Feb. 20, 1945. D. B. BAKER ET AL 2,369,708

SPINDLE MOISTENER PAD

Filed Feb. 27, 1943

Fig. 1.

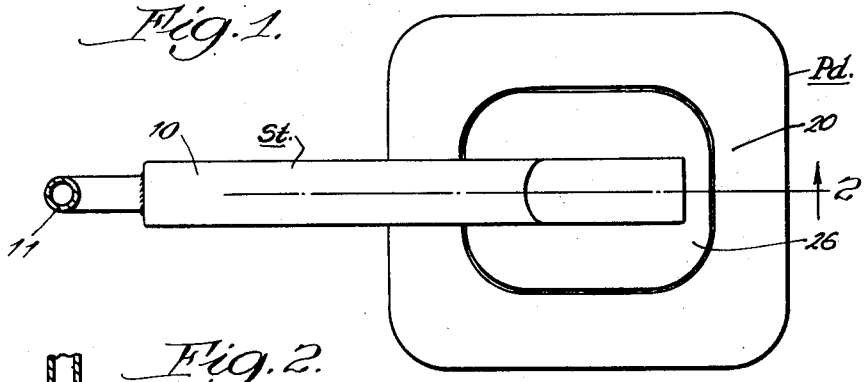



Fig. 2.

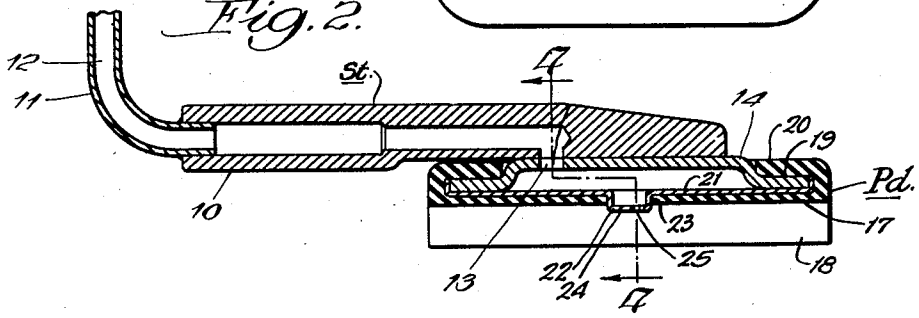



Fig. 3.

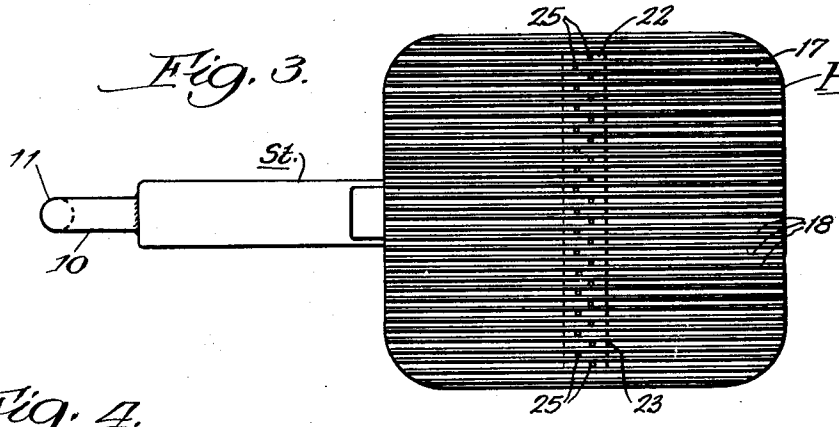
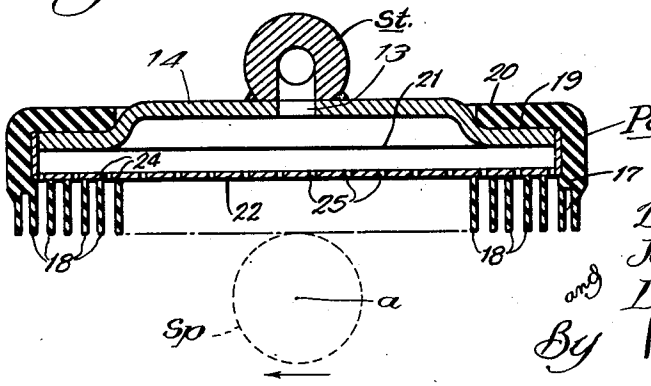



Fig. 4.




