

PATENT SPECIFICATION (11)

1 539 384

9

1 539 384

- (21) Application No. 36113/75 (22) Filed 2 Sept. 1975 (19)
(23) Complete Specification filed 1 Sept. 1976
(44) Complete Specification published 31 Jan. 1979
(51) INT. CL.⁸ D06F 57/12
(52) Index at acceptance
A4U 4A1 4A3 4F 4M



(54) CLOTHES DRIER

(71) I, DWIGHT PING KUEN AU, a British subject, of Flat 3A, 35 Broadcast Drive, Kowloon, Hong Kong, do hereby declare the invention, for which I pray that a patent may be granted to me, 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 clothes drier.

In some parts of the world it is common practice in multistorey dwellings to dry and air clothes by attaching them to a pole, and then to fix the pole horizontally into a socket defined by the end of a pipe provided outside a window for the purpose. The poles occasionally fall and injure people below, and users occasionally fall out of the window while manipulating the pole.

Accordingly the present invention provides a clothes drier for attachment to the end of a pipe, the drier including a holder suitable for insertion into or placement around the pipe, which holder has a tubular part with a plurality of pointed screws threadedly engaged therein and extending therethrough, for securing the holder to the pipe, and has a holding part with a bolt projecting therefrom, and including a plurality of arms each pivotally mounted at one end thereof on the bolt for separate pivotal movement about the longitudinal axis of the bolt.

Preferably the tubular part is formed to surround the pipe. The screws can be tightened to engage the pipe and secure the holder thereon. Preferably the tubular part is slightly longer than the extent to which the pipe projects from the wall.

For example the bolt on which the arms are mounted can pass through and be welded to the outer end of the tubular holding part. It will be preferred in use for the bolt to extend upwardly from the tubular holding part. Suitably the bolt can be pivotally mounted on the holding part and lockable in any one of a number of pivotal positions.

Suitably a spring can be mounted on the bolt to bias the arm ends mounted on the bolt toward one another to provide frictional resistance to pivotal movement of the

arms. For example each of the arms can have a ring at one end through which the bolt passes and a spring can be provided to press down upon all the arms from above.

The arms can be of steel, preferably with aluminium tubular coverings. Alternatively the arms can have plastics coverings.

The invention will be more clearly understood from the following further detailed description which is given by way of example only with reference to the accompanying drawings.

Figure 1 of the drawings is a side elevation of a clothes drier according to a first embodiment of the invention positioned on a pipe extending out of a wall.

Figure 2 is a view of the apparatus of Figure 1 from above.

Figure 3 is a detailed fragmentary end view of the apparatus.

Figure 4 is a perspective view of a clothes drier according to a further embodiment of the invention.

Figure 5 is a side elevation of the device of Figure 4.

Figure 6 is a detailed fragmentary end view of the device of Figure 4.

Figure 7 is a partly sectional fragmentary side view of the device of Figure 4.

Like reference numerals in the drawings designate like parts.

Referring to Figures 1—3, shown in Figure 1 is a wall 10 in which is embedded a pipe 11 of the type in which a pole has previously been inserted to support washing. Above the wall is shown a window 12a through which the pole can be passed to be inserted in the pipe. The apparatus of the invention includes a pipe holder having a tubular part 12 which fits over the pipe 11 and is secured thereto by means of pointed or cone-ended screws 13, one above and one on each side of the tubular part 12. Passing through the tubular part 12 at the outer end thereof forming a holding part, is a bolt 14, the bolt being welded in position as shown in Figure 3 by weldings 15. A plurality of arms, as shown ten arms 16, are each provided with a ring at one end through which the bolt 14 passes. The rings are separated by washers 17. At the top of

63

the bolt is a nut 18 secured by a split pin 19. Between the nut 18 and the washer above the topmost arm 16 is a strong compression spring urging the rings at the ends of the arms downwardly. Each of the arms can be pivoted separately about the axis of the bolt 14 but will generally be maintained in a particular position by reason of frictional forces induced by the spring.

