

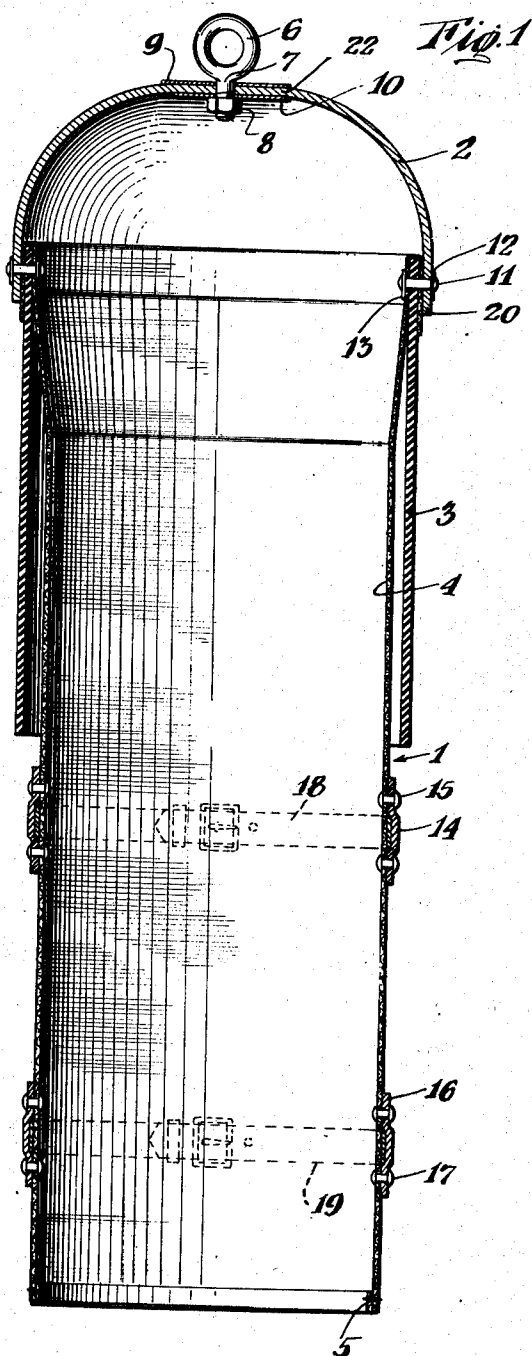
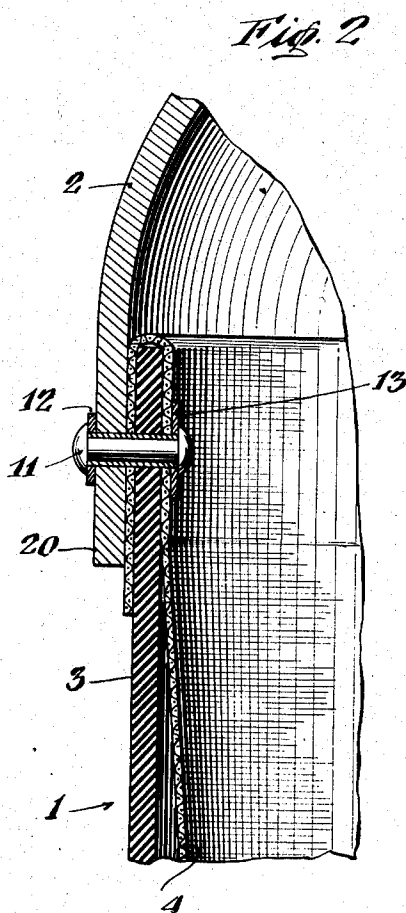
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TRANSFER POUCH

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TRANSFER POUCH

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This invention relates to transfer pouches and particularly pouches which are adapted for use in transferring articles to and from aircraft.

In making delivery to and from aircraft while in flight or to and from other rapidly moving bodies, problems are met which require special apparatus. The present invention provides a transfer pouch which may be used in such operation.

