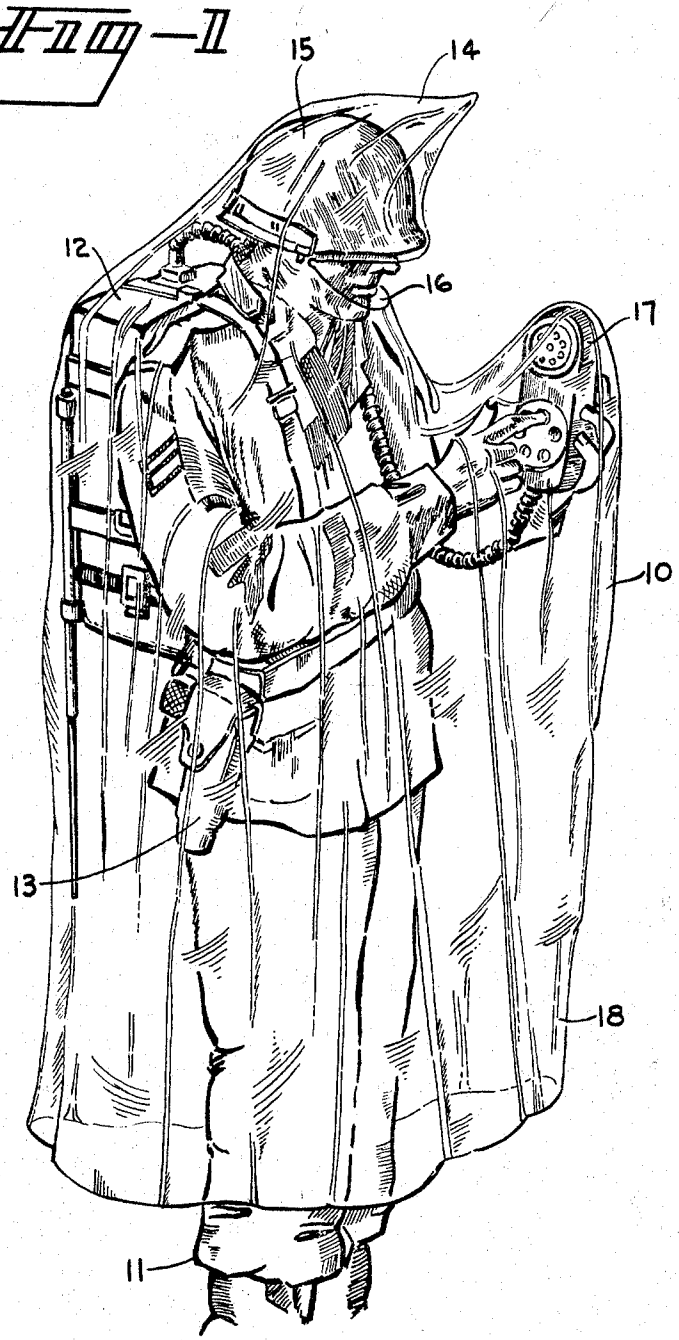
June 6, 1967 J. F. BECK 3,323,136

PONCHO DISPOSABLE RAINCOAT

Filed April 7, 1965 3 Sheets-Sheet 1

Fig—1



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PONCHO DISPOSABLE RAINCOAT

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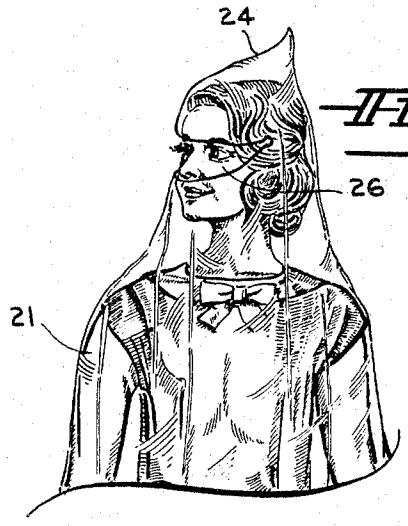


Fig-2

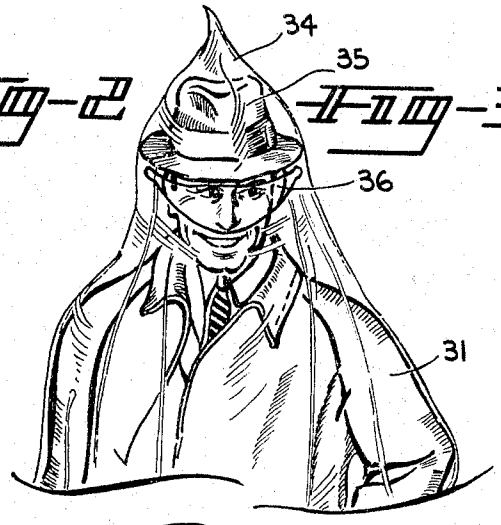


Fig-3



Fig-4



Fig-5

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PONCHO DISPOSABLE RAINCOAT

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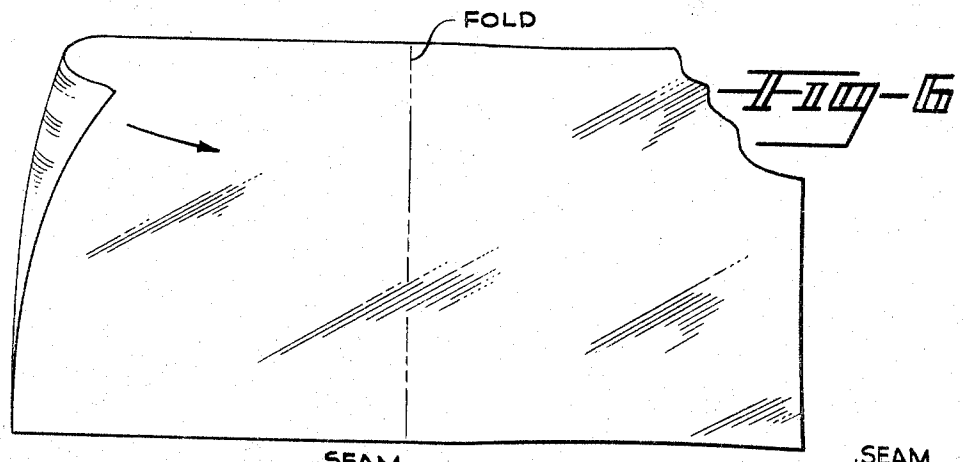


FIG-6

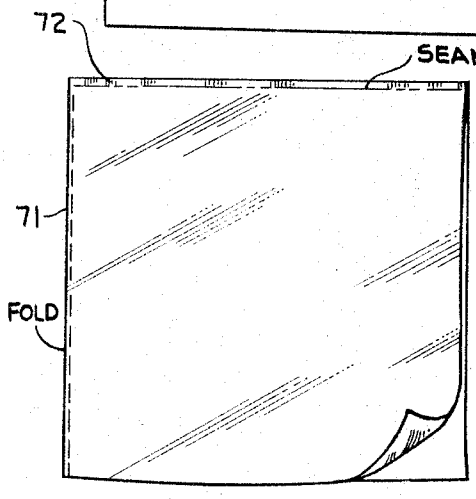


FIG 7

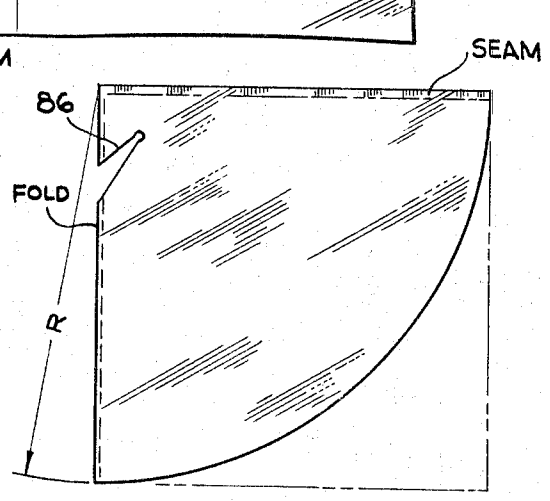


FIG-8

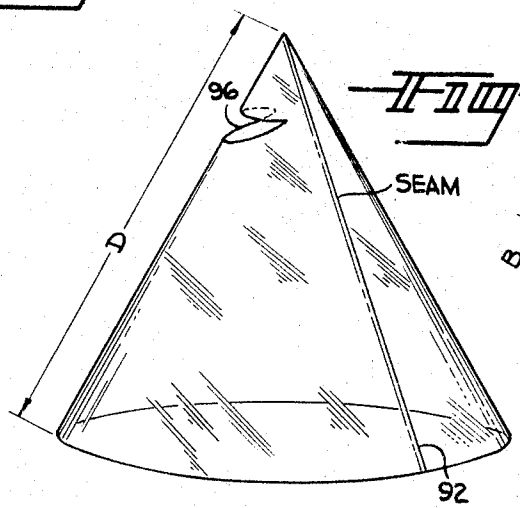


FIG-9

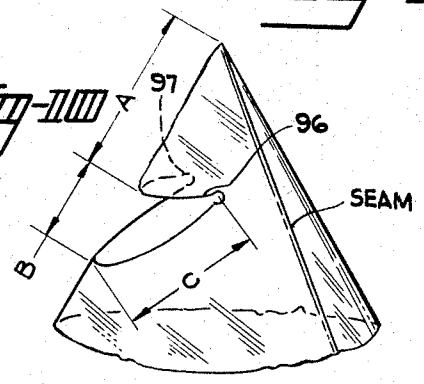


FIG-10

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United States Patent Office 3,323,136 Patented June 6, 1967

3,323,136

PONCHO DISPOSABLE RAINCOAT

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Filed Apr. 7, 1965, Ser. No. 446,212
3 Claims. (Cl. 2—87)

This invention relates to a poncho-type disposable raincoat, and more particularly to an inexpensive yet highly satisfactory temporary body covering that is almost weightless, yet affords protection from the rain or wind, and will provide a disposable garment that can also be utilized to shield atomic fall-out particles from penetrating normal clothing, to maximize protection from radiation in the event of a disaster.

It is of course well known in the past to market inexpensive raincoats of cheap construction for temporary use, but in every known instance, the garment was unsatisfactory in the protection it afforded, and of an appearance not generally acceptable to our society. In addition, such temporary coverings of the prior art have been bulky to the point of inhibiting body movements, affording little if any protection for the head, and standard sized garments were ill-fitting for persons whose size is much larger or smaller than the average size for which the raincoat was designed.

In accordance with this invention, I provide a novel raincoat of generally inverted conical form, designed to be worn with the apex of the cone at the top of the wearer's head, and with the sides of the cone extending down beyond the shoulders of the wearer to a length typically to one's knees. I utilize a suitable, lightweight material in this construction and in order to provide sufficient air for breathing, I provide a face slit a suitable distance below the apex of the cone, which slit extends from side to side for a distance sufficient for breathing and vision, whether the garment is worn with or without headgear, since the apex can be tilted forward or back to provide an aperture position comfortable to the wearer.

By virtue of this design, the wearer is enabled to stay dry at all times, despite the fact that he may need to walk swiftly or even run, or have occasion to carry bundles or packages. This of course is because the conical design I have chosen results in a raincoat that enlarges downwardly from the head portion, which of course means that the garment is quite large at its lower extremity, affording ample leg room for vigorous walking movements, abundant room in the event the wearer is a woman wearing a full-skirt, a person wearing an outer coat, or carrying important papers or instruments such as electronics equipment, weapons or the like which ideally should be protected from foul weather.

Quite unlike the crude, ill-fitting and ill-tailored rain garments typically to be seen in inclement weather is the present design, which is entirely acceptable in appearance at any occasion since it will be generally known as a disposable garment. Additionally, the wearer may employ this garment while wearing a hat if he or she chooses, for my novel design will accommodate almost any hat except the very largest without detracting to any degree from the proper fit and function.

As will be noted from the study of the appended drawings, my novel design advantageously necessitates no closures of any type, armholes, sleeves, or apertures other than the face slit, so less opportunity for leakage is afforded and cost is minimized. This significant advantage is of course possible because of the lightness, yet highly advantageous resilient, thin, transparent material, together with the design utilized herein. This allows the wearer to grasp objects, shake hands, or carry on a myriad of other functions without it being necessary for the user to remove his hands from inside the garment.

Typically my novel raincoat is constructed from transparent sheet plastic material such as polyvinyl chloride, copolymers of vinyl chloride, vinyl acetate, vinyl esters, or polyethylene or polypropylene sheets. Preferably I use transparent material that allows the clothing worn to be entirely visible to persons encountered, which of course is a feature of this invention that will appeal to style conscious persons who might not otherwise be willing to don a basically inexpensive garment of this type, or in such instances when it is desirable to display uniform, insigna, evening wear or the like. However, as should be quickly apparent, my raincoat may be provided in many colors or shades, may be printed with decorative designs or even advertising. Because of its comparatively substantial construction, my garment may be folded after use and thereafter worn on other occasions, if desired. The construction described above will facilitate folding this raincoat to a small package to accommodate easy storage by users at all points such as offices, cars, golf bag, first aid kits, military field packs, etc. that may be advantageous for protection from the weather. This small packaging ability will of course simplify distribution and sale from counter tops, vending machines, and the like.

Other advantages in addition to the foregoing will be apparent to those skilled in the art, such as the readiness by which this standard design and size may be utilized by men, women, and children, and the ease by which the head portion may be removed while wearing the garment merely by grasping the apex portion of the garment and slipping over the head, so as to cause the wearer's head to extend through the face slit. In this manner, the head portion remains just behind the neck of the wearer and may be tucked inside of the outer portion of the garment to avoid catching rain. In this position it can be replaced upon the head at such time as the wearer finds it desirable to do so. Other uses will also be apparent such as the reusable utility of this garment as a paint shield, dust protector, waterproof packaging, and the like.

Although from the above recitations it might appear that such advantages could not be secured except at considerable expense, in reality the construction of my novel poncho disposable raincoat is quite straightforward and involves merely the folding of a large rectangular sheet of plastic in the middle so as to form a square configuration. The fold is of course along one edge of this square, and a heat seal is brought about along either side of the square that is adjacent to the fold. Then a long, curved cut is made from one diagonal corner to the other so as to remove portions of the open sides of the square, thus forming a uniform length for the "skirt" portion of the raincoat. Thereafter, the face slit is made a reasonable distance down from the apex of cone thus constructed, which slit affords an opening large enough to slip over the head or provide a face opening for the wearer when employed as a total cover. As previously indicated, the length of the raincoat is not critical, but of course can be produced shorter or longer as may be required to satisfy consumer requirements.

These and other objects, features and advantages will be made more apparent from a study of the enclosed drawings in which:

FIGURE 1 is a full length view of a serviceman attired in my novel raincoat, this figure illustrating how my raincoat additionally serves to protect electronic equipment as well as weapons from the elements;

FIGURE 2 is a somewhat abbreviated view, illustrating how the novel raincoat may be worn by a female;

FIGURE 3 is a view somewhat similar to FIGURE 2, but revealing how my raincoat can serve to protect a person from the elements while he is wearing a hat;

FIGURE 4 is a view depicting how my raincoat may be worn with a conventional headgear illustrating the head or apex portion of my novel raincoat stowed in an inside position just below the neck of the wearer;

FIGURE 5 is a full length view revealing how the wearer, by virtue of the fullness of this garment, is enabled to perform chores or tasks without it being necessary for the wearer's hands to be removed from the garment;

FIGURE 6 is the first of three views pertaining to the manufacture of raincoats in accordance with this invention, this figure showing the initial layout of the material from which the raincoat is made;

FIGURE 7 reveals how the material shown in FIGURE 6 appears after folding and a seam created along the top edge;

FIGURE 8 reveals the configuration of FIGURE 7 after trimming of the "skirt" portion of the raincoat, and after the face slit has been cut;

FIGURE 9 is a view to the same scale as FIGURE 8, but showing by virtue of a rearrangement of the sides of the material, the overall configuration, associated overall length dimension, and appearance of my novel garment; and

FIGURE 10 is a view, to a somewhat larger scale, of the upper portion of my novel raincoat, revealing details of the face slit and of certain dimensions associated therewith.

Turning to FIGURE 1, my novel raincoat **10** is shown being worn by a soldier **11**, while equipped with electronic equipment such as a transmitter-receiver **12** on his back, and carrying a weapon such as a pistol **13**. As will be noted, the upper or apex portion **14** of my raincoat is shown in its head-protecting position, in which it encompasses the helmet **15** worn by the soldier.

Inasmuch as face slit **16** is positioned at appropriate distance down from the uppermost part of my raincoat, it substantially coincides with the face position of the wearer, enabling him not only to breathe in an uninhibited manner, but also to see quite clearly to manually manipulate dialing equipment **17** for example, such as is held in the left hand. Although such is not involved in this instance, quite obviously the face slit **16** is quite large enough to enable the soldier to speak, eat, smoke and carry on other normal functions in an uninhibited manner while wearing the raincoat.

It should be noted that by virtue of the fullness of the mid-portion of my raincoat as a result of its substantial conical configuration, that the soldier is enabled to support as well as dial the equipment **17** while the equipment remains in a protected position inside the raincoat. Also contributing to this being possible is the transparency of the material from which the raincoat is made as well as its flexibility. Although an activity of this type does result in the skirt front portion **18** being raised somewhat, this does not shorten the length so much as to render the general lower extremities of the wearer unprotected.

Turning to FIGURE 2, it will be noted that the female wearer **21** is lightly clad and bareheaded, with the face slit **26** ideally exposing the eye and nose portion of the wearer. Quite obviously, the material is flexible enough to permit the comparative amount of stretching necessary in order for the lady to drink or eat, as may be desired, without removing the upper portion **24** from her head.

Turning to FIGURE 3, it will be noted that the male wearer **31** is wearing comparatively heavy clothing, and is able to maintain the head portion **34** in place, despite the fact that he is wearing a hat **35**. Except in the instance of a hat of considerable dimensions, the presence of a hat does not markedly alter the ability to position the face slit **36** from the revealed position, that permits unimpeded vision and breathing. Positioning of the face slit **36** is accomplished by shifting the apex of the garment **34** slightly forward or backward.

FIGURE 4 reveals the male wearer as he appears after electing to remove the head portion of the raincoat, and after tucking or otherwise placing the head portion of the raincoat inside the upper rear portion **49** of the raincoat so as to cause the head portion to reside just below the neck of the wearer. Quite obviously in this position the wearer may enjoy somewhat greater freedom while relying upon his hat **45** for head protection.

In FIGURE 5 the female wearer is shown while wearing the head portion of the raincoat, with this figure primarily revealing how the front portion **58** of the raincoat is sufficiently full and unrestrictive of hand movements as to enable the wearer to grasp and turn the door knob **59** as well as to enter or leave through the door thus opened without causing tearing or permanent disfigurement of the raincoat. Furthermore, it should be noted that this hand action does not materially alter the contours of the face slit or cause an undesired removal of the headpiece of the raincoat. Quite obviously the wearer could also carry on an activity such as shaking hands or carrying parcels.

Turning to FIGURES 6 through 8, and with initial reference to FIGURE 6, it will be noted that in the construction of the raincoat in accordance with the novel method of this invention that initially a rectangular piece of material of suitable dimension is laid out, the length of this rectangle ideally being twice the width dimension.

FIGURE 7 reveals the material after folding, with the fold **71** being located along the left edge and thus representing the location that was formerly in the center of FIGURE 6. Seam **72** is disposed a long the upper front and back portions of the folded material on one side adjacent to the fold, which seam may be created by the appropriate application of heat in the instance that certain plastics or materials are used, or else created by sewing, glueing or the like in the event other materials are employed.

FIGURE 8 reveals how unwanted portions of the now closed sides of the garment just created are removed by virtue of cutting material along the radius R, which radius typically coincides with the width dimension of the material shown in FIGURE 7. Obviously, it may be desirable in some instances not to cut precisely to radius R, such as if it were desired to prepare a garment having unusual fullness in the front or back portion thereof. It should be noted in this figure that face slit **86** may be cut or otherwise formed, with the cutting action taking place simultaneously through the front and back portions of the material. This is not only economical in terms of the amount of cutting necessary, but also insures uniformity of contour of the face slit.

Referring to FIGURE 9 it will be noted that the garment created in accordance with the process set forth in the preceding figures can easily be caused to assume the configuration of a roomy raincoat of inverted conical shape. In this figure, it will be noted that the dimension D extending from the peak or apex to the hemline of the garment substantially coincides with radius R of FIGURE 8. Ideally, seam **92** is disposed at the rear portion of the raincoat, away from face slit **96**.

