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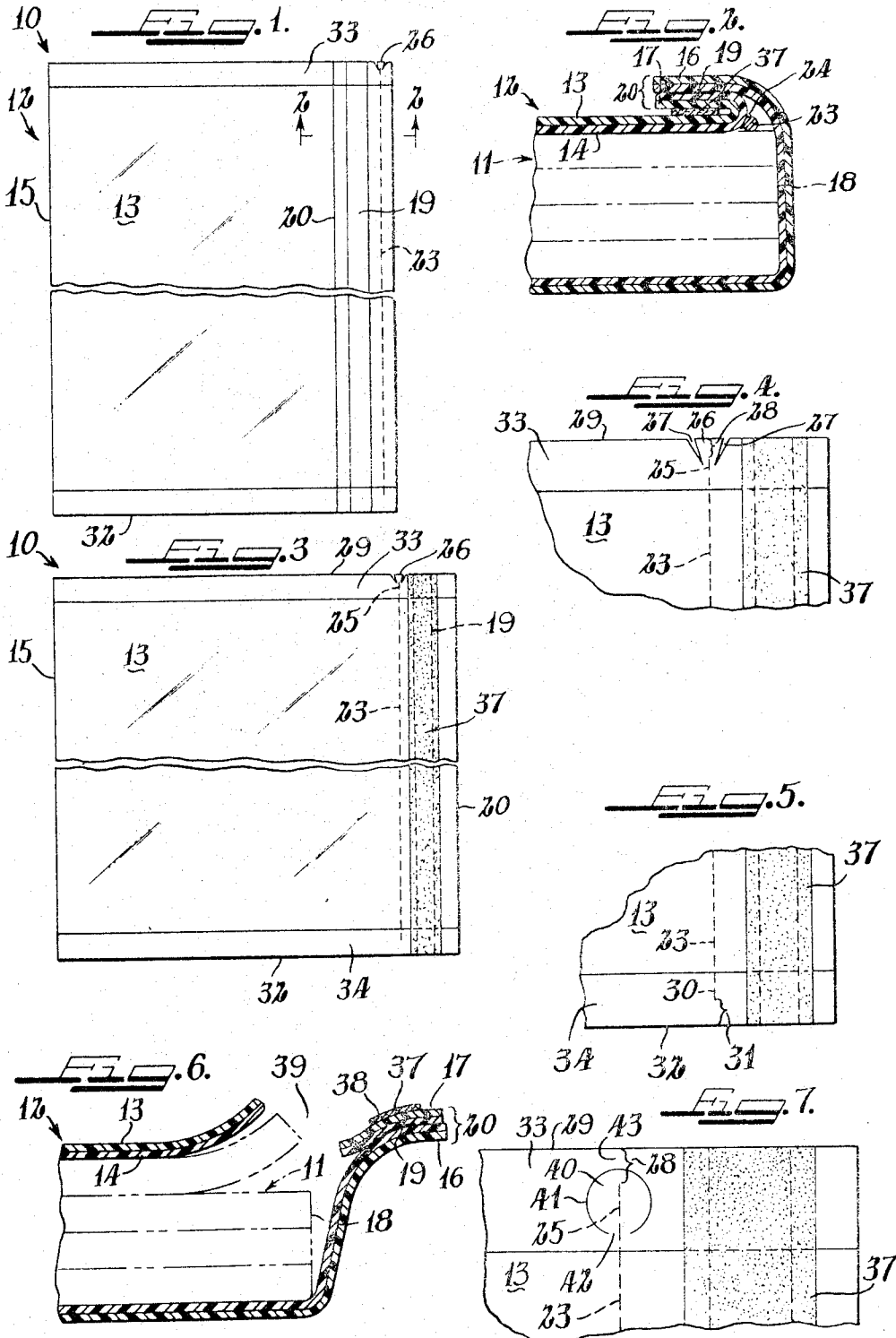
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3,276,669

