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Date of Application, 30th July, 1914

Complete Specification Left, 1st Feb., 1915—Accepted, 30th July, 1915

PROVISIONAL SPECIFICATION.

A Safety Belt for use on Aeroplanes and the like.

I, REGINALD LENNOX GEORGE MARIX, Flight-Lieutenant, R.N., of the Royal Naval Flying School, Eastchurch, in the County of Kent, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to safety belts such as are used for strapping aeroplane pilots or observers or passengers in their seats, and consists of an improved construction of such character as to enable the pilot or passenger to release himself instantaneously when he wishes to do so. Another feature of the invention is that the belt is adapted to retain the position on the wearer's body to which it is adjusted independently of the stