

1,403,983.

F. SMITH.
PARACHUTE PACK.
APPLICATION FILED APR. 18, 1921.

Patented Jan. 17, 1922.

2 SHEETS—SHEET 1.

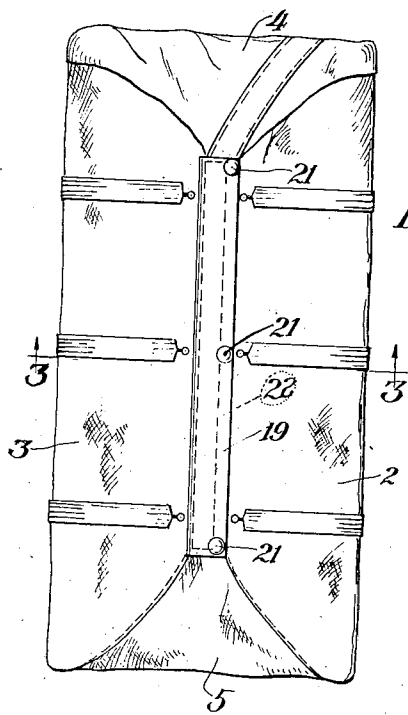


Fig. 1

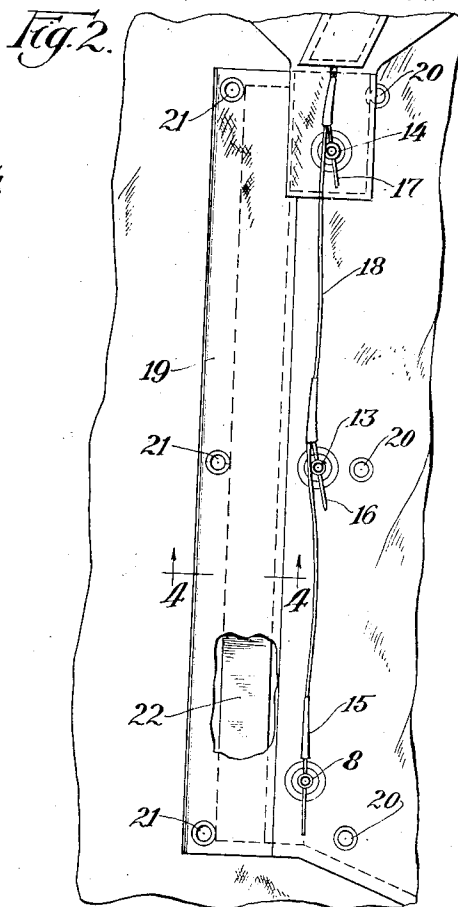


Fig. 2

Fig. 3

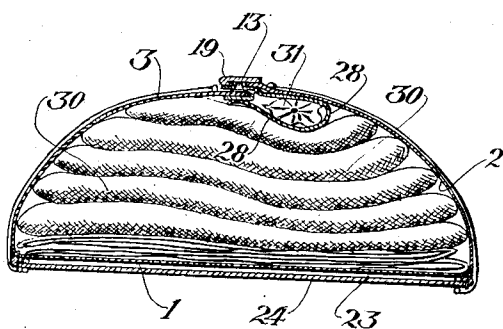


Fig. 4



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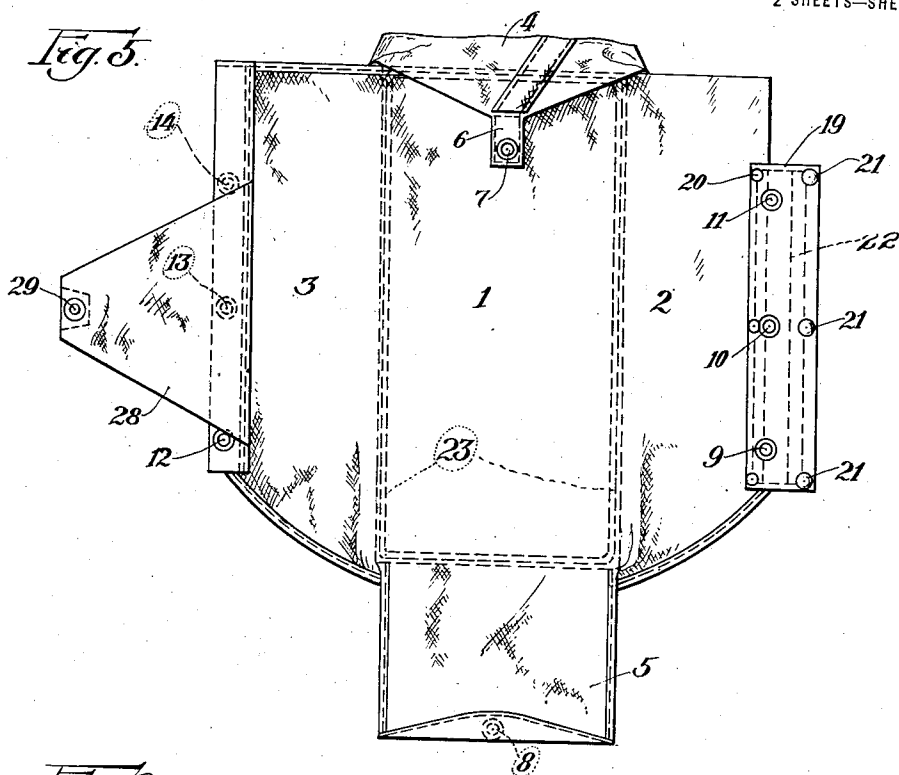
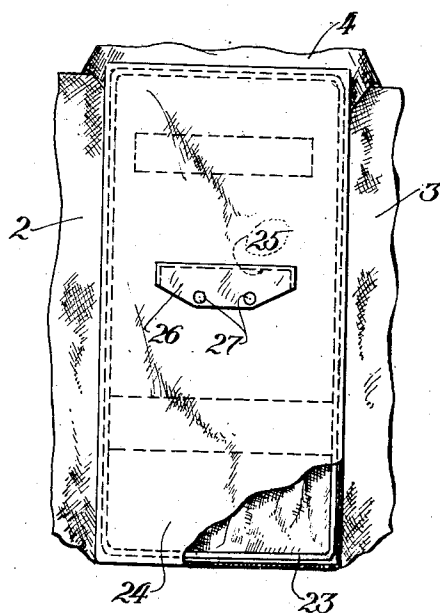


Fig. 6.



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UNITED STATES PATENT OFFICE.

FLOYD SMITH, OF SAN DIEGO, CALIFORNIA, ASSIGNOR TO FLOYD SMITH AERIAL EQUIPMENT COMPANY, A CORPORATION OF ILLINOIS.

PARACHUTE PACK.

1,403,983.

Specification of Letters Patent. Patented Jan. 17, 1922.

Application filed April 18, 1921. Serial No. 462,201.

To all whom it may concern:

Be it known that I, FLOYD SMITH, a citizen of the United States, and resident of San Diego, San Diego County, California, and temporarily residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Parachute Packs, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a container for confining a parachute in a compact mass which may be carried on the back in the manner of a knapsack and from which the parachute may be released instantly and with certainty when desired.

The present invention relates to the type of pack disclosed in my prior application Serial No. 293,047, filed April 28, 1919, and, considered in one of its aspects, may be said to have for its object to improve the construction of the device disclosed in said application.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its object and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a rear elevation of a completed closed pack embodying the present invention;

Fig. 2 is an enlarged view of a fragment of the pack as it appears in Fig. 1, the protecting flap for one of the fastening devices being shown open;

Fig. 3 is a section on a somewhat larger scale than Fig. 1, taken approximately on line 3—3 of Fig. 1;

Fig. 4 is a section through the protecting flap taken approximately on line 4—4 of Fig. 2;

Fig. 5 is a plan view of the container itself with spread flaps; and

Fig. 6 is a view of the opposite side of the container from that shown in Fig. 5, the closing flaps being omitted and a fragment of the false back which forms a pocket, being broken away.

