May 7, 1929. J. M. RUSSELL 1,712,309

PARACHUTE PACK

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Fig 1

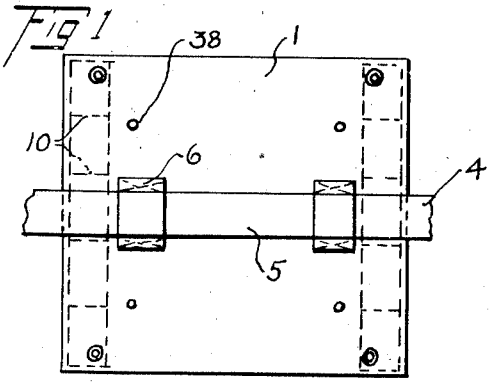


Fig 2

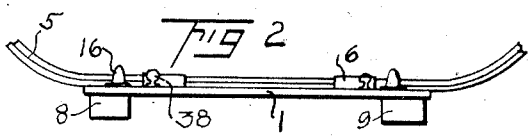


Fig 4

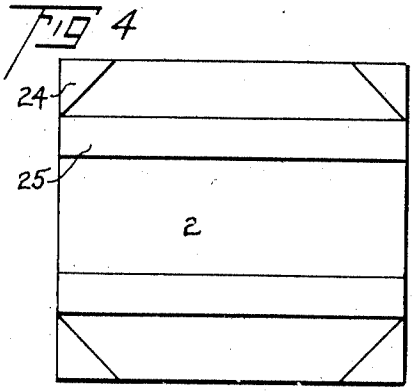


Fig 3

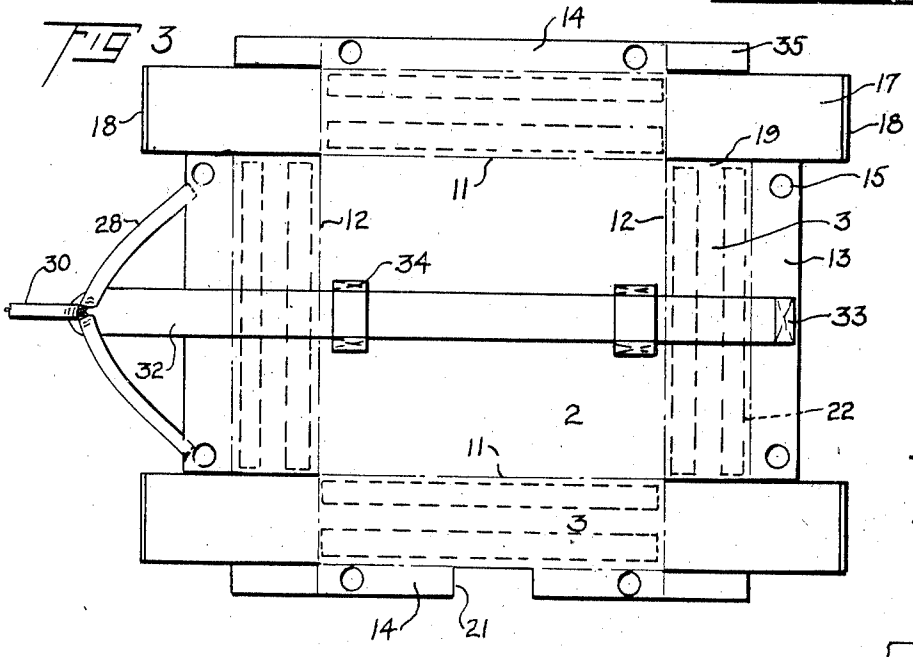


Fig 5

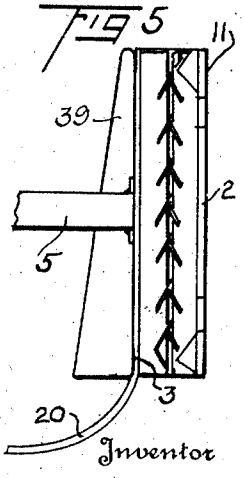
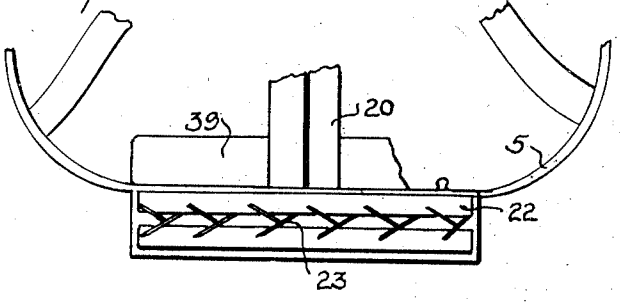


