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[33] **Japan**

[31] **43-58165, 44-21452 and 44-27034**

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Attorney—Mason, Fenwick & Lawrence

[54] **SHOPPING BAG WITH STRING**
 5 Claims, 35 Drawing Figs.

[52] U.S. Cl. 229/54,
 229/63, 150/11

[51] Int. Cl. B65d 33/06

[50] Field of Search..... 229/54, 69,
 63, 51, 52; 93/8, 35; 150/11, 107

ABSTRACT: The present invention relates to the structure, the process and the manufacturing apparatus of the shopping bag with string, wherein both the surface and back sides of the bag are respectively turned back inward to form the double parts, into which are inserted said strings made of a synthetic resin, while in the upper and central part of the bag are perforated the separable gripping pieces, which will be pulled out together with the strings held by them, so that said bag can be closed in its mouth and carried by hand in safety.

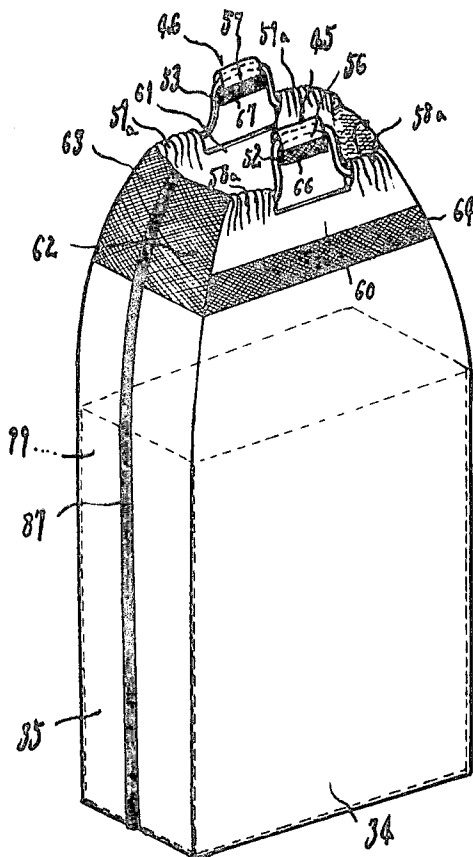


Fig 1

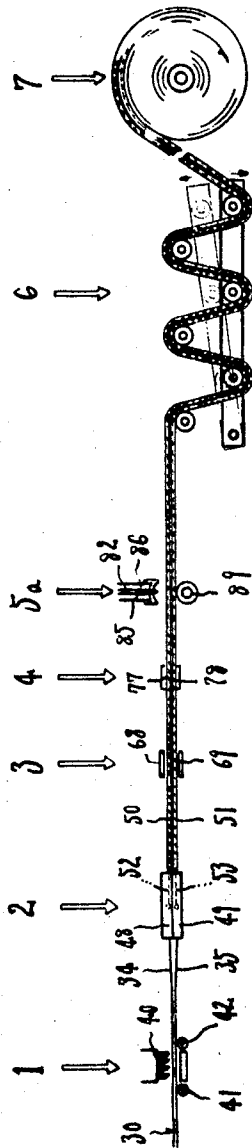
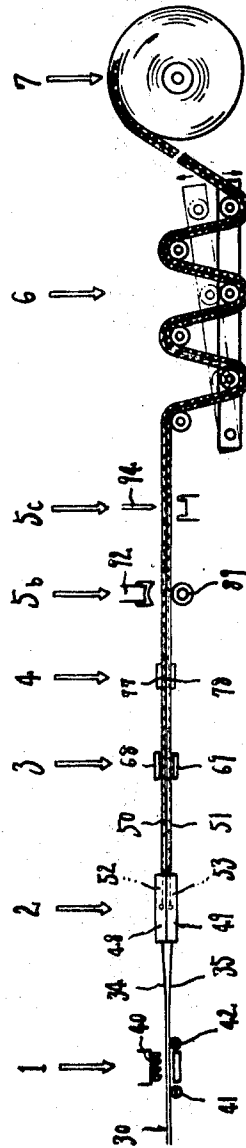


Fig 2

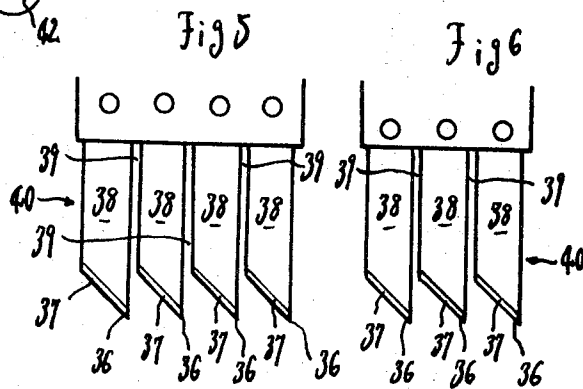
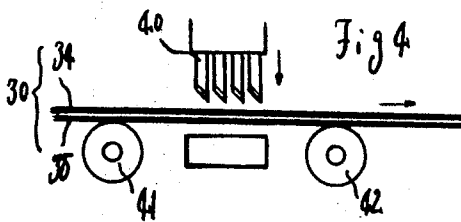
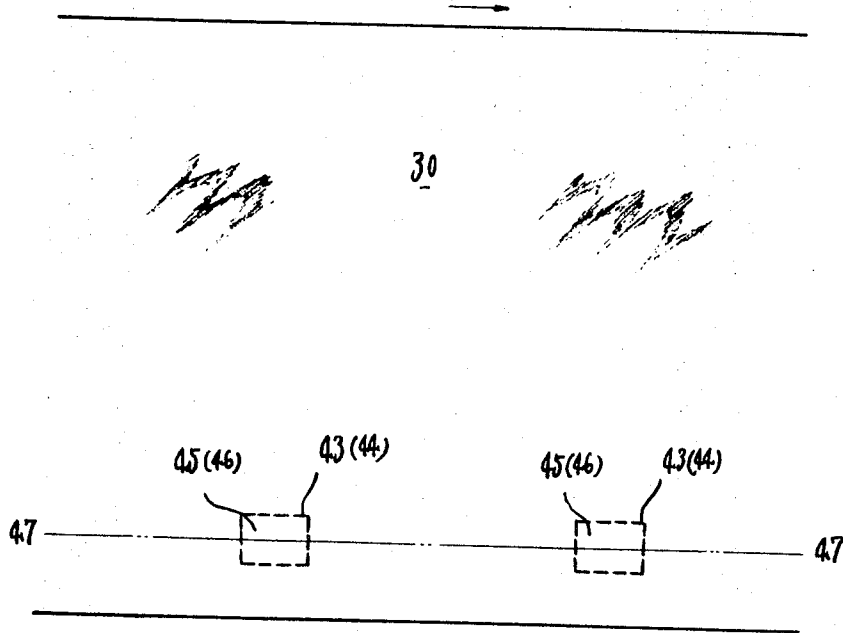


