Feb. 14, 1956 A. F. OTTINGER 2,734,541

HARVESTING SACKS

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FIG. 1.

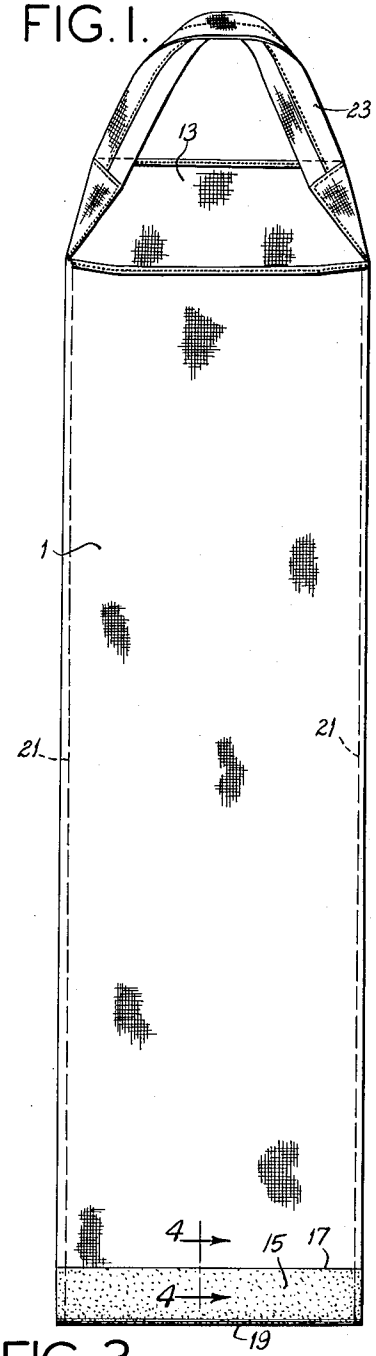


FIG. 2.

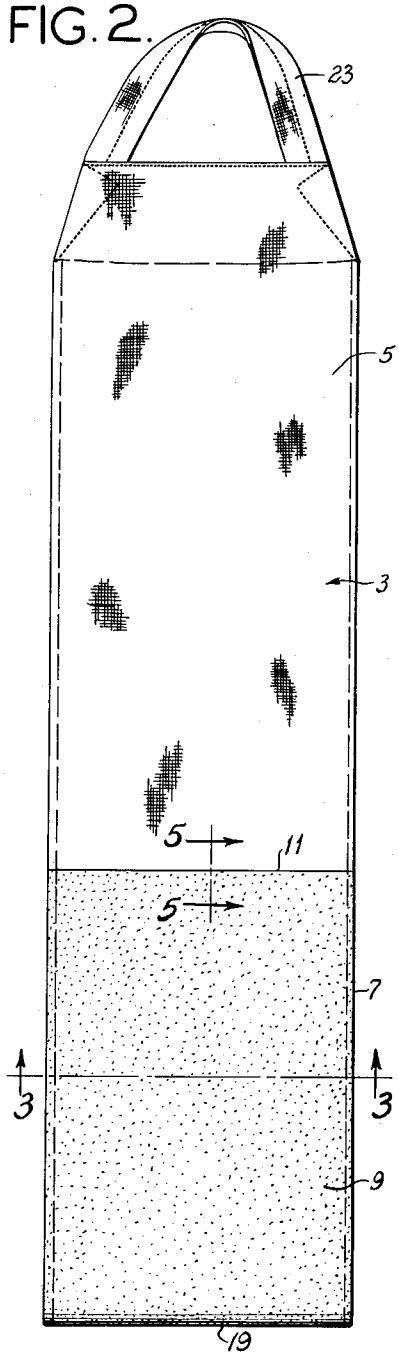


FIG. 4.

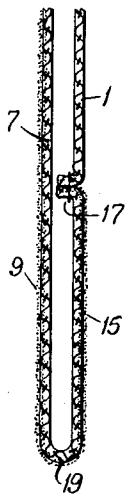


FIG. 5.

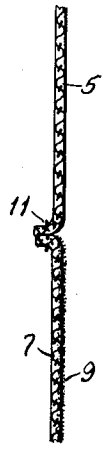
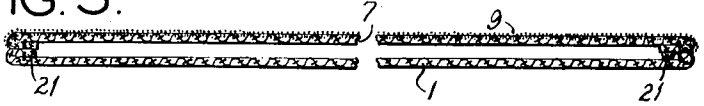


FIG. 3.



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FIG. 6.