PACKAGE AND METHOD OF MAKING SAME

Filed July 30, 1965

2 Sheets-Sheet 1



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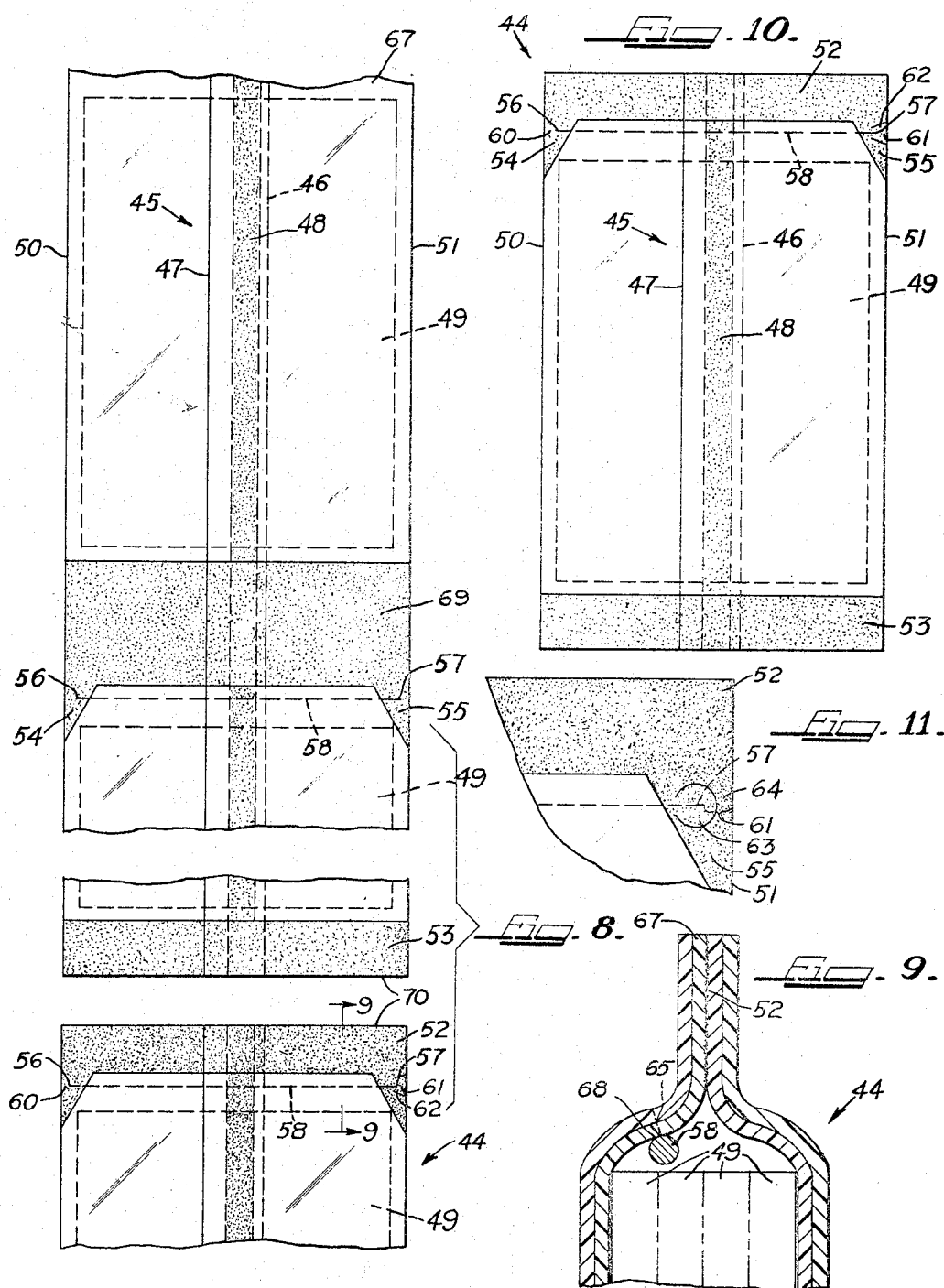
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PACKAGE AND METHOD OF MAKING SAME
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19 Claims. (Cl. 229-51)

This application is a continuation-in-part of application Serial No. 455,267, filed May 12, 1965, which is a continuation-in-part of application Serial No. 436,501, filed March 2, 1965, now abandoned. This invention relates to the use of thermoplastic film for packaging material, such as meat, cheese and other food stuff, the package so formed and the method of making the same. This invention is an improvement over the resealable bag of U.S. Repko Patent 3,184,149, issued May 18, 1965.