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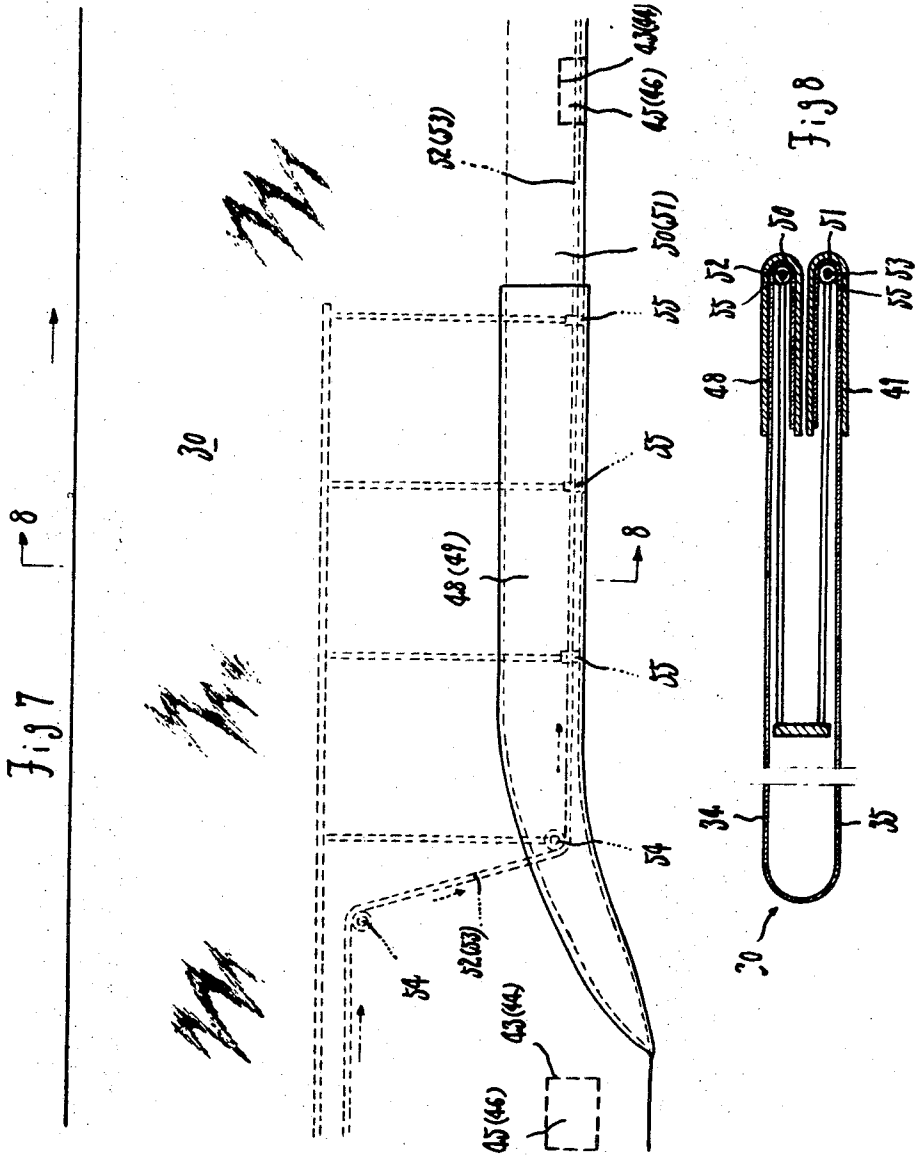
Fig 3



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Fig 9

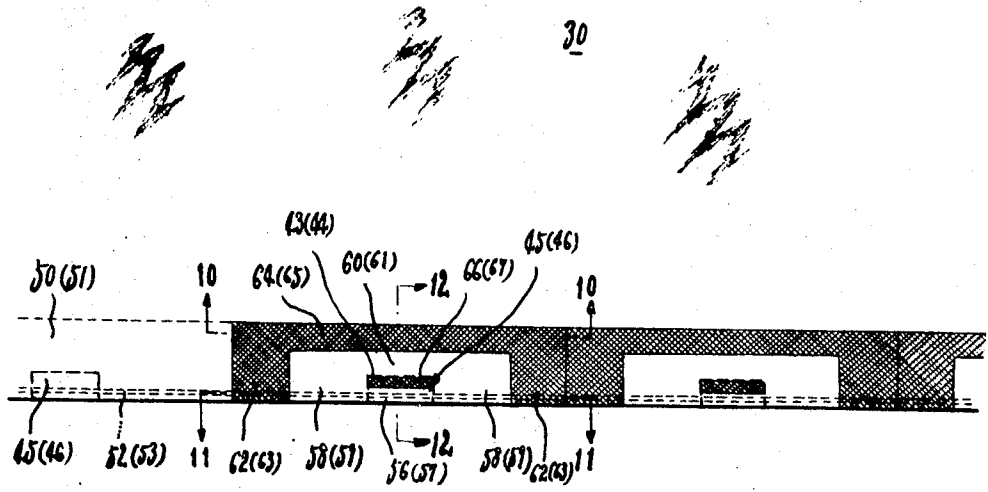


Fig 10

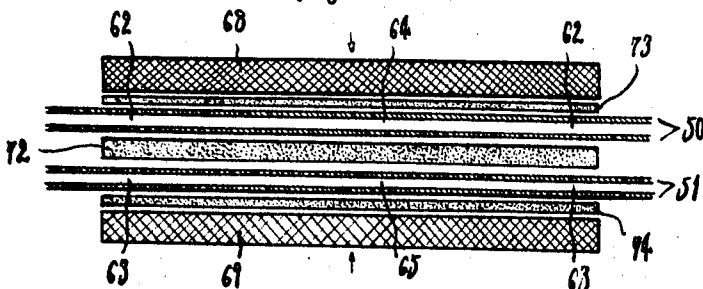


Fig 11

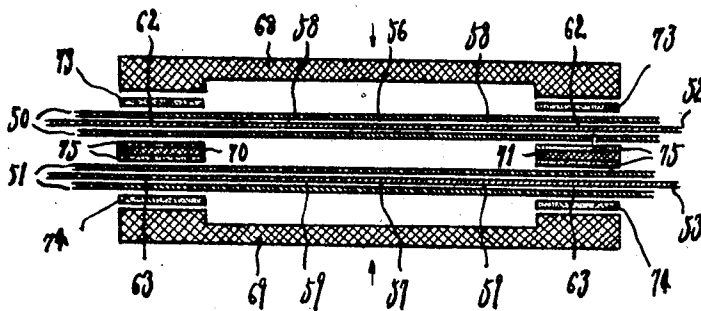
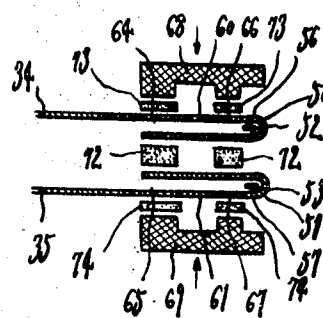
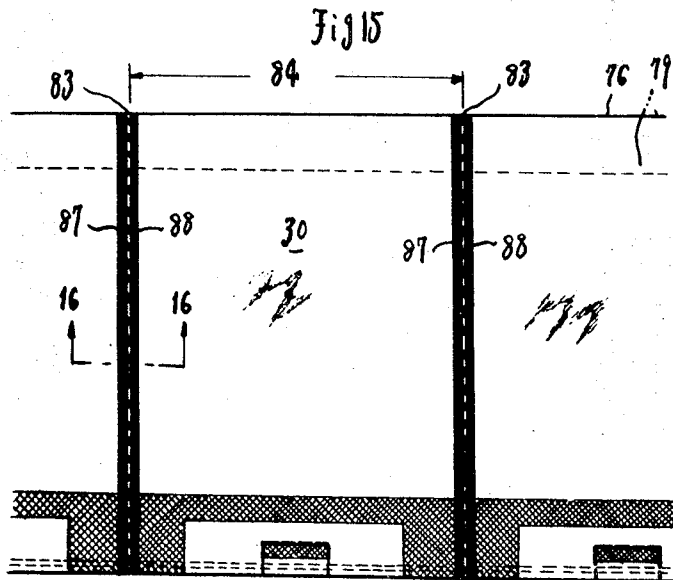
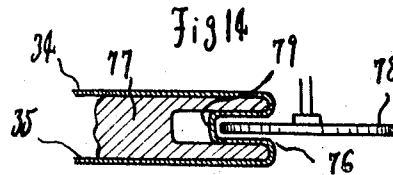
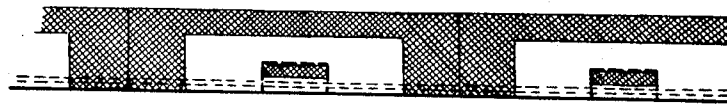
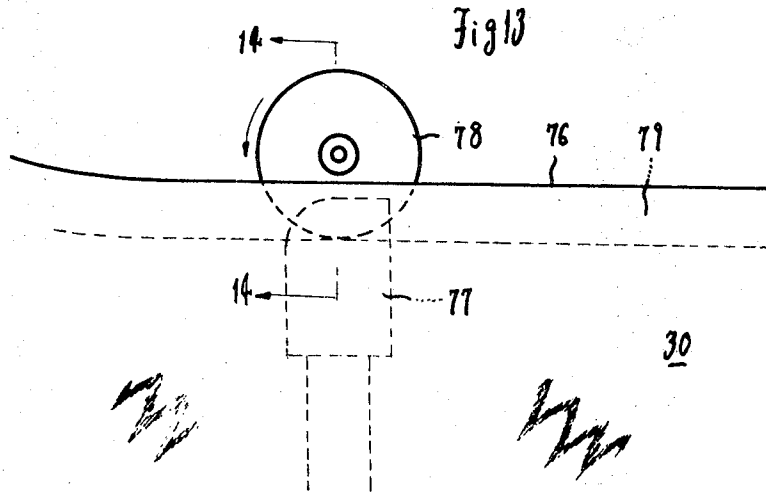


