March 15, 1932. A. LEMERCIER 1,849,628

COMBINED GARMENT AND OUTFIT FOR USE WITH PARACHUTES

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Fig. 1.

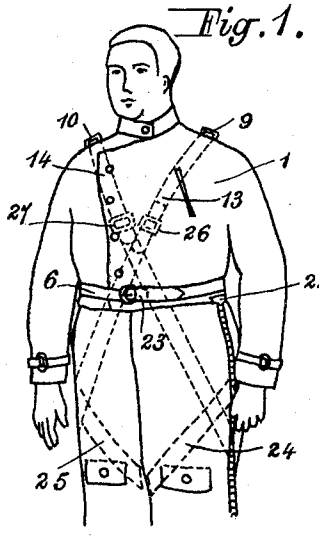


Fig. 2.

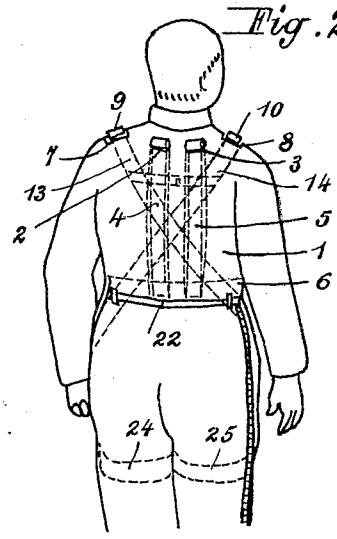
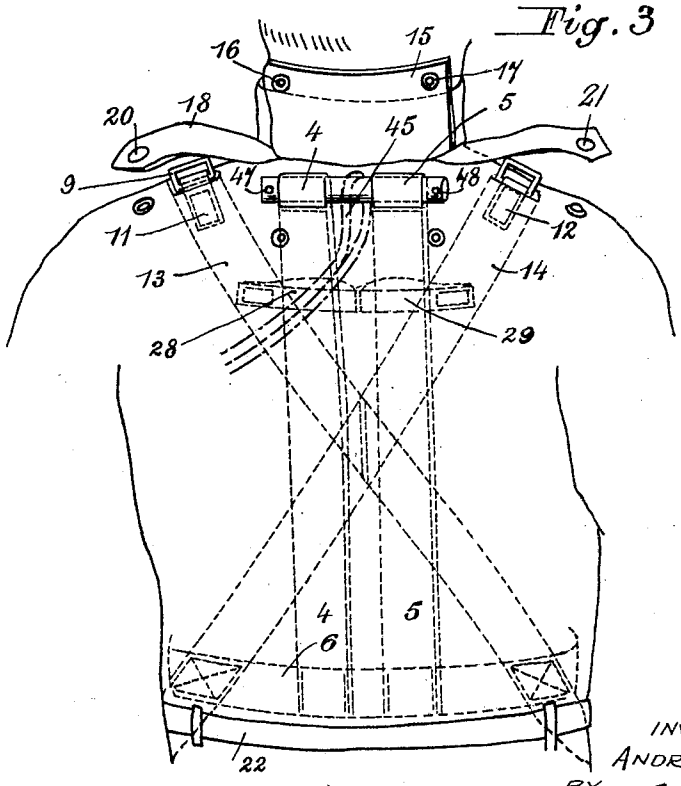


Fig. 3



INVENTOR
ANDRÉ LEMERCIER
BY Richards & Geier
ATTORNEYS

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Fig. 4.

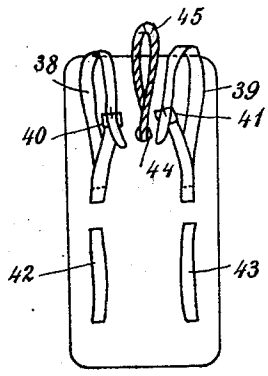


Fig. 5.

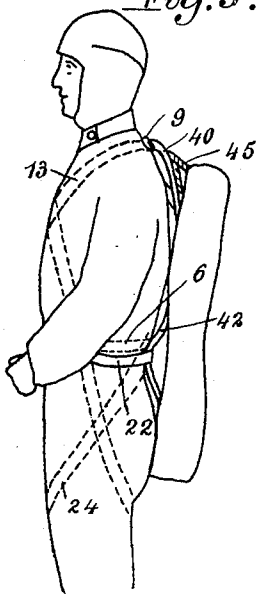


Fig. 6.