Among the objects of this invention are: To provide for making on a form and fill machine an easy opening reclosable pouch or package for material, such as cold cuts of meat, sliced cheese and the like having a rectangular configuration, with the completed package completely sealed from the atmosphere and arranged, after being opened, to be reclosed and partially resealed; to employ a drawstring for opening the sealed package with the drawstring being located along said one edge of the packaged material with the ends of the drawstring being sealed off from the atmosphere to prevent wicking; to provide a tab cut from the film at one end of the drawstring to facilitate grasping this one end for tensioning the drawstring and tearing one double layer of the film to open the package; to form the tab of generally V-shape extending to the adjacent edge of the two layer double thickness film with the end of the drawstring therebetween sealed off to prevent wicking; to space the tab from this edge of the two layer double thickness film to facilitate tearing only one of the two layers of film in opening the package while leaving the other two layers intact; to provide the drawstring in a package of thermoplastic film that is formed by folding the film along opposite longitudinal sides with a longitudinal back seam located between these longitudinal sides; to seal off those portions of the package along its longitudinal folded sides which overlie the ends of the drawstring to prevent wicking; and to form a tab extending to or adjacent to one folded side of the package to facilitate grasping one end of the drawstring to open the package, the tab end of the drawstring being sealed off in either case to prevent wicking.

In the drawings:

FIG. 1 is a top plan view of a completed package manufactured on a form and fill machine in accordance with this invention.

FIG. 2 is a vertical sectional view, at an enlarged scale, taken generally along the line 2-2 of FIG. 1.

FIG. 3 is a view, similar to FIG. 1, but showing the longitudinal side portion of the package before it is folded over.

FIG. 4 is a plan view, at an enlarged scale, of the upper right corner of FIG. 3.

FIG. 5 is a view, similar to FIG. 4, of the lower right corner of FIG. 3.

FIG. 6 is a view, similar to FIG. 2, and shows how a slice of the packaged material can be removed readily from the pouch or package after the drawstring has been pulled to provide an entrance to the interior of the package.

FIG. 7 is a view, similar to FIG. 4, showing how the tab is die cut from the two layers of double thickness film to leave a portion between the tab and the adjacent edge of the films.

FIG. 8 shows how the present invention can be incorporated in the manufacture of packages formed of thermo-

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plastic film and provided with a back seam extending longitudinally thereof.

FIG. 9 is a vertical sectional view at a greatly enlarged scale taken generally along the line 9-9 of FIG. 8 and showing the application of the drawstring.

FIG. 10 is a plan view of the completed package that is manufactured as shown in FIG. 8.

FIG. 11 is an enlarged plan view of a portion of the package shown in FIG. 10 employing a modified tab at one end of the drawstring to facilitate grasping it while insuring that only one of the layers of film will be severed when the drawstring is pulled.

Referring now to FIGS. 1 and 3, it will be observed that the reference character 10 designates, generally, a rectangular package for material 11, such as sliced meat, cheese, etc., having a generally rectangular configuration. Other configurations of material such as irregular or regular shapes thereof also can be enclosed. The package 10 is formed from a rectangular length of double layer thermoplastic film that is indicated, generally, at 12. As shown in FIG. 2, where the thickness of the film 12 is shown at a greatly exaggerated scale, it will be observed that it comprises an outer layer 13 and an inner layer 14. For illustrative purposes it is pointed out that the outer layer 13 may be formed of crystalline copolymer of vinylidene chloride and vinyl chloride while the inner layer 14 is formed of polyethylene. However, it will be understood that other thermoplastic materials can be employed for the layers 13 and 14.