The container for the parachute is conveniently made out of a single sheet of flexible fabric comprising a rectangular central panel, 1, having side flaps, 2 and 3, and end flaps, 4 and 5. The end flap 4 is provided with a tab, 6, having therein an eyelet 7; the flap 5 has a button or stud, 8, near the free end thereof; the side flap 2 has distributed along the long free edge of the same a plurality of eyelets, three such eyelets, 9, 10 and 11 being shown; and the flap 3 has at the margin along the long free edge an eyelet, 12, and buttons or studs, 13 and 14, distributed in a row. The buttons and eyelets are so arranged that when the flap 5 is folded inwardly, the flap 3 is then folded inwardly over the flap 5, the eyelet 12 slips over the stud or button, 8; then when the flap 2 is folded inwardly, the eyelet 9 also slips over the stud or button 8 while the eyelets 10 and 11 slip over the studs or buttons, 13 and 14, respectively; then when the flap 4 is folded inwardly the eyelet 7 slips over the stud or button 14. The studs or buttons are preferably made conical as in my aforesaid application, so that the eyelets will slip on and off easily.

When a pack is made up by folding the container around a parachute and the flaps are folded inwardly as heretofore explained, it is held closed by means of a series of pins, 15, 16 and 17, inserted through openings in the small ends of the buttons or studs, 8, 13 and 14, respectively. The pins 15, 16 and 17 are all attached to a single pull cord, 18, which preferably takes the form of a thin wire cable. It is very important that the holding pins do not become accidentally separated from the buttons or studs or be bent in such a way as to prevent their free withdrawal when the release cord is pulled. In fact, it is desirable that the entire fastening means be adequately protected against accidents. This may conveniently be accomplished by providing a suitable protective covering for the fastening devices, so constructed that it will not interfere with the making up of the pack or with the free movement of the release cord when the pack is to be opened in an emergency or for the purpose of making a descent. To this end I have secured to the long free edge of the flap 2 of the container an auxiliary flap, 19, the eyelets 9, 10 and 11 being conveniently placed along the inner

edge of this auxiliary flap which is adapted to be folded upon itself along a longitudinal medial line, after the pack has been made up, so as to overlies the buttons or studs and eyelets and the release cord with its pins. The auxiliary flap is provided along its inner edge with a series of snap fastener elements as indicated at 20 and along its outer edge with a series of complementary snap fastener elements, 21, so positioned that when the auxiliary flap is folded over the fastenings for the pack, the snap fasteners secure it in this position. In order to make the protective flap more effective I have inserted in the outer half thereof a stiff flat strip, 22, of metal, preferably steel, so that when this auxiliary flap is in its closed position, the fastenings for the pack are securely guarded against damage or disarrangement through contact with external objects by means of a metal shield.

It is desirable that the shape of the pack be determined and maintained somewhat more definitely than would result from the use of fabric alone and I therefore prefer to associate with the rectangular central panel of the container a wire frame, 23, which will maintain a definite rectangular contour in the pack. For the purpose of securing the frame in place, I stitch a false back, 24, upon the central panel, securing it only at its edges so as to form a pocket. The false back may be stitched to the container along three of its edges and, after the frame has been inserted in the pocket, the fourth edge may be fastened. This pocket may also be used to hold small extra parts such as threads or cords and to this end I have made a slit, 25, in the false back between the top and bottom thereof, this slit being closed by means of a flap, 26, which may be fastened down by means of buttons, 27, or the like.

