

CLAIMS

1. A hull (1) for a vessel for towing, comprising
 - a deck (13); and
 - a towing staple (14) for guiding a towing line (10),
- 5 wherein the towing staple (14) comprises:
 - a guiding element (20) having a symmetrical extension in a first plane parallel to the deck (13), wherein the guiding element (20) comprises a first and a second mounting section (21A, 21B) mounting the guiding element (14A) to the hull (1), wherein the first and second mounting sections (21A, 21B) are connected by
10 means of a main section (22) of the guiding element (20), wherein the guiding element (20) comprises a towing line guiding surface (23) located on a bottom side of the main section (22) facing the deck (13), the towing line guiding surface (23) being configured to, during a towing procedure, slidably contact the towing line (10), such that the towing line can freely move along a periphery of the main
15 section (22) in the first plane while being restricted in movement by the main section (22) in a direction perpendicular to the first plane, and
 - a support element (16), wherein the support element (16) is arranged on a top side of the main section (22) and extends at an angle to the first plane from the top side of the guiding element (20) to a second plane perpendicular to the first plane and
20 extending through the first and second mounting sections (21A, 21B).
2. The hull (1) according to claim 1, wherein the guiding element (20) of the towing staple (14) has an arch-shaped form, when seen in the first plane.
3. The hull (1) according to claim 1 or 2, wherein the guiding element (20) has a U-
25 shape, when seen in the first plane, such that the main section (22) comprises two parallel sections (22A) and a curved section (22B), wherein the end sections of the two parallel sections (22A) of the U-shaped guiding element (20) constitute the mounting sections (21A, 21B).

4. The hull (1) according to any one of the claims 1 to 3, the hull (1) further comprising a fairlead (15) for guiding the towing line (10), wherein the fairlead is arranged at a longitudinal center plane of the towing staple (14).
5. The hull (1) according to claim 4, wherein the guiding element (20) is shaped so that the distance from the fairlead to the towing line guiding surface (23) of the guiding element (20) varies over the periphery of the guiding element (20).
6. The hull (1) according to claim 4 or 5, wherein the towing staple (14) spans a viewing angle (α) of at least 140° seen from the fairlead (15) in a direction of a longitudinal centerline of the hull (1).
- 10 7. The hull (1) according to any one of the claims 4 to 6, wherein the support element (16) extends from a top side of the towing staple (14) facing away from the deck (13) to a connection point (17) located further away from the deck than the fairlead (15) in a vertical direction of the hull (1).
- 15 8. The hull (1) according to any one of the claims 1 to 7, wherein the towing staple (14) is arranged within an inner periphery of the hull (1).
9. The hull (1) according to any one of the claims 1 to 8, wherein a width (W) of the guiding element (20) between the first and second mounting sections (21A, 21B) is adapted to move a towing point away from the longitudinal centerline of the hull (1) towards an outer side of the hull (1).
- 20 10. The hull (1) according to any one of the previous claims, wherein a distance from the towing staple (14) to the deck (13) is in a range of 10cm to 200cm.
11. The hull (1) according to any of the previous claims, wherein the support element (16) comprises a sheet material extending from the top side of the guiding element (20) to the second plane, such that the support element (16) creates an enclosure covering the guiding element (20).
- 25 12. The hull (1) according to claim 11, wherein the support element (16) has a first edge (16A) being arranged on and following the circumference of the guiding element (20)

along the top side of the guiding element (20), and a second edge (16B) being parallel to the second plane and mounted to the hull at the second plane.

13. The hull (1) according to any of the previous claims, wherein the guiding element (20) comprises a lubrication system for lubricating the towing line during a towing
5 procedure.
14. The hull (1) according to claim 13, wherein the lubrication system comprises a plurality of openings (18) in the towing line guiding surface (23) of the guiding element (20) and a lubricant feeding system for feeding lubricant through the plurality of openings (18) onto the towing line (10).
- 10 15. The hull (1) according to any one of the previous claims, wherein the hull (1) comprises an accommodation building (19), and wherein the second plane is located on an aft or fore facing wall (19A) of the accommodation building (19).
16. The hull (1) according to any one of the previous claims, wherein the towing staple (14) is an integral part of the hull (1).
- 15 17. A towing staple (14) for a vessel for towing, wherein the towing staple is configured to guide a towing line, the towing staple (14) comprising:
- a guiding element (20) having a symmetrical extension in a first plane,
wherein the guiding element (20) comprises a first and a second mounting
20 section (21A, 21B) for mounting the guiding element (14A) to a hull of the vessel for towing, wherein the first and second mounting sections (21A, 21B) are connected by means of a main section (22) of the guiding element (20), wherein the guiding element (20) comprises a towing line guiding surface (23) located on a bottom side of the main section (22), the towing
25 line guiding surface (23) being configured to, during a towing procedure, slidably contact the towing line (10), such that the towing line can freely move along a periphery of the main section (22) in the first plane while being restricted in movement by the main section (22) in a direction perpendicular to the first plane, and

- a support element (16), wherein the support element (16) is arranged on a top side of the main section (22) and extends at an angle to the first plane from the top side of the guiding element (20) to a second plane perpendicular to the first plane and extending through the first and second mounting sections (21A, 21B).
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18. The towing staple according to claim 17, wherein the guiding element (20) of the towing staple (14) has an arch-shaped form, when seen in the first plane.
19. The towing staple (14) according to claim 17 or 18, wherein the guiding element (20) has a U-shape, when seen in the first plane, such that the main section (22) comprises two parallel sections (22A) and a curved section (22B), wherein the end sections of the two parallel sections (22A) of the U-shaped guiding element (20) constitute the mounting sections (21A, 21B).
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20. The towing staple (14) according to any one of the claims 17 to 19, wherein the support element (16) has a base end (16A) and a top end (16B), wherein the base end (16A) is arranged on the guiding element (20) and the top end (16B) is configured for being mounted to a mounting area located in the second plane.
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21. The towing staple (14) according to any of the claims 17 to 20, wherein the support element (16) comprises a sheet material extending from the top side of the guiding element (20) to the second plane, such that the support element (16) creates an enclosure covering the guiding element (20).
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22. The towing staple (14) according to claim 21, wherein the support element (16) has a first edge (16A) being arranged on and following the circumference of the guiding element (20) along the top side of the guiding element (20), and a second edge (16B) being parallel to the second plane.
- 25 23. The towing staple (14) according to any one of the claims 17 to 22, wherein the guiding element (20) comprises a lubrication system for lubricating the towing line during a towing procedure.
24. The towing staple (14) according to claim 23, wherein the lubrication system comprises a plurality of openings (18) in the towing line guiding surface (23) of the

guiding element (20) and a lubricant feeding system for feeding lubricant through the plurality of openings (18) onto the towing line (10).