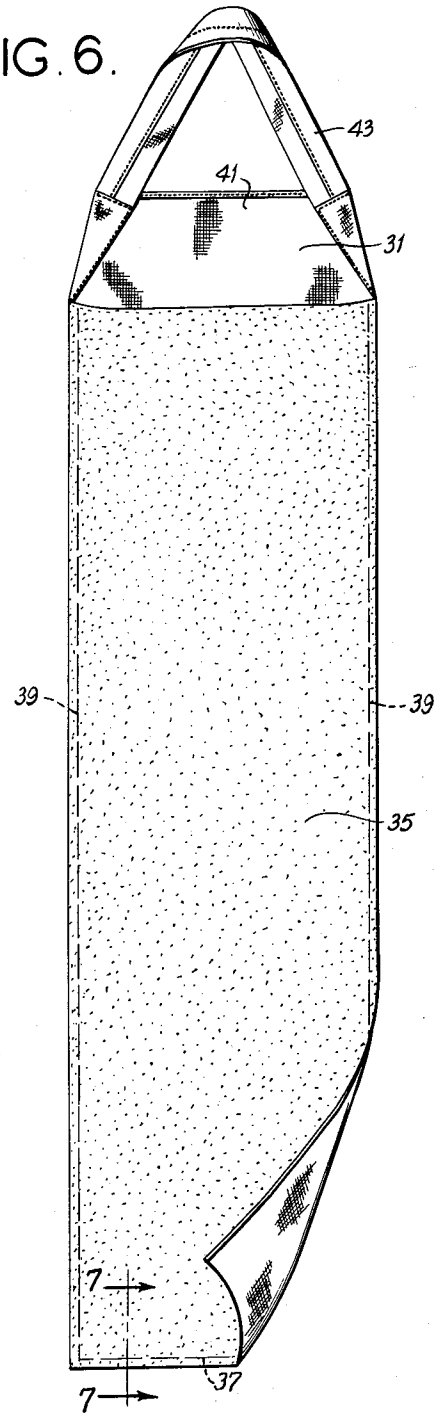
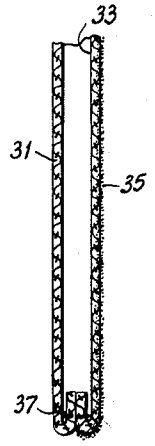


FIG. 7.



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HARVESTING SACKS

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Application April 30, 1953, Serial No. 352,238
4 Claims. (Cl. 150—2)

This invention relates to harvesting sacks, and more particularly to cloth sacks such as are used by cotton pickers in harvesting cotton, i. e., so-called "cotton pick sacks."

This application is a continuation-in-part of my copending application entitled Harvesting Sacks, Serial No. 284,382, filed April 25, 1952, and now abandoned.

Among the several objects of the invention may be noted the provision of an improved construction for a pick sack such that sacks may be economically made of a relatively inexpensive cloth, such as Osnaburg, and yet have a longer or at least as long useful life as pick sacks made of heavier and more expensive cloth such as duck, noting that a pick sack is subject to severe wear from abrasion in being dragged along the ground by the cotton picker; the provision of a pick sack of the class described which is lighter in weight and hense easier to drag than prior sacks of comparable life; and the provision of a pick sack of this class which has a wear-resistant film or skin on the part of the sack which drags on the ground, with this film or skin of such material that there is no possibility of contamination of the cotton by or because of the skin. Other features will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, features of construction, and arrangements of parts which will be exemplified in the structures hereinafter described, and the scope of which will be indicated in the following claims.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated,

Fig. 1 is a front elevation of a first form of pick sack of this invention;

Fig. 2 is a rear elevation of Fig. 1;

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2;

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 1;

Fig. 5 is an enlarged section taken on line 5—5 of Fig. 2;

Fig. 6 is a rear elevation of a second form of pick sack of this invention; and,

Fig. 7 is an enlarged section taken on line 7—7 of Fig. 6.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

Prior pick sacks have been made of duck and sometimes of Osnaburg. Duck is relatively expensive. Osnaburg is relatively inexpensive, but is not adequately wear-resistant. Consequently, prior Osnaburg pick sacks have had a relatively thick coating of asphalt sprayed on the dragging surface to take the wear when the sack is dragged along the ground. Asphalt, however, is not wholly satisfactory. The asphalt coating is necessarily relatively heavy, and adds considerably to the weight of the sack. The weight of asphalt required on a sack is usually at least three pounds. Noting that the sack without the asphalt weighs about two and one-half to three pounds, the asphalt doubles the total weight. Also, and equally important, the asphalt-coated sack may be responsible for contamination of the cotton with highly detrimental black particles which are practically impossible to remove in the processing of the cotton. This is because asphalt is not stable under atmospheric changes, being particularly unsatisfactory in that it becomes soft at hot weather temperatures encountered during picking, and contamination may occur because particles of the softened asphalt are loosened or scraped off by the dragging, ball up with dirt on the outside of the sack, and are shaken off into the cotton when the sack is emptied. Contamination may also occur by reason of penetration of the asphalt entirely through the cloth, so that the cotton in the sack is in direct contact with softened asphalt. The pick sack of this invention takes advantage of the economy of the use of Osnaburg or other relatively inexpensive cloth, while eliminating the above-mentioned disadvantages of the asphalt-coated sack, and further has additional advantages to be mentioned.

