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PURSE CONSTRUCTION

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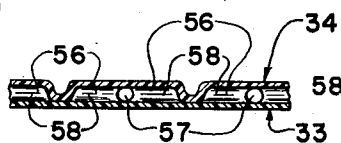
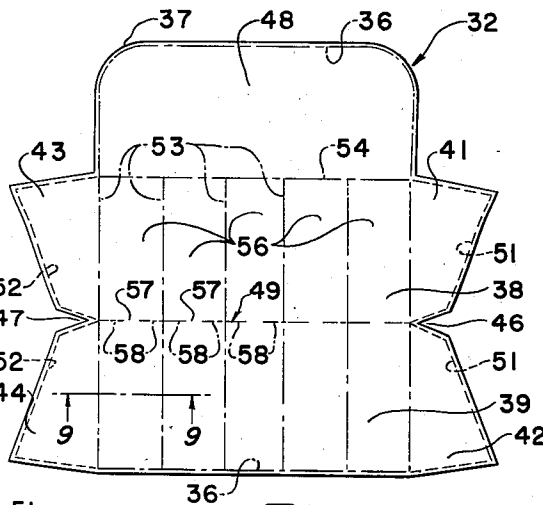
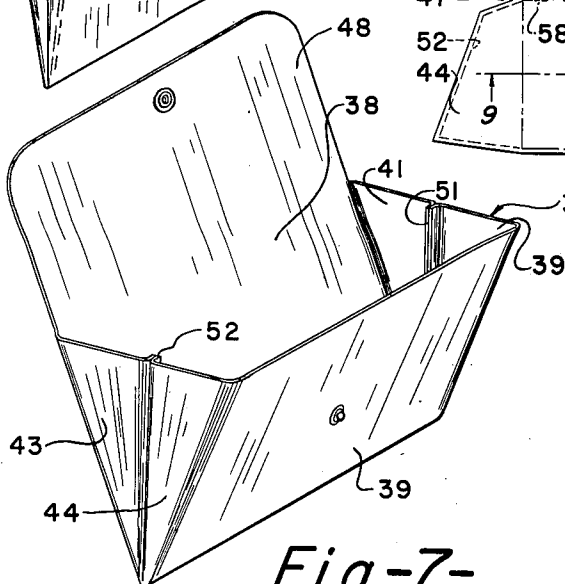
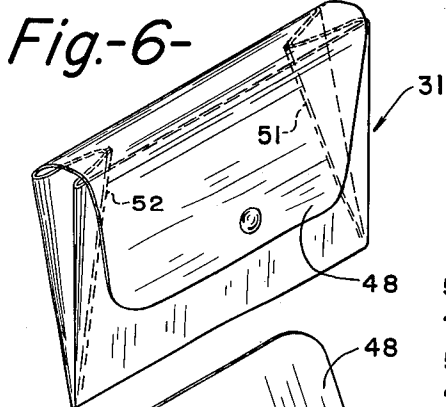
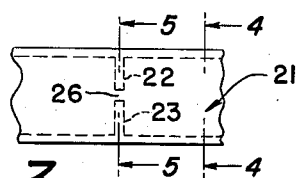
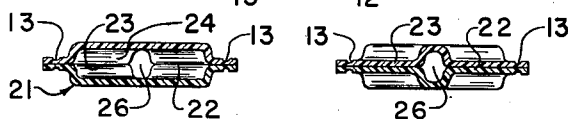
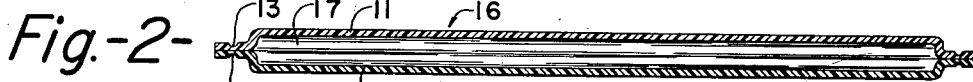
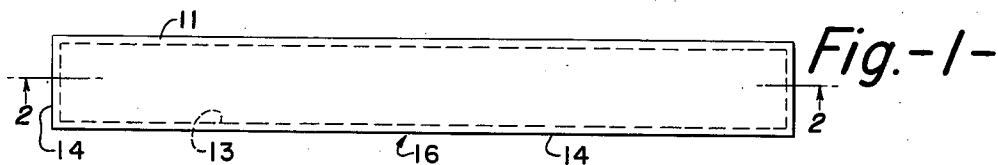


Fig. 7-

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PURSE CONSTRUCTION

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3 Claims. (Cl. 150—28)

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The invention relates to spring constructions and relates more particularly to spring constructions particularly adapted for use in connection with plastic material.

The invention may best be explained in connection with a spring per se; and, for the purpose of clarity and simplicity, in connection with a receptacle of the type of a purse but it will be understood that no limitation of the scope of the invention is intended thereby save as restricted in the appended claims.

The invention has among its objects the provision of a spring construction referred to in the foregoing that is light in weight and simple to manufacture, and which permits predetermination of the desired degree of resilience.

With the above and other objects of the invention in view, the invention consists in the novel construction, arrangement and combination of various devices, elements and parts, as set forth in the claims hereof, certain embodiments of the same being illustrated in the accompanying drawing and described in the specification.