Fig 12



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Fig 16

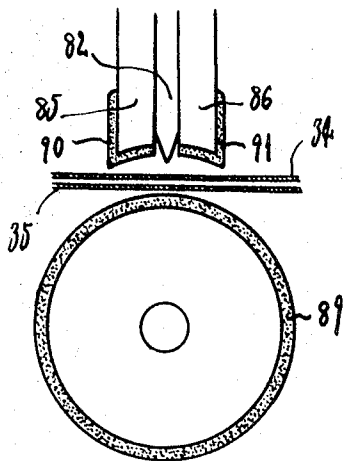


Fig 17

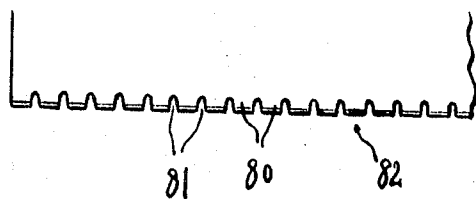


Fig 18

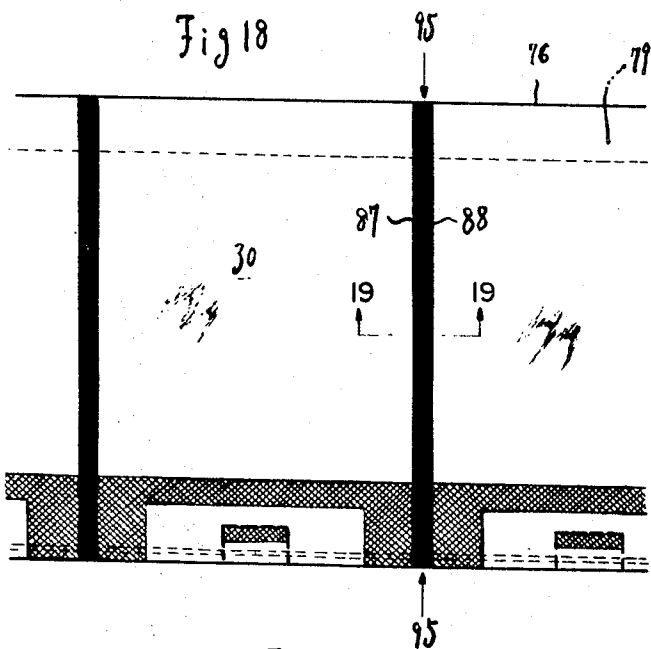


Fig 19

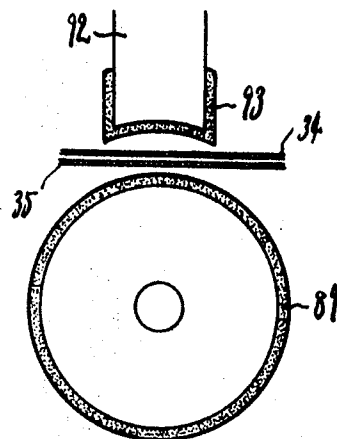
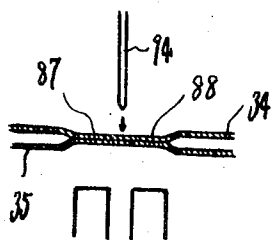


Fig 20



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Fig 21

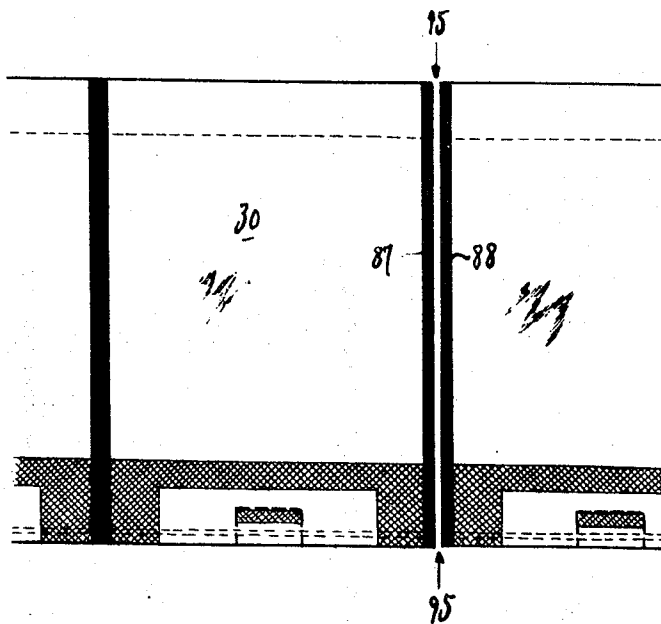


Fig 23

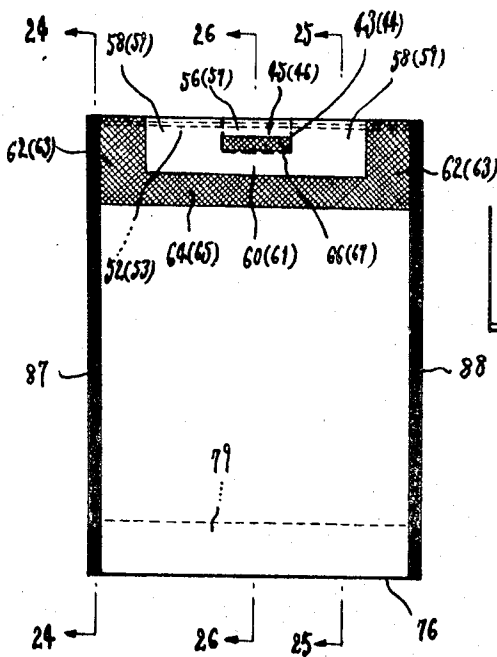
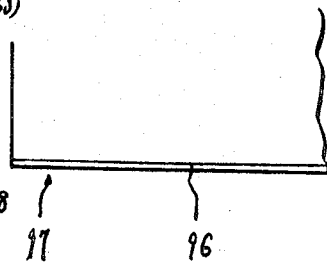