The double layer thermoplastic film 12 is unrolled from a roll of this material and is fed to a conventional form and fill machine which is so arranged and adjusted as to fold the thermoplastic film 12 along a fold line or crease 15 which is substantially midway between the longitudinal edges as shown in FIG. 7 of said Repko patent.

As shown more clearly in FIGS. 1 and 2 a film 12 is folded at 15 so that longitudinal side portions 16 and 17 appear generally along one side 18 of the material 11 that is being packaged. The inner layers 14 are then heat sealed together as indicated at 19. The heat seal 19 may extend completely to the edge portions 20 or, as shown, it may extend only part way thereto.

In order to facilitate opening the package 10 a drawstring 23 of cotton or suitable plastic material is secured as indicated at 24 in FIG. 2 by heat and pressure or adhesively to the inner layer 14 at a location between the side 18 of the material 11 and the heat seal 19.

As shown in FIG. 4 one end 25 of the drawstring 23 extends between the layers of a V-shaped tab 26 that is severed at 27 from the adjacent material. It will be clear from FIG. 2 that the drawstring 23 is located between the side portions 16 and 17 and between the juxtaposed portions of the inner layer 14. Attention is directed to the fact that the extreme end 25 of the drawstring 23 is spaced, as indicated at 28, at least 1/8" and preferably from 1/4" to 1/2" from edge 29 of the package 10 a continuation of which lies along the outer end of the V-shaped tab 26. The reason for this arrangement is to prevent wicking on the part of the drawstring 23 which otherwise takes place, if it is extended entirely to the edge 29.

In a similar fashion the other end 30 of the drawstring 23, as indicated in FIG. 5, is spaced as indicated at 31 a like distance from edge 32. The spacing at 31 is to prevent wicking of the drawstring 23 at this end.

Cross seals 33 and 34 are formed along the ends of the package 10, these cross seals preferably extending to the edges 29 and 32, respectively, although, if desired, they can extend only part way to these edges 29 and 32. However, the cross seals 33 and 34 are so located that the

layers 13 and 14 are heat sealed together beyond the ends 25 and 30 of the drawstring 23 to effect a complete seal at the spaced portions indicated at 28 and 31. Since the ends 25 and 30 of the drawings 23 are sealed completely from the atmosphere by the cross seals 33 and 34, there is no likelihood that wicking of the drawstring 23 will take place which might result in contamination of the material 11.

Now it will be understood that, by locating the side portions 16 and 17 along the side 18 of the material 11, it is possible to extend the cross seals 33 and 34 throughout their entire extent between only two thicknesses of the double layer thermoplastic film 12.

The completed package, as shown in FIG. 1, is severed from the roll of thermoplastic film along the edge 29.

When it is desired that provision be made for partially re-sealing the opened package, a two way pressure sensitive tape 37 is provided along the edge 20 with one side being slightly more adhesive than the other so that it adheres more readily to the outer layer 13 adjacent the edge 20 than it does to the underlying surface of the outer layer 13 when the side portions 16 and 17 are folded over as indicated in FIG. 2. The Repko patent shows such an arrangement.

In order to open the sealed package 10, the folded over longitudinal side portions 16 and 17, as shown in FIG. 2, are pulled away from the remainder of the package for the purpose of detaching side 38 of the two way pressure sensitive tape 37 from the outer layer 13 and to the position shown generally in FIG. 6. Then the tab 26 is grasped and pulled upwardly along the drawstring 23. This action severs the double layer thermoplastic film 12 as indicated at 39 and thereby an opening is provided along the one side 18 of the material 11 which facilitates its removal either in its entirety or on a slice by slice basis. After removal of one or more slices, the package can be re-sealed by folding the longitudinal side portions 16 and 17 back to their original sealed position as indicated in FIG. 2. Of course the severed section at 39 remains with the result that the package 10 is not restored to its initial completely sealed condition.

