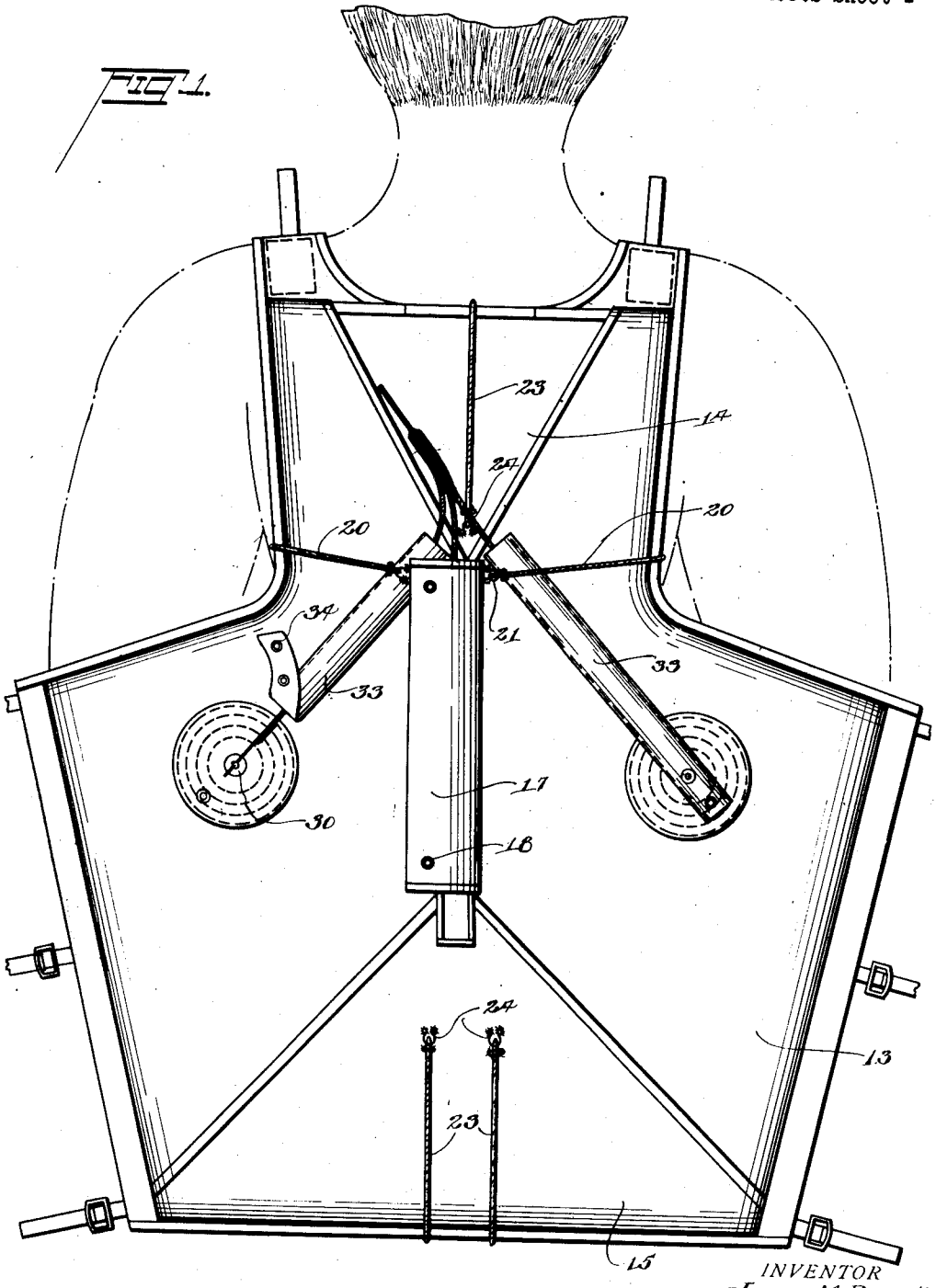
May 3, 1927. 1,627,067

J. M. RUSSELL

PARACHUTE PACK

Filed June 18, 1924 3 Sheets-Sheet 1

FIG. 1.