Fig 6



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Fig 7

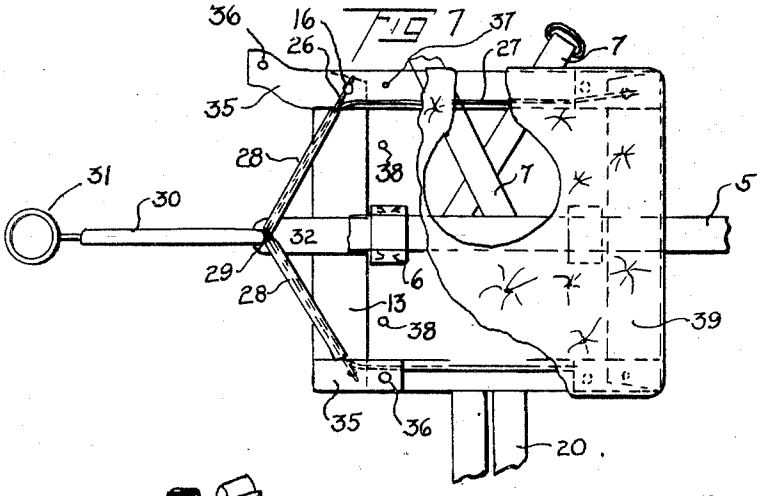


Fig 8

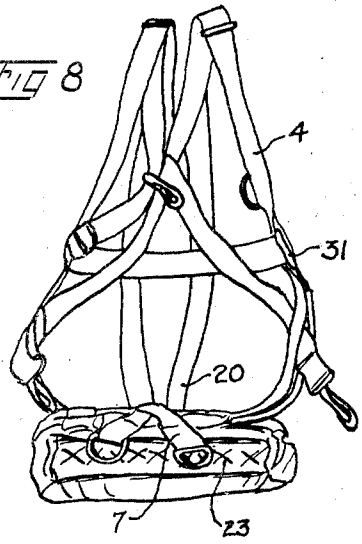


Fig 9

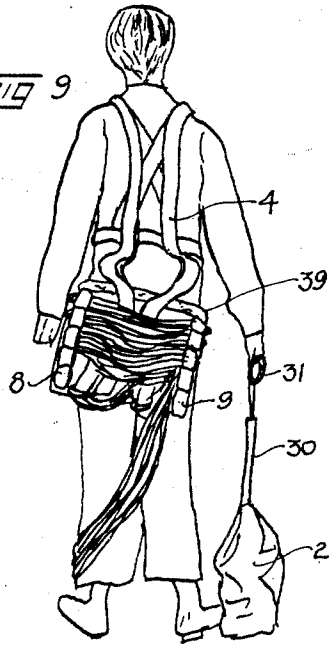
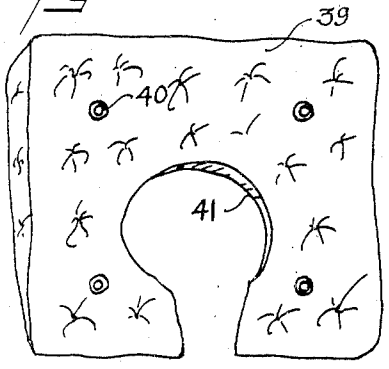


Fig 10



Inventor

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Patented May 7, 1929. 1,712,309

UNITED STATES PATENT OFFICE.

JAMES M. RUSSELL, OF SAN DIEGO, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO RUSSELL PARACHUTE COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

PARACHUTE PACK.

Application filed October 25, 1926. Serial No. 143,938.

This invention relates to parachute packs such as are carried by the aviator.

The improvements of the present invention are directed toward the provision of a parachute pack in which all danger of the entanglement of various parts of the parachute is avoided, and wherein the construction enables the packing of the parachute so as to give the pack a snug, trim form.

With the foregoing objects in veiw the invention provides a flat front piece of the container and a back piece having flexible side extensions which are connected to the front piece so as to hold a parachute therebetween. The front piece is attached to the aviator's harness and the invention is shown as relating to a seat pack on which the aviator sits when he is in the airplane. The front piece of the parachute container is free of obstructions at its edges and the sides of the parachute pack are formed as extensions of the back piece so that the entire container may be removed when the aviator pulls upon the rip cord, thus leaving nothing to hinder the release of the parachute from the front piece of the pack.

