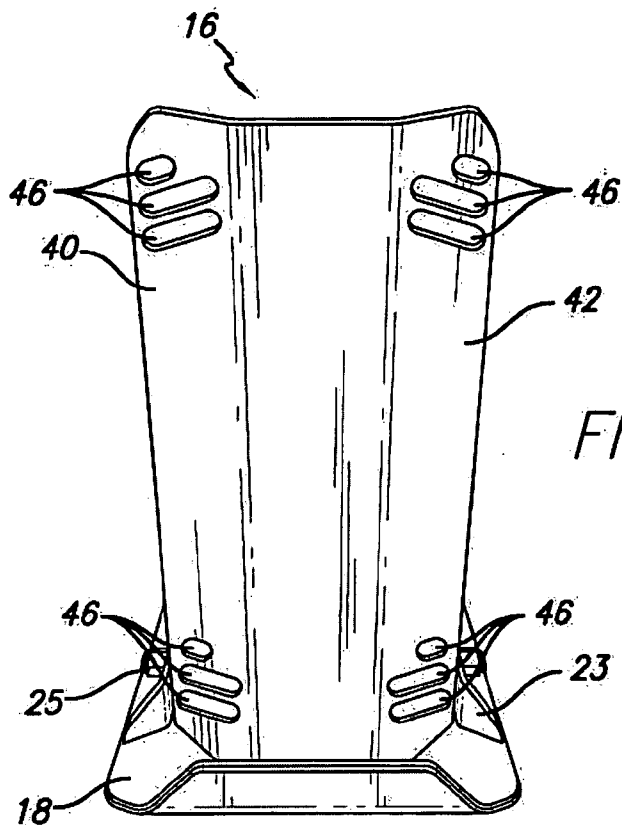


FIG. 3

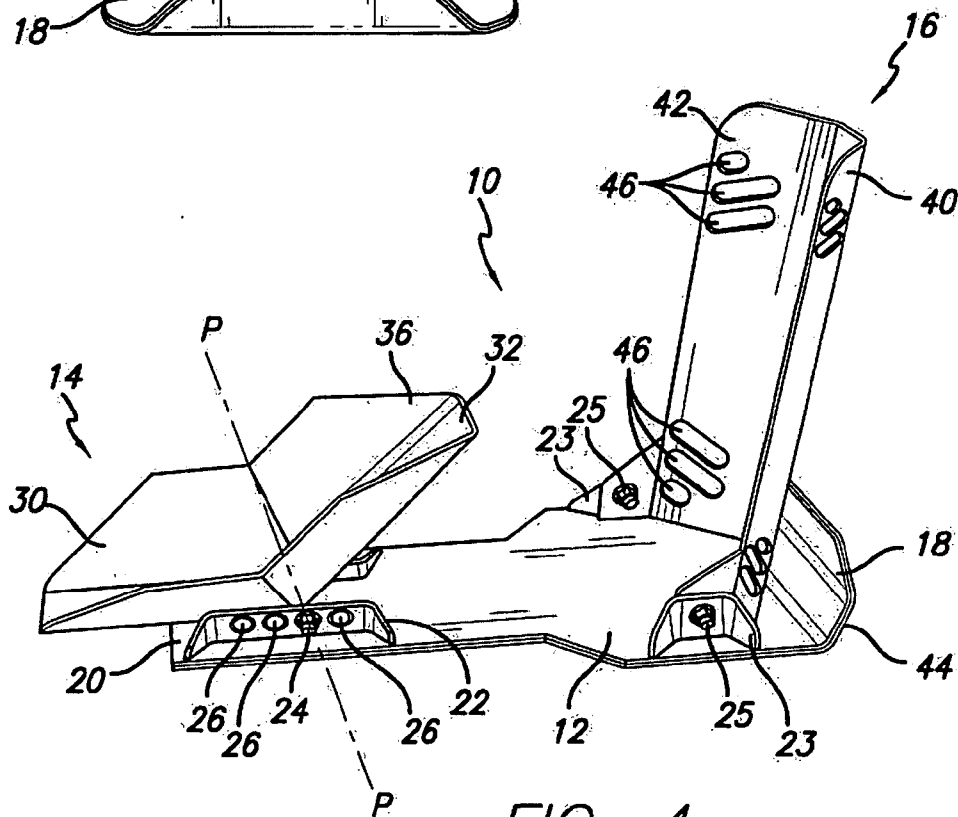


FIG. 4

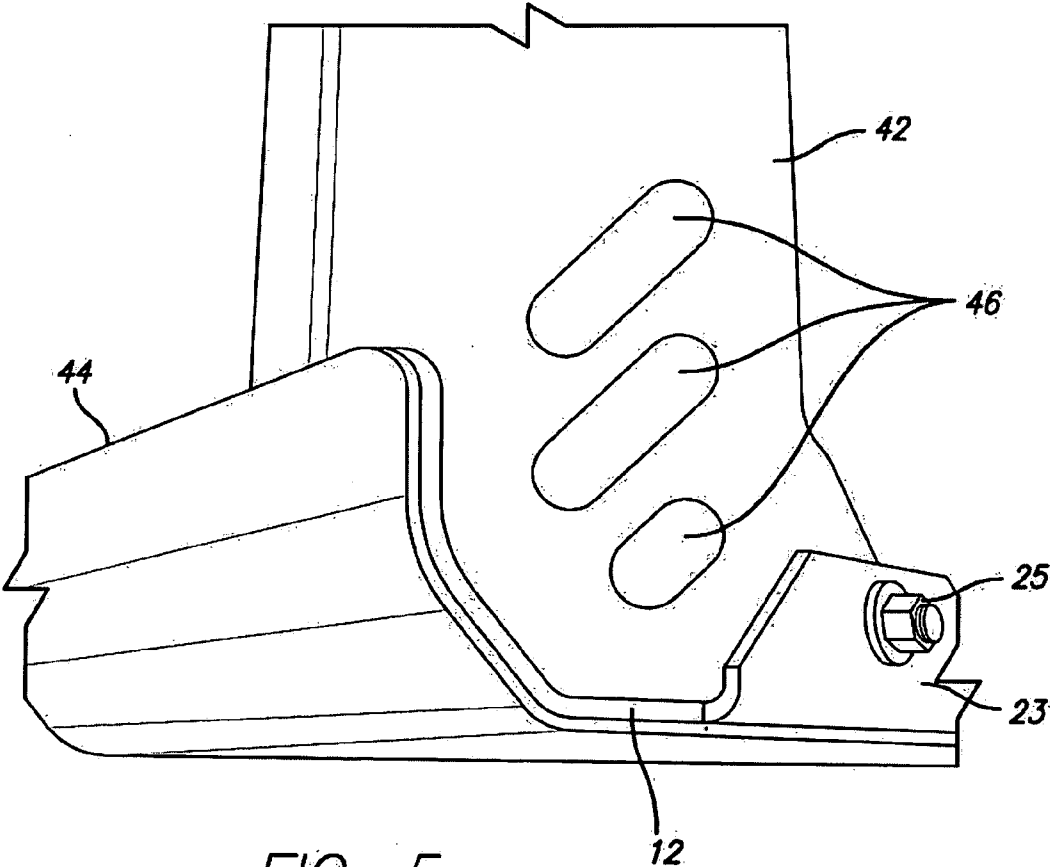


FIG. 5

MOTORCYCLE CHOCK

RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/937,810, filed Jun. 28, 2007, entitled "Motorcycle Chock," which is incorporated herein by reference.

BACKGROUND

[0002] This invention relates to motorcycles and accessories for motorcycles. More particularly, it relates to an apparatus for holding a motorcycle in an upright position during transportation, storage or maintenance of the motorcycle.

[0003] Chocks are devices that are commonly employed to support a motorcycle in an upright position for storage or transportation, such as in a truck. Although chocks have been known, previous designs have suffered from a number of setbacks. Some of these designs, for example, suffer from decreased stability and increased pressure point loading on the motorcycle tire. Previous designs that address these issues, however, are clumsy to assemble and disassemble. They are too large to be easily assembled and transported. There is a need, therefore, for an improved chock for holding a motorcycle in an upright position during transportation, storage or maintenance of the motorcycle.

[0004] It is an object of the present invention, therefore, to provide an improved motorcycle chock.