Referring to Figs. 1 and 2 of the drawings, a first type of pick sack of this invention particularly for use by cotton pickers who drag the sack from the shoulder, is shown to comprise a front wall or panel 1 and a back wall or panel 3. The front panel 1 (see Fig. 1) consists of a single long, narrow, rectangular piece of plain cloth, such as Osnaburg, having a width corresponding to the desired width for the sack and a length corresponding generally to the desired length for the sack. The back panel 3 (see Fig. 2) consists of upper and lower rectangular pieces or sections of cloth 5 and 7, respectively. Each of these has a width corresponding to the desired width for the section. The upper section 5 is of plain cloth, for example the same cloth as the front panel 1. The lower section 7 is a drag section, consisting of a piece of cloth, for example the same cloth as the front panel 1, having on its entire outer surface a thin film or skin 9 of an abrasion-resistant, tough, flexible plastic coating material which has inherent adherence to the cloth and which is stable under atmospheric changes. The upper and lower back panel sections 5 and 7 are seamed together end-to-end as by a stitched seam 11 (see particularly Fig. 5).

The total length of the combined sections 5 and 7 is such as to provide for an extension 13 of the back panel 3 beyond the front panel 1 at the mouth of the sack, and also for a relatively narrow portion 15 of the section 7 which is turned around the bottom of the sack and attached to the lower end of the front panel 1 by a seam 17 (see Fig. 4). Seams 11 and 17 are on the side opposite the coating 9. The assembly of pieces 1, 7 and 5 is formed into a sack by folding on line 19 (see Figs. 1, 2 and 4) to bring the marginal side edges of the assembly together, with the coating 9 on the inside, stitching side seams 21, and then turning the resultant sack inside out so that all the stitched seams including 11 and 17 are on the inside. A shoulder strap 23 is secured to the extension 13 of the back panel 3.

For the film or skin 9 I prefer to use a plastisol, and more particularly a vinyl type resin plastisol. The following basic formulation, in which percentages are given by weight, is exemplary:

	Percent
(1) Vinyl chloride polymer thermoplastic resin (such as is sold under the trade designation "Geon No. 121")	28.50
(2) Copolymer of vinyl chloride and vinylidene chloride thermoplastic resin (such as is sold under the trade designation "Geon No. 202")	23.32
(3) Calcium carbonate treated to have special dispersion and gloss properties (such as is sold under the trade designation "Surfex")	15.55
(4) Dioctyl phthalate (such as is sold under the trade designation "G. P. No. 261")	20.71
(5) A high boiling hydrocarbon (such as is sold under the trade designation "H. B. No. 40") and	10.36
(6) Dibasic lead salt of phosphorus acid (such as is sold under the trade designation "Dyphos")	1.56
	100.00

Ingredient (3) is a filler, ingredients (4) and (5) are plasticizers, and ingredient (6) is a stabilizer.

In the manufacture of the bag, the plastisol, which initially is in paste-like form, is applied in a thin film to a continuous web of cloth of the width corresponding to the desired width for the sack by feeding the web under a fixed blade with a predetermined space between the edge of the blade and the cloth corresponding to the thickness of the film, the plastisol being fed on to the cloth behind the blade. This spreads a thin even film of plastisol on the cloth. The freshly coated cloth travels through an oven wherein the paste-like plastisol is fused or cured into a homogeneous, transparent, flexible, tough film. The curing temperature is 350° F. The amount of plastisol applied may range from four and one-half to six ounces per square yard of cloth, with the lighter weight preferred.

The web of fabric having the cured coating of the plastisol thereon is then segmented into pieces 7. Each piece 7 is assembled with a piece 1 and a piece 5 by stitching one end of piece 1 to one end of piece 7 at 17 and by stitching one end of piece 5 to the other end of piece 7 at 11. Pieces 1 and 5 are cut from continuous webs of uncoated fabric of the same width as the coated web. Then the assembly 1—7—5 is folded on transverse fold line 19 and the side seams 21 stitched.