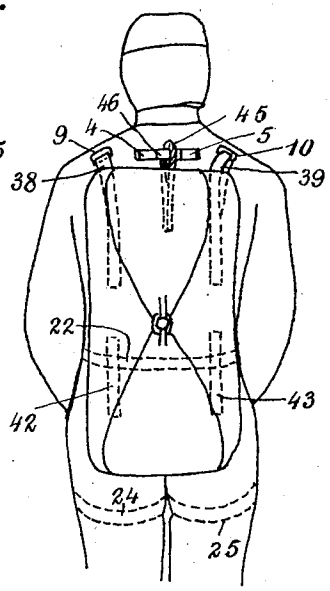


Fig. 7.

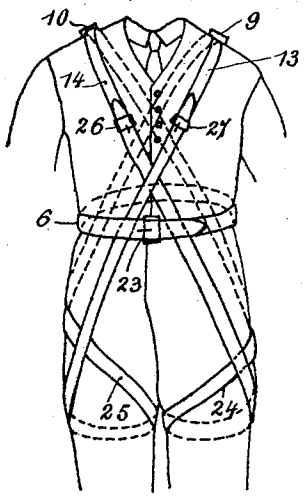
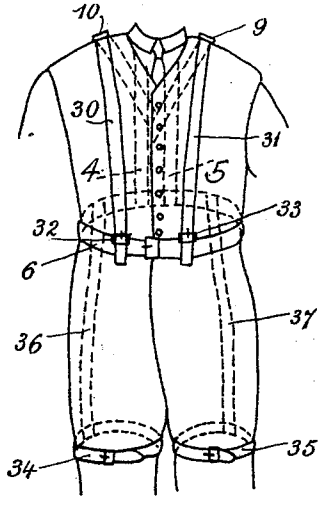


Fig. 8.



INVENTOR
ANDRÉ LEMERCIER
BY Richards & Geier

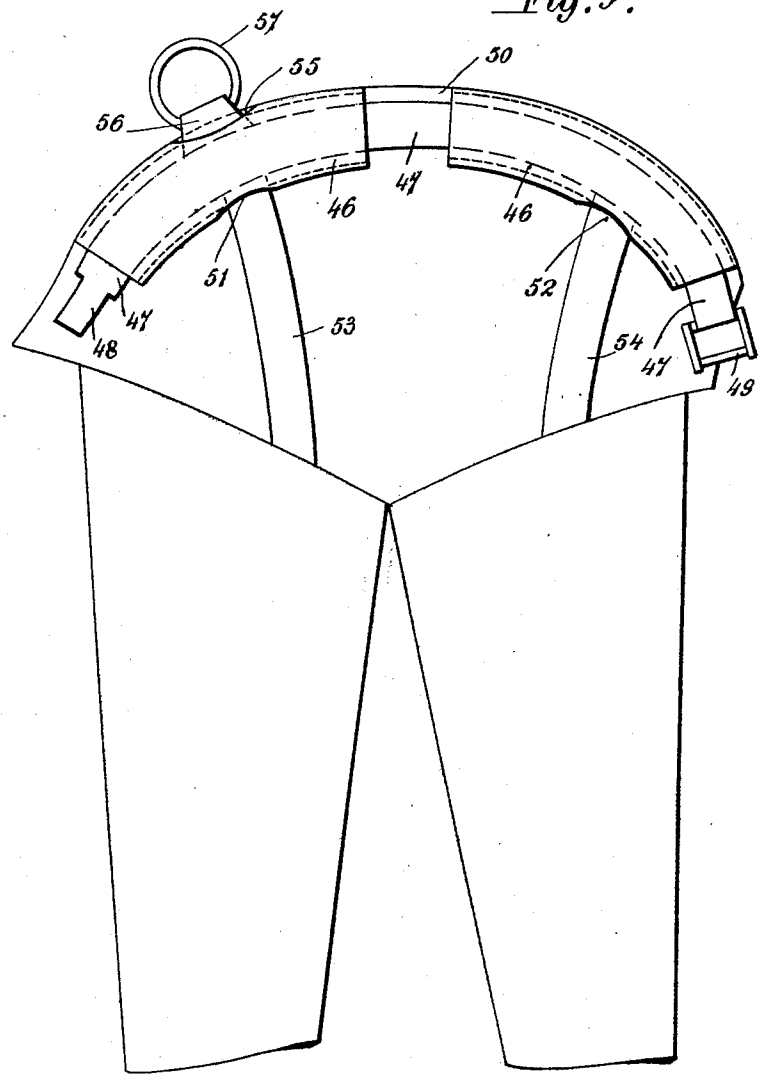
ATTORNEYS

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Fig. 9.



