PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION
No. 16123 A.D. 1948.

Improvements in or relating to Apparatus for Use in Tapping Rubber Bearing Trees

I, JAMES ROBERTSON, a British Subject, of 26, Cluny Road, Singapore, do hereby declare the nature of this invention to be as follows:—

This invention is for improvements in or relating to apparatus for use in tapping rubber bearing trees.

It is well known that it is not practicable to tap the rubber latex from rubber-bearing trees either when it is raining or when the bark is wet after rain since the latex instead of flowing along the cut into the latex-cup oozes away by the side of the cut and is thus wasted.

It is an object of the present invention to provide apparatus for use in the tapping of rubber-bearing trees which apparatus permits of the collection of latex during and immediately after rain and in this way effects an appreciable increase in production of latex.

According to the present invention there is provided for use in rubber latex collection a weather shield for attachment to the rubber-bearing tree immediately above the cut, the said shield comprising a resilient band portion closely embracing that portion of the tree trunk immediately above the cut and provided with means temporarily to secure the ends of the band portion together and a ~~lobed~~ portion connected with the band to form a water-tight joint therewith and extending downwardly and outwardly to overhang and protect the cut from entry of water.

The hood portion may be of general shape of the eye shade used e.g., by draughtsmen and tennis players.

The ends of the resilient band portion may be secured in any convenient manner. Thus, they may be secured by means of a stud, hook, fastening, buckle, clip or the like. Alternatively, the ends may be knotted together.

It will be understood that in order that water may be prevented from passing between the band and the tree, the band should be made of material of such resilience and flexibility as to fit snugly against the bark of the tree.

The hood portion may be made of any waterproof material, transparent or opaque and may conveniently consist e.g., of sheet synthetic plastic material or of sheet rubber or of waterproofed fabric. If necessary the hood may be stiffened and supported by a frame around its edge portions. The hood may be of such a size as to overhang not only the cut but also the latex collecting cup.

The band portion of the shield may be adapted to be secured to a variety of sizes of tree with equal effectiveness.

Dated this 15th day of June, 1948.

BOULT WADE & TENNANT,
111 & 112, Hatton Garden,
London, E.C.1,
Chartered Patent Agents.

PROVISIONAL SPECIFICATION
No. 13031 A.D. 1949.

Improvements in or relating to Apparatus for Use in Tapping Rubber Bearing Trees

I, JAMES ROBERTSON, a British Subject, of 26, Cluny Road, Singapore, do hereby declare the nature of this invention to be as follows:—

This invention is for improvements in or relating to apparatus for use in tapping rubber bearing trees.

In Specification No. 16123/48 I have disclosed a weather shield for use in rubber latex collection which shield is adapted to be attached to the rubber-bearing tree above the cut for the purpose of excluding water from the cut during tapping operations in wet weather. The

shield or rain guard comprises a resilient band closely embracing that portion of the tree trunk above the tapping cut and is provided with means temporarily to secure the ends of the band together and a hood connected to the band to form a water-tight joint therewith and extending downwardly and outwardly to overhang and protect the cut from entry of water.

The hood portion may be of the general shape of the eye shade used e.g., by draughtsmen and tennis players.

I have now found that a simple and effective rain guard may be provided by an apparatus which when secured to the rubber-bearing tree above the tapping cut, forms a gutter or gully, which collects and diverts water running down the trunk of the tree from above and prevents it from entering the tapping cut or the collecting cup.

According to the present invention there is provided a rain guard for attachment to a rubber bearing tree above the tapping cup to prevent entry of water into the cut, which guard comprises a belt closely embracing that portion of the tree trunk above the cut, a projecting gutter secured to or forming part of the belt and means for securing the guard to the tree.

The belt and gutter are preferably made of vulcanised rubber, the natural stretch and elasticity of the material providing a water-tight seal between the guard and the bark of the tree.

The belt and gutter sections may be prepared separately and joined together e.g., by means of an adhesive or cement. Alternatively, the guard may be extruded or moulded in one piece.