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2,369,708

## SPINDLE MOISTENER PAD

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5 Claims. (Cl. 15—127)

This invention has to do with a pad for transferring liquid onto a part engageable therewith and relates more particularly to such a pad and holder therefor that are especially adapted for supplying moisture to the picker spindles of a cotton-picking machine.

A general object of this invention is the provision of a new combination of moistener pad and holder with which the pad is expediently detachably assembled in a fashion establishing a leak-proof connection between the parts wherefore liquid can be supplied to the pad under pressure through the holder.

Another object is the provision of a novel moistener pad having upon its back a pocket of which certain walls are elastic to facilitate their expansion about and contraction onto a liquid supplying holder.

Another object is the provision of an improved moistener pad characterized by its embodiment of a series of thin, flexible, fin-like ribs depending from its obverse side and small openings within its back between said ribs for the delivery of liquid onto the ribs from which such liquid is transferable onto a moistenable part when brushed thereagainst.

A further object is the provision of an improved moistener pad according to the next preceding object but further characterized by a rigid plate incorporated into the back of the pad and having therein the aforesaid openings through which the liquid is delivered to the ribs.

These and other desirable objects inherent in and encompassed by the invention will be better understood after reading the ensuing description with reference to the annexed drawing which shows a preferred form of the invention, and wherein:

Fig. 1 is a plan view of a moistener pad and a supporting stem therefor combined and constructed according to the principles of the invention;

Fig. 2 is a vertical sectional view taken through the pad and stem of Fig. 1, as indicated by the line 2;

Fig. 3 is a bottom view of the pad and stem shown in Fig. 1; and

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2.

In a cotton-picking machine, a plurality of pads P*d* constituting a preferred form of this invention will be employed. These pads are detachably associated with respective holder stems S*t* through which moistening liquid is supplied to the pads. It is customary to support the pads P*d* in spaced relation within a vertical row, and in doing this the shank portions 10 of the stems S*t* are anchored within a vertical standard not shown. The liquid supplied to the pads P*d*, through tubes 11 and bores 12 within the stems S*t*, thence through holes 13 in a holder plate 14 for said pads, is transferred by the pads onto respectively associated cotton-picking spindles S*p* of which one is shown in transverse section and in dotted outline in Fig. 4.

During operation of the cotton-picking machine, the spindles S*p* are rotated about their individual axes *a* concurrently to being swept past their respective pads in the direction indicated by the arrow in Fig. 4. As the spindles pass beneath their associated pad, they make contact therewith and thereby collect liquid therefrom for conditioning the same for developing an affinity for the fibers of the crop.

The pad P*d* comprises a substantially rectangular rubber back portion or member 17, from the obverse side of which there depends a series of thin, flexible, fin-like ribs 18, which are clearly shown in Figs. 3 and 4. These ribs constitute liquid transfer means for transferring liquid from the pad to its associated spindles S*p*. The base or back member 17 of the pad has a pocket 19 formed on its reverse side by an inwardly directed parametric flange 20, which is in spaced relation with the lower side of the member 17 from which the ribs 18 depend. Within this pocket 19 there is placed a generally rectangular plate 21 having an intermediate channel portion 22, which projects downwardly through an opening 23, which extends entirely across the pad back member 17. Root portions of the ribs 18 are also cut away at 24 to accommodate the channel-shaped portion 22. Small pinhole openings 25 are distributed lengthwise of the channel 22 in staggered relation, as clearly shown in Fig. 3, and the spacing of these openings lengthwise of the channel is such as to cause them to register with the spaces between the pad ribs 18. The plate 21 is preferably sealed to the pad P*d* at all points of contact therewith to prevent the leakage of liquid from the pocket 19. Such sealing is obtainable by vulcanizing the rubber to the plate 21.

Both the ribs 18 and the pocket side walls, of which the flange 20 is a part, are formed integrally with the back member 17 by a molding process, and the material from which they are made possesses elasticity. The parametric flange 20 of the pad P*d*, since it is stretchable, is adapted to be distorted incident to the insertion of

the pad-holding plate 14 into the pocket 19. This plate 14 is also rectangular and fits snugly into the pockets 19. The plate 14 also is gripped with sufficient firmness by the pad flange 20 to establish a sufficient seal therebetween for preventing the escape of liquid from the pocket 19.