[0005] Additional objects and advantages of the invention will be set forth in the description that follows, and in part will be apparent from the description, or may be learned by practice of the invention. The objects and advantages of the invention may be realized and obtained by means of the instrumentalities and combinations pointed out in the appended claims.

SUMMARY OF THE INVENTION

[0006] To achieve the foregoing objects, and in accordance with the purposes of the invention as embodied and broadly described in this document, there is provided an improved chock for engaging a tire of a motorcycle. The chock includes a base, a pivot plate and a wheel capture plate. The base has a generally flat plate portion for contacting a support surface. The pivot plate is pivotally mounted to the base so that the pivot plate can pivot about a pivot axis from an open position to a closed position. The pivot plate, includes a first portion rearward of the pivot axis and a second portion forward of the pivot axis. The pivot plate has opposing sides depending; outwardly from a pivot plate center axis that is transverse to the pivot axis. The first portion and the second portion are angularly disposed with respect to each other so that when the pivot plate is in the open position the first portion is generally below the second portion and when the pivot plate is in the closed position the first portion is generally above the second portion. The wheel capture plate is mounted to the base opposite the pivot plate and projects upwardly from the base. The wheel capture plate has opposing sides depending outwardly from a longitudinal center axis for holding a tire when the pivot plate is in the closed position.