A transfer pouch for such operation must be light, strong and easily handled. The present device meets these requirements.

The transfer device or pouch must be so constructed that it will protect its contents under all conditions. The present device accomplishes this very effectively with materials which may be readily obtained.

The transfer pouch must also be of such design that it may be trailed easily and kept within a predetermined path. The present device is particularly adapted to this end.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawing forming a part thereof, in which

Fig. 1 is a somewhat diagrammatic view in vertical cross section of a preferred form of transfer pouch.

Fig. 2 is an enlarged fragmentary cross-sectional view of a detail of the transfer pouch shown in Fig. 1.

In the following description and in the claims, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit. Like reference characters denote like parts in the several figures of the drawing.

The transfer pouch 1 comprises generally a hemispherical nose portion 2 having a protective body or skirt 3 attached thereto, and a skirt or carrier section 4 connected to both the skirt 3 and the nose section 2.

The nose section 2 is preferably made of a light strong, resilient fibre material and is in the shape of a hemisphere having a flattened portion 22 adjacent its middle. Since the fibre nose section 2 is to act as the leading or "entering" portion for the transfer pouch 1 when trailed from an aircraft, it is shaped so that the air will flow evenly from all portions thereof. It is also made

of strong construction so as to absorb any shock upon coming in contact with another object.

The hemispherical fibre nose portion 2 of the pouch 1 may be provided with an eye bolt 6 which is located adjacent its central point and within the flattened portion 22. The shank 7 of the eyebolt 6 is designed to pass through the fibre nose 2 and has a nut 8 secured thereto to hold the eyebolt in the nose portion 2. In order to protect the nose portion 2 an outer washer and reinforcing member 9, as well as an inner washer and reinforcing member 10, may be provided.

The eyebolt 6 by which the transfer pouch 1 is designed to be towed may place upon the transfer pouch 1 a great deal of strain particularly at the time that the transfer pouch is being transferred from an immobile object to a moving object. For this reason, it is important that means be provided for distributing the shock over a large area of the nose. The washer 10 is particularly adapted to effect this end.

As the transfer pouch is adapted for use in effecting transfers from ground stations to aircraft, a great deal of strain will be put upon it. It is therefore important that the connection between the fibre nose member 2 and the body portion of the transfer pouch 1 be of particularly strong construction. Similarly the actual body portion of the transfer pouch 1 may be provided with a protecting member to avert damage to the contents thereof.

In the present device, a flexible resilient skirt or body portion 3, which may be made of rubber, is provided. This skirt 3 is adapted to fit up into the lower portion 20 of the nose 2. The skirt 3 is formed as a cylindrical member and is preferably less in diameter than the nose portion 2. Thus, as air passes over the nose portion 2 when the pouch 1 is being towed through the air, there will be air spillage as the air passes over the end of the lower portion 20 of the nose 2. The spillage will prevent this portion of the pouch from having a free flow of air thereover.

The article containing portion 4 of the transfer pouch 1 is preferably made of strong canvas or other fabric in the form of a skirt and is turned up over the resilient skirt member 3 and folded down between it and the nose section 2. Rivets 11, outer washers 12 and inner washers 13 may be provided for securing the canvas skirt portion 4, the rubber skirt portion 3 and fibre nose section 2 together.

The canvas skirt portion 4 forming the carrier section is preferably tapered so that its diam-

eter at the point where it protrudes beyond the flexible skirt or body section 3 is considerably less than the diameter of the resilient skirt 3. By this construction a second spoilage of the air is provided which being greater than the primary spoilage at the joinder of the nose section 2 to the rubber skirt or body section 3, tends to move the area of effective fin area further away from the point by which the pouch is towed and thus prevent zig-zagging and bobbing.

The canvas skirt or carrier section 4 may be provided with a plurality of closure strap holders 14 and 16. These closure strap holders may be secured to the canvas skirt portion as by the rivets 15 and 17 respectively. A plurality of these members are provided about the periphery of the canvas skirt portion 4.