Further provisions of the pack are lacing flaps provided on the side extensions so that the sides of the pack may be drawn up and the pack compressed after the parachute has been folded in place within the pack. The front piece of the pack is adapted to be worn against the aviator and at its front are locking cones near its corners to which the side extensions of the back piece are detachably fastened. A life preserving cushion is detachably fastened to the front of the pack so that it may be easily removed, and this cushion is of a general horseshoe shape so that it may be placed about the aviator's neck in case he should fall in the water, and thus keep his face above the water. This cushion is adapted to function as a seat between the pack and the aviator, and to give a neat and trim appearance and form to the front of the pack where the overlapping of the flaps and the pull cord and locking cones are provided.

With the above and other objects of the invention in view as will be made to appear in the accompanying specification and claims, reference is had to the accompanying drawings in which

Fig. 1 is a view of the front piece of the pack showing its outer side.

Fig. 2 is a central section thru the front piece as shown in Fig. 1.

Fig. 3 is a view of the inside of the back piece of the container.

Fig. 4 shows the outer side of the back of the parachute pack.

Fig 5 is a side view of the assembled pack and cushion

Fig 6 is a back view of the pack and cushion

Fig. 7 is a plan view of the pack, showing part of the cushion broken away to disclose the top of the pack.

Fig. 8 is a view of the assembled pack and harness without the cushion.

Fig. 9 shows the manner in which the pack is worn on the back of the aviator and shows the back piece removed and the shroud lines retained in the front piece of the pack, and

Fig. 10 is a plan view of the cushion.

Referring more particularly to the drawings by reference numerals, the parachute container is shown as consisting of the front piece 1 of substantially rectangular form, and the flexible fabric back piece 2, the side extensions 3 of which are adapted to form the sides of the pack. The front piece 1 is of non-flexible construction and is preferably formed of a frame covered with fabric and provided with stiffening members at suitable points to maintain the rectangular shape of the pack. The parachute harness designated generally 4 has a lower end loop 5 which is fastened by the short strips of canvas 6 to the front piece 1 at its outer side.

The front piece 1 is so connected to the harness 4 that the pack may serve as a seat for the aviator. The leg strips 7 of the harness and the lower loop 5 thus fasten the front piece fast to the harness in its proper position. Shroud line retainers 8 and 9 are provided on the inner side of the front piece in the form of a fabric strip fastened to the front piece at the points 10 so as to releasably hold the looped ends of the shroud lines in place as shown in Fig. 9. The parachute is placed in folded arrangement over the front piece 1 and the back piece 2 is then placed over the parachute and so folded along the lines 11 and 12 that the side extensions 3 form the sides of the pack. These side extensions are provided with end portions 13 and 14 which are folded over the edges of the front piece and in front of the same, and grommets 15 provided in the

ends of these end portions are placed over locking cones 16 which project forwardly from the front piece 1 at its corners.

A bellows corner is provided by means of the projections 17 which extend laterally from the front and rear sides of the back portion by attaching the sides 18 to the sides 19 on the adjacent side portions 3.

The lift webs 20 which are connected to the parachute shroud lines, enter the pack at the back and a cut out portion 21 as provided at the back end portion 14 as shown in Fig. 3. It will be apparent that the entire flexible back portion of the parachute container is formed of a single sheet of fabric which is cut as shown in Fig. 3 and as previously described so that it may be folded into a rectangular box-like form and thus produce a neat and trim pack. The side extensions 3 are each provided with lacing flaps 22 arranged in pairs and fastened to the outer sides thereof so that the side edges of the pack may be compressed by drawing up on the lacing means 23 which lace the flaps 22 together. This provides a means for easily placing the parachute in position and of thereafter tightening or compressing the entire pack so as to give a neat and trim appearance without obstructing in any way the surfaces of the back portion which are in contact with the parachute.

The outer side of the back portion of the pack, as shown in Fig. 4, is provided with webbing 24 at the corners and strips of webbing 25 extending along the back so as to protect the fabric of the back portion from wear upon the surfaces on which it rests when in use.