[0007] According to one aspect of the invention, the distance from the pivot-axis to the wheel capture plate can be adjustable.

[0008] According to another aspect of the invention, each of the opposing sides of the pivot plate can define a generally continuous surface along substantially the entire length of the

pivot plate for contacting a tire disposed within the opposing sides of the pivot plate. Similarly, each of the opposing sides of the capture plate can define a generally continuous surface along substantially the entire length of the capture plate for contacting a tire disposed within the opposing sides of the capture plate.

[0009] According to still another aspect of the invention, the capture plate and the pivot plate can be removably attached to the base.

[0010] In one advantageous embodiment, the pivot plate is mounted to the base with a removable pivot pin oriented along the pivot axis and the base includes a pivot plate bracket having a plurality of holes for receiving the pivot pin. Each of the holes is disposed at different distance from the wheel capture plate. The base plate portion has a greater width at the end where the capture plate is mounted than at the opposing end where the pivot plate is mounted. A skid-resistant pad is disposed on the bottom of the base plate portion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate the presently preferred embodiments of the invention and, together with the general description given above and the detailed description of the preferred embodiments given below, serve to explain the principles of the invention.

[0012] FIG. 1 is a perspective view of one embodiment, of a motorcycle chock according to the present invention, showing the pivot plate, front wheel capture plate and base plate.

[0013] FIG. 2 is a perspective view from the forward end of the motorcycle chock of FIG. 1.

[0014] FIG. 3 is a front end view showing the capture plate: of the motorcycle chock of FIG. 1.

[0015] FIG. 4 is a side perspective view of the motorcycle chock of FIG. 1.

[0016] FIG. 5 is a side perspective view of a portion of the motorcycle chock of FIG. 1 showing the rubber pad attached to the bottom of the base.

DESCRIPTION

[0017] Reference will now be made in more detail to presently preferred embodiments of the invention, as illustrated in the accompanying drawings. While the invention is described more fully with reference to these examples and drawings, the invention in its broader aspects is not limited to the specific details, representative devices, and illustrative examples shown and described. Rather, the description which follows is to be understood as a broad, teaching disclosure directed to persons of ordinary skill in the appropriate arts, and not as limiting upon the invention.

[0018] Referring to FIGS. 1-5, a motorcycle chock 10 according to the present invention supports a motorcycle in a vertical position by holding the front tire (not shown). The chock 10 includes a base plate 12, pivot plate 14 and a front wheel capture plate 16. The base plate 12 has a forward end 18 and a rearward end 20. The pivot plate 14 is pivotally mounted to the base plate; 12 at the rearward end 20 so that the pivot plate 14 can pivot about a pivot axis P between an open position and a closed position. The pivot plate 14 includes a pivot pin 24, which is rotatably mounted, to the forward end 18 between rear mounting brackets 22. The rear mounting brackets 22 include multiple holes 26 in different locations, which allow for mounting the pivot plate 14 at different

distances from the wheel capture plate 16 to accommodate different tire sizes. The wheel capture plate 16 is removably mounted to the base plate 12 at the forward end 18 between forward mounting brackets 23 using bolts 25.

[0019] As can be seen in FIGS. 1, 2 and 4, the pivot plate 14 includes a portion 30 rearward of the pivot axis P and a portion 32 forward of the pivot axis P. The pivot plate 14 has opposing sides 36, 38 that depend outwardly and from a longitudinal center plane of the pivot plate 14, which is transverse to the pivot axis P. As shown in the figures, the pivot plate rear portion 30 and the pivot plate forward portion 32 are angularly disposed with respect to each other. The pivot plate opposing sides 36, 38 form a relatively wide, generally continuous surface for contacting the tire of a motorcycle. In the embodiment shown, each of the pivot plate opposing sides 36, 38 defines a continuous surface along substantially the entire length of the pivot plate 14 for contacting the tire portion disposed within the opposing sides of the pivot plate. In this configuration, each of the opposing sides 36, 38 contacts the tire along substantially all of the length of the tire that is disposed between the sides and ends of the pivot plate 14. This reduces the damage to the motorcycle tire, accommodates various tire widths and substantially prevents any lateral motion of the motorcycle. Upon reading this specification, it will be understood that other configurations of the pivot plate opposing sides 36, 38, such as a configuration with holes formed in it, also can define a generally continuous surface for contacting the tire.