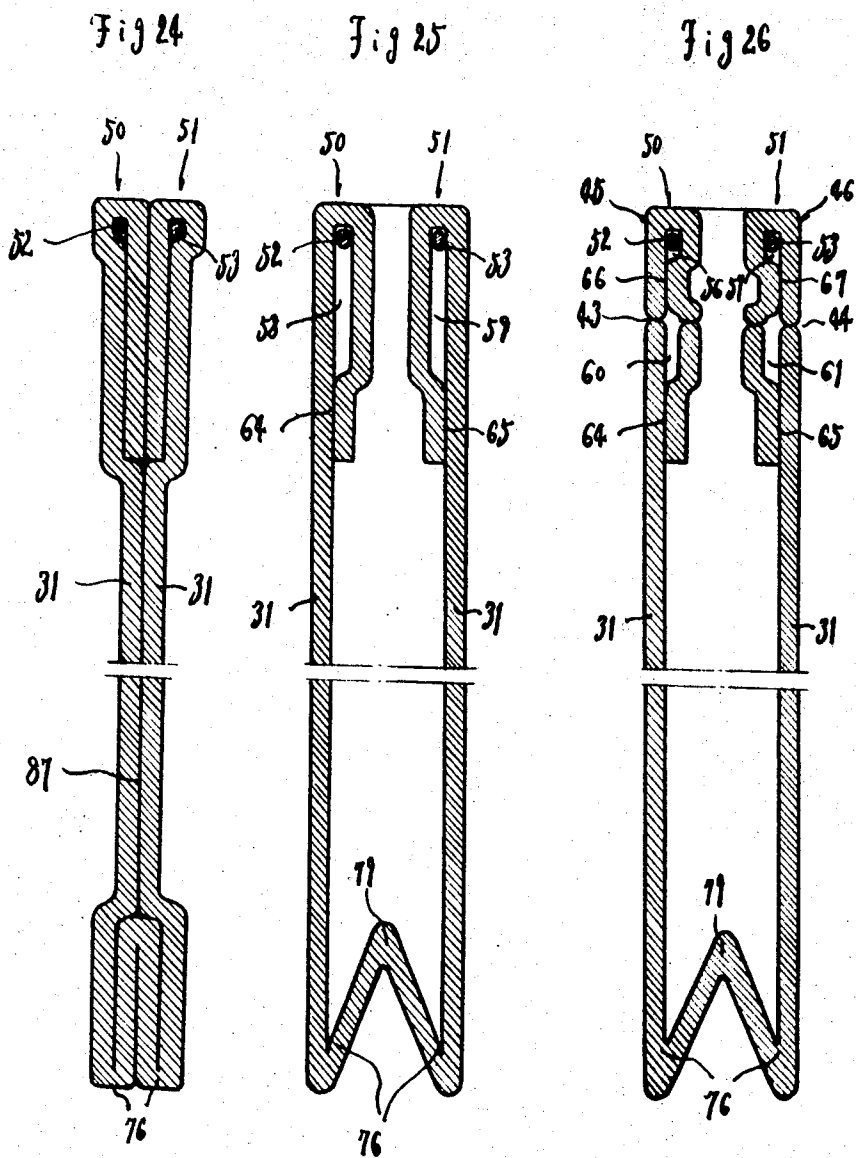
Fig 22



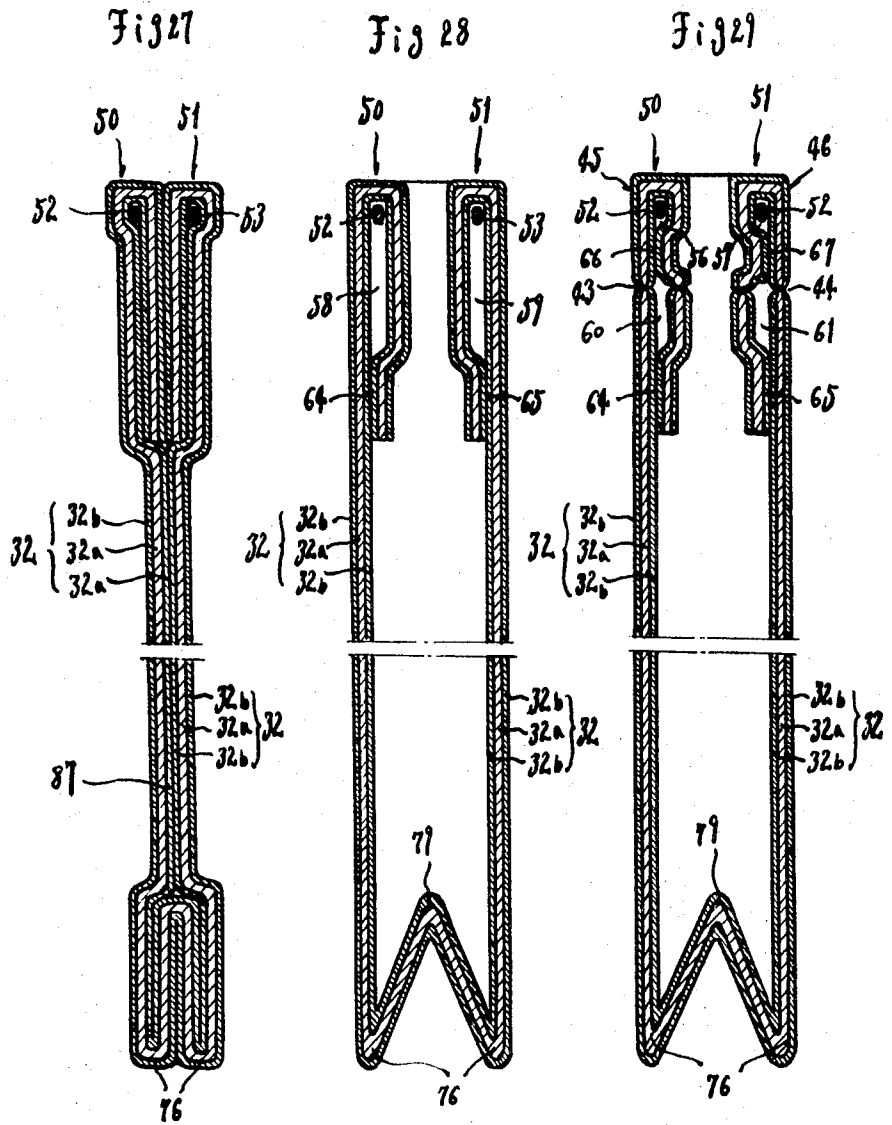
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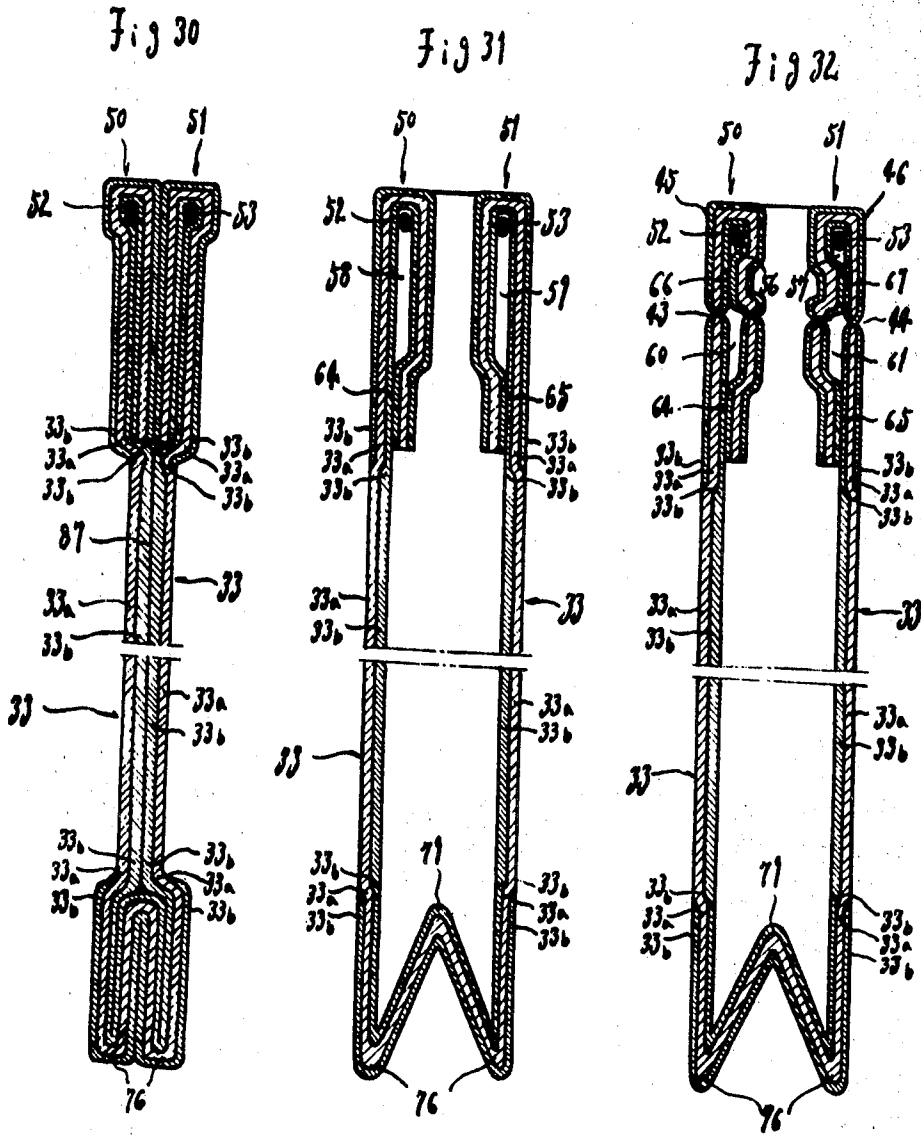
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Fig 34