Referring to the enlarged upper portion of the raincoat revealed in FIGURE 10, it will be noted that dimension A represents the dimension existing between the uppermost portion of the raincoat and the top central portion disposed just above the face slit, whereas the dimension B represents the height dimension of the face slit, and dimension C, the front to rear dimension thereof. Quite obviously, if the garments were being manufactured in a variety of sizes, these dimensions as well as the dimension D could vary in accordance with the need for such garments. For example, if my raincoat were being manufactured for Boy Scouts, the foregoing dimensions would be typically smaller than if the raincoats were being manufactured for servicemen. However, if it were desired to

manufacture a standard raincoat, the dimensions employed might typically be as follows:

A. Ten inches
B. Three inches
C. Eight inches
D. Sixty inches

As will be noted, the face slit **96** is depicted to indicate the actual removal of material from the location in which the face slit was created. However, as will be obvious, it is not necessary that material actually be removed, for after the slit is formed, the wearer can by tilting the apex portion slightly rearward bring about a sufficient divergence at the location of his face to enable a desired amount of vision and breathing area. It is also to be noted that the rear corners **97** of the face slit may be cut round to lessen the tendency of tearing in this location.

As will now be obvious, I have now described my novel garment of inverted conical configuration as well as a simplified method for the construction of same with a minimum of manufacturing operations involved. As will be apparent, while on the one hand my garment provides a highly satisfactory amount of protection from the elements as well as ample roominess, on the other hand it can be made from inexpensive material with a minimum of labor being involved. By judicious care, the garment may be preserved and reworn on other occasions, although of course its inexpensiveness enables the wearer to discard same after a single use if such be desired.

As previously mentioned, any of a number of thin, tough plastic materials may be utilized such as polyethylene, vinyl, chlorinated rubbers or the equivalent. Advantageously, no buttons, snaps, tapes, belts, zippers or other fasteners are involved, and no aperture other than the face slit is required.

Other details and embodiments within the scope of this invention will be apparent to those skilled in the art, and I am not to be restricted to the details set forth hereinabove except as required by the scope of the appended claims.

I claim:

1. A poncho type protective covering made of thin plastic material fashioned into a unitary conical configuration in which no fasteners, draw-strings or pleats are utilized, said conical covering being disposed with its apex uppermost, with the remainder of the covering enlarging downwardly substantally uniformly in a virtually uninterrupted contour; an upper portion of said covering being arranged to receive the wearer's head, the mid-portion of said covering being disposed at his waist, and the lower portion forming a skirt terminating generally in the vicinity of the knees or ankles of the wearer, said upper portion of said conical covering also containing a face-opening positioned several inches below said apex and being designed to coincide with the face of the wearer to facilitate his breathing, said mid-portion being ungathered, and said skirt portion being of full, generally circular configuration, thus maximizing ventilation for the comfort of the wearer.

2. A poncho type disposable protective covering made of thin plastic material fashioned into a unitary conical configuration in which no fasteners, drawstrings or pleats are utilized, said conical covering being disposed with its apex uppermost, with the remander of the covering enlarging downwardly substantially uniformly in a virtually uninterrupted contour; an upper portion of said covering being arranged to receive the wearer's head, the mid-portion of said covering being disposed at his waist, and the lower portion forming a skirt terminating generally in the vicinity of the knees or ankles of the wearer, said upper portion of said conical covering also containing a face-opening positioned several inches below said apex and being designed to coincide with the face of the wearer to facilitate his breathing, said mid-portion being ungathered, said skirt portion being of full, generally circular configuration, thus maximizing ventilation for the comfort of the wearer, and a heat sealed seam extending between said apex and the lowermost edge of said skirt.

3. The method of forming a garment of waterproof material from a single piece of sheet material, which garment is of substantially inverted conical configuration with the apex portion thereof to be disposed upon the head of the wearer, comprising the steps of folding the sheet material into a substantially square configuration so as to dispose a fold along one side thereof, securing together the front and back sides of such material so as to create a seam at a location immediately adjacent said fold and substantially at right angles thereto, thereby to create a conically configured enclosure, thereafter trimming to length the enclosure just formed by making an arcuate cut using as a radius point, the intersection of said seam and fold, and forming a face slit substantially adjacent said intersection.

References Cited

UNITED STATES PATENTS

1,556,390	10/1925	Woodley	2—84
1,603,501	10/1926	Yenn	2—84
2,368,272	1/1945	Sydenham et al.	
2,412,415	12/1946	Navon	2—84
3,014,218	12/1961	Smith	2—87

FOREIGN PATENTS

904,803	8/1962	Great Britain.
862,676	3/1941	France.
1,165,437	10/1958	France.

PATRICK D. LAWSON, *Primary Examiner.*