Oct. 30, 1945. J. B. WINGFIELD 2,387,819

SANDAL

Filed Feb. 9, 1945

FIG. 1.

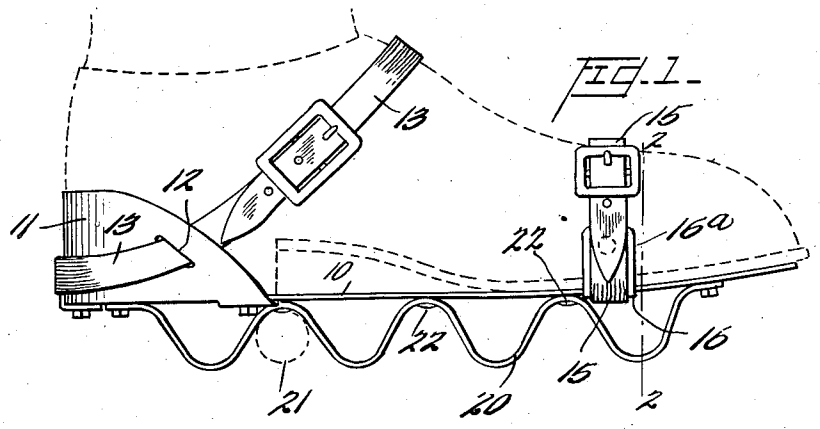


FIG. 2.

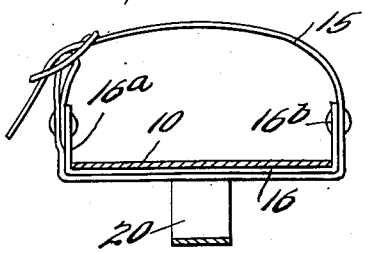
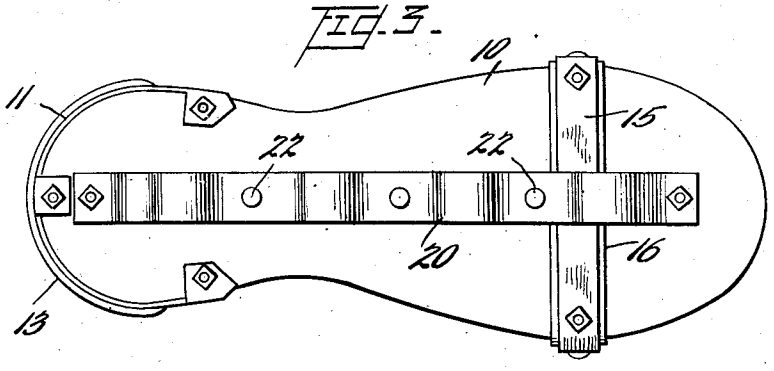


FIG. 3.



Inventor

J. B. Wingfield

By Watson, Cole, Grindle & Watson

Attorney

Patented Oct. 30, 1945

2,387,819

UNITED STATES PATENT OFFICE

2,387,819

SANDAL

John B. Wingfield, Umatilla, Fla.

Application February 9, 1945, Serial No. 577,057

2 Claims. (Cl. 36—7.5)

This invention relates to sandals and particularly to sandals intended to be worn by fruit pickers, painters and others who in the ordinary course of employment must mount and remain standing upon ladders for substantial periods of time.

In the harvesting of fruit from trees by hand it is conventional practice to provide each picker with a ladder to enable him to climb and thus bring the fruit within reach. Customarily also each picker is provided with a basket, bag or sack which he carries and in which he continues to deposit the picked fruit until the bag is loaded, whereupon the picker descends, empties the bag and reascends the ladder for a fresh load. The weight of the picker mounted upon a ladder is ordinarily transmitted to a ladder rung through the picker's shoes and in the general case the picker will stand upon the ladder in such manner that his insteps directly overlie the ladder rung upon which he is immediately standing. Hence the area of that portion of the sole of each of the picker's shoes which engages the ladder rung is very small and the pressure upon the picker's insteps is concentrated and unrelieved, a condition quite different from that which obtains when the picker's feet rest upon level ground. When to the weight of the picker there must be added the weight of a quantity of fruit, for instance, a bag or sack of oranges, the concentrated load upon the picker's insteps is substantial and soon produces fatigue, sometimes severe pains which render it impossible for the fruit picker to proceed. The picker's shoes are likewise subjected to excessive wear in the instep and it is found that an orange picker, for instance, will wear out shoes very rapidly when he does any substantial amount of work upon ladders. Some fruit pickers will wear out as many as four pairs of shoes in a relatively short season, due almost entirely to the excessive strains imposed on the leather and seams as a result of repeatedly mounting and standing upon ladders. It is the purpose of the present invention to provide means whereby injury to both feet and shoes of a picker or painter, due to ladder climbing, may be wholly avoided.

The invention contemplates the provision of a shoe attachment in the nature of a sandal. This sandal comprises a sole member which is preferably coextensive in area with the undersurface of the wearer's shoe, including the heel, the sole member being rigid or substantially rigid so as to distribute the wearer's weight over the entire area of the sole of his foot, and provided with means on its underside to engage a ladder rung or the like in such manner that the sandal may not slip.