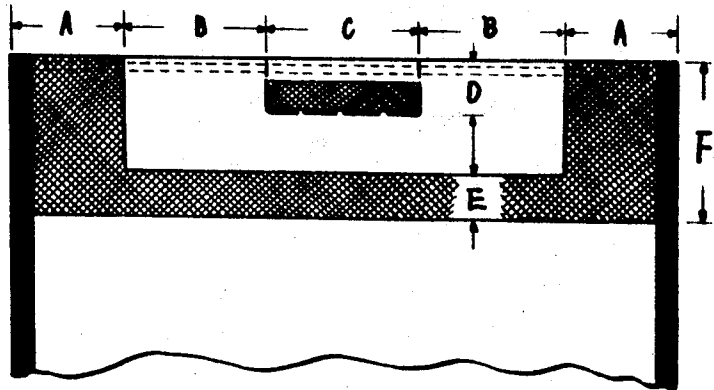


Fig 33

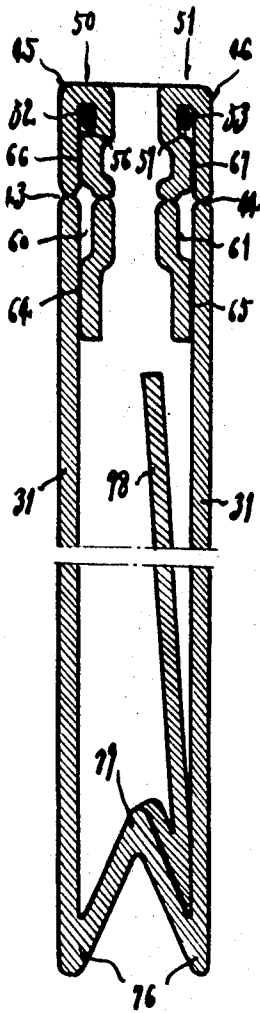
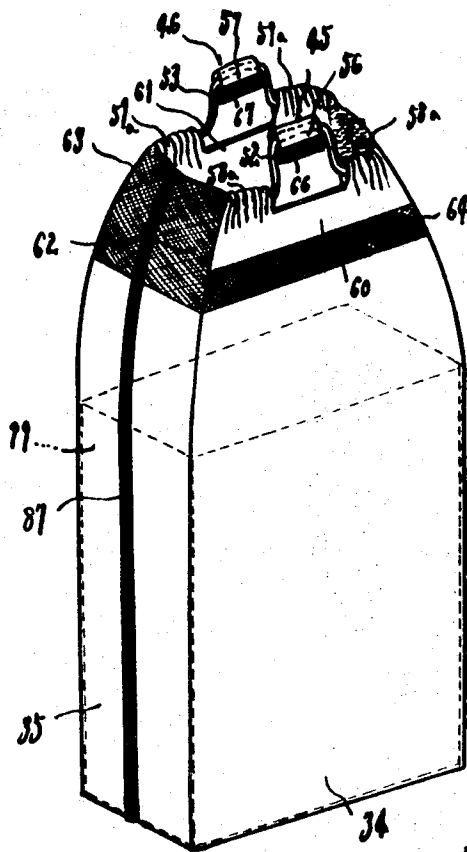


Fig 35



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SHOPPING BAG WITH STRING

BACKGROUND OF INVENTION

The present invention relates to the shopping bag with string which is arranged in its mouth and which is pulled out in part to close it, when it is carried about, as well as the process to make it continuously and the apparatus to make it.

In almost all conventional shopping bags, it has been necessary to arrange the string and the carrying grip separately after making the bag body, which entails much trouble and that, as such an arrangement of the string and the carrying grip is made after completing the bag body, the unification of them to the body cannot be strong enough to carry some bulky or heavy purchases. But, in order to remedy such a defect, it has been inevitable to make its structure very complicated, so that its production cost becomes expensive and naturally it is unprofitable to freely offer it as a gift to the customers of a store. Consequently, the structure of most of the conventional shopping bag is not strong enough and not suitable for carrying in it a bulky purchase, nothing to say of a heavy one. In the recent time, a shopping bag with string, which is inserted into its mouth during its manufacture, is used as often as not, in case of which, however, the string can be used only for closing the mouth of a bag, but not for carrying it, because of its uncertain and imperfect arrangement in it.

SUMMARY OF INVENTION

It is thus an object of the present invention to make a shopping bag with string out of a synthetic resin, adhering the bag body and a part of the string to make their unification strong enough.

Another object of the invention is to make in the mouth two separable gripping pieces to hold a part of the string in it, so as to make it easy to safely grip the string by it.

Another object of the invention is to make said gripping pieces separable in the center of the mouth of a bag so as to ensure its good carrying balance by them.

A further object of the invention is to enlarge the adhered points of the united part of the string with the bag body and the folded-back double part in its mouth adjacent thereto as well as its united area, so that said string may be reinforced to carry a weighty purchase in safety.

One more object of the invention is to allow said mouth to form a number of pleats in the parts of the mouth, wherein said string is inserted, so that, in cooperation with the gusset in the bottom part of the bag, it may change its shape in conformity with various sizes of the purchases, especially angular ones such as cubes or right cubes.

A further object of the invention is to have all the adhered points of the bag alone made of overlapped synthetic resin layers, so that such nonadhesive materials as paper and fiber cloth materials may be used side by side with adhesive materials such as made of a synthetic resin only.

Another object of the invention is to insert said string into the folded-back double part of the mouth during the manufacture of the bag at the same time, so as to avoid various processes to make its mouth after making it once, and to adhere said string to the bag in its required points at the same time during the manufacture of the bag.

A still further object of the invention is to perform a number of adhesions all at once by the use of nonadhesive materials at those points where no adhesion should be allowed, so that the repeating times of an adhesive process may be reduced to the minimum, when adhesion is required at some specified points only.

One more object of the invention is to manufacture the shopping bag one by one successively and separately by the use of an apparatus for lengthy materials of the bag, so that a mass production of the shopping bag of a fixed good quality may be carried out most efficiently.

These and other objects of the invention can be attained by such modes of its embodiment as described hereunder and in the accompanying drawings, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is the side elevation in outline of a series of manufacturing process of a shopping bag with string according to the invention.

FIG. 2 is the side elevation in outline of the manufacturing process, a part of which is different from that of FIG. 1.

FIG. 3 is the plan of the process to manufacture separable two gripping pieces to open said mouth in the bag body, which is folded double, and corresponds to the first manufacturing process shown in FIGS. 1 and 2.

FIG. 4 is the side elevation of the manufacturing process described in FIG. 3.

FIG. 5 is the side elevation of the cutting tools used in the manufacturing process of the separable gripping pieces described in FIG. 3.

FIG. 6 is the front elevation of the cutting tools of FIG. 5.

