

A. W. DE MEIR.
AERONAUTICAL SAFETY SUIT OR GARMENT.
APPLICATION FILED FEB. 25, 1911.

1,005,569.

Patented Oct. 10, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

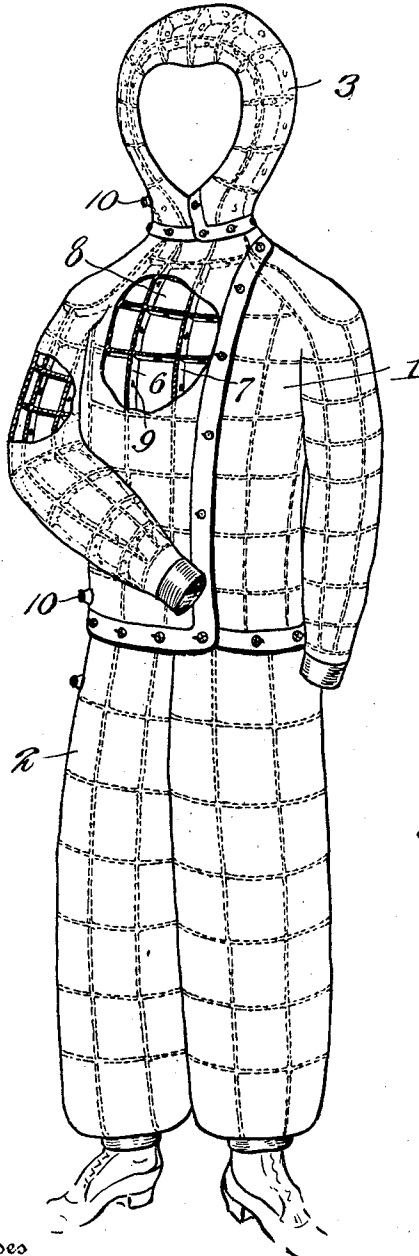


Fig. 2.

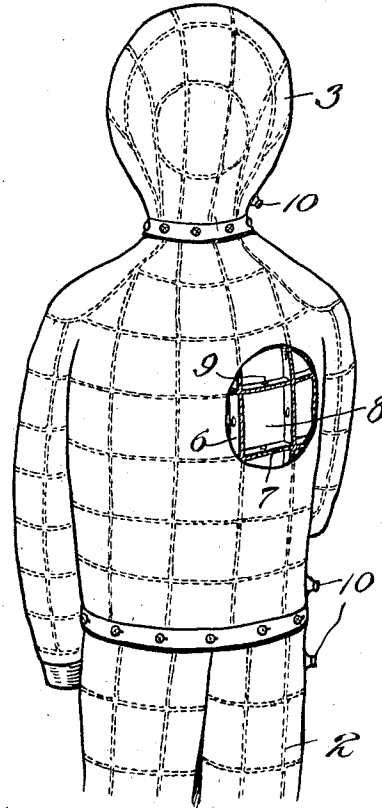


Fig. 3.

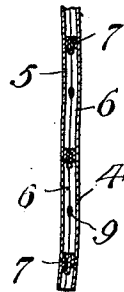
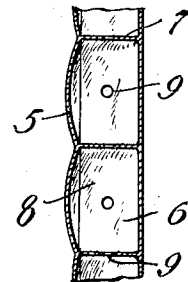


Fig. 4.



Inventor
Auld Weinberg de Meir

Witnesses

Frank B. Hoffman.
C. C. Hines.

By Victor J. Evans
Attorney

A. W. DE MEIR.
AERONAUTICAL SAFETY SUIT OR GARMENT.
APPLICATION FILED FEB. 25, 1911.

1,005,569.

Patented Oct. 10, 1911.

2 SHEETS—SHEET 2.

Fig. 5.