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1,627,067

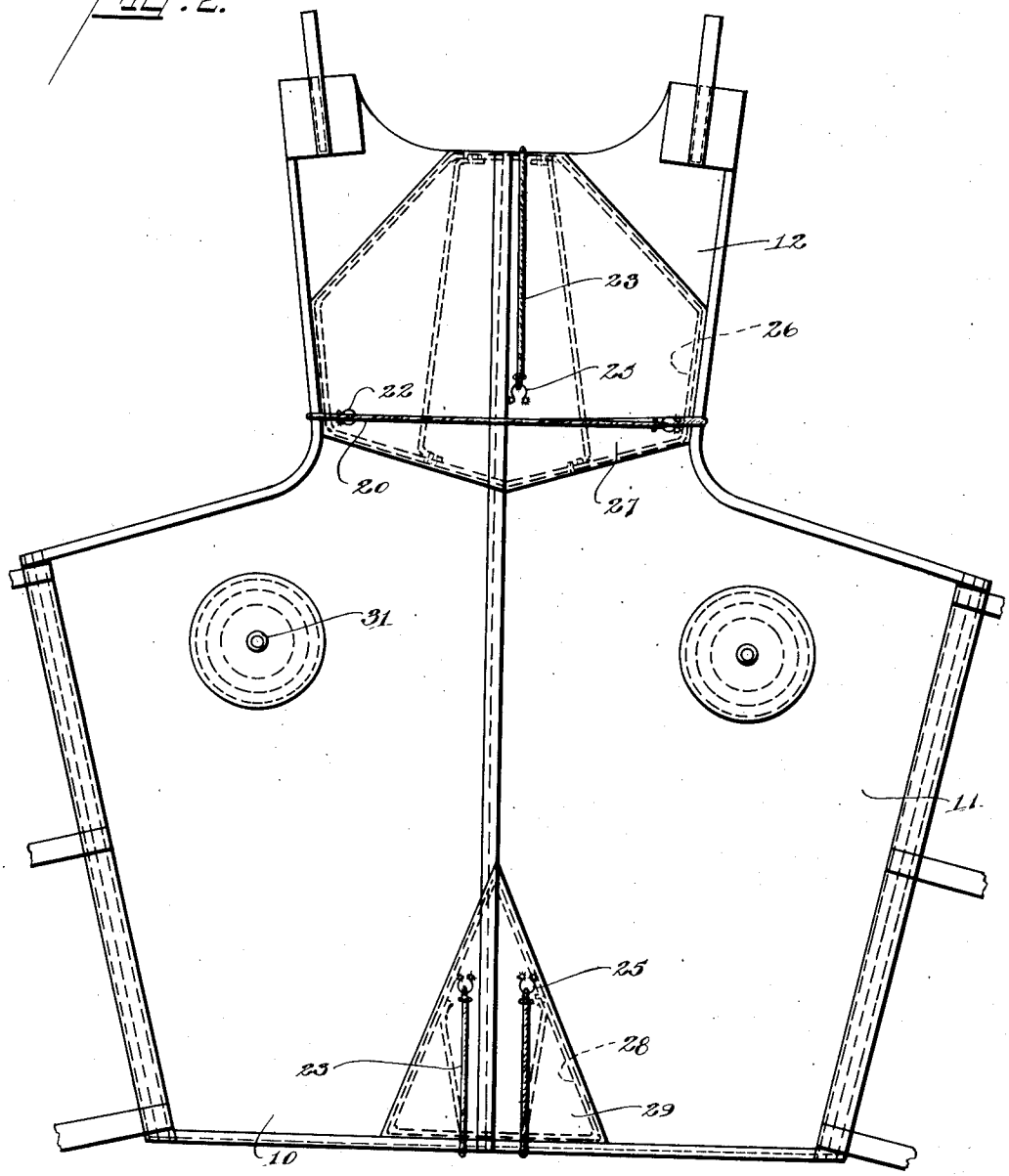
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3 Sheets-Sheet 2

FIG. 2.