FIG. 7 is the plan of the process in which a brim of the mouth of a bag is folded inside, whereinto is inserted said string, and which corresponds to the second manufacturing process described in FIGS. 1 and 2.

FIG. 8 is the enlarged sectional view cut in line 8-8 of FIG. 7.

FIG. 9 is the plan of an adhering process of some required points in the folded-back double part in the mouth of a bag, and corresponds to the third manufacturing process described in FIGS. 1 and 2.

FIG. 10 is the enlarged sectional view cut in line 10-10 of FIG. 9.

FIG. 11 is the enlarged sectional view cut in line 11-11 of FIG. 9 when making adhesion.

FIG. 12 is the enlarged sectional view cut in line 12-12 of FIG. 9 when making adhesion.

FIG. 13 is the plan of the forming process of the gusset at the bottom part of the bag, corresponding to the fourth manufacturing process described in FIGS. 1 and 2.

FIG. 14 is the sectional view of a part cut in line 14-14 of FIG. 13.

FIG. 15 is the plan showing the processes to adhere the left and right side edges of the bag and to divide the lengthy materials into separate bags one by one, corresponding to the 5th of the manufacturing process of FIG. 11.

FIG. 16 is the enlarged sectional view cut in line 16-16 of the manufacturing process of FIG. 15, when making adhesion and division into separate and independent bags.

FIG. 17 is the front elevation in part of the cutting tools for dividing the bags separately as shown in FIG. 16.

FIG. 18 is the plan showing the adhering process in the left and right side edges of the bag, different from that shown in FIG. 15, corresponding to the 5th manufacturing process of FIG. 2.

FIG. 19 is the enlarged sectional view cut in line 19-19 of the manufacturing process of FIG. 18, when making adhesion.

FIG. 20 is the side elevation showing the dividing process of respective bags at its left and right side edges, different from that in FIG. 16, corresponding to the 5th of the manufacturing process shown in FIG. 2.

FIG. 21 is the plan showing the case wherein said lengthy materials of the bag are cut through by the cutting tools and cut off the respective bags one by one at the same time.

FIG. 22 is the front view in part showing the cutting tools to cut off the respective bags separately, used in the case described in FIG. 21.

FIG. 23 is the front view showing the finished shopping bag with string, which is entirely made of synthetic resin layers alone.

FIG. 24 is the enlarged sectional view cut in line 14-24 of FIG. 23.

FIG. 25 is the enlarged sectional view cut in line 25-25 of FIG. 23.

FIG. 26 is also the enlarged sectional view cut in line 26-26 of FIG. 23.

FIG. 27 is the enlarged sectional view of the position of a bag same as that of FIG. 24, wherein the shopping bag with string is entirely made of three-layer materials.

FIG. 28 is the enlarged sectional view of the position of a bag same as that of FIG. 25, wherein the shopping bag with string is entirely made of three-layer materials.

FIG. 29 is the enlarged sectional view of the position of a bag same as that of FIG. 26, wherein the shopping bag with string is entirely made of three-layer materials.

FIG. 30 is the enlarged sectional view of the position of a bag same as that of FIG. 24, wherein the shopping bag with string is partly made of three-layer materials.

FIG. 31 is the enlarged sectional view of the position of a bag same as that of FIG. 25, wherein the shopping bag with string is partly made of three-layer materials.

FIG. 32 is the enlarged sectional view of the position of a bag same as that of FIG. 26, wherein the shopping bag with string is partly made of three-layer materials.

FIG. 33 is the enlarged sectional view of the case wherein a partition piece for separate sections is adhered to the inside of the bag.

FIG. 34 is the enlarged front view of the mouth part of the shopping bag.

FIG. 35 is the oblique view showing how the shopping bag with string is used.

DESCRIPTION OF THE PREFERRED EMBODIMENT

For a more detailed description of the invention, reference will now be made to the above-mentioned drawings, as follows:

Twofold lengthy materials of the bag are made of flat twofold materials or tube-shaped materials, one side of which is cut off to be similar to the twofold materials. As under-mentioned in reference to FIGS. 24-32, said materials 30 consist of either a single layer 31 of a synthetic resin, or a whole three-layer 32 comprising nonadherent materials layer 32^a, upon the both sides of which are formed synthetic materials layers 32^b, or a partly three-layer 33, where only the bottom of the bag and its mouth part are made of a three-layer comprising a nonadherent materials layer 33^a, upon both sides of which are formed synthetic resin layers 32^b respectively, while the rest of the whole bag is made of a two-layer comprising a nonadherent materials layer 33, upon the inside of which only is formed a synthetic resin layer 33^b.

The twofold materials of the bag 30 consisting of the surface and the back sides 34, 35 are fed on the rolls 41, 42 intermittently to advance forward in their lengthy shape. In the manufacturing process shown by FIG. 3, which represents the above-mentioned first manufacturing process, the cutting tools 40, which are shown in FIGS. 5 and 6 and which are composed of a suitable number of separate blades 38 with spaces between them and the inclined edge 37 having a sharp tip respectively, come down upon the twofold materials of the bag 30 which are lying on the rolls 41, 42 in their strained condition as shown by FIG. 4, and they perforate both the surface and the back sides 34, 35 of the bag to make perforations 43 and 44 on both sides of the bag in rectangle, which can be formed into separable gripping pieces 45 and 46 to be separated from the bag after the bags are formed. Thus the rectangular gripping pieces are formed near the mouth of the bag with a fixed space corresponding to the width of a bag between them as shown by FIG. 3.

Next comes the second manufacturing process, wherein the separable gripping pieces 45 and 46 will be formed by sending the surface and the back sides 34 and 35 of the materials of the bag 30 into the guiding conduits for turning-in 48 and 49 separately with a lateral centerline in both separable gripping pieces 45, 46 as a turn-in line respectively, so that the mouth part of the bag will be folded back to form the double parts 50, 51 on both surface and back sides 34 and 35 of the bag as shown by FIGS. 7 and 8. In this step of the formation of the

double parts 50, 51, lengthy flat synthetic resin strings 52, 53 are continuously inserted by means of a suitable conducting element 54 into the bottom part of the respective twofold double parts 50, 51, while keeping step with the transfer of the materials of the bag 30, and a suitable number of the stopping elements 55 are applied to said strings 52, 53 so as to prevent them from getting out of the turned-in bottoms of said twofold double parts 50, 51. As a result, the separable gripping pieces 45, 46 are folded back, containing therein a part of said strings 52, 53 respectively.

After the above-mentioned second manufacturing process being completed, the materials of the bag 30 will be forwarded to the third manufacturing process, wherein the suitable points in the folded-back double parts 50, 51 of both surface and backsides of the materials of the bag 30 will be adhered together respectively. In this process, except for the parts 56, 57 of the separable gripping pieces 45, 46, wherein are lying the strings 52, 53, both left and right outsides of the separable gripping pieces 45, 46, i.e., the pleated parts 58, 59, and suitable spaces right beneath the separable gripping pieces 45, 46, all the rest, i.e., both left and right parts 62, 63 and the lower parts 64, 65 as well as the lower parts 66, 67 of the separable gripping pieces 45, 46, whereinto no string is inserted, will be adhered on both sides of the bag. Especially the left and right parts 62, 63 of the folded-back double parts are adhered for a pretty wide distance and to these adhered parts are also united at the same time both ends of the respective strings 52, 53 together with the folded-back double parts so as to unite them all in a body. For the above-mentioned unification, such an apparatus as the upper and lower mold-heating plates 68, 69, which are arranged in connection with each other, are used, and as shown by FIG. 11, the mold-heating plates 70, 71 are further inserted into between the folded-back double parts 50, 51 of the surface and back sides of the bag, so that all the points, where the respective strings 52, 53 are also required to be united, may be strongly adhered. However, as for the part where no adhesion should be made, i.e., the points between the folded-back double parts 50 and 51, which become the opening part of the bag and which therefore should not be adhered, such a nonadhesive element 72 as, for instance, a plate-shaped element having undergone a surface treatment with fluorine resin, will be interposed between the upper and lower sides of the materials of the bag 30 as shown by FIGS. 10 and 12. Because of said interposition of nonadhesive element 72, all the points of the folded-back double parts 50, 51 where said unification is required, can be united all at once without closing the opening parts of the surface and back sides separately.