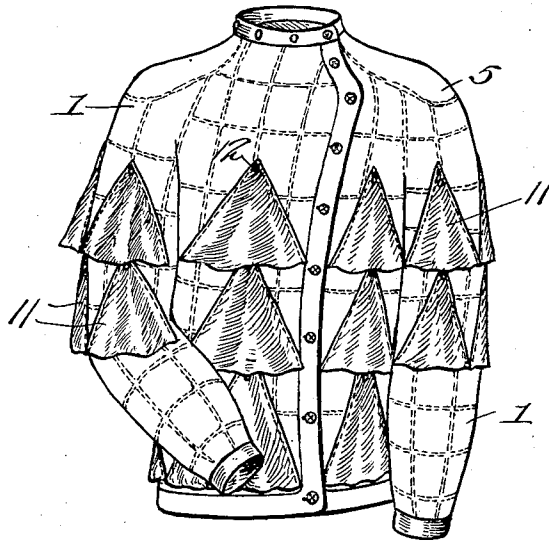


Fig. 6.

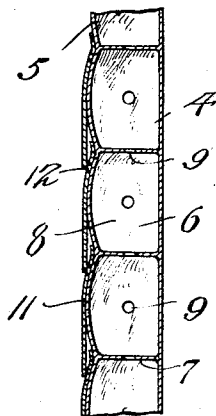
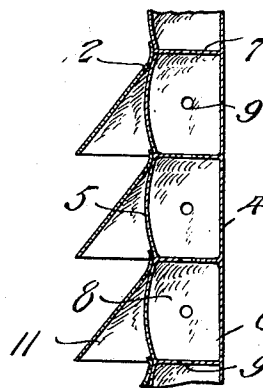


Fig. 7.



Witnesses

Frank B. Hoffman.
C. C. Ames.

Inventor
Auld Weinberg de Meir

By *Victor J. Evans*
Attorney

UNITED STATES PATENT OFFICE.

AULD WEINBERG DE MEIR, OF PROVIDENCE, RHODE ISLAND.

AERONAUTICAL SAFETY SUIT OR GARMENT.

1,005,569.

Specification of Letters Patent. Patented Oct. 10, 1911.

Application filed February 25, 1911. Serial No. 610,746.

To all whom it may concern:

Be it known that I, AULD WEINBERG DE MEIR, a subject of the King of Great Britain, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Aeronautical Safety Suits or Garments, of which the following is a specification.

This invention relates to safety suits or garments for aeronauts, the object in view being to provide a pneumatic or air-cushioned garment or suit which will protect the aviator from the cold in wintry weather and at high altitudes and also shield and protect the aviator from serious injuries in case he should fall from the machine in proximity to the ground or in the water or be thrown against a portion of the machine or an obstruction in the event of an accident in launching or landing the machine.

A further object of the invention is to provide a pneumatic suit or garment in which provision is made for maintaining the walls of the suit in proper spaced relation and allowing free flow of air from portion-to-portion of the garment, whereby the garment is adapted to accommodate itself to the body movements of the wearer, so that it may be worn without inconvenience or excessive air pressure upon any portion thereof.

A still further object of the invention is to provide a suit or garment of the character described having portions adapted to perform the function of a parachute to decrease the speed of descent in case the aviator should fall or be thrown from the machine.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view looking toward the front of an aviator's suit embodying my invention, portions being broken away to expose the interior construction. Fig. 2 is a rear elevation, partly broken away. Fig. 3 is a front section through one of the garment members, showing the flexible walls in collapsed condition. Fig. 4 is a similar view, showing the walls expanded, as when inflated. Fig. 5 is a front view of a modified construction of garment member provided with parachute attachments. Figs. 6 and 7 are sectional views of the same with the walls expanded

and the parachute attachments respectively collapsed and outspread.

In the accompanying drawings, for purposes of exemplification, I have illustrated my invention as embodied in a complete suit comprising a coat or jacket 1, trousers 2 and a hood or head piece 3, although it is to be understood that the invention contemplates the embodiment of the invention in any style of garment or suit designed for either masculine or feminine use.

