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(54) REMOVABLE FOLDABLE ROTARY CLOTHES DRIER

(71) We, ERNST ALIESCH, a West German citizen, of 56 Port Arthur Road, Lyons, A.C.T., 2606, Australia and NATHAN BANK, an Australian citizen, of 18 McCormack Street, Curtin, A.C.T., 2605, Australia, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a new rotary clothes drier which may also be used as a sun umbrella. In particular the invention relates to a clothes drier which is collapsible or foldable and thus can be stored away when not in use. The hoist is readily convertible into a tent.

Rotary clothes driers which have a number of radially projecting arms extending from a vertical central stem with clothes lines positioned between the arms are known. The clothes lines are attached to adjacent arms in a concentric polygonal array. The more common type of these driers is not collapsible and consequently suffers the disadvantage that it cannot be removed and thus requires a special area. This disadvantage has been recognized and accordingly a collapsible drier has been devised which is removable when not in use and which when required may be easily assembled. Both these types of drier have the disadvantage that the drying effect of a current of air is lessened because of the disposition of the line. Thus the drier tends to assume a position wherein parallel sections of the arms are shielded from the prevailing breeze. Additionally, the drier tends to assume an equilibrium position and ceases to rotate.

It is an object of this invention to provide a clothes drier which does not suffer from the aforementioned disadvantages.

A further object is to provide a clothes drier which is foldable, easily removed from a working location, light and simply and economically constructed.

According to this invention, there is pro-

vided a foldable rotary clothes drier comprising

- (i) An upright support post adapted to be rotatably mounted in a socket on a base member;
- (ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;
- (iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;
- (iv) Means for attaching a plurality of clothes line sections, so that the sections extend radially beneath the arms;
- (v) The connections of said tension members and said arms to said post having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members and arms are able to fold downwardly to lie alongside said post.

According to this invention there is also provided a foldable rotary clothes drier comprising

- (i) An upright support post rotatably mounted in a socket on a base member;
- (ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;
- (iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;
- (iv) A plurality of clothes line sections each connected to extend radially beneath a respective arm;
- (v) The connections of said tension members and said arms to said post being pivotal and having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members, arms and clothes line

sections are able to fold downwardly to lie alongside said post.

In a further embodiment this invention provides a foldable rotary clothes drier comprising

- (i) An upright support post rotatably mounted in a socket on a base member;
- (ii) A plurality of arms each secured at one end to a flanged portion of a ring member, said ring member being formed of two parts detachably secured together, said ring member being detachably secured to and positioned around said support post, said arms extending radially outwardly from said support post;
- (iii) A plurality of tension members, each connected at one end to said post above the connection point of a respective one of said arms, and at the other end detachably connected to said arm at or near the distal end thereof;
- (iv) Means for attaching a plurality of clothes line sections so that the sections extend radially beneath the arms;
- (v) The connections of said tension members to said post and said arms to said ring member having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members and arms are able to fold downwardly to lie alongside said post.

In another preferred embodiment, this invention provides a foldable rotary clothes drier comprising

- (i) An upright support post rotatably mounted in a socket on a base member;
- (ii) A plurality of arms, each secured at one end to a flanged portion of a ring member, said ring member being formed of two parts detachably secured together, said ring member being detachably secured to and positioned around said support post, said arms extending radially outwardly from said support post;
- (iii) A plurality of tension members, each connected at one end to said post above the connection point of one of said arms, and at the other end detachably connected to said arm at or near the distal end thereof;
- (iv) A plurality of clothes line sections, each connected to extend radially beneath a respective arm;
- (v) The connections of said tension members to said post and said arms to said ring member being pivotal and having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members, arms and clothes line sections are able to fold downwardly to lie alongside said post.

The tension members may be connected to a ring member secured to the post. The base member may comprise a concrete block. Means may be provided for varying the height of the support post in the socket.

The aforementioned characteristics and other advantages will become apparent when regard is had to the following description of preferred embodiments when taken in conjunction with the accompanying drawings. It is emphasised that the particular structures illustrated are exemplary and not restrictive of the invention.

In the drawings:—

Figure 1 is a perspective view of a clothes drier in operating position.

Figure 2 is a view of the clothes drier after folding.

Figure 3 is an elevational view showing detail of a hinge.

Figure 4 shows the end detail of an arm.

Figure 5 is a plan view of the hinge of Figure 3.

Figure 6 is an end view of the arm through x—x of Figure 4.

Figure 7 is an elevational view of an alternative preferred embodiment of the upper portion of the drier.

Figure 8 is a plan view of Figure 7.

Now having regard to the drawings, numeral 1 represents a tension member for an arm 2. Member 1 may be attached to ring 5 fixed to the post 6 close to the top thereof and detachably connected to the side of arm 2 in any suitable way. The clothes line 4, which may be of a plastics material is fixed to a lower ring 11 secured to the post 6 and is adapted to be fitted into the end of arm 2 by an end connecting member 3. If desired the member 3 may be permanently fixed to the arm 2 by, e.g. welding. The length of the line 4 is such that when in operating position it is taut and properly tensioned. Arm 2 is preferably attached to post 6 by a hinge 10 which enables it to move freely in a vertical plane when tension member 1 is detached.