As long as the respective mold-heating plates will not adhere with a synthetic resin layer, there will be no trouble. But, if they become adhesive when heated, separate nonadhesive elements 73 and 74 should interpose between the materials of the bag 30 and the respective mold-heating plates.

The materials of the bag 30 which have undergone adhesion in the folded-back double parts 50, 51 will be transferred to the fourth manufacturing process, wherein the gusset 71 having a required height will be successively formed as shown by FIGS. 13 and 14 by the use of a gusset mold plate 77 and the pushing-in round plate 78 as well known. When forming said gusset, the pushing-in round plate 78 can be heated and used to preheat the both ends parts of the gusset, when the materials of the bag are intermittently stopped on their transfer upon the rolls, so that adhesion in the end parts of both left and right sides of the bag can be easily attained, and this is especially beneficial, when the materials of the bag 30 are bulky. Needless to mention, such gusset-forming process may also be done by some other suitable process prior to the adhesion of the folded-back double part so as to attain the object of the invention.

The lengthy materials of the bag 30 will be forwarded then to the 5th manufacturing process, wherein the materials of the bag are divided into separate bags and their both sides are united together at the edge parts on both left and right sides.

In this process, perforations 83 are made longitudinally along the border lines of respective bags with a gap between said lines, which corresponds to the width 84 of the bag. These perforations 83 are made by the cutting tools 82 which have a gap 81 between the edges 80, 80 of the blades as shown by FIGS. 5 and 6. As illustrated in FIG. 16, the cutting tools 82 interpose between the two mold-heating plates 85 and 86 which adhere both sides of the bag 30 at its edge parts on both left and right sides together with both ends of the string inserted therein as shown by FIG. 15. These cutting tools 82 and the mold-heating plates 85, 86 come down upon the materials of the bag to perforate and heat them as they are lying upon the elastic rolls 89 which have undergone a heat-resisting surface treatment with fluoric resin. The bottom side of the mold-heating plates 85, 86 is so curved as to correspond to the arc of a circle and, in order to prevent the mold-heating plates 85, 86 from adhering with the materials of the bag 30, nonadhering materials 90, 91 are interposed between them, in contrast to which, in the embodying examples of the invention shown in the 5th and 5th manufacturing processes, the adhesion of the edge parts on the left and right sides of the bag and the division of respective bags are made separately with each other, as follows:

As shown by FIG. 19, the edge parts of the left and right sides are unified by the use of the mold-heating plates 92 and the elastic rolls 99, between which nonadhering materials 93 are interposed as in the previous embodying example. After unification of edge parts 87, 88 on the left and right sides of the bag, the flat lengthy materials of the bag 30 are perforated every one bag by the use of the cutting tools. As shown by FIGS. 20 and 18, perforation is made in the central lines 95, 95 by the use of the cutting tools 94 so as to divide the unified edge parts on the left and right sides of the bag. Since the dividing lines in either one of the embodying examples shown in FIGS. 1 and 2 are simply perforated lines, the whole materials of the bag 30 still keep a lengthy shape and, in correspondence to an intermittent transfer on a group of said rolls as illustrated in the 6th manufacturing process of FIG. 1, they are rolled up on a coiler as shown in the 7th manufacturing process. The lengthy materials of the bag 30 thus rolled up will be cut off every one bag whenever so required, while the remainder will be kept in its lengthy and not bulky form at the counter of a store to be cut off to hold the customer's purchase.

It is also a desirous embodiment of the invention to completely cut off a finished bag by the cutting tools, the edge 96 of which is straight and has no gap as illustrated by FIG. 22. In that case, many independent bags of the same size will be kept in piles.

Furthermore, the invention can be embodied by arranging a partition piece 98 inside the bag with its end part unified in the folded-back part of the materials of the bag. When said partition piece 98 is arranged to be short, no trouble will entail in the successive manufacturing process and, as shown in FIG. 33, the partition piece 98 interposes between the sides 34 and 35. Such a kind of a shopping bag is especially required, when the purchases consist of clothings and foodstuffs which should not be mixed up in a single bag.

According to the manufacturing method of the present invention as above-mentioned, the strings 52, 53 of the shopping bag can be definitely inserted into the bag, and that also the adherence between said inserted strings 52, 53 and the required points in the folded-back double parts 50, 51 at the mouth parts of the sides 34, 35 of the bag as well as the adherence in the above-mentioned parts together with both ends of said strings 52, 53 at the edge parts 87, 88 on the left and right sides of the bag can be performed continuously in a series of manufacturing processes, so that a shopping bag with strongly unified strings 52, 53 can be manufactured. Besides, perforation of the separable gripping pieces 45, 46, which are formed so as to make said strings to be most effective when carrying about a shopping bag, and the adherence in said separable gripping pieces 45, 46 except for the pleating parts 58, 59 on the left and right sides of the bag, i.e., all the left and

right parts 62, 63 of respective folded-back double parts 50, 51 and their lower parts 64, 65, as well as the lower part 66 wherein no string of the separable gripping pieces 45, 46 is inserted, can be included in the continuous manufacturing process. It is therefore very easy to manufacture a shopping bag in this way and there is no need to additionally make an extra structure the mouth part of the bag after it above-mentioned, made to grip the string as ordinarily required.

According to the embodying examples as above-mentioned, there will be no loss either in the materials of the bag or the string and, because of a continuous operation, any of manufacturing waste can be avoided, and the shopping bag with string of a definitely uniform quality can be mass produced most efficiently. As a result the structure of the shopping bag according to the present invention is characterized as follows:

The materials of the bag with a gusset 79 on its bottom side which is twice folded may consist in either a single adhered layer 31 of synthetic resin, as shown in FIGS. 24—26, or when necessary, a three layer 32 comprising a nonadhesive layer 32^a composed of paper or fiber materials and a synthetic resin layer 32^b laid on both sides of said nonadhesive layer 32^a, as shown by FIGS. 27—29, or only the bottom and mouth parts of the bag are made of a three layer with a nonadhesive layer 33^a covered by a synthetic resin layer on both sides and the rest of the bag is made of a partial three-layer with a synthetic resin layer 33^b lying upon the inside only of a nonadhesive layer 33^c, while both sides 34 and 35 of the mouth part of the bag are twice folded inside the bag for a certain required length and, into the bottom part of said twice-folded double parts 50, 51 are inserted the strings 52, 53 for the same length as the width 84 of the bag, and in the central upper part of the respective twice-folded double parts 50, 51, perforations 43, 44 are made to form the separable gripping pieces 45, 46. The lower parts 66, 67 of the separable gripping pieces 45, 46, wherein no string is laid, are adhered, while except for a required width for making pleats on both left and right sides of the separable gripping pieces 45, 46, both left and right sides 62, 63 of the twice-folded double parts 50, 51 and their downward parts 64, 65 are respectively adhered, and furthermore, the end parts 87, 88 on both left and right sides are adhered together with the strings 52, 53, the gusset 79 and both end parts of the twice-folded double parts 50, 51 to become unified all in a body. Consequently, when using a finished shopping bag such as shown in FIG. 23, the separable gripping pieces 45, 46 will be separated after putting all the purchases in the bag and, when they are carried as a shopping bag with string, the gripping pieces 45, 46 will be pulled out together with said strings 52, 53, while the width 58, 59 to be pleated on both sides 34, 35, will shrink to form pleats 58^a and 59^a, so that the mouth part of the bag will shrink as shown by FIG. 35. Especially when the purchases are shaped cubic or right cubic, both sides 34, 35 of the bag together with the gusset 79 become deformed in correspondence to the shapes of the purchases. Besides, since the respective strings 52, 53 are adhered for a good length in the unified left and right side parts of the twice-folded double parts 50, 51, while their end parts are also unified together with the end parts 87, 88 on both left and right sides of the bag, the supporting part of the strings is wide enough to carry a very heavy purchase in the bag. In addition, because of the pleats formed when carrying the bag and the adhered parts of the strings 52, 53 being continuous with the adhered part of the left and right sides as well as the downward side of the twice-folded double parts 50, 51, said strings 52, 53 are further reinforced and, when carrying a heavy purchase, its weight will not be partially borne by the strings, so that the shopping bag with string thus made can be offered for the convenience of the customer of a store.