The body of each garment or portion of the suit is made of rubber, rubberized cotton, silk, linen, or other suitable elastic material, and consists of inner and outer spaced walls 4 and 5 suitably united at their marginal edges. These walls are connected by longitudinal and transverse flexible or collapsible ribs 6 and 7, said ribs being preferably arranged at right angles to each other and relatively disposed to form air chambers or cells 8 throughout the body of the garment. The portions of the ribs separating the adjoining cells or chambers from each other are provided with holes or perforations 9 for the free flow of the air from each chamber or cell to the other, thus allowing the air to be displaced from any portion of the garment which may be compressed by the body movements of the wearer and taken up and stored temporarily within other chambers, which are adapted by the flexibility of the walls and ribs to accommodate the excess pressure.

The garments comprising the suit may be suitably constructed to enable them to be conveniently donned and doffed, and may be adapted for attachment to each other to prevent their relative displacement. As illustrated in the present instance, the several sections of the suit or garment portions are adapted to cover and protect practically all of the body except the feet, the hood or head piece 3 being of a proper form to inclose the greater portion of the head and face, leaving only the front of the face exposed for the use of the eyes, nose and mouth.

The marginal edges of the garment sections may be reinforced in any suitable manner, and each garment section is provided with one or more air inlets 10 communicating with one of the cells thereof, through which air may be forced into the garment from a pump or other source of supply. It

will be apparent that by this construction the body of the aviator will be covered and protected by a suit rendered doubly elastic by the inherent quality of the material of which it is made and the store of air contained therein, and that the flexibility of the walls and ribs permits the air to circulate freely so that the wearer may be enabled to move freely all portions of his body without discomfort or objectionable pressure at any point. If the aviator should fall or be thrown from his machine in proximity to the ground or in the water, or should be dashed against an obstruction, the shock or contact will be sustained by the garment and wholly or greatly absorbed, so that serious injury to the aviator under all ordinary conditions will be prevented. The collapsibility of the ribs not only adapts the garment to distend to accommodate itself to different volumes of air, but enables the garment when depleted of air to be packed and stored in close compass.

Any or all of the garment members may be provided with means for utilizing the dynamical reactions of the atmosphere to retard or reduce the speed of descent of the aviator when thrown from his machine. To this end I have illustrated in Figs. 5, 6 and 7, one of the garment members provided with a plurality of parachute attachments 11, each consisting of a triangular strip of material having its lower or basal edge free and its longitudinal side edges sewed from said basal edge to the vertex of the strip, thus forming an air chamber. The pockets or strips thus constructed and applied are adapted to normally lie flat or substantially so against the surface of the garment as shown in Fig. 6 and to spread or open under air pressure, as shown in Fig. 7, during the fall of the aviator. The vertex portion of each parachute cell is provided with one or more openings 12 for the slow escape of air, whereby a parachute action will be established. By the provision of a sufficient number of these attachments, the speed of descent of the aviator may be checked to a considerable degree, as will be readily understood.

Having thus described my invention, I claim:—

1. As a new and improved article of manufacture, a safety suit or garment for aeronauts comprising a body formed of elastic material, said body comprising spaced walls united at their marginal edges, and thin foldable or collapsible ribs or webs connecting said walls to permit the garment to expand or collapse, said ribs or webs being arranged in series running at an angle to each other and forming rows of longitudinal and transverse cells throughout the area of the garment, the boundary walls of said cells being provided with openings forming communication between adjacent cells at all sides thereof, whereby a body of air contained within the garment is adapted to flow freely from cell to cell.

2. A garment of the character described comprising a body provided with interior air cells, and exterior air chambers, each of said air chambers being open at the bottom and having a vent at the top and adapted to perform the function of a parachute.

3. A garment for aeronauts provided on the exterior thereof with an air chamber open at the bottom and having a vent at the top and adapted to perform the function of a parachute.

4. A garment for aeronauts provided upon the exterior thereof with a strip attached thereto and forming a flaring air chamber open at the bottom and having a vent at the top and adapted to perform the function of a parachute.

5. A garment for aeronauts provided upon the exterior thereof with superposed rows of exterior air chambers extending around the garment, each of said air chambers being open at the bottom and having a vent at the top and adapted to perform the function of a parachute.

In testimony whereof I affix my signature in presence of two witnesses.

AULD WEINBERG DE MEIR.

Witnesses:

J. W. STONE,
OLIN HILL.