FIG. 7 shows a modified form of attachment to the drawstring 23. In order to facilitate the severing at 39, FIG. 6, of only one of the double layers of plastic film 12 without also severing the other layer along the edge 20, a tab 40 is die cut at 41 from both double layers wholly within the cross seal 33 with the end 25 of the drawstring 23 therebetween and spaced at 28 from the edge 29 as well as from the edge of the die cut 41 to prevent wicking. The end 25 extends through an uncut section of the cross seal 33 to maintain the sealed integrity of the drawstring 23 against wicking. The die cut 41 is spaced from the edge 33 to leave an intact portion 43 of the cross seal 33 which involves four layers of film, i.e., the side portions 16 and 17, FIG. 2, each comprising a part of outer layer 13 and a part of inner layer 14. Now when the tab 40 is pressed upwardly, as viewed in FIG. 7, it can be grasped readily and tension applied to the drawstring 23 to sever only the side portion 17, FIG. 6, from the adjacent layers 13 and 14. The intact portion 43 comprising four layers of film effectively prevents severing of all four layers as may be the case when the tab 26, FIG. 4, is used.

When the reclosable feature is to be provided, the arrangement and construction of the package as shown in the drawing with provision to open it along one side 18 of the material 11 are preferred. However, the present invention is not so limited. It can be employed to facilitate the opening of a back seam pouch or package construction in which the drawstring 23, with its ends 25 and 30 sealed off to prevent wicking, is located between the edges 18 of the material 11 rather than along one of them. The V-shaped tab 26 or the circular tab 40 is used to permit grasping of one end of the drawstring 23 to open

the pouch or package generally centrally thereof depending upon the location of the drawstring 23.

FIGS. 8-11 show a preferred form of the package construction just referred to. FIG. 10, at 44, shows a package of double layer thermoplastic film with one double layer edge between separated layers along the other edge so that a longitudinal back seal, indicated at 45, can be formed. One double layer edge is indicated at 46 by broken lines and it is overlaid by one layer of the film the edge of which is indicated at 47. The longitudinal sealed area is indicated at 48.

It will be understood that the package 44 is formed on a form and fill machine and that the thermoplastic film is unwound from a roll and is folded to overlie packaged material 49 which may be generally rectangular in configuration such as slices of cheese or meat or the material 49 can be discrete irregularly shaped pieces. The film is folded along edges 50 and 51 and the film edges are interleaved as described after which the longitudinal seal 48 is formed by conventional means. Cross seals 52 and 53 are formed at the top and bottom of the package 44. Portions 54 and 55 of the cross seal 52 are extended to include ends 56 and 57 of a drawstring 58. It will be noted that the ends 56 and 57 of the drawstring 58 are spaced, as indicated at 60 and 61, from the folded edges 50 and 51 of the package 44. The ends 56 and 57 not only are sealed by the extended cross seal portions 54 and 55 but also are sealed by the adjacent folded edges 50 and 51 with the result that there is no likelihood of wicking taking place due to the presence of the drawstring 58.

In order to facilitate pulling on the drawstring 58 a wedge shaped tab 62 is severed from the extended end portion 55 of the top cross seal 52.

FIG. 11 shows a modified arrangement in which there is provided a circular tab 63 instead of the wedge shaped tab 62. The circular tab 63 is die cut from the extended end portion 55 of the top cross seal 52 so as to include the end 57 of the drawstring 58 and to provide an intact portion 64 between it and the folded edge 51 of the package 44. As described above in connection with FIG. 7, this arrangement insures that only one of the layers of the film forming the package 44 will be severed when the circular tab 63 is lifted and tension is applied to the drawstring 58. In FIG. 9 it will be observed that the double layer thermoplastic film will be severed generally along broken line 65 when the drawstring 58 is pulled.

FIG. 8 shows a portion of the forming and filling operation for the package 44. Here it will be observed that a flat sheet 67 of double layer thermoplastic material is folded along edges 50 and 51 with one edge of the flat sheet 67 interleaved between the two layers forming the other edge of the film. After the flat sheet 67 is unwound from the roll, the drawstring 58 is tacked by heat and pressure as indicated at 68 in FIG. 9 to the flat sheet 67 and to the surface thereof that ultimately becomes the inner surface of the package 44. The ends 56 and 57 are spaced substantial distances from the edges of the flat sheet 67 prior to its being folded along the edges 50 and 51.