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PARACHUTE PACK

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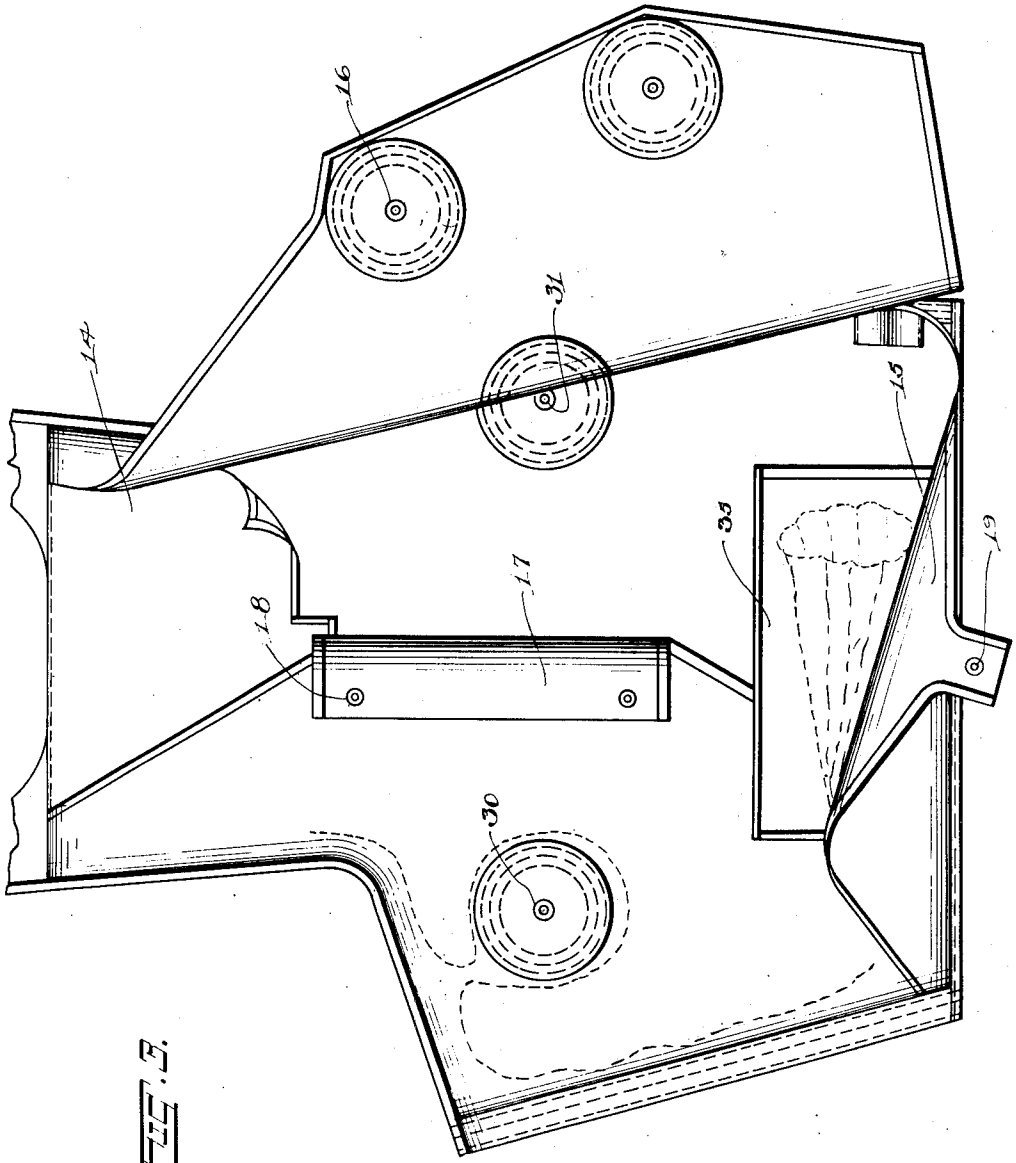


FIG. 3.

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Patented May 3, 1927. 1,627,067

UNITED STATES PATENT OFFICE.

JAMES M. RUSSELL, OF DAYTON, OHIO.

PARACHUTE PACK.

Application filed June 18, 1924. Serial No. 720,815.

This invention relates to improvements in parachute packs and is particularly concerned with parachute packs of a vest type to be fastened about the aviator's body.

The principal object is to provide a non-rigid vest pack which is more conveniently and comfortably worn than the semi-rigid or rigid packs heretofore used. Other objects have reference to details of construction which further the foregoing object, consisting in the provision, in a pack of a generally non-rigid construction, which will give in the movements of the aviator, of stiffened portions only where the elastics for operating the releasable flaps extend about the pack. Also the provision in a non-rigid pack of this kind of a novel means for locating the folded parachute and preventing its movement in the pack when the latter is being worn. Still another novel provision is the location of the pilot parachute in the lowermost portion of the pack to be out of danger of opening in the slipstream when the aviator is seated in the cockpit and to be otherwise out of the way behind the aviator's body where it will not catch in the wind and open accidentally.

The invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a view of the pack indicating the manner of fastening the same about the aviator's body.

Fig. 2 is a view of the opposite or front side of the pack.