[0020] As shown in FIGS. 1-5, the capture plate 16 projects upwardly from the base plate 12 and has opposing sides 40, 42 that depend outwardly from the longitudinal center axis of the capture plate 16. The capture plate opposing sides 40, 42 also form a relatively wide, continuous surface for contacting the tire of a motorcycle. Preferably, the opposing sides 40, 42 are disposed at 45 degree angles on each side and equidistant from the longitudinal center line of the capture, plate 16. The opposing sides 40, 42 can include holes 46 for reducing the weight of the capture plate 16. Even with such holes, each of the opposing sides 40, 42 provides a generally continuous surface for contacting, and supporting the motorcycle tire. In the embodiment shown, each of the capture plate opposing sides 40, 42 defines a continuous surface along substantially the entire length of the capture plate 16. In this configuration, each of the opposing sides 40, 42 contacts the tire along substantially all of the length of the tire that is disposed between the sides and ends of the capture plate 16. This reduces the damage to the motorcycle tire, accommodates various tire widths, and substantially prevents any lateral motion of the motorcycle.

[0021] As shown in the FIGS. 1-4, the base plate 12 is wider at the forward end 18 to provide lateral support. The base plate 12 has a skid-resistant pad 44 mounted to its bottom, which provides friction on the trailer deck or other supporting surface for better stability. The pad 44 is made of a high friction material, such as a rubberized material, for skid resistance, to keep it from moving with the weight of the motorcycle. This allows for a non-permanent, secure engagement with the support surface without the need to mount the chock using hardware or complex mechanical means.

[0022] In operation, the pivot plate 14 is placed in an open position (See: FIG. 1) with the pivot plate rear portion 30 rotated rearward and in contact with the support surface. When the tire of a motorcycle is rolled onto the pivot plate 14 and forward toward the capture plate 16, the pivot plate 14

pivots so that the pivot plate forward portion 32 rotates downward. As this occurs, the weight of the motorcycle exerts leverage on the pivot plate 14, holding the tire securely against the front wheel capture plate 16. The distance between the pivot plate 14 and the capture plate 16 can be adjusted to accommodate different tire sizes by moving the pivot pin 24 to a different set of holes 26 in the rear mounting brackets 22.

[0023] In a preferred embodiment, the chock consists of only the three plates 12, 14, 16, which can be made of the same material and are easily disassembled for shipping. According to one advantageous embodiment, the plates are made of 6061-T4 aluminum alloy. Three bolts are used for easy assembly or disassembly of the apparatus. Two of the bolts are used to mount the wheel capture plate 16 to the base plate 12. A third longer bolt is used for the pivot pin 24.

[0024] The dimensions of the pivot plate 14 and the front wheel capture plate 16 outside the 45-degree break are significantly larger than previous designs. In one exemplary embodiment, the front wheel capture plate 16 has a height of about 16¼ inches and an overall width of about 10 inches. Each of the angled opposing sides 40, 42 has a width W (see FIG. 1) of about six inches. The pivot plate has an overall length of about 14.78 inches and a width of about 7.52 inches. This provides a greater surface area to better secure the motorcycle tire as well as reducing tire wear and cost of tire replacements.

[0025] The motorcycle chock of the present invention can be used for the following: to tie down a motorcycle in a trailer or truck to keep it stable; in a shop, garage or other location to park the bike upright without using the bike's kickstand; to service the motorcycle without the need to jack up or raise the motorcycle. Upon reading this specification, it will be understood that the motorcycle chock of the present invention provides a number of advantages over previous motorcycle chock designs. It provides better engagement of the motorcycle tire, which provides increased stability. In addition, it reduces pressure point loading on the tire. Moreover, unlike previous designs, it is easy to assemble and disassemble for storage.

[0026] Upon reading this disclosure, those, skilled in the art will appreciate that various changes and modifications may be made to the preferred embodiments of the invention and that such changes and modifications may be made without departing from the spirit of the invention. Therefore, the invention in its broader aspects is not limited to the specific details, representative devices, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of the general inventive concept.