After insertion of the packaged material 49 and formation of the back seam at 48 longitudinally of the folded flat sheet 67 as it is withdrawn from the roll, the portion between subsequent bodies of the material 49 are cross sealed as indicated at 69. Thereafter, the cross sealed portion 69 is transversely cut as indicated at 70 to separate the completed package 44 from the forming and filling operation.

At the same time that the transverse cut 70 is made along the transversely cross sealed area 69 to form the bottom cross seal 53 and the top cross seal 52, the wedge shaped tab 62 is severed. Alternatively, if the circular tab 63 is employed, it is severed or die cut at the same time that the transverse cut 70 is made.

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What is claimed as new is:

1. Method of making a generally rectangular package of thermoplastic film having a drawstring to facilitate opening the package which comprises: folding a sheet of thermoplastic film, and longitudinally and transversely sealing together juxtaposed surfaces of said folded sheet to form a generally rectangular sealed material enclosing space with said drawstring extending across said space and the ends of said drawstring spaced from the respective edges of the package and within the sealed area thereof along said edges.

2. Method of making a generally rectangular package of thermoplastic film having a drawstring to facilitate opening the package which comprises: folding a sheet of thermoplastic film, longitudinally and transversely sealing together juxtaposed surfaces of said folded sheet to form a generally rectangular sealed material enclosing space with said drawstring extending across said space and the ends of said drawstring spaced from the respective edges of the package and within the sealed area thereof along said edges, and forming a tab portion at one end of said drawstring in the sealed area along the edge individual thereto.

3. Method of making a generally rectangular package of thermoplastic film having a drawstring to facilitate opening the package which comprises: folding a sheet of thermoplastic film, longitudinally and transversely sealing together juxtaposed surfaces of said folded sheet to form a generally rectangular sealed material enclosing space with said drawstring extending across said space and the ends of said drawstring spaced from the respective edges of the package and within the sealed area thereof along said edges, and forming a tab portion at one end of said drawstring in the sealed area along and spaced from the edge individual thereto.

4. Method of packaging material by enveloping the same with a sheet of thermoplastic film and applying a drawstring to facilitate opening the package which comprises: folding said sheet of film longitudinally substantially midway of its longitudinal sides over said material, side sealing together juxtaposed longitudinal side portions of said folded film along one edge of said material, applying said drawstring between said longitudinal side portions and between the sealed portions thereof and said material with the ends of said drawstring spaced from the edges of said film, and cross sealing together juxtaposed transverse portions of said folded film along the ends of said material and the ends of said drawstring.

5. Method of packaging material by enveloping the same with a sheet of thermoplastic film and applying a drawstring to facilitate opening the package which comprises: folding said sheet of film longitudinally substantially midway of its longitudinal sides over said material, side sealing together juxtaposed longitudinal side portions of said folded film along one edge of said material, applying said drawstring between said longitudinal side portions and between the sealed portions thereof and said material with the ends of said drawstring spaced from the edges of said film, cross sealing together juxtaposed transverse portions of said folded film along the ends of said material and the ends of said drawstring, and forming a tab at one end of said drawstring in the adjacent cross sealed portion of said film.

6. The method of claim 5 wherein the tab is formed wholly within the confines of the adjacent cross sealed portion of the film.

7. Method of reclosably packaging material by enveloping the same with a sheet of thermoplastic film, applying a drawstring to facilitate opening the package, and applying pressure sensitive tape to reseal the opened package which comprises: folding said sheet of film longitudinally substantially midway of its longitudinal sides over said material, side sealing together juxtaposed longitudinal side portions of said folded film along one edge of said material, applying said drawstring between said longitudinal

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tudinal side portions and between the sealed portions thereof and said material with the ends of said drawstring spaced from the edges of said film, cross sealing together juxtaposed transverse portions of said folded film along the ends of said material and the ends of said drawstring, applying pressure sensitive tape to one side of said sealed together longitudinal side portions, and folding said sealed together longitudinal side portions over that portion of said film along said one edge of said material with said pressure sensitive tape between said side portions.