In order to further clarify this point, let us examine an embodying example concretely having all the measurements of respective parts of the twice-folded double parts as follows, on the supposition that the shopping bag with string according to the invention is measured 40 cm. long and 30 cm. broad and the gusset 10 cm. deep:

Breadth of the adhered parts on both left and right sides (A): 5.0 cm.

Breadth of the materials of the bag to be pleated (B): 7.0 cm.

Breadth of the gripping pieces (C): 6.0 cm.

Length of the gripping pieces (D): 3.5 cm.

Length of the downward adhered part (E): 2.0 cm.

Length of the twice-folded double part (F): 7.0 cm.

When a cubic purchase 99 of 20 cm. long, 20 cm. broad and 10 cm. deep is put into the shopping bag with string under the above-mentioned conditions and carried about, the adhered parts 62, 63 on both left and right sides do not shrink laterally at all, but become deformed in compliance with the depth of the purchase, and, although dependent upon the weight itself of the purchase 99, said adhered parts 62, 63 shrink in almost all cases to form pleats 58^a 59^a. If shrunken, the maximum shrinkage out of the original breadth of 7.0 cm. will be about 3.0 cm. Compared with a conventional shopping bag, wherein the string is held up at a certain point by an eyelet having a diameter of about 1 cm. and wherein is carried the same purchase 99 as above-mentioned, the strings 52, 53 of the shopping bag with string according to the invention are stronger by more than three times. Besides, depending upon the weight of the purchase, the length of the downward adhered part E can be made greater to decrease a difference between it and the length of the gripping piece D. Such a modification can be made without departure from the scope of the structure of the shopping bag according to the invention.

Consequently, even when the materials of the bag are very thin, it can be used to carry a very heavy purchase in it by the soft separable pieces 45, 46 as its gripping part. Besides, as the gripping pieces 45, 46 form a circle around the strings 52, 53 as their center, they can freely move and, as the hand of the user of the bag does not grasp the strings, but the gripping pieces which are the cover of the strings, the bag can be carried by hand without causing any pain in the hand, and that as the separable gripping pieces 45, 46 will be formed in the upper central section of the mouth part of the bag, the gripping balance, which is most important when gripping such a bag, is very good, and as the strings 52, 53 are inserted into both sides 34, 35 respectively and both ends of the strings are strongly unified with the synthetic resin layer which is the adhering materials layer of the materials of the bag, these strings are unified with the bag far stronger than a single circular string inserted into the mouth part of the bag without being adhered thereto, and the strings will neither be cut off nor come out of the bag, in contrast to a conventional shopping bag.

As is evident from the embodying modes of the invention, the materials of the shopping bag with string according to the invention are formed with the whole three-layer composed of a synthetic resin layer and a nonadhesive materials layer, or a partial three-layer, according to a requirement. But, those points where adherence is essential, synthetic layers which are adhesive materials are always used on both sides to be unified, and, regardless of the modes of embodiment of the invention, all the beneficial characteristics of paper or fiber cloth etc. are fully demonstrated in said layers. Some of the concrete beneficial effects of these layers are described as follows:

1. When the whole three-layer is composed of the non-adhesive materials layer of paper or fiber cloth etc. covered on its both sides with a synthetic layer which is the adhesive materials:

When paper is used as a central layer, for instance, there is no need to print on the synthetic resin layer. If printed on paper, it comes cheap and, without soiling the printed surface, the printed paper can be kept well for a long time. When paper or fiber cloth etc. is used as the central layer of a three-layer, such an elegant pattern as a lace can be printed on it to lend beauty to the three-layer. In any case, whenever a

synthetic resin layer is transparent, such nonadhesive materials layer as paper or fiber cloth can be seen through said transparent synthetic resin layer, so that a three-layer made in this way can appear beautiful, and since said paper or fiber cloth is covered by a synthetic resin layer, the central layer cannot absorb moisture, while as the covering layer is a synthetic resin layer, any stain on it can be easily washed off. Although said paper or fiber cloth may be composed of a simple matter, the central layer can be reinforced together with synthetic layers as a whole.

2. When the parts corresponding to the bottom part and the mouth part of the bag alone are made into a three-layer with nonadhesive materials layer such as made of paper or fiber cloth, covered on its both sides with a synthetic layer, and all the rest of the bag are made into a two-layer with a synthetic resin layer covering the inside only of the nonadhesive materials layer, so that, as a whole, those layers make up a partial three-layer:

When the nonadhesive materials layer is an exterior layer, paper or fiber cloth etc., appear outside and the bag can be used with an appearance and a touch similar to a conventional paper bag or a cloth bag and, since the bottom part of the bag is made of a partial three-layer, paper or fiber cloth is completely protected on its both sides by said synthetic resin layer, the bag can be safely placed in any moist place. When paper or fiber cloth is held within the gripping pieces, both of them give the user the same soft touch as they are directly touched by hand.

As clearly seen from the above-mentioned beneficial effects, the shopping bag with string according to the invention can meet satisfactorily all the objects of the invention set forth in the early part of this text.

What I claim is:

1. The shopping bag with string, the bottom side of which is twice-folded and is provided with a gusset, and the materials of which consist in a single materials layer of a synthetic resin layer, while both ends of its mouth part are respectively folded back inward for a required length so as to make a double part, and in the bottom parts of respective turned-back double parts are inserted strings made of a synthetic resin, while a part of both ends of said string is adhered to the bag and in the upper central part of the turned-back double part is formed the separable gripping piece by perforation and in order to prevent the string from getting out of said turned-back double parts, the downward parts of respective separable gripping pieces are unified so as to allow the strings to be pulled out as soon as the separable gripping pieces are separated from the bag.

2. The shopping bag with string, the bottom side of which is twice-folded and is provided with a gusset, and the materials of which consist in a single materials layer of a synthetic resin layer, while both ends of its mouth part are respectively folded back inward for a required length so as to make a double part, and in the bottom parts of respective turned-back double parts are inserted strings made of a synthetic resin, while a part of both ends of said string is adhered to the bag and in the upper central part of the turned-back double part is formed the separable gripping piece by perforation and in order to prevent the string from getting out of said turned-back double part, the downward parts of the respective separable gripping pieces are unified and, except for a required length for making pleats on both left and right sides of the separable gripping pieces, all the left and right parts of respective turned-back double parts and the downward parts of the separable gripping pieces on both surface and back sides of the bag are unified, while a required length of both ends of the strings is adhered together with the left and right sides of the above-mentioned turned-back double parts.

3. The shopping bag with string as described in the foregoing claim 2, the bottom side of which is twice folded and is provided with a gusset, and the materials of which consist in the whole three-layer, wherein a synthetic resin layer is formed on both sides of such nonadhesive materials layer as made of paper or fiber cloth.

4. The shopping bag with string, as described in the foregoing claim 2, the bottom side of which is twice-folded and is provided with a gusset, and only the parts which correspond to the bottom part and the mouth part of the bag are made of a whole three-layer with a synthetic layer covering both sides of a nonadhesive materials layer in the center such as made of paper or fiber cloth, while all the rest of the bag are made of a

partial three-layer with a synthetic resin layer covering only the inside of a nonadhesive materials layer to make a two-layer.

5. The shopping bag with string as described in the foregoing claim 4, wherein a partition piece of the interior sections is adhered to the bag.

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