What is claimed is:

1. A chock for engaging a tire of a motorcycle, the chock comprising:
 - a base having a generally flat plate portion for contacting a support surface;
 - a pivot plate pivotally mounted to the base so that the pivot plate can pivot about a pivot axis from an open position to a closed position, the pivot plate comprising:
 - opposing sides depending outwardly from a pivot plate center axis that is transverse to the pivot-axis;
 - a first portion rearward of the pivot axis and a second portion forward of the pivot axis;
 - wherein the first portion and the second portion are angularly disposed with respect to each other so that

- when the pivot plate is in the Open position the first portion is generally below the second portion and when the pivot plate is in the closed position the first portion is generally above the second portion; and
- a wheel capture plate mounted to the base opposite the pivot plate and projecting upwardly from the base, the wheel capture plate comprising opposing sides depending outwardly from a longitudinal center axis for holding a tire when the pivot plate is in the closed position.
- 2. The chock of claim 1 wherein the distance from the pivot axis to the wheel capture plate is adjustable.
- 3. The chock of claim 1 wherein the pivot plate is mounted to the base with a removable pivot pin oriented along the pivot axis and the base includes a pivot, plate bracket having a plurality of holes for receiving the pivot pin, and wherein each of the holes is disposed at a different distance from the wheel capture plate.
- 4. The chock of claim 1 wherein each of the opposing sides, of the pivot plate defines a generally continuous, surface along substantially the entire length of the pivot plate for contacting a tire disposed within the opposing, sides of the pivot plate.
- 5. The chock of claim 1 wherein the capture plate is removably attached to the base.
- 6. The chock of claim 1 wherein at least one of the opposing sides of the capture plate has a width of at least about six inches.
- 7. The chock of claim 1 wherein the opposing sides of the capture plate have a length of at least about ten inches.
- 8. The chock of claim 1 wherein the pivot, plate has a width of at least about seven inches.
- 9. The chock of claim 1 wherein the pivot plate has a width of at least about 14 inches.
- 10. The chock of claim 1 wherein each of the opposing sides of the capture plate depends outwardly from the capture plate center axis at an angle of about 45 degrees.
- 11. The chock of claim 1 wherein each of the opposing sides of the capture plate defines a generally continuous surface along substantially the entire length of the capture plate for contacting a tire disposed within the opposing sides of the capture plate.
- 12. The chock of claim 1 wherein the base plate portion has a greater width at the end where the capture plate is mounted than at the opposing end where the pivot plate is mounted.
- 13. The chock of claim 1 further comprising a skid-resistant material on the bottom of the base.
- 14. A chock for engaging a tire of a motorcycle, the chock comprising:
 - a base;
 - a pivot plate pivotally mounted to the base so that the pivot plate can pivot about a pivot axis from an open position to a closed position, the pivot plate comprising:

- a first portion rearward of the pivot axis and a second portion forward of the pivot axis; and
- opposing sides depending outwardly from a pivot plate center axis that is transverse to the pivot axis, wherein each of the opposing sides of the pivot plate defines a surface for contacting a tire along substantially all of the length of the tire disposed between the opposing sides and ends of the pivot plate; and
- wherein the first portion and the second portion are angularly disposed with respect to each other so that the when the pivot plate is in the open position the first portion is generally below the second portion and when the pivot plate is in the closed position the first portion is generally above the second portion; and
- a wheel capture plate mounted to base opposite the pivot plate and projecting upwardly from the base, the wheel capture plate comprising opposing sides depending outwardly from a longitudinal center axis for holding a tire when the pivot plate is in the closed position.
- 15. The chock of claim 14 wherein the distance from the pivot axis to the wheel capture plate is adjustable.
- 16. The chock of claim 14 wherein the capture plate is removably attached to the base.
- 17. A chock for engaging a tire of a motorcycle, the chock comprising:
 - a base;
 - a pivot plate pivotally mounted to the base so that the pivot plate can pivot about a pivot axis from an open position to a closed position, the pivot plate comprising:
 - opposing sides depending outwardly from a pivot plate center axis that is transverse to the pivot axis; and
 - a first portion rearward of the pivot axis and a second portion forward of the pivot axis;
 - wherein the first portion and the second portion are angularly disposed with respect to each other so that the when the pivot plate is in the open position the first portion is generally below the second portion and when the pivot plate is in the closed position the first portion is generally above the second portion; and
 - a wheel capture plate mounted to base opposite the pivot plate and projecting upwardly from the base; the wheel capture plate comprising opposing sides depending outwardly from a longitudinal center axis for holding a tire when the pivot plate is in the closed position;
 - wherein each of the opposing sides of the wheel capture plate defines a surface for contacting a tire along substantially all of the length of the tire disposed between the opposing sides and ends of the wheel capture plate.
- 18. The chock of Claim 17 wherein the distance from the pivot axis to the wheel capture plate is adjustable.
- 19. The chock of claim 17 wherein the capture plate is removably attached to the base.

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