8. Method of packaging material by enveloping the same with thermoplastic film from a roll thereof by a form and fill machine and applying a drawstring to facilitate opening the package which comprises: unrolling said film, securing a drawstring to the unrolled film transversely thereof with the ends of said drawstring spaced substantial distances from the edges of said film, folding said unrolled film longitudinally along the ends of said drawstring over said material, longitudinally sealing together overlying edge portions of said film intermediate the folded edges of the package, transversely sealing said package between successive portions of said material including said ends of said drawstring, and transversely cutting the package thus formed intermediate the transversely sealed portion from said roll.

9. Method of packaging material by enveloping the same with thermoplastic film from a roll thereof by a form and fill machine and applying a drawstring to facilitate opening the package which comprises: unrolling said film, securing a drawstring to the unrolled film transversely thereof with the ends of said drawstring spaced substantial distances from the edges of said film, folding said unrolled film longitudinally along the ends of said drawstring over said material, longitudinally sealing together overlying edge portions of said film intermediate the folded edges of the package, transversely sealing said package between successive portions of said material including said ends of said drawstring, severing a tab portion from the transversely sealed portion at one end of said drawstring, and transversely cutting the package thus formed intermediate the transversely sealed portion from said roll.

10. A package for enveloping material of generally flat rectangular configuration comprising: a length of thermoplastic film folded substantially midway its ends and providing a layer of film overlying each flat surface of said material and having the fold along one edge of said material with the juxtaposed surfaces along the other three sides of said material sealed together, and a drawstring along one of said three sides between said layers of film and between said material and the adjacent sealed surfaces of said film, the ends of said drawstring being spaced from the respective edges of said folded film whereby wicking due to the presence of said drawstring is prevented by the sealed portions of said surfaces at the ends of said drawstring.

11. A package for enveloping material of generally flat rectangular configuration comprising: a length of thermoplastic film folded substantially midway its ends and providing a layer of film overlying each flat surface of said material and having the fold along one edge of said material with the juxtaposed surfaces along the other three sides of said material sealed together, a drawstring along one of said three sides between said layers of film and between said material and the adjacent sealed surfaces of said film, and a tab portion at one end of said drawstring severed from the sealed edge portion of said folded film individual thereto, the ends of said drawstring being spaced from the respective edges of said folded film and said tab whereby wicking due to the presence of said drawstring is prevented by the sealed portions of said surfaces at the ends of said drawstring.

12. The package of claim 11 wherein the tab portion is located wholly within the confines of the adjacent sealed portion of the layers of the film.

13. A package for enveloping material of generally flat rectangular configuration comprising: a sheet of thermoplastic film overlying the top and bottom flat surfaces of said material and extending beyond the ends thereof with the surfaces of the extending end portions being cross sealed together and a longitudinal seal securing the sides of said sheet together, and a drawstring on the inner side of said sheet along one of the cross sealed portions of the package extending transversely of said longitudinal seal with the ends of said drawstring spaced from the respective edges of the package and sealed off by said one cross sealed portion to prevent wicking.

14. The package of claim 13 wherein a tab portion is provided at one end of the drawstring and is severed from the cross sealed portion of the film individual thereto.

15. The package of claim 14 wherein the tab portion is spaced from the adjacent edge of the film.

16. A package for enveloping material comprising a folded and sealed thermoplastic film having a drawstring extending along the side to be opened with the ends of said drawstring spaced inwardly from the respective edges and sealed off to prevent wicking.

17. The package according to claim 16 wherein a tab portion is located at one of said ends of said drawstring in said film to facilitate grasping of said drawstring to tear said film and open said package.

18. The package according to claim 17 where said tab portion extends to the adjacent edge of said package.

19. The package according to claim 17 wherein said tab portion is located wholly within the confines of the adjacent sealed portion of said film.

References Cited by the Examiner

UNITED STATES PATENTS

1,934,098	11/1933	Smith et al.	229—86
1,983,400	12/1934	Reiner	229—86
2,293,952	8/1942	Stroop	229—51
3,094,269	6/1963	Schneider	229—51
3,246,833	4/1966	Schlien	22—51

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