INVENTOR
ANDRÉ LEMERCIER
BY Richards & Geier
ATTORNEYS

Patented Mar. 15, 1932 1,849,628

UNITED STATES PATENT OFFICE

ANDRÉ LEMERCIER, OF PARIS, FRANCE

COMBINED GARMENT AND OUTFIT FOR USE WITH PARACHUTES

Application filed May 16, 1930, Serial No. 453,035, and in France May 16, 1929.

The present invention relates to a combined arrangement of a garment and an outfit adapted for use with parachutes, in which the strap device or harness to which the parachute is attached is disposed in the interior of the garment, the same being characterized by the fact that the garment is provided in the interior with slide loops serving as guides when the said harness is placed in position, and in which the wearer slides in the first place the straps forming the said harness, and it is also provided with fastening parts such as attaching flaps or lugs, buttons etc., which are disposed in at suitable points in order to avoid the displacement of the harness.

For this purpose, it is preferable to dispose upon the surface of the garment a sheath of the proper size and shape to receive the harness to which the parachute is attached, it being provided with apertures at suitable points for the insertion and removal of the said harness and for the insertion of the various parts adapted for buckling and fastening.

On the other hand, the device according to the invention is characterized by the fact that the internal harness which fits properly upon the wearer's body, comprises fastening buckles extending through slots formed in the garment, to which a separate parachute sack or bag is attached.

The advantages obtained by this arrangement are considerable.

In fact, the harness is placed in the interior of the garment and is out of danger of catching upon objects, and it is also maintained in the garment in a permanent manner and without displacement, and thus it can be fastened upon the wearer's body when the garment is put on, this being a necessary operation which is however of a simple character. The user can then employ the very simple attaching devices now in use in order to attach the sack and the parachute to his person, since the harness has been already put on, this constituting in fact the longest and most complicated operation. In this manner, the pilot will not suffer from any negligence in this respect.

On the other hand, the said arrangement, while rendering the outfit independent, permits to verify as often as desired the substantial condition of the straps of which the outfit is formed. Furthermore, since the harness can be readily put in place and removed, each wearer can choose the harness which is most suitable for the size of his body, and may then adapt it to the garment in an almost definite manner. It should however be remarked that this fixed condition of the harness is a relative matter. Another appreciable advantage of the invention consists in the fact that the pilot who remains for a long period without using an aeroplane can remove his harness while at the same time continuing to wear his garment as protecting clothing for operations on the ground.

Further characteristics of the invention will be specified in the following description with reference to the accompanying drawings which are given by way of example.

Figs. 1 and 2 relate to the use of a garment of the combination type, and to a harness employed with a dorsal parachute sack, in position upon the wearer and viewed respectively from the front and side.

Fig. 3 is a view on a larger scale showing certain details of the arrangement of the back part.

Fig. 4 shows the inner face of the parachute sack, with its attaching straps.

Figs. 5 and 6 are respectively a side and a rear view, showing the method of attaching the parachute and sack to the wearer.

Figs. 7 and 8 are two constructional forms of the harness, with the garment removed.

Fig. 9 shows the use of the invention, comprising a parachute belt disposed in the trousers.

The combination garment 1 comprises near the middle part of the back and adjacent the neck (Figs. 2 and 3) two symmetrical slots 2—3 through which extend the ends of two double suspension straps 4—5, which are disposed under the said garment and are attached to an inner belt 6. Similar slots 7—8 are formed in the shoulder parts of the garment, through which are inserted two buckles 9—10, unprovided with tongues, which are

attached by lugs 11—12 to the suspension straps 13—14 attached to the belt 6. A lug or flap 15, provided with spring buttons 16—17, may be brought upon the slots 2—3 in order to cover these latter. Lateral lugs or flaps 18—19 which are secured to the shoulder parts and are provided with spring buttons 20—21, serve to cover the slots 7—8. At the exterior of the garment 1 is disposed the usual belt 22.

On the other hand, the harness is completed in the following manner.