In Figures 7 and 8, the tension member is indicated as 101 and is adapted to fold down over an arm 2 when released from the distal end of 2. It is shown attached onto a flanged member 105 which fits into the support post 6. As shown member 105 is secured in position by a split pin 113. If desired member 105 could fit over the post 6 and if desired be secured by other means, e.g. a bolt. A different arrangement for connecting the arm 2 is also shown. Two circular portions 110 are detachably secured together by locking means 112, e.g. they may be bolted or screwed and each is detachably secured to the main post 6 to fixed means 113, e.g. split pins or a bolt and nut. The arm 2 is pivotably attached to the ring 110 by pin 114 which allows it to fold freely when arm 101 is disconnected from its distal end.

The post 6 is mounted in a socket 9 and is provided with a number of holes 7 for adjusting the height of the line. The post may be secured in position by a pin 8. As can be seen the clothes drier is free to rotate under the

action of a current of air.

As indicated previously the clothes drier is foldable or collapsible and this may be accomplished by removing the tension member 1 from the arm 2 which is then free to drop close to and approximately parallel to the post 6. The line 4 may be removed from the arm 2 by detaching the connecting member 3. The drier may be removed from its socket 9 and stored away until needed — thereby making an area available for other activities.

If desired a suitable canvas or tarpaulin cover may be placed over the drier so that in its working position it acts as a sun-umbrella. Additionally, a garden table may be so designed as to fit around the post 6. Alternatively, a tarpaulin sheet or sheets or the like may be attached to the cover thereby forming a tent.

Whilst the drier is shown with all arms raised in Figure 1 and all arms lowered in Figure 2, it should be realised that not all arms need to be raised when operating and that the hoist may be used if desired with only one arm in operating position.

It should be noted that as the clothes line is radial to the main post, the drier in use will tend to rotate under the effect of a current of air and will not assume an equilibrium position. This will increase its drying effect.

It is not intended that this invention be limited to the particular structure shown. Thus the tension member 1 and the line 4 may be fitted to the post 6 in other ways. Similarly the tension member and line may be connected to the arm 2 in other ways and the arm 2 may be connected to the post 6 by other means. It is important that the tension member arm and line are so connected that they are adapted to move freely in a vertical plane so that the drier may be folded or collapsed to a configuration as schematically shown in Figure 2.

It may be mentioned that the tension member, arm and line may be fixed to a member (other than a post 6) such as a wall by a suitable means and operate as a clothes drying device.

The components used may be made of any suitable material and if desired galvanised to reduce corrosion. Desirably the total weight of the drier should be kept as light as is compatible with safety. The main post 6 may be about 1½" diameter, the double ring 110 about 5" diameter and its flanged sections each ¾" thick and the arms ¾" diameter and about 6 feet long. A drier of the above size can conveniently be positioned on a sun-deck or an outdoor area where space is at a premium and is easily folded down and removed when the area is required for other activities. Aluminium and its alloys are also suitable materials of construction. An advantage of placing the cover on the drier to which washing is suspended is that rain will not

affect, or only slightly affect, the drying clothes. Thus, a housewife may leave her washing out even when rain is pending, secure in the knowledge that some drying will take place and dried clothes will remain so even if it rains.

WHAT WE CLAIM IS:—

1. A foldable rotary clothes drier comprising

(i) An upright support post adapted to be rotatably mounted in a socket on a base member;

(ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;

(iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;

(iv) Means for attaching a plurality of clothes line sections, so that the sections extend radially beneath the arms;

(v) The connections of said tension members and said arms to said post having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members and arms are able to fold downwardly to lie alongside said post.

2. A foldable rotary clothes drier comprising

(i) An upright support post rotatably mounted in a socket on a base member;

(ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;

(iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;

(iv) A plurality of clothes line sections each connected to extend radially beneath a respective arm;

(v) The connections of said tension members and said arms to said post being pivotal and having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members arms and clothes line sections are able to fold downwardly to lie alongside said post.

3. A foldable rotary clothes drier as claimed in claim 1 or claim 2 wherein the tension members are connected to a ring member secured to the post.

4. A foldable rotary clothes drier as claimed in any one of claims 1 to 3 wherein means are provided for varying the height of the support post in the socket.

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action of a current of air.

As indicated previously the clothes drier is foldable or collapsible and this may be accomplished by removing the tension member 1 from the arm 2 which is then free to drop close to and approximately parallel to the post 6. The line 4 may be removed from the arm 2 by detaching the connecting member 3. The drier may be removed from its socket 9 and stored away until needed — thereby making an area available for other activities.

If desired a suitable canvas or tarpaulin cover may be placed over the drier so that in its working position it acts as a sun-umbrella. Additionally, a garden table may be so designed as to fit around the post 6. Alternatively, a tarpaulin sheet or sheets or the like may be attached to the cover thereby forming a tent.