The grommets 15 in the ends 13 and 14 of the side portions, are held in engagement over the locking cones 16 by the wires 26 and 27 on the sides of the pack. These wires 26 and 27 are connected together where they enter the flexible wire casing 28 and the two wire casings 28 meet at the point 29 where they are fastened to the pull cord housing 30. The two wire branches extend thru the casing 30 and are attached to the pull ring 31 which is releasably held in place on the harness in a suitable pocket in the customary manner. At the point 29 where the wire casings 28 and 30 join, is attached a webbing strip 32 which is sewed fast to the inside of the back portion 2 at 33 and slidably held by the short attachments 34 to this back portion. It will thus be apparent that when the pull cord 31 is jerked by the aviator, when he wishes to release the parachute, the pull cord branches 26 and 27 will be released from the locking cones and these branches will then jam in the casing at the point 29 since the casing 30 is not sufficiently large to permit the branch extensions to pass thru all at the same time. Since the casing 30 is not held fast to the harness, the pull exerted on the ring 31 after releasing the locking cones, will forcibly pull back 2 and webbing 32 which will thus be manually and forcibly pulled off of the pack. Since the front portion 1 of the container is free of obstructions at its edges, the parachute will be forcibly pulled away from the front portion when the back of the pack is removed, and will then be immediately released and fall out of the back portion of the pack. The use of the unsatisfactory and unreliable rubbers to cause the opening of the pack is, therefore, unnecessary and the opening of the pack and release of the parachute is fully assured.

In order to protect the locking cones and the portions of the pull cord wires which engage them, extension protector flaps 35 are provided on the extensions 14 of the back of the container. These protector flaps each fold over a locking cone, as shown in Fig. 7, and are provided with a snap fastener 36 which engages with the fastening means 37 so as to releasably hold them in place.

The front portion 1 of the parachute container is provided with four snap fasteners 38 projecting forwardly therefrom to which a life preserving cushion 39 is adapted to be detachably fastened by means of snap fasteners 40 provided in the face of the cushion. This cushion is preferably of wedge shape as shown, and is of such a size as to neatly cover the entire top of the pack. It is placed in position between the pack and the aviator so as to serve as a cushion on which he may sit. It further functions as a protector for the top of the pack where the flaps of the back portion are overlapped. The cushion is provided with an opening 41 which is slightly larger than the neck of a man and the cushion is substantially horseshoe shaped so that it may be placed about the aviator's neck. It is filled with kapok or other suitable life preserving material, or with air, so that it may act as a life preserver in case the aviator falls in water. In the case of such a happening, the aviator would immediately and quickly release the cushion from the front portion to which it is attached and place it around his neck and thus be able to keep his face above the water.

Altho my invention has been shown as applicable to a seat type pack and in its preferred form the front portion is of a non-flexible character and the entire back portion of the container is of a flexible nature, I am aware that various changes and modifications of my invention may be made without departing from the spirit or scope thereof as set forth in the following claims.

I claim:

1. In a parachute pack, a container comprising a front piece, a back piece having extensions which connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, means for fastening said extensions to the front piece, and a manually operable pull cord connected to said

means and said back piece to permit the back piece to be bodily removed.

2. A parachute pack adapted to be worn by an aviator, comprising a flat front piece connected to the aviator's harness and to be worn adjacent the aviator, a flexible back piece having extensions which overlap the front piece, said front and back pieces adapted to hold a parachute therebetween, means for fastening said extensions in place, and a manually operable device connected to said means and said back piece to permit the back piece to be bodily removed.

3. In a parachute pack adapted to be worn by an aviator, a container comprising a non-flexible front piece connected to the aviator's harness so as to be worn adjacent the aviator, a flexible back piece having side extensions which overlap and connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, means for fastening said extensions to the front piece, and a manually operable device connected to said back piece to permit the back piece to be bodily removed.

4. In a parachute pack adapted to be worn by an aviator, a container comprising a non-flexible rectangular front piece fixed to the aviator's harness so as to be worn adjacent the aviator, a back piece having flexible side extensions which overlap and connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, means for fastening said extensions in place, and a device fixed to said back piece to permit the back piece to be manually removed.

5. In a parachute pack adapted to be worn by an aviator, a container comprising a flat substantially rectangular front piece connected to the aviator's harness so as to be worn adjacent the aviator, a flexible back piece having side extensions which connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, locking cones on said front piece for attachment to said extensions, and a manually operable pull cord connected to said back piece and releasably engaging said cones to permit the back piece to be bodily removed by the aviator, said front piece being free of obstructions at its edges to permit the easy removal of the parachute.