In the most approved type of construction at the present time it is customary to provide the main parachute with a small pilot chute attached to the apex of the latter, as disclosed in my prior application, the purpose being to permit the pilot chute to open instantly upon the opening of the pack and thus assist in quickly straightening out the main chute. It is highly desirable that the pilot chute be so disposed in the pack that its shroud lines or other elements thereof will always be in the proper condition to permit the pilot chute to open freely as soon as the pack is opened, without danger of being found to be entangled with some part of the main parachute. Another feature of my invention has to do with the treatment of the pilot parachute so as to insure perfect isolation of the same in the pack and instantaneous discharge thereof from the pack when the latter is opened. To this end I have formed at the long free edge of

the flap 3 of the container an elongated auxiliary flap, 28, having at the end thereof an eyelet, 29, so disposed that when the pack is made up with the auxiliary flap lying on the inside, the end of this auxiliary flap may be left to project far enough to permit the eyelet to slip over the stud or button 13 before the flap 2 is folded inwardly. Then in making up the pack, after the main parachute has been folded as indicated at 30 in Fig. 3, the flap 2 with its auxiliary flap, 28, is folded across the top of the main parachute; the pilot parachute, 31, is laid upon the auxiliary flap 28, and the free end of the auxiliary flap is then folded back and engaged with the button or stud, 13, as indicated in Fig. 3. The pilot parachute is therefore held in a sling or loop as a separate distinct unit and, when the pack is opened, the pilot parachute will always be found ready to emerge instantly.

I claim:

1. A container or cover for a parachute made of a flexible fabric and comprising a rectangular portion and flaps at the sides and ends of the said rectangular portion, and a wire frame co-extensive with and secured to said rectangular portion.
2. A container or cover for a parachute made of a flexible fabric and comprising a central portion and flaps at the periphery of said central portion, and a wire frame co-extensive with and secured to said central portion.
3. A container or cover for a parachute made of a flexible fabric and comprising a central portion and flaps at the edges of said central portion, a flexible piece co-extensive with and secured at its edges to said central portion so as to form a pocket, and a stiffening frame in said pocket.
4. A container or cover for a parachute made of a flexible fabric and comprising a central portion and flaps at the edges of said central portion, a flexible piece co-extensive with and secured at its edges to said central portion so as to form a pocket, and a stiffening frame in said pocket, said flexible piece having an opening through the same to permit the insertion of articles into said pocket.
5. A container or cover for a parachute having closing flaps, one of said flaps having at the end thereof an auxiliary flap, and means for detachably connecting the free end of the auxiliary flap to the flap with which the auxiliary flap is associated.
6. A container or cover for a parachute having two flaps adapted to be folded inwardly and overlap each other at their meeting edges, one of said flaps having thereon a stud and the other having an eye adapted to engage said stud, and an auxiliary flap attached at one end to the end of one of the aforesaid flaps, said auxiliary

flap having near the end thereof an eye adapted to be engaged with said stud when the auxiliary flap is folded upon itself underneath the other two flaps.

5 7. In combination, a main parachute having a pilot parachute, a container or cover for said parachutes provided with co-operating flaps adapted to be folded over the parachutes when the latter are in the container, means for detachably securing the
10 aforesaid flaps together, and an extension on one of said flaps adapted to extend underneath the opposite flap and between the pilot chute and the main parachute.

15 8. A container or cover for a parachute provided with a plurality of flaps adapted to be folded inwardly and overlap each other at their free ends, a row of detachable fastening means adapted to secure the over-
20 lapping ends of the flaps together, one of said flaps having a guard flap attached

thereto in position to be folded over said fastening means, and means for detachably holding said guard flap in the aforesaid position.

25 9. A container or cover for a parachute provided with a plurality of flaps adapted to be folded inwardly and overlap each other at their free ends, a row of detachable fastening means adapted to secure the over-
30 lapping ends of the flaps together, one of said flaps having a guard flap attached thereto in position to be folded over said fastening means, means for detachably hold-
35 ing said guard flap in the aforesaid position, and a stiffening strip of metal extending throughout that portion of the guard flap which is adapted to overlie the aforesaid fastening means.

In testimony whereof, I sign this speci-
40 cation.

FLOYD SMITH.