CLAIMS

1. Automatic ironing apparatus comprising:

a housing defining an inlet on one side and an outlet on another side thereof, said inlet and outlet arranged in register via a passage;

a guiding arrangement configured to guide an article of clothing through said passage, the guiding arrangement including a folding assembly configured to urge an article of clothing into a predetermined orientation to facilitate treatment thereof as said article of clothing is guided through the housing;

a pre-treatment assembly within the housing and configured to pre-treat the article of clothing as said article is guided through the passage;

a primary treatment assembly within said housing and configured to treat the article of clothing as said article is guided through the passage;

a post-treatment assembly configured to post-treat the article of clothing as said article is guided through the passage;

a controller configured to control the guiding arrangement and treatment assemblies; and

energising means configured to provide electrical energy to the controller, guiding arrangement and treatment assemblies, wherein each treatment assembly facilitates ironing of the article of clothing as said article is guided through the passage.

2. Apparatus of claim 1, wherein the housing is shaped and dimensioned to be man-portable.

3. Apparatus of claim 1, wherein the folding assembly comprises at least two articulated plates slidably arranged within the housing, said plates configured to interact to urge an article of clothing placed thereon into a predetermined orientation.

4. Apparatus of claim 3, wherein the folding assembly includes at least one manipulation member configured to interact with said articulated plates in order to interact to urge an article of clothing placed thereon into a predetermined orientation.

5. Apparatus of any of claims 1 to 4, wherein the folding assembly defines at least one channel configured to facilitate passage of a portion of an article of clothing through the passage when urged into a predetermined orientation.

6. Apparatus of any of claims 1 to 5, wherein the guiding arrangement includes at least one sensor configured to sense a presence of the article of clothing at the inlet of the housing, said sensed presence communicated to the controller to control the guiding arrangement accordingly.

7. Apparatus of claim 6, wherein the sensor is configured to sense characteristics of the article of clothing, such as fabric type, fabric composition, fabric density, type of clothing article, and/or the like.

8. Apparatus of any of claims 1 to 7, wherein the guiding arrangement includes at least one roller configured to feed the article of clothing through the passage.

9. Apparatus of any of claims 1 to 8, wherein the guiding arrangement includes an endless belt conveyor feeder configured to feed the article of clothing through the passage.

10. Apparatus of any of claims 1 to 9, wherein the guiding arrangement includes a hanger urger mechanism configured to engage a suitable hanger in receipt of such article of clothing and to urge said hanger through the passage.

11. Apparatus of any of claims 1 to 10, wherein the pre-treatment assembly includes a fluid applicator configured to pre-treat the article of clothing by applying an ironing fluid thereto.

12. Apparatus of claim 11, wherein the fluid applicator includes an atomizer nozzle for spraying said ironing fluid onto the article of clothing.

13. Apparatus of any of claims 1 to 12, wherein the primary treatment assembly comprises at least one plate and/or roller configured to iron the article of clothing as said article passes through the passage, e.g. applying heat and/or pressure thereto.

14. Apparatus of claim 13, wherein the at least one primary treatment plate and/or roller is heated to facilitate primary treatment ironing.

15. Apparatus of either of claims 13 or 14, wherein the primary treatment plate and/or roller comprises fluid channels and/or nozzles for delivering ironing fluid to said plate and/or roller during primary treatment of the article of clothing.

16. Apparatus of claim 15, wherein the fluid channels deliver water which is converted to steam on a surface of said plate and/or roller during primary treatment.

17. Apparatus of any of claims 1 to 16, wherein the primary treatment assembly includes a steam chamber through which the article of clothing is passed in order to facilitate primary treatment ironing.

18. Apparatus of any of claims 1 to 17, wherein the post-treatment assembly comprises a fluid applicator configured to post-treat the article of clothing by applying a post-treatment fluid thereto.

19. Apparatus of claim 18, wherein the post-treatment assembly fluid applicator includes a steam applicator for applying high temperature steam to the article of clothing for hygienic purposes.

20. Apparatus of either of claims 18 or 19, wherein the post-treatment assembly fluid applicator includes a scent applicator configured to apply a particular scent or pleasant odour to the article of clothing.

21. Apparatus of any of claims 1 to 20, wherein the post-treatment assembly comprises an infra-red (IR) emitter configured to post-treat the article of clothing by applying infra-red or near infra-red radiation thereto in order to facilitate evaporation of ironing fluid therefrom.

22. Apparatus of any of claims 1 to 21, wherein the post-treatment assembly comprises an ultra-violet emitter configured to post-treat the article of clothing by applying

ultra-violet radiation thereto in order to facilitate elimination of bacteria therefrom.

23. Apparatus of any of claims 1 to 22, wherein the post-treatment assembly comprises an ultrasonic emitter configured to post-treat the article of clothing by applying ultrasonic radiation thereto in order to facilitate evaporation of ironing fluid therefrom.

24. Apparatus of any of claims 1 to 23, wherein the post-treatment assembly comprises an electrostatic discharge emitter configured to post-treat the article of clothing by electrostatically discharging said article of clothing in order to facilitate loosening of intermolecular bonds of the fabric of the article of clothing.

25. Apparatus of any of claims 15 to 24, wherein the post-treatment assembly comprises a thermoelectric heat recovery mechanism configured to recover heat energy from the article of clothing.

26. Apparatus of claim 25 via claim 24, wherein such recovered heat energy recovered by thermoelectric heat recovery mechanism is provided to the electrostatic discharge emitter.

27. Apparatus of any of claims 1 to 26, wherein the post-treatment assembly comprises at least one pressure roller configured to post-treat the article of clothing by applying a predetermined amount of pressure thereto in order to facilitate wrinkle removal.

28. Apparatus of claim 27, wherein the at least one pressure roller comprises an outer layer of material, such as thermal foam, sponge, or fabric to impede mechanical damage to

fasteners of the article of clothing, e.g. buttons, clasp locker, etc.

29. Apparatus of any of claims 1 to 28, wherein the controller is configured to control the guiding arrangement and treatment assemblies according to a sensed characteristic of the article of clothing.

30. Apparatus of claim 29, wherein the controller is programmed with a specific treatment regime for an article of clothing, said treatment regime determined by the sensed characteristics.

31. Apparatus of any of claims 1 to 29, wherein the controller is programmed with a specific treatment regime for an article of clothing, said treatment regime manually selectable by a user.

32. Apparatus of claim 31, wherein the controller includes a suitable user interface to allow treatment regime selection.

33. Apparatus of any of claims 1 to 32, wherein the energising means comprises an electrical power supply operatively drawing power from a mains power connection and/or suitable electrochemical cells, such as batteries.

34. A method of automatic ironing which comprises the steps of:

providing automatic ironing apparatus in accordance with any of claims 1 to 33; and

inserting an article of clothing into a passage of said apparatus so that said apparatus automatically irons the article of clothing.

35. The method of claim 34, which includes the step of a user selecting a suitable treatment regime for the apparatus to treat the article of clothing.