In one form of apparatus in accordance with the present invention a rubber belt of trapezoidal cross section is maintained under tension and is cemented along the central portion of a wider strip of relatively thin material e. g., of vulcanised rubber to form a compound strip such a compound strip when stretched helically upon the trunk of a tree with the belt against the trunk forms an upstanding gully or gutter which collects and discharges water running down the tree.

The guard may be secured to the tree by means of one or more wires attached to the guard, the free end of the wires being bent at right angles to form short prongs for example $\frac{1}{8}$" long for insertion in the bark of the tree. In one form of attachment a wire may be passed through the belt or a part secured thereto and bent into a V and each of the free ends may be bent as above described to form prongs.

It will be understood that in order that water may be prevented from passing between the belt or band and the tree, the belt should be of material of such resilience and flexibility as to fit snugly against the bark of the tree when the guard is in position.

Alternatively, the belt or band may be made of non-resilient material, e.g. waterproof fabric, and a piece resilient material, e.g. of rubber, placed between the belt and the tree trunk to constitute a cushion. Such a cushion may conveniently be attached to the belt and to the hood portion.

The guard should be fitted at least 2" above the tapping cut and should project at least 2" beyond each end of the cut in order to ensure that no water drips into the tapping cup.

In order to obtain a close fit between the guard and the tree it may be necessary to remove a small channel of bark beyond the end of the tapping cut to allow the upper edge portion of the guard to fit snugly and prevent water seeping past the guard into the collecting cup.

Dated this 16th day of May, 1949.

BOULT WADE & TENNANT,
111 & 112, Hatton Garden,
London, E.C.1.,
Chartered Patent Agents.

COMPLETE SPECIFICATION

Improvements in or relating to Apparatus for Use in Tapping Rubber Bearing Trees

I, JAMES ROBERTSON, a British Subject, of 26, Cluny Road, Singapore, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

The invention is for improvements in or relating to apparatus for use in tapping rubber bearing trees.

It is well known that it is not practicable to tap the rubber latex from rubber-bearing trees either when it is raining or when the bark is wet after rain since the latex instead of flowing along the cut into the latex-cup oozes away by the side of the cut and is thus wasted.

It is an object of the present invention to provide an improved apparatus for use in the tapping of rubber-bearing trees. This apparatus comprises a rain guard for attachment to a rubber-bearing tree above the tapping cut to prevent entry of water into the cut, and thereby permits of the

collection of latex during and immediately after rain and in this way effects an appreciable increase in production of latex.

According to the present invention there is provided for use in rubber latex collection a rubber tree rain guard which comprises a belt adapted to embrace closely that portion of the tree trunk above the tapping cut, a projecting hood extending downwardly and outwardly to overhang the cut and secured to or forming part of the belt and means for securing the guard to the tree.

The hood portion may be of the general shape of the eye shade used e.g., by draughtsmen and tennis players. It may be of any waterproof material, and may conveniently consist e.g., of sheet synthetic plastic material or of a vulcanised rubber sheet or of waterproofed fabric. If necessary the hood may be stiffened and supported by a frame around its edge portions.

It will be understood that in order that water may be prevented from seeping between the belt and the tree trunk, the belt should be made of material of such resilience and flexibility as to fit snugly against the bark of the tree.

Alternatively, the belt may be made of non-resilient material, e.g., of fabric, and a strip of resilient material e.g., of rubber may be placed between the belt and the tree trunk to constitute a watertight cushion. Such a cushion may conveniently be attached to the belt and to the hood.

To form the complete rain guard the hood, cushion, belt and support may be manufactured separately and joined together by means of an adhesive or cement. Alternatively, the complete guard may be extruded or moulded in one piece.

The ends of the belt may be secured in any convenient manner. Thus, they may be secured by means of a stud, hook, fastening, buckle or clip. Alternatively, the ends may be knotted together.