Fig. 3 is a view similar to Fig. 1 in which portions of the pack are shown open to illustrate the construction.

The same reference numerals are applied in all three views to the same parts. The parachute pack of the present invention is designed to carry the usual service-type parachute used in the U. S. Army and Navy, consisting of the sustaining parachute and the spring-opened auxiliary or pilot parachute for withdrawing the sustaining parachute from the pack. The packs heretofore used were semi-rigid or rigid and arranged to be carried on the lap, seat, or back, and, in certain instances, on the chest. These packs gave little freedom of movement to the aviator and were otherwise awkward and cumbersome to wear. The present invention provides a pack which, from the manner in which it is worn, is called a vest type pack, and is non-rigid to give freedom of movement to the aviator. The aviator is enabled to climb into and out of the cockpit without assistance and without extra effort and to turn or stoop in the cockpit with considerable ease.

The pack comprises a main front piece 10 of a generally inverted T shape to fit on and substantially cover the aviator's back and have the laterally extending portions 11 brought around under the arms and held by straps extending across the chest. The upper portion 12 is fastened by straps passing over the shoulders. The usual form of harness connecting with the shrouds of the parachute is provided for supporting the aviator. This harness is not shown as it forms no part of the present invention. It is understood however, that it will include a pair of straps to buckle about the thighs in the usual well-known manner, and suspensory straps extending into the pack for connection with the parachute.

The front piece 10 may be in one piece or in sections joined together and is provided with side flaps 13 and a top flap 14 and a bottom flap 15 folding over the front piece and releasably connected to retain a folded parachute in the pack. The front piece and the flaps sewed thereon are of a flexible waterproof material which permits fastening the pack snugly without seriously confining or encumbering the aviator and impeding his freedom of movement. The side flaps 13 are releasably connected by cones 16 on the edge of one of the side flaps which pass through grommets near the edge of the other side flap. The cones leave the grommets readily when the rip cord, holding the same, is withdrawn. The connection is relatively insecure and for this reason, a narrow flap 17 is provided to cover the cones and grommets. The flap 17 is secured by snap fasteners 18 at its free edge to the side flap on which it is mounted. The top and bottom flaps 14 and 15 are provided with grommets 19 that receive the cones 16 when the flaps are folded together and are thus fastened to the side flaps. The side flaps 13 have elastics 20 extending from eyelets 21 about the edges of the pack to eyelets 22 on the other side. These serve to throw the flaps 13 open the moment the rip cord is pulled. Similar elastics 23 are provided for the top and bottom flaps 14 and 15 extending from eyelets 24 on the outer side of the pack about the top and bottom ends of the pack to eyelets 25 on the other

side. The pack is reinforced or stiffened at the top and bottom at the points where the elastics are stretched about the pack. In this way, the pack is not pulled out of shape when the elastics are under tension. A wire frame 26 provides the stiffening means at the upper end of the pack and is secured on the front piece 10 by a piece of fabric 27 sewed over the frame onto the front piece. In a similar manner, a smaller frame 28 is secured by a piece of fabric 29 sewed onto the front piece 10 at the lower end of the pack. The stiffened upper portion of the pack lies approximately between the shoulder blades and when the pack is properly strapped on the aviator's back, this stiffened portion does not interfere with free movement of the arms. The stiffened lower portion engages at about the small of the back so that the pack cannot interfere with the aviator's getting into and out of the cockpit nor encumber him in walking. The remaining portions of the pack intermediate the stiffened upper and lower portions are, as was stated before, non-rigid and with the pack properly strapped on the aviator's body, permits freedom of movement.

The side flaps 13 have grommets 30 intermediate the extremities of the flaps which receive cones 31 projecting from the front piece 10. Branches of the rip cord for releasably holding the flaps 13, extend to the grommets 30 through sleeves 33 sewed on the flaps 13 to protect the wires against accidental displacement from the cones 31. The ends of the sleeves 33 are held down by snap fasteners 34. This fastening together of the flaps 13 with the front piece provides pockets in the pack at opposite sides in which the edges of the folded parachute are laid somewhat as indicated by the dotted lines in Fig. 3, so that the parachute is located and held from movement about in the pack. It will be seen that at the instant the rip cord is pulled to release the parachute, the branches extending to the cones 30 are withdrawn to release the connection between the side flaps and front piece so that the parachute is free to be withdrawn from the pack by the pilot parachute. If for any reason, the connection at these points should not be undone, it is apparent that the parachute is held only lightly from withdrawing from the pack and is easily removed by the pilot parachute when the latter is launched.