In the accompanying drawings,

Fig. 1 is a plan view of a spring in accordance with the invention;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary plan view disclosing a modification;

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 3;

Fig. 6 is a perspective view of a purse embodying a spring construction in accordance with the invention;

Fig. 7 is a perspective view of the purse shown in Fig. 6, but illustrating it in an open position;

Fig. 8 is a plan view of two superposed blanks, which the purse illustrated in Figs. 6 and 7 is made from; and

Fig. 9 is a fragmentary sectional view, taken on line 9—9 of Fig. 8, on an enlarged scale.

In carrying the invention into effect in the embodiments which have been selected for illustration in the accompanying drawing and for description in this specification, and referring now particularly to Figs. 1 and 2, there is provided a spring construction that comprises two superposed elongated strips 11 and 12 of material sealed along an unbroken seal 13 near the edges of the strips.

The material used for the strips 11 and 12 is

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plastic or similar material, suitable for air-tight sealing, for instance for heat sealing by conventional electronically or otherwise controlled machinery. The material is furthermore itself

impermeable to the passage of air or other elastic fluids, as well as to that of liquids, and is flexible. The strips 11 and 12 are both flexible, and at least one of the strips, for instance the strip 11, preferably may be resilient, having the tendency to return to a normal straight position after being subjected to folding or bending. The material may also be of the "self-sealing" type which means that it would remain impermeable to gas even after being accidentally punctured by an instrument.

The two strips 11 and 12, after they are sealed together, form a vessel or enclosure, generally indicated at 16, that is flat and normally straight in its longitudinal extension, as best shown in Fig. 2. The vessel 16 surrounds a completely gas tight sealed chamber 17 that contains a mass of gaseous substance at a predetermined pressure, for instance a certain pressure above that of the atmosphere. The gaseous substance may be introduced in the chamber, and the initial pressure be provided for same, in accordance with various means; for instance, a piece of solidified carbon dioxide, commonly known as "Dry Ice," of preselected volume for a given vessel 16 may be placed in the chamber 17 prior to the final sealing thereof, and, upon evaporation, carbon dioxide gas of a certain pressure will be present in the chamber. Alternatively, compressed air may be introduced into the chamber prior to the final sealing thereof, at a predetermined initial pressure, or gas of predetermined pressure may be introduced by other known means. The pressure will be substantially maintained within the chamber due to its impermeability to gas which will restrain for prolonged periods of time exchange of gas or air between the chamber and the outside of the vessel.

The vessel 16, with the gas under pressure on the interior, thus forms a spring, offering resilient resistance against bending about a line transverse to the longitudinal extension of the strips, since the gas will urge the vessel to resume its initial normal straight shape whenever force has been applied thereto for changing the shape. This resilience may be aided by making either one of the strips of resilient material, as mentioned before, or by making both strips of such material. Depending on the wall thickness of such material, and the resultant degree of flexibility and resilience, and on the initial gas pres-

sure, springs of great variety in size and elasticity may be made in line with this structural design.

In order to control the desired resilience of the spring construction, we provide within the chamber on the interior of the vessel one or more passages of restricted area whereby the chamber is partitioned into several sections between which the exchange of gas may take place at a predetermined rate of flow speed.

As best shown in Figs. 3-5, a vessel 21 is provided composed of strips sealed to each other, and generally made similar to the previously described vessel 16. Two partition portions 22 and 23 are provided in the chamber 24 extending transverse of the longitudinal extension from the sealing seam 13 towards the longitudinal center of the vessel and are separated there by a gap to form an opening or convergence or passage 26 between the adjoining sections of the partitioned chamber 24. The chamber sections are arranged in succession longitudinally of the vessel 21, and the gaseous substance that is held on the interior of the vessel may flow through the passage 26. The partition portions may consist of seal impressions fusing the opposite strips together for the length of the portions 22 and 23 on either side of the passage 26.

Instead of one partition, the chamber may be provided with several such partitions of this type, dividing the chamber into a series of chamber sections along the length of the vessel.

A spring of this type may be used in the place of many type springs now in use, and offers advantages among which are control of resilience, lightness in weight, and softness of surface of the material.

However, instead of using a separate spring of the type hereof, the same may be embodied directly in a device where spring action is desired. An exemplification of the latter is illustrated in Figs. 6-9, where a receptacle, for instance a purse 31 is shown. The purse may be folded from a single blank, indicated 32, as shown in Fig. 8. The blank, however, consists of two superposed pieces of material, an outer piece 33 and an inner piece 34 forming the lining of the purse. The pieces are sealed to each other along a continuous seam 36 near the contour 37 thereof. Each blank piece comprises two symmetrical rectangular portions 38 and 39 integrally connected along a longitudinal side and each provided on its lengthwise ends with three-sided converging flaps; the portion 38 carries the flaps 41 and 43, and the portion 39 carries the flaps 42 and 44, respectively; thereby, the flaps 41 and 42 are on one side of the blank piece 32 and form therebetween an angular cut-out 46, and the flaps 44 and 43 are on the other side of the blank piece and form therebetween an angular cut-out 47 that is symmetrical to the cut-out 46. The portion 38, furthermore, carries on the other longitudinal side an integral extension 48 forming a cover for the folded purse.