The belt 6 is closed at the front part by a buckle 23 (Fig. 1). In one form of construction (Figs. 1, 2, 3 and 7) the suspension straps 13—14 are extended to the rear, and beyond the belt 6, by the thigh straps 24—25 which are wound around each leg, proceeding in the first place upon the upper part of the thigh, being then brought to the front, and after insertion under the belt 6, they are attached by the respective buckles 26—27 to the oppositely-situated suspension strap. It will be observed that by this disposition of the thigh straps, the stress when the parachute is opened will be brought upon the outer sides of the legs, and not upon the inner sides as in the known harness outfits. In the outfit above specified, the suspension straps 4—5 are guided in the loops 28—29 attached to the shoulder straps 13—14 (Fig. 3).

In a second form of construction (Fig. 8) the shoulder straps 30—31 are attached, at the rear, directly to the suspension straps 4—5, which are attached as before to the belt 6. At the front, the shoulder straps are attached to the belt 6 by buckles 32—33. In this case, the thigh straps consist of the small belts 34—35, secured to the belt 5 by straps 36—37 which are secured at the back part at points near the sides.

In order to attach the parachute sack to the outfits above described, the said sack (Fig. 4) comprises on its front face and at the upper part, the straps 38—39 provided with regulating buckles 40—41, and at the lower part, the loops 42—43. Through the aperture 44 are inserted the suspension members 45 which form an attaching ring.

The sack is attached in the following manner, at the time of use (Figs. 5 and 6).

The outfit is placed in position under the garments in such manner as to insert, through the corresponding slots, the suspension straps 4—5 and the buckles 9—10; the belt 22 of the garment is then disposed in the loops 42—43 of the sack, and it is closed at the front. The straps 40—41 are then inserted into the buckles 9—10 and are adjusted to the proper length. The suspension members 45 are attached between the straps 4—5 by a peg 46 which is pierced at the ends with respective holes 47—48 (Fig. 3), by which it may be fastened by pins or by laces which are inserted through said holes and are secured to the said suspension members.

The length of the straps 40 and 41 and of the ring formed by the suspension members 45 will be sufficient to allow a certain freedom of movement to the wearer when seated, without displacing the sack which remains against the back of the seat.

As above stated, the harness is maintained in the garment by loops attached at various places, through which are inserted the belt 6, the shoulder straps 13—14 and the thigh straps 24—25; said loops have a sufficient width to allow a certain play to the garment when the straps are tightened. On the other hand, at the points adjacent the slots 2, 3, 7 and 8, the straps may be attached to the back of the combination garment by buttons or flaps adapted for internal fastening, or in any other suitable manner. Due to this arrangement, the suspension straps 4—5 and the buckles 9—10 are held in position against all accidental displacement before the parachute sack is attached.

The harness is preferably guided by means of a veritable sheath which is formed at the surface of the garment. In the arrangement shown in Fig. 9, an internal band 46 of cloth, leather or the like is attached by sewing or other means to the waist part of the trousers so as to form a sheath which is open at both ends and thus provides for the insertion of a parachute belt 47 comprising buckles 48—49, known per se, and a notch 50 is formed at its middle part to facilitate the insertion of the belt. The said sheath 1 may also comprise apertures 51—52 at the bottom part, for the insertion of straps 53—54 attached to the belt 47 and serving as thigh straps, known per se. At the lower part of the said sheath may be formed an aperture 55 through which may be inserted a flap or lug 56 attached to the belt and carrying a ring 57 to which may be attached the parachute straps.

Obviously, the invention is not limited to the forms of construction herein described and represented, nor to the constructions of the several parts which have been more particularly indicated, but it comprises all modifications of the same.

In particular, it may be utilized, aside from the types of garments above specified, with all classes of garments, such as clothing made in several pieces, cloaks, etc.

On the other hand, in addition to the dorsal sacks, it may also be used with all other types of parachute sacks, such as seat sacks, cockpit sacks etc. . . . In such applications, the suspension straps of the parachute are suitably extended, and may be held by guiding flaps or lugs comprising spring buttons, provided upon the garment, so as to offer no prejudice to the wearer's movements.

The aforesaid harness may be varied as desired, and for instance the thigh straps may

be dispensed with, and herein the belt strap is preferably made wider, for the better distribution of the shock when the parachute is opened. The said harness may even consist simply of a belt of suitable width.

I claim:

An outfit used in connection with parachutes, comprising in combination, a garment, a harness provided with a belt to which the parachute is attached and bands on the internal surface of said garment, said bands forming a sheath surrounding said belt.

In testimony whereof I have affixed my signature.

ANDRÉ LEMERCIER.