In the operation of a liquid distributing system of which the pads Pd form a part, the liquid admitted into the pocket 19 through the conduit 11, the duct 12, and the plate holder hole 13 is discharged through the holes 25 onto the ribs 18. These ribs are brushed by the spindles Sp as they pass transversely therebeneath and transfer the liquid from the holes 25 onto the spindles. Since the ribs 18 have considerable vertical width and are flexible they are brushed lightly by the spindles and therefore do not incur much wear, but also because of their vertical width there is sufficient material left after erosion to operate satisfactorily after an adjustment bringing the pads closer to the spindles.

A further advantage of the present pad is in that structural feature involving the rigid plate 21 which is fitted in fixed relation with the fin-supporting member 17 to maintain the holes 25 in registry with the spaces between the ribs 18. Also by making these holes 25 in a rigid plate, as brass, their size is accurately predeterminable and permanent. In addition, the plate 21 provides reinforcing for the pad Pd in a manner untrammeling the function of the elastic flange 20 to releasably retain the pad upon the holder plate 14.

While we have herein shown and described a preferred form of apparatus, it should be understood that the invention encompasses other forms, constructions, and details falling within the spirit thereof and not sacrificing all of its advantages.

What is claimed is:

1. A spindle moistener pad comprising a back portion of pliable rubber-like material having obverse and reverse sides, a group of thin pliable flexible and spaced parallel ribs constituting liquid transfer elements integral with said back portion and depending from said obverse side thereof, said back portion containing an opening extending transversely of said ribs, and a perforated plate unitarily assembled with said pad upon and in sealing relation with the reverse side of said back portion, and the perforations in said plate being in registry with said opening and spaced lengthwise thereof for directing liquid through said opening onto said ribs.

2. A spindle moistener pad comprising a back portion of pliable rubber-like material having obverse and reverse sides, a group of thin pliable flexible laterally spaced ribs constituting liquid transfer elements integral with said back portion and depending from said obverse side thereof, said back portion containing an elognated opening extending transversely of said ribs, and a sealing element disposed upon the reverse side of said back portion, said element having an elongated protruding portion projecting into said elongated opening, and said elongated protruding portion having opening means arranged lengthwise thereof in registration with spaces between the ribs traversed by said opening, to direct liquid from the reverse side of said back portion onto said ribs.

3. A spindle moistener pad comprising a back portion of pliable rubber-like material having obverse and reverse sides, a group of thin pliable flexible laterally spaced ribs constituting liquid transfer elements integral with said back portion and depending from said obverse side thereof, said back portion containing an opening extending transversely of said ribs, and a sealing element disposed on the reverse side of said back portion, said element having an elongated perforated protruding portion projecting into said elongated opening into contact with root portions of the ribs traversed by said opening, and the perforations in said protruding portion being distributed lengthwise thereof in registry with the spaces between said rib root portions for directing liquid through said opening onto the ribs.

4. A spindle moistener pad comprising a back portion of pliable rubber-like material having obverse and reverse sides, a group of thin pliable flexible and spaced parallel ribs constituting liquid transfer elements integral with said back portion and depending from said obverse side thereof, said back portion containing an opening extending transversely of said ribs, and a plate upon and in sealing relation with the reverse side of said back portion, said plate having a channel portion projected into said opening and opening means within the bottom of said channel portion in registration with spaces between said ribs to direct liquid from the reverse side of said back portion onto said ribs.

5. A spindle moistener pad comprising a back portion of pliable rubber-like material having obverse and reverse sides, a group of thin pliable flexible and spaced parallel ribs constituting liquid transfer elements integral with said back portion and depending from said obverse side thereof, said back portion containing an opening extending transversely of said ribs, a liquid and holder receiving pocket on the reverse side of said back portion, said pocket including elastic side walls integral with said back portion and contractible onto a holder received by the pocket to detachably associate the pad with the holder, and a plate within said pocket upon and in sealing relation with the reverse side of said back portion, said plate having a channel portion projected into said opening into contact with root portions of the ribs traversed by said opening, and said channel portion having perforations distributed lengthwise thereof in registration with the spaces between said ribs.

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