The tubular part 12, of course, has a slightly greater internal diameter than the external diameter of the fixed pipe 11. It is preferably galvanised. As shown in Figure 1, the tubular part 12 is also slightly longer than the projecting part of the pipe 11 but is positioned right up to the wall 10.

The arms 16 are suitably about 3 feet long, may be of 5/16ths diameter circular steel bar and have 1/2 inch diameter hole at one end through which the bolt 14 passes. Preferably, 3/8ths inch diameter aluminium tubes are fitted over the bars and caps can be provided at the ends of the arms. Other metals or plastics such as PVC can be used for the arms which can move in horizontal planes through 180°. In use, clothes can be clipped to the arms which can then be swung outwardly.

Referring to Figures 4-7, a further embodiment of the invention corresponds to the embodiment of Figures 1-3 except for the additional feature that the bolt 14 projects transversely of the axis of the tubular part 12 at an angle which can be made 90° or oblique, as desired, by an adjustable arrangement as described below.

Bolt 14 is pivotally mounted to the tubular part 12 by an axle 20 which extends through a hole adjacent one end of bolt 14 and is fixed to the tubular part 12 adjacent its outer end forming the holding part. Axle 20 and its fixings are in the form of a bolt and nut. Bolt 14 extends through an aperture 21 in the tubular part 12 (Figure 7). Aperture 21 is large enough to allow the bolt 14 to take up any angular pivoted position within a range of about 45°.

A wall 22 is welded to the holding part of the tubular part 12, and extends around aperture 21, and has two opposed holes 23 therein, aligned parallel to the axis of the tubular part 12, through each of which extends a cone-ended adjusting screw 24. Screws 24 are disposed so that they can be screwed towards each other to clamp the bolt 14 therebetween, and hold the bolt 14 against pivotal motion about the axle 20. A foot washer 25 welded to the bolt 14 holds the arms 16 away from the aperture 21.

By adjustment of the screws 24 the angle at which the bolt 14 projects transversely from the tubular part 12 can be varied at will, within the angular range defined by the limits of the aperture 21.

With this embodiment of the invention, the drier can be arranged so that the bolt 14 is vertical and the arms 16 are horizontal even though the pipe 11 may project at an oblique angle from the wall 10.

The above-described driers are quite cheap to make and provide a great improvement in safety and ease of manipulation compared with the previously-used bamboo poles.

WHAT I CLAIM IS:—

1. A clothes drier for attachment to the end of a pipe, the drier including a holder suitable for insertion into or placement around the pipe, which holder has a tubular part with a plurality of pointed screws threadedly engaged therein and extending therethrough, for securing the holder to the pipe, and has a holding part with a bolt projecting therefrom, and including a plurality of arms each pivotally mounted at one end thereof on the bolt for separate pivotal movement about the longitudinal axis of the bolt.

2. A clothes drier according to claim 1, wherein the tubular part is formed to surround the pipe.

3. A clothes drier according to claim 2, wherein the bolt is pivotally mounted on the holding part and lockable in any one of a number of pivotal positions.

4. A clothes drier according to any one of claims 1 to 3, wherein a spring is mounted on the bolt to bias the arm ends mounted on the bolt towards one another to provide frictional resistance to pivotal movement of the arms.

5. A clothes drier according to any preceding claim, wherein the arms are of steel.

6. A clothes drier according to any preceding claim, wherein the arms have tubular aluminium coverings.

7. A clothes drier according to any preceding claim, wherein the arms have plastics coverings.

8. A clothes drier substantially as hereinbefore described with reference to Figures 1-3 or to Figures 4-7 of the accompanying drawings.

For the Applicant:
D. YOUNG & CO.,
Chartered Patent Agents,
9 & 10 Staple Inn,
London, W.C.1.