Whilst the drier is shown with all arms raised in Figure 1 and all arms lowered in Figure 2, it should be realised that not all arms need to be raised when operating and that the hoist may be used if desired with only one arm in operating position.

It should be noted that as the clothes line is radial to the main post, the drier in use will tend to rotate under the effect of a current of air and will not assume an equilibrium position. This will increase its drying effect.

It is not intended that this invention be limited to the particular structure shown. Thus the tension member 1 and the line 4 may be fitted to the post 6 in other ways. Similarly the tension member and line may be connected to the arm 2 in other ways and the arm 2 may be connected to the post 6 by other means. It is important that the tension member arm and line are so connected that they are adapted to move freely in a vertical plane so that the drier may be folded or collapsed to a configuration as schematically shown in Figure 2.

It may be mentioned that the tension member, arm and line may be fixed to a member (other than a post 6) such as a wall by a suitable means and operate as a clothes drying device.

The components used may be made of any suitable material and if desired galvanised to reduce corrosion. Desirably the total weight of the drier should be kept as light as is compatible with safety. The main post 6 may be about 1½" diameter, the double ring 110 about 5" diameter and its flanged sections each ¾" thick and the arms ¾" diameter and about 6 feet long. A drier of the above size can conveniently be positioned on a sun-deck or an outdoor area where space is at a premium and is easily folded down and removed when the area is required for other activities. Aluminium and its alloys are also suitable materials of construction. An advantage of placing the cover on the drier to which washing is suspended is that rain will not

affect, or only slightly affect, the drying clothes. Thus, a housewife may leave her washing out even when rain is pending, secure in the knowledge that some drying will take place and dried clothes will remain so even if it rains.

WHAT WE CLAIM IS:—

1. A foldable rotary clothes drier comprising

(i) An upright support post adapted to be rotatably mounted in a socket on a base member;

(ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;

(iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;

(iv) Means for attaching a plurality of clothes line sections, so that the sections extend radially beneath the arms;

(v) The connections of said tension members and said arms to said post having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members and arms are able to fold downwardly to lie alongside said post.

2. A foldable rotary clothes drier comprising

(i) An upright support post rotatably mounted in a socket on a base member;

(ii) A plurality of arms, each connected at one end to said post and extending radially outwardly therefrom;

(iii) A plurality of tension members, each associated with a respective arm and being connected at one end to said post above the connection point of its associated arm and at the other end detachably connected to the distal end of said arm;

(iv) A plurality of clothes line sections each connected to extend radially beneath a respective arm;

(v) The connections of said tension members and said arms to said post being pivotal and having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members arms and clothes line sections are able to fold downwardly to lie alongside said post.

3. A foldable rotary clothes drier as claimed in claim 1 or claim 2 wherein the tension members are connected to a ring member secured to the post.

4. A foldable rotary clothes drier as claimed in any one of claims 1 to 3 wherein means are provided for varying the height of the support post in the socket.

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prising

(i) An upright support post rotatably mounted in a socket on a base member;

5 (ii) A plurality of arms each secured at one end to a flanged portion of a ring member, said ring member being formed of two parts detachably secured together, said ring member being detachably secured to and positioned around said support post, said arms
10 extending radially outwardly from said support post;

(iii) A plurality of tension members, each connected at one end to said post above the connection point of a respective one of said arms, and at the other end detachably
15 connected to said arm at or near the distal end thereof;

(iv) Means for attaching a plurality of clothes line sections so that the sections extend
20 radially beneath the arms;

(v) The connections of said tension members to said post and said arms to said ring member having pivot axes transverse to the longitudinal axis of said post whereby on detaching
25 said tension members from said arms, said tension members and arms are able to fold downwardly to lie alongside said post.

6. A foldable rotary clothes drier comprising

30 (i) An upright support post rotatably mounted in a socket on a base member;

(ii) A plurality of arms, each secured at one end to a flanged portion of a ring member, said ring member being formed of two parts detachably secured together, said ring member being detachably secured to and positioned around said support post, said arms
35 extending radially outwardly from said support post;

40 (iii) A plurality of tension members, each connected at one end to said post above the

connection point of a respective one of said arms, and at the other end detachably connected to said arm at or near the distal end thereof;

(iv) A plurality of clothes line sections, each connected to extend radially beneath a respective arm;

(v) The connections of said tension members to said post and said arms to said ring member being pivotal and having pivot axes transverse to the longitudinal axis of said post whereby on detaching said tension members from said arms, said tension members, arms and clothes line sections are able to fold downwardly to lie
45 alongside said post.

7. A foldable rotary clothes drier as claimed in claim 5 or claim 6 wherein the tension members are connected to a ring member detachably secured around the post.

8. A foldable rotary clothes drier as claimed in any one of claims 5 to 7 wherein means are provided for varying the height of the support post in the socket.

9. A foldable rotary clothes drier as claimed in any one of the preceding claims further provided with a cover.

10. A foldable rotary clothes hoist as claimed in claim 9 wherein a side piece or pieces are attached to the cover to form a tent.

11. A foldable rotary clothes drier substantially as hereinbefore described and illustrated with reference to the attached drawings.

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