Closure strap members 18 and 19 may be provided to pass through the upper and lower closure bands 14 and 16 respectively. A plurality of closure strap members are provided so that the transfer pouch may be closed at any desired point. A particular feature of this is that it permits the load to be carried within the transfer pouch at such a point that the center of gravity of the load will always be approximately the same. Thus, if a small load is to be carried, the upper closure members may be used for closing the transfer pouch and if a large load is to be carried, the lower closure members may be used for fastening the canvas skirt portion 4. The center of gravity can thus be maintained approximately in the same place and the trailing characteristics of the transfer pouch kept constant.

In Fig. 2 is shown an enlarged view of the connection for the canvas skirt portion 4, the rubber skirt portion 3 and fibre nose section 2. It may be seen from this view that the rubber or resilient skirt portion 3 acts as a buffer between the nose section 2 and the canvas skirt portion 4 and reduces the strain there between when an excessive load is placed upon the transfer pouch.

As the nose section 2 of the envelope member 1 is considerably larger than the rubber skirt portion 3 which in turn is larger than the canvas skirt portion 4 the air passing the pouch is caused to flow turbulently or "burbble" over most of its area. The rear end, however, may be in smooth air and will act as a fin with the force of the air equal at all points equi-distant from the nose, as long as the pouch trails directly behind the towing member.

If, however, the lower or rear end moves out of line, the forces will be disturbed and act to return it to its correct path where it will be checked by the even burbling. Thus, swaying, gyrating and bobbing of the pouch are prevented.

The nose 2 being made of a fibre member, is capable of absorbing considerable shock and yet serves as a protection to articles which may be within the pouch.

The fibre nose member 2, the elastic skirt member 3, and canvas skirt member 4, may all be substantially waterproof and will therefore protect the contents from dampness.

Thus, the present invention provides a highly efficient transfer pouch and protecting member which may be made out of materials which are readily accessible and which are simple in construction and relatively inexpensive.

What is claimed is:

1. A transfer pouch for aircraft pick-up and delivery systems comprising a relatively rigid, substantially hemispherical nose portion, a tubular carrier section attached to said nose section and a protective skirt attached to said nose section and loosely surrounding said carrier section throughout a substantial portion of the length of the latter, the diameters of said skirt and carrier section being less throughout than the maximum diameter of said nose section whereby to provide air spoilage and to stabilize the pouch when drawn through the air.

2. A transfer pouch for aircraft pick-up and delivery systems comprising a relatively rigid, substantially hemispherical nose piece, a ring secured to said nose piece, a tubular carrier section attached to said nose piece and a protective skirt portion attached to said nose piece and loosely surrounding said carrier section throughout a substantial portion of the length of the latter, said nose piece partially overlapping said protective skirt portion and said protective skirt portion partially overlapping said carrier section, the outside diameter of said carrier section being less than the inside diameter of said protective skirt portion at the point of the limit of overlap.

3. A transfer pouch for aircraft pick-up and delivery systems comprising a relatively rigid, substantially hemispherical nose piece, a tubular, relatively flexible, carrier section attached to said nose piece and a protective skirt portion attached to said nose piece and loosely surrounding said carrier section throughout a substantial portion of the latter, said nose piece partially overlapping said protective skirt portion, said protective skirt portion partially overlapping said carrier section, the internal diameter of said nose piece being greater than the external diameter of said protective skirt portion at the point of limit of overlap and the internal diameter of said protective skirt portion being greater than the outside diameter of said carrier section at the point of the limit of their overlap.

4. A transfer pouch for an aircraft pick-up system, comprising a relatively rigid nose section having attaching means by which the pouch is adapted to be towed through the air with said nose section leading, a protective skirt section attached to and adapted to trail said nose section, a tubular carrier section attached to said nose section and loosely disposed within and adapted to trail said carrier section, said sections being of progressively smaller cross dimension from said nose section to said carrier section, whereby to provide air spoilage and to stabilize the pouch when drawn through the air.

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