6. A parachute pack adapted to be worn by an aviator, comprising a non-flexible flat substantially rectangular front piece fixed to the aviator's harness, a flexible back piece having flexible side extensions which connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, means for fastening said extensions in place and a device connected to said means and said back piece to permit the back piece to be bodily removed, said front piece being free of obstructions at its edges to permit the easy removal of the parachute, and having flexible shroud line retainers thereon to releasably retain the looped ends of the shroud lines on said front piece.

7. In a parachute pack adapted to be worn by an aviator, a container comprising a flat front piece, a back piece having flexible side extensions which connect to the front piece, said front and back pieces adapted to hold a parachute therebetween, locking cones on said front piece projecting forwardly to releasably engage said extensions, a pull cord in front of the front piece for retaining said extensions on said locking cones, said pull cord being attached to said back piece to permit the back piece to be manually removed after the release of said locking cones.

8. A parachute pack as set forth in claim 1, said extensions having lacing means for drawing up the sides of the pack.

9. A parachute pack as set forth in claim 1, and means to compress the pack after it has been assembled about the parachute.

10. In a parachute pack as set forth in claim 3, lacing means on said extensions for drawing up the said extensions after they have been connected to the front piece.

11. A parachute cover having front, back and side portions, fastening means for said portions, and additional compressing means forming a part of said side portions for compressing the same after the parachute has been placed therein.

12. A parachute cover adapted to contain a parachute and to be worn by an aviator, comprising a flat non-flexible front portion to form one face of the parachute pack, an outer portion having flexible side extensions, locking cones adjacent the corners on the outer face of said front portion to which said side extensions are releasably fastened, a pull cord having branches engaging said cones, and lacing flaps on the said side extensions adapted to be laced together to compress the pack after the assembly of the same.

13. In combination, a parachute pack adapted to be worn by an aviator, and a life preserving cushion fastened thereto and serving as a cushion between the aviator and the pack, and a series of releasable fastening means attaching the cushion to the pack so that the cushion may be separated from the pack merely by a pull on the cushion.

14. In combination, a parachute pack adapted to be worn by an aviator, harness straps externally positioned on one side of the pack, and a soft cushion detachably connected to the pack in place between the aviator and said one side of the pack.

15. In combination, a parachute pack adapted to be worn by an aviator and to serve as a seat, a harness attached to said pack and provided with leg straps, and a soft cushion detachably connected to the pack in place between the aviator and the pack, said cushion having one side open at its center por-

tion to provide an opening through which said leg strap may extend, and a series of releasable fastening means for attaching the cushion to the pack so that the cushion may be released merely by a pull on the cushion.

16. A parachute cover comprising a front piece, a back piece, means for releasably fastening the front piece to the back piece, means for quickly releasing said fastening means, and additional means to draw said front and back pieces closer together after they have been releasably fastened together by said first-mentioned means to compress a parachute between the front and back pieces.

17. In combination, a parachute pack adapted to be worn by an aviator, closure means for the pack, release means for said closure means extending along the side of the pack which is adjacent the aviator, and protective means for said release means, said protective means comprising a soft cushion positioned between the aviator and the said side of the pack, and means for releasably connecting the cushion to the pack.

18. In combination, a seat type parachute pack adapted to be worn by an aviator, a harness for fastening the cushion to the aviator, a seat cushion between the aviator and the pack, and a series of releasable fastening means attaching the cushion to the pack so that the cushion may be separated from the pack merely by a pull on the cushion.

19. In a parachute pack and harness assembly of the class described, a parachute container comprising two portions adapted to be connected together, release means for releasably fastening said portions together, a hand-operated member connected to said release means, guide means for said release means said guide means being loosely associated with said harness and attached to one of said portions, said guide means and release means being arranged to transmit a pull on the release means to the guide means for the manual forcible opening of said container.

20. In a parachute pack and harness assembly of the class described, a parachute container comprising two separate portions adapted to be connected together, release means for releasably fastening said portions together, a hand-operated member connected to said release means, guide means for said release means loosely associated with said harness and attached to one of said portions, said release means being arranged to engage with said guide means after the release of said portions for forcibly separating said one portion from the other.

21. In a parachute pack as set forth in claim 1, a strip of flexible material connected to the pull cord and extending from one end of the pack along the inside of the back piece and connected thereto adjacent the other end of the pack to form a connection between the back piece and the pull cord.

In testimony whereof I have hereunto set my hand this 14th day of October, 1926.

JAMES M. RUSSELL.