The pilot parachute is folded and laid between a leaf 35 and the flap 15 at the lower end of the pack, as indicated in dotted lines in Fig. 3. The leaf 35 serves as a partition to avoid entanglement between the pilot parachute and the main parachute folded in the pack. Disposing the pilot parachute at this point in the pack avoids a serious hazard in that the pilot parachute is out of danger of being caught in the slipstream when the aviator is seated in the cockpit and will not be opened accidentally. Being located at the lowermost portion of the pack, the pilot parachute is shielded by the aviator's body from the wind.

I claim:—

1. In a parachute pack of non-rigid flexible construction adapted to extend across the back and around the sides of the wearer, a plurality of releasable flaps for retaining a folded parachute in said pack, elastics extending about the pack connected to said flaps, and stiffening means to hold the shape of the pack at said elastics.

2. In a vest type parachute pack of a generally non-rigid construction to afford freedom of movement to the wearer, stiffening means at the top and bottom of the pack to engage between the shoulder blades and in the small of the back, flaps for retaining a folded parachute in said pack, and elastics extending about the stiffened portions of the pack connected with the flaps.

3. A parachute pack of non-rigid construction to be worn in the manner of a vest, consisting of a flexible envelope of large size to substantially cover the back and the sides of the wearer, and a parachute pack therein.

4. A parachute pack of non-rigid construction, which will readily assume the form of the wearer, having stiffened reinforced top and bottom portions leaving the intermediate portion flexible.

5. In a parachute pack of a generally non-rigid construction to give in the aviator's movements, means extending through the body of the pack from the front to the back thereof to hold the parachute in position in said pack.

6. In a parachute pack of generally non-rigid construction, having front and rear faces of flexible material, a plurality of locking cones extending through the body of the pack to releasably interconnect the front and rear faces of the pack to hold the parachute in position in the pack.

7. In a parachute pack of non-rigid construction adapted to be worn on the aviator's back, a parachute container made of flexible material having flaps extending from the top, bottom and side edges, a parachute within said container, a fastening cone extending through the body of the pack to interconnect the front and rear faces of the container together in a releasable manner and maintain the parachute in position around the cone, a pull cord adapted to be manually operated, extending through the end of said cone to maintain the container fastened.

8. In a parachute of non-rigid yieldable construction adapted to be worn on the aviator's back, a parachute container made of flexible material, having a bottom width sub-

stantially greater than the width at the top and having flaps extending from the top, bottom and side edges, a parachute within said container, a plurality of fastening cones extending through the body of the pack to interconnect the front and rear faces of the container together in a releasable manner and maintain the parachute in position around the cones, a pull cord adapted to be manually operated and having branches extending through the ends of said cones to maintain the container fastened.

9. In a parachute pack, a front piece, flaps overlying said front piece and releasably connected to retain a folded parachute in said pack, and releasable connections between said front piece and said flaps extending through the body of the pack to confine portions of the folded parachute between the front piece and said flaps to hold the folded parachute in place in said pack.

10. In a parachute pack, a front piece, flaps folding over one another to form a back to retain a folded parachute in said pack, elastics for opening said flaps when released, releasable connections for the adjacent edges of said flaps, similar releasable connections between the flaps and the front of the pack intermediate the edges of the flaps to form, when closed, pockets inside the pack for portions of the parachute, and releasing means for all of said releasable connections connected to be operated simultaneously.

11. In a parachute pack, a front piece, flaps folding over one another to form a back to retain a folded parachute, elastics connected to said flaps to open the same when released, releasable connections for the adjacent edges of said flaps, similar releasable connections between the flaps and the front piece of the pack forming, when closed, pockets inside the pack to receive portions of the folded parachute, a rip cord having branches extending to the edges of the flaps and the releasable connections between the flaps and the front of the pack for releasing all of said connections simultaneously when said rip cord is pulled.

12. A parachute pack of the flexible vest type having a front piece to extend across the aviator's back and sides and substantially cover the same so that the packed parachute will fasten about and conform to the body of the wearer.

13. In a flexible parachute pack to be carried on the aviator's back, releasable side and top and bottom flaps for retaining a folded parachute in said pack, a pilot parachute within said pack, said bottom flap retaining the pilot parachute located at the lowest point of the pack.

In testimony whereof I affix my signature.

JAMES M. RUSSELL.