

I/We claim:

1. A laying head for forming an axially moving hot rolled product into a helical series of rings, said laying head comprising:

a quill rotatable about an axis, said quill having a tubular body journalled for rotation between axially spaced bearings, and having a nose projecting axially and forwardly from said body;

a product guide carried by said quill, said product guide having an entry and aligned with said axis and arranged to receive said product, and having an intermediate curved portion leading from said entry end to a delivery end spaced radially from said axis and from which said product is discharged as said helical series of rings;

a guide trough providing a helical extension of said product guide, the intermediate curved portion and delivery end of said product guide and said guide trough being carried on a continuous helical support on the nose of said quill.

2. The laying head as claimed in claim 1 wherein the nose of said quill comprises a unitary structure including said helical support.

3. The laying head as claimed in claim 2 wherein said helical support comprises an auger plate configured as a spiral scroll projecting radially from said nose.

4. The laying head as claimed in claim 1 wherein said nose is detachably secured to said tubular body.

5. The laying head as claimed in claim 2 wherein said helical support is a fabricated component integrally joined to said nose.

6. The laying head as claimed in claim 1 wherein said product guide comprises a pipe.

7. The laying head as claimed in claim 6 wherein said pipe is detachably secured to said helical support.
8. The laying head as claimed in claim 1 wherein said guide trough comprises a bottom defined by an outer rim of said helical support, with detachable side walls projecting radially outwardly from said bottom.
9. The laying head as claimed in claim 8 wherein said detachable side walls are subdivided into segments.
10. The laying head as claimed in claim 9 wherein said side wall segments are substantially identical.
11. The laying head as claimed in claim 9 wherein said side wall segments are fabricated from aluminum or aluminum alloys.
12. The laying head as claimed in claim 9 wherein said side wall segments are fabricated from carbon fiber.
13. The laying head as claimed in claim 9 wherein said side wall segments are fabricated from thermoplastics.
14. The laying head as claimed in claim 9 wherein said side wall segments are coated with a wear resistant material.
15. The laying head as claimed in claim 14 wherein said wear resistant material comprises a nano metal.

16. A laying head for forming an axially moving hot rolled product into a helical series of rings, said laying head comprising:

a quill rotatable about an axis, said quill having a tubular body journalled for rotation between axially spaced bearings, and having a nose projecting axially and forwardly from said body;

a product guide carried by said quill, said product guide having an entry and aligned with said axis and arranged to receive said product, and having an intermediate curved portion leading from said entry end to a delivery end spaced radially from said axis and from which said product is discharged as said helical series of rings; and

a channel shaped guide trough providing a helical extension of said product guide, said guide trough having a continuous bottom and segmented detachable side walls.

17. The laying head as claimed in claim 16 wherein the intermediate curved portion and delivery end of said product guide and said guide trough are carried on a continuous helical support fabricated as an integral component of said nose.

18. The laying head as claimed in claim 17 wherein the bottom of said guide trough comprises an outer rim of said helical support.

19. The laying head as claimed in claim 16 wherein said nose is detachably secured to said tubular body.

20. The laying head as claimed in claim 17 wherein said product guide comprises a pipe detachably secured to an outer rim of said helical support.

21. A tubular nose adapted to project axially in cantilever fashion from the rotatable quill of a rolling mill laying head, said quill carrying a product guide having an entry end aligned with a rotational axis of the quill, and having an intermediate curved portion leading from said entry end to a delivery end communicating with a guide trough providing a helical

extension of said product guide, said nose having an auger plate configured and arranged to provide continuous support for said guide trough and for the intermediate curved portion and delivery end of said product guide.

22. The tubular nose as claimed in claim 21 wherein said auger plate is fabricated as an integral component of said nose.

23. The nose as claimed in claim 21 wherein an outer rim of said auger plate comprises a bottom of said guide trough.

24. The nose as claimed in claim 21 having one end thereof configured and arranged to be detachably secured to said quill.

25. The nose as claimed in claim 21 wherein the intermediate curved portion and delivery end of said product guide are secured by brackets on a rim of said auger plate.

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