The portions 38 and 39 may be folded towards each other, about the side at which they are interconnected forming a crease line 49. Thereafter, the flaps 42 and 41 are sealed to each other, along the free contours 51 thereof, as best shown in Fig. 7, and similarly the flaps 44 and 43 are thus sealed along an edge seam 52.

The purse is preferably made by first folding the portions 38 and 39 so that the lining piece 34 is on the outside, then sealing the seams 51 and 52, and thereafter turning the purse inside-out, whereby the seal connections of the flaps are sub-

stantially concealed and the flap parts extend within the purse.

Where it is desired to have the purse "snap open," after the cover has been lifted, into the position illustrated in Fig. 7, a spring construction of the aforescribed type may be embodied in the purse.

The outer piece 33 and the inner piece 34, besides being sealed along the outer contour seam 36, are also sealed together along parallel lines 53 extending either throughout the width of the integrally adjoining portions 38 and 39 (as shown in the drawing), or for only a portion of the width to provide for intercommunication among the interiors of the pockets formed by these seams for equalizing the pressure of elastic fluid entrapped therein; an end sealing line is provided at 54.

Thereby, a series of parallel pockets 56 is formed. These pockets are sealed air, gas, and water tight against the exterior, and may either be intercommunicating or also sealed against each other.

The pieces 33 and 34 may again be composed of electronically heat sealable plastic sheet material that is impermeable to elastic and non-elastic fluids, or of similarly suitable material that is impermeable and sealable for the purpose described; gaseous substance of predetermined pressure is disposed in said pockets 56 whereinto it was introduced in solid form (Dry Ice), or liquid form (liquid air), or gaseous form (compressed air or gas) by any known conventional means and methods. Thus, the purse will be biased towards being open by the action of the gas-filled spring construction pockets 56, acting against the folding urge of the crease on the crease line 49, since the pockets traverse said crease.

In order to control the resilience of the spring construction, an opening of reduced area or convergence 57 may be provided for each chamber 56; the openings 57 may again be made by sealing to each other the portions of the pieces 33 and 34 adjoining each convergence 57 to form for each chamber an apertured partition provided by two spaced aligned partition portions 58. These partition portions 58 and openings 57 preferably coincide with the crease line in order to control the pressure inside the chambers, and to control thereby the resilience at the most sensitive point of the purse structure. Thus, when the purse is folded but the cover lifted, the compressed gas in each chamber 56 will tend to intercommunicate among the partitioned-off sections of said chamber through the opening 57, and the purse will thereby be opened gradually, the rate of speed depending on the size of the openings 57 and the pressure prevailing in the chamber sections. Two or more partitions may again be provided in each chamber instead of a single one.

It will be apparent to those skilled in the art that the novel principles of the invention disclosed herein in connection with specific exemplifications thereof will suggest various other modifications and applications of the same. It is accordingly desired that in construing the breadth of the appended claims they shall not be limited to the specific exemplifications of the invention described herein.

Having thus described the invention, what we claim as new and desire to be secured by Letters Patent, is as follows:

1. In a purse formed of at least two parts in

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superposition having a crease for folding, to a normal folded position, in combination, a flat pocket formed between sections of said parts and traversing said crease and having a restricted area at said crease and being completely enclosed to be impermeable against the interchange of fluids between the interior and exterior thereof, and an elastic fluid sealed in said pocket and having a predetermined pressure sufficient to tension said material against the folding bias of said crease.

2. In a purse formed of at least two parts in superposition having a crease for folding, to a normal folded position, in combination, a series of parallel flat pockets formed between sections of said parts and each traversing said crease and completely enclosed to be impermeable against the interchange of fluids between the interior and exterior thereof, and an elastic fluid sealed in each of said pockets and having a predetermined pressure sufficient to tension said material against the folding bias of said crease.

3. In an article including two oppositely superposed flexible flat pieces of heat sealable material each having a crease and being folded about said crease to form a purse, the combination therewith, of at least one flat enclosure having a restricted area traversing said crease and being

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composed of opposite sections of said material heat sealed to each other to surround a chamber for tightly sealing the same, said chamber having a gaseous substance on the interior of a predetermined pressure whereby said material will resiliently be forced to be straightened against the folding bias of said crease.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,813,965	Sferrazza	July 14, 1931
1,916,483	Krichbaum	July 4, 1933
2,028,060	Gilbert	Jan. 14, 1936
2,202,415	Christopher et al.	May 28, 1940
2,367,977	Thornhill	Jan. 23, 1945
2,369,736	Hurt	Feb. 20, 1945
2,462,215	Norman et al.	Feb. 22, 1949
2,465,268	Rogers et al.	Mar. 22, 1949

FOREIGN PATENTS

Number	Country	Date
362,705	France	Apr. 12, 1906