In a preferred form of the invention the guard is secured to the tree by one or more attachments connected with the guard, the free ends of which attachments bear one or more short prongs for insertion in the bark of the tree. The attachments may take the form of wires, the free ends of the wires being bent at right angles to form short prongs for example $\frac{1}{8}$" long for insertion in the bark of the tree. In one form of attachment a wire is passed through the belt or a part secured thereto and bent into a V and each of the free ends may be bent as above described to form prongs.

The guard may be adapted to be secured to a variety of sizes of tree with equal effectiveness.

It should be fitted at least 2" above the tapping cut and should project at least 2" beyond each end of the cut in order to ensure that no water enters the tapping cup.

In order to obtain a close fit it may be necessary to remove a small channel of bark beyond the end of the tapping cut to allow the rib of the shield to fit snugly and prevent water seeping into the collecting cup.

Following is a description by way of example and with reference to the accompanying drawings of rain guards made in accordance with the present invention.

In the drawing:—

Figures 1 and 2 are side and front elevational views of the rain guard.

Figures 3, 4, 5, 6 and 7 show an alternative form of rain guard in which a resilient cushion is used in conjunction with a non-resilient bolt;

Fig. 3 is a plan view of the rain guard from below.

Figure 4 is a front elevation of the same guard.

Figure 5 is an end view of the guard of Figures 3 and 4.

Figure 6 is a cross sectional view through a fixing hole of the guard of Figures 3 to 5 with a modified arrangement of the fixing wire.

Figure 7 is an end view of a part of the guard of Figures 3 to 5 showing another arrangement of fixing wire.

Figure 7a is a cross sectional view of a rain guard extruded or moulded in one piece.

Similar reference numerals denote similar parts throughout the Figures of the drawing.

Referring to Figures 1 and 2, 11 is a hood which is made of water-proof material and is attached to a resilient belt 12. The guard is secured to the rubber-bearing tree 16 by means of a fastener 13 attached to the ends of the belt 12.

The hood 11 overhangs the tapping cut 14 and the collecting cup 15 and thereby prevents water from coming into contact with the latex during wet weather.

Referring to Figures 3 to 5, 17 is a hood which is made of vulcanised rubber, and, together with the support 18 and cushion 19, both of vulcanised rubber, is secured by suitable cement to a fabric belt 20. Two wires 21 and 22 are bent upon themselves to form V-shaped securing members and are inserted in holes 23 and 24 respectively, loops 27 and 28 preventing the wires from being drawn through the holes. The free ends of the wires 21

and 22 are bent at right angles to form short prongs 25 and 26 (about $\frac{1}{8}$" in length) for insertion in the bark of the rubber-bearing tree after the rain guard has been stretched in position above the tapping cut on the trunk of the tree.

In Figure 6 the fixing wire is inserted in the opposite direction to that in Figures 3 to 5. In Figure 7 the wire 21 is first passed through the hole 23 and then bent on itself. Figure 7a shows a cross-sectional view of a rain guard which takes the form of an annular sector of inner radius 5". The hood and belt are extruded or moulded in one piece from vulcanised rubber. The main guard is attached to the rubber-bearing tree by means of fixing means as shown in Figures 3 to 7.

The rain guard shown in Figures 3 to 7 is fixed to the rubber-bearing tree by stretching the guard in position upon the trunk and forcing the short prongs at the ends of the fixing wires into the bark of the tree.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A rubber tree rain guard, which comprises a belt adapted to embrace closely that portion of the tree trunk above the tapping cut, a projecting hood extending downwardly and outwardly to overhang the cut and secured to or forming part of the belt and means for securing the guard to the tree.

2. A rubber tree rain guard as claimed in Claim 1, wherein the belt is made of resilient material.

3. A rubber tree rain guard as claimed in Claim 1, wherein the belt is made of non-resilient material and a resilient cushion is provided between the belt and tree to form water-tight contact with the tree.

4. A rubber tree guard as claimed in Claim 3, wherein the non-resilient material consists of fabric.

5. A rubber tree rain guard as claimed in any one of the preceding claims wherein a support is provided for the projecting hood.