In use, the above-described sack is dragged from the shoulder, with section 7 dragging on the ground. The skin 9 on section 7 is highly abrasion-resistant and hence long-wearing and remains effective to protect the cloth for a relatively long period. It does not wear through until the sack has been dragged a relatively long distance. The skin also has the property of becoming polished from the dragging, and hence offers less friction to drag after having been broken in. The skin itself is relatively light. For example, in the case of a typical sack nine feet long and thirty inches wide, and in which the section 7 extends about forty-two inches up from the bottom of the sack, and in which section 15 is about six inches wide, and in which the plastisol is applied at the rate of four and one-half ounces per square yard, the total weight of the skin is only about five ounces. The skin, unlike an asphalt coating, is not affected by atmospheric changes. Unlike asphalt, it does not soften when hot, nor become brittle when cold, has no appreciable tendency to loosen or scrape off under drag, and hence no appreciable tendency to form loose particles of balled-up plastisol and dirt on the outside. Also, the plastisol, unlike asphalt, is mildew-proof.

If the drag section 7 should snag and tear, it is possible to turn the sack inside out and apply a cloth patch using an adhesive, such as ordinary glue. In the case of an asphalt-coated bag, this cannot be done because of the penetration of the asphalt through the cloth, and adhesive will not adhere to asphalt. It is also readily feasible when the drag section 7 wears out simply to stitch in a new section.

The cloth used is preferably Osnaburg, which is a coarse cloth made from lower quality cotton fibers. The preferred weight of Osnaburg is 2.35 yards per pound. It will be understood that other suitable cloth may be used.

It is not essential to have the portion 15 turned around the bottom of the sack, and the seam between sections 1 and 7 may come at the bottom of the sack on fold line 19.

The above-mentioned basic formulation, as indicated, provides a transparent coating. It may be modified to provide a colored coating by adding any suitable pigment. There is a demand for sacks of this invention with colored coatings, the color serving as a means of identifying ownership of the sacks. For example, a cotton grower may want all his sacks to have a yellow coating, so that any yellow sack in the vicinity is identified as his. Typical suitable pigments are chrome yellow, chrome green, various coal-tar colors for resins, blue phthalocyanine pigment, titanium dioxide (white), cadmium red, carbon black, etc. The pigmented coating is as satisfactory as the colorless coating.

Figs. 6 and 7 illustrate a second type of pick sack of this invention particularly for use by cotton pickers who tie the strap around the waist and drag with the sack extending back between their legs. In this case, a much longer drag section is required and the sack comprises a front panel 31 of plain cloth and a cloth back panel or drag section 33 which extends the full length of the back of the sack and which has an abrasion-resistant film or skin 35 of the same plastisol as above-mentioned, or other suitable material. The front panel 31 consists of a single long narrow rectangular piece of cloth having a width corresponding to the desired width for the sack and a length corresponding generally to the desired length for the sack. The back panel 33 consists of a single long narrow rectangular piece of cloth having the film or skin 35 and of a width corresponding to the desired width for the sack and a length corresponding generally to the desired length for the sack. The front and back panels are seamed together end-to-end as by a stitched seam 37 (see Fig. 7).

In this case, the front panel 31 is longer than the back panel 33. In manufacture, the assembly of 31 and 33 is folded at seam 37 (which is on the side opposite the skin 35) with the skin on the inside and stitched along the marginal side edges to form side seams 39. The resultant sack is turned inside out so that all the seams are on the inside. At the mouth of the sack, the front panel 31 has an extension 41 past the back panel. A strap 43 is secured to the extension 41.

In the Fig. 6 form of the invention, even with the abrasion-resistant skin on the outside of the entire back panel, the sack is still relatively light. For example, in the case of a sack nine feet long and thirty inches wide, with the skin weighing four and one-half ounces per square yard, the skin adds only about eleven ounces.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A cloth pick sack having a drag section constituted by an individual piece of cloth seamed at edges thereof to the remainder of the sack, said section having on its entire outer surface a skin consisting of a cured plastisol comprising polyvinyl chloride type resin, a filler, a plasticizer and a stabilizer, said skin being abrasion-resistant, tough, flexible, having inherent adherence to the cloth and being stable under atmospheric changes.

2. A cloth pick sack as set forth in claim 1 wherein the skin has a thickness corresponding to a weight of from about four and one-half ounces to six ounces per square yard of the cloth.

3. A cloth pick sack having a drag section constituted by an individual piece of cloth seamed at edges thereof to the remainder of the sack, said section having on its entire outer surface a skin consisting of a cured plastisol comprising a major proportion of vinyl chloride polymer thermoplastic resin and a copolymer of vinyl chloride and vinylidene thermoplastic resin, and minor proportions of a filler, plasticizer and a stabilizer, said skin being abrasion-resistant, tough, flexible, having inherent adherence to the cloth and being stable under atmospheric changes.

4. A cloth pick sack as set forth in claim 3 wherein the skin has a thickness corresponding to a weight of from

about four and one-half ounces to six ounces per square yard of the cloth.

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