10 2

1,539,384

2

the bolt is a nut 18 secured by a split pin 19. Between the nut 18 and the washer above the topmost arm 16 is a strong compression spring urging the rings at the ends of the arms downwardly. Each of the arms can be pivoted separately about the axis of the bolt 14 but will generally be maintained in a particular position by reason of frictional forces induced by the spring.

The tubular part 12, of course, has a slightly greater internal diameter than the external diameter of the fixed pipe 11. It is preferably galvanised. As shown in Figure 1, the tubular part 12 is also slightly longer than the projecting part of the pipe 11 but is positioned right up to the wall 10.

The arms 16 are suitably about 3 feet long, may be of 5/16ths diameter circular steel bar and have 1/2 inch diameter hole at one end through which the bolt 14 passes. Preferably, 3/8ths inch diameter aluminium tubes are fitted over the bars and caps can be provided at the ends of the arms. Other metals or plastics such as PVC can be used for the arms which can move in horizontal planes through 180°. In use, clothes can be clipped to the arms which can then be swung outwardly.

Referring to Figures 4—7, a further embodiment of the invention corresponds to the embodiment of Figures 1—3 except for the additional feature that the bolt 14 projects transversely of the axis of the tubular part 12 at an angle which can be made 90° or oblique, as desired, by an adjustable arrangement as described below.

Bolt 14 is pivotally mounted to the tubular part 12 by an axle 20 which extends through a hole adjacent one end of bolt 14 and is fixed to the tubular part 12 adjacent its outer end forming the holding part. Axle 20 and its fixings are in the form of a bolt and nut. Bolt 14 extends through an aperture 21 in the tubular part 12 (Figure 7). Aperture 21 is large enough to allow the bolt 14 to take up any angular pivoted position within a range of about 45°.

A wall 22 is welded to the holding part of the tubular part 12, and extends around aperture 21, and has two opposed holes 23 therein, aligned parallel to the axis of the tubular part 12, through each of which extends a cone-ended adjusting screw 24. Screws 24 are disposed so that they can be screwed towards each other to clamp the bolt 14 therebetween, and hold the bolt 14 against pivotal motion about the axle 20. A foot washer 25 welded to the bolt 14 holds the arms 16 away from the aperture 21.

By adjustment of the screws 24 the angle at which the bolt 14 projects transversely from the tubular part 12 can be varied at will, within the angular range defined by the limits of the aperture 21.

With this embodiment of the invention, the drier can be arranged so that the bolt 14 is vertical and the arms 16 are horizontal even though the pipe 11 may project at an oblique angle from the wall 10.

The above-described driers are quite cheap to make and provide a great improvement in safety and ease of manipulation compared with the previously-used bamboo poles.

WHAT I CLAIM IS:—

1. A clothes drier for attachment to the end of a pipe, the drier including a holder suitable for insertion into or placement around the pipe, which holder has a tubular part with a plurality of pointed screws threadedly engaged therein and extending therethrough, for securing the holder to the pipe, and has a holding part with a bolt projecting therefrom, and including a plurality of arms each pivotally mounted at one end thereof on the bolt for separate pivotal movement about the longitudinal axis of the bolt.

2. A clothes drier according to claim 1, wherein the tubular part is formed to surround the pipe.

3. A clothes drier according to claim 2, wherein the bolt is pivotally mounted on the holding part and lockable in any one of a number of pivotal positions.

4. A clothes drier according to any one of claims 1 to 3, wherein a spring is mounted on the bolt to bias the arm ends mounted on the bolt towards one another to provide frictional resistance to pivotal movement of the arms.

5. A clothes drier according to any preceding claim, wherein the arms are of steel.

6. A clothes drier according to any preceding claim, wherein the arms have tubular aluminium coverings.

7. A clothes drier according to any preceding claim, wherein the arms have plastics coverings.

8. A clothes drier substantially as hereinbefore described with reference to Figures 1—3 or to Figures 4—7 of the accompanying drawings.

For the Applicant:
D. YOUNG & CO.,
Chartered Patent Agents,
9 & 10 Staple Inn,
London, W.C.1.