6. A rubber tree rain guard as claimed in Claims 1, 2 and 5, wherein the belt and/or the hood and/or the cushion portion are made of vulcanised rubber.

7. A rubber tree rain guard as claimed in any one of the preceding claims wherein the guard is secured to the tree by a fastening which secures together the ends of the belt.

8. A rubber tree rain guard as claimed in any one of the preceding claims wherein the guard is secured to the tree by means of one or more attachments connected with the guard, the free ends of which bear one or more short prongs for insertion in the bark of the tree.

9. A rubber tree rain guard as claimed in claim 8 wherein the guard is secured to the tree by means of one or more wires attached to the guard, the free ends of the wires being bent at right angles to form short prongs for insertion in the bark of the tree.

10. A rubber tree rain guard as claimed in any one of the preceding claims wherein the belt and the projecting hood are cemented together by an adhesive.

11. A rubber tree rain guard as claimed in any one of claims 1 to 8 wherein the belt and the projecting hood are extruded or moulded in one piece.

12. A rubber tree rain guard substantially as described in any one of the specific examples hereinbefore set forth with reference to the accompanying drawing.

Dated this 2nd day of June, 1949.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden,
London, E.C.1,
Chartered Patent Agents.

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and 22 are bent at right angles to form short prongs 25 and 26 (about $\frac{1}{8}$" in length) for insertion in the bark of the rubber-bearing tree after the rain guard has been stretched in position above the tapping cut on the trunk of the tree.

In Figure 6 the fixing wire is inserted in the opposite direction to that in Figures 3 to 5. In Figure 7 the wire 21 is first passed through the hole 23 and then bent on itself. Figure 7a shows a cross-sectional view of a rain guard which takes the form of an annular sector of inner radius 5". The hood and belt are extruded or moulded in one piece from vulcanised rubber. The main guard is attached to the rubber-bearing tree by means of fixing means as shown in Figures 3 to 7.

The rain guard shown in Figures 3 to 7 is fixed to the rubber-bearing tree by stretching the guard in position upon the trunk and forcing the short prongs at the ends of the fixing wires into the bark of the tree.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A rubber tree rain guard, which comprises a belt adapted to embrace closely that portion of the tree trunk above the tapping cut, a projecting hood extending downwardly and outwardly to overhang the cut and secured to or forming part of the belt and means for securing the guard to the tree.

2. A rubber tree rain guard as claimed in Claim 1, wherein the belt is made of resilient material.

3. A rubber tree rain guard as claimed in Claim 1, wherein the belt is made of non-resilient material and a resilient cushion is provided between the belt and tree to form water-tight contact with the tree.

4. A rubber tree guard as claimed in Claim 3, wherein the non-resilient material consists of fabric.

5. A rubber tree rain guard as claimed in any one of the preceding claims wherein a support is provided for the projecting hood.

6. A rubber tree rain guard as claimed in Claims 1, 2 and 5, wherein the belt and/or the hood and/or the cushion portion are made of vulcanised rubber.

7. A rubber tree rain guard as claimed in any one of the preceding claims wherein the guard is secured to the tree by a fastening which secures together the ends of the belt.

8. A rubber tree rain guard as claimed in any one of the preceding claims wherein the guard is secured to the tree by means of one or more attachments connected with the guard, the free ends of which bear one or more short prongs for insertion in the bark of the tree.

9. A rubber tree rain guard as claimed in claim 8 wherein the guard is secured to the tree by means of one or more wires attached to the guard, the free ends of the wires being bent at right angles to form short prongs for insertion in the bark of the tree.

10. A rubber tree rain guard as claimed in any one of the preceding claims wherein the belt and the projecting hood are cemented together by an adhesive.

11. A rubber tree rain guard as claimed in any one of claims 1 to 8 wherein the belt and the projecting hood are extruded or moulded in one piece.

12. A rubber tree rain guard substantially as described in any one of the specific examples hereinbefore set forth with reference to the accompanying drawing.

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