A boat hull comprises a transom and a bow; a substantially flat delta bottom surface; left and right sidewalls extending from the transom and converging to meet at the bow; left and right chines formed between the left sidewall and the bottom surface, and between the right sidewall and the bottom surface, respectively, the chines extending from the transom to the bow; and a planing area extending from the transom and a landing area extending from the bow. The chines and the bottom surface are substantially flat in the planing area. The angular bottom portions join the chines and the bottom surface. The angular bottom portions have a deadrise increasing from the transom toward the bow.
BOAT HULL WITH ROLL STABILITY AT LOW OR HIGH SPEEDS

RELATED APPLICATION

[0001] This is a continuation-in-part of application serial no. 11/452,289, filed Jun. 14, 2006, which claims the priority benefit of provisional application Ser. No. 60/699,915, filed Jul. 18, 2005, both of which are hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] The present invention relates generally to a boat hull and particularly to a deep V hull that provides roll stability at low or high speeds.

BACKGROUND OF THE INVENTION

[0003] Displacement hulls do not promote planing and travel through the water at limited lower speeds. Planing hulls allow the boat to rise higher above the water at high speeds. Deep “V” hulls are planing hulls that provide a smooth and stable ride even in rough water at high speeds. Deep V hulls provide better splitting into the waves and less slamming at higher speeds. However, deep V hulls are very wallowing at slow speeds and at rest, rocking around badly when sitting at a dock or traveling at really slow speeds.

OBJECTS AND SUMMARY OF THE INVENTION

[0004] It is therefore an object of the present invention to provide a boat hull that provides stability at both high and low speeds, and at rest. The present invention provides extremely sharp entries at high speeds, while retaining good roll stability at slow speed, and at rest.

[0005] In summary, the present invention provides a boat hull, comprising a transom and a bow; left and right side-walls extending from the transom and converging at a boat; a substantially flat delta bottom surface extending from the transom toward the bow; and left and right chines formed between the left side wall and the bottom surface, and between the right side wall and the bottom surface, respectively, the chines extending from the transom to the bow. The flat delta bottom surface extends to a transom at about 75-80% of the length of the chines. The chines and the bottom surface are substantially horizontal at the transom, comprising about 35-65% of the width of the hull at the transom.

[0006] The present invention also provides a boat hull, comprising a transom and a bow; a substantially flat delta bottom surface; left and right side walls extending from the transom and converging to meet at the bow; left and right chines between the left side wall and the bottom surface, and between the right side wall and the bottom surface, respectively, the chines extending from the transom to the bow; and a planing area extending from the transom and a landing area extending from the bow. The chines and the bottom surface are substantially flat in the planing area. The angular bottom portions join the chines and the bottom surface. The angular bottom portions have a deadrise increasing from the transom toward the bow.

[0007] These and other objects of the present invention will become apparent from the following detailed description.
roll stability while the deep V and flare out chines in the landing area (between section lines A and C) advantageously provide a sharp entry where the boat breaks the water as it is propelled forward.

At the landing area, the hull provides a deep V profile that advantageously provides excellent entry through rough water at high speed with less slamming at high speeds. At the planing area, the wide flat chines and the flat delta bottom surface advantageously counteract the loss of stability at displacing speeds (lower speeds). The flat planing areas aft lead to good speeds and low fuel consumption. The low average deadrise aft provides very stable roll characteristics at slow speed and at rest.

The present invention can be used for boats with lengths of 12-50 ft. and all speeds from trolling to high speed planing.

While this invention has been described as having preferred design, it is understood that it is capable of further modification, uses and/or adaptations following in general the principle of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains, and as may be applied to the essential features set forth, and fall within the scope of the invention or the limits of the appended claims.

I claim:
1. A boat hull, comprising:
   a) a transom and a bow;
   b) left and right sidewalls extending from said transom and converging to meet at said bow;
   c) a substantially flat delta bottom surface extending from said transom toward said bow;
   d) left and right chines formed between said left sidewall and said bottom surface, and between said right sidewall and said bottom surface, respectively, said chines extending from said transom to said bow;
   e) said flat delta bottom surface extending to about 75-80% of the length of said chines;
   f) said chines and said bottom surface are substantially horizontal at said transom; and
   g) said chines and said bottom surface comprise about 35-65% of the width of said hull at said transom.
2. A boat hull as in claim 1, and further comprising angularly disposed bottom portions joining said chines and said bottom surface.
3. A boat hull as in claim 2, wherein said bottom portions rise between about 25°-56° from a horizontal plane.
4. A boat hull as in claim 1, said chines are joined to said sidewalls.
5. A boat hull as in claim 1, wherein said chines flare up to direct water spray away from said hull.
6. A boat hull as in claim 1, wherein said flat delta bottom surface in cross-section has about ±5-10° angle from a horizontal on either side of a centerline through said boat hull.
7. A boat hull as in claim 1, wherein said chines and said bottom surface at said transom includes a variation from the horizontal of about ±5-10°.
8. A boat hull, comprising:
   a) a transom and a bow;
   b) a substantially flat delta bottom surface;
   c) left and right sidewalls extending from said transom and converging to meet at said bow;
   d) left and right chines formed between said left sidewall and said bottom surface, and between said right sidewall and said bottom surface, respectively, said chines extending from said transom to said bow;
   e) a planing area extending from said transom and a landing area extending from said bow;
   f) said chines and said bottom surface are substantially flat in said planing area; and
   g) angular bottom portions joining said chines and said bottom surface, said angular bottom portions having a deadrise increasing from said transom toward said bow.
9. A boat hull as in claim 8, wherein said chines flare up in said landing area.
10. A boat hull as in claim 8, wherein said landing area has a deep V cross-section.
11. A boat hull as in claim 9, wherein said chines and said bottom surface comprise about 35-65% of the width of said hull at said transom.
12. A boat hull as in claim 8, wherein said landing area is about 25%-50% of the chine length between said transom and said bow.
13. A boat hull as in claim 8, wherein said angular portions have a deadrise that increases from said transom toward said bow.
14. A boat hull as in claim 12, wherein said deadrise is from about 25° at said transom to about 56° near said bow.
15. A boat hull as in claim 8, wherein said flat delta bottom surface extends to about 75-80% of the length of said chines from said transom toward said bow, said bottom surface being wide to narrow toward said bow.
16. A boat hull as in claim 15, wherein said flat delta bottom surface in cross-section has about ±5-10° angle from a horizontal on either side of a centerline through said boat hull.
17. A boat hull as in claim 9, wherein said chines gradually widen and flatten as they extend from near said bow toward said transom.
18. A boat hull as in claim 8, wherein said chines drop in elevation from near said bow toward said transom.