Preferably the stiff or rigid sole member is fabricated of metal, such as sheet steel, and preferably also the means projecting from the underside of the sandal is in the nature of a serpentine ribbon of steel rigidly attached to the sole member. The serpentine ribbon presents a series of notches spaced longitudinally of the sandal so that its wearer may cause the same to interlock with a ladder rung at various points along the length of the sole. The spaced projections provided by the serpentine strip taper outwardly from the sole so as to minimize the resistance to ground penetration.

It will be appreciated that an instrumentality of the character described will be most satisfactory if so designed that it may not only be effectively used for the stated purpose when the wearer mounts a ladder, but which may also be freely worn when the wearer is upon the ground. An object of the invention is to provide a sandal which may be so worn and which not only permits the wearer to walk freely across an orchard without removing the sandals but facilitates the work of the fruit picker in moving his ladder from place to place. Some of the ladders employed by orange pickers for instance are forty feet in length and the picker of necessity must move the ladder very frequently in picking the fruit from a number of trees. Where his sandals are provided with ladder rung-engaging means designed in such manner as to freely penetrate into the ground upon which the picker walks, thus insuring that he will not slip, he may much more easily raise and maneuver the ladder upon which he must stand to reach the fruit to be picked. The sandal contemplated by the present invention is thus extremely helpful to a painter or fruit picker not only when the picker is mounted upon a ladder, but also when he is on the ground and is merely manipulating his ladder from one point of vantage to another.

In designing the sandal for various specific purposes minor changes may be made without departure from the invention. In every case, however, the sandal will include a longitudinally extending rigid or nearly rigid sole together with means associated with the sole for interlocking with some such object as a ladder rung. Conventional devices for securing the sandal to the foot of the worker may be employed.

In the accompanying drawing one form of the invention is illustrated by way of example.

Figure 1 is a side elevation of the sandal, showing the means for attaching the same to the wearer's foot;

Figure 2 is a section on line 2—2 of Figure 1; and

Figure 3 is a bottom plan view of the sandal.

The sandal comprises essentially a generally flat sole member which I preferably fabricate of sheet steel and having the general shape of the human foot, as may be observed from Figure 3. At the heel end of the sole member 10 is provided an upstanding heel guide or locating flange 11 to receive the heel of the wearer's shoe and definately position it on the upper surface of member 10. The heel guard or flange 11 may be secured to the sole plate 10 by any suitable means, as by welding or riveting. It is provided with slots 12 for the reception of a strap 13 which is adapted to pass over the wearer's foot and to hold the sandal securely to the foot. Toward the toe of the sandal there is a further foot-encircling leather retaining strap 15. This strap has a central portion which underlies an anchoring member 16 which is secured to the undersurface of the sole 10. The anchoring member 16 comprises a metallic strip the upper surface of which engages the undersurface of the sole and the ends 16*a* and 16*b* of which project upwardly and are provided with means for positively securing the strap 15 to members 16*a* and 16*b*. The straps 13 and 15 may be replaced by other suitable securing means whereby the sandal may be attached to the wearer's foot.

Extending longitudinally of the sole and secured rigidly thereto is a serpentine strip 20. This strip is relatively narrow and is connected to member 10 at spaced points by means of rivets 22, welds, or the like. The several spaced projections thus formed may readily penetrate the soil upon which the wearer stands unless the soil is dry and clayey, a soil condition not frequently found in orchards. The wearer of a sandal of the type described will find, upon walking across an orchard, that the four downwardly extending loops or projections will penetrate the soil to such extent that the sole 10 of the sandal will engage its upper surface.

Any one of the several ladder rung-receiving notches may be actually used by the wearer as a rung-receiving notch. In Figure 1 of the drawing a ladder rung is diagrammatically shown at 21 and it will be seen that this rung directly underlies the instep of the wearer. Generally the foot of the wearer will be most comfortable when the rung 21 directly underlies his instep, but it is possible for the wearer to shift his sandal transversely of any rung upon which he is standing at any time so as to cause the rung to enter one of the other notches provided by the serpentine member 20, effecting a somewhat different distribution of pressure. For the purpose of ascending and descending ladders it is highly desirable to have a plurality of these ladder rung-engaging notches.

While I prefer to fabricate the sandal of metal such as sheet steel it may be fabricated of other material and by other processes. Conveniently, it may be fashioned by casting, and fabricated of aluminum or other light metal, in which event the several projections which define the ladder rung-engaging notches may be cast integral with the sole 10. Other minor changes may be made to suit conditions and to fill the needs of individual wearers.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A sandal comprising a rigid sole and means projecting downwardly therefrom to interlock with a ladder rung or the like, said means comprising a serpentine strip of metal attached to the sole at a plurality of points and providing a plurality of ladder rung-receiving recesses spaced longitudinally of the sole.

2. The sandal described in claim 1 in which said strip is relatively narrow and the portions thereof defining the rung-receiving notches taper downwardly from the sole to facilitate ground penetration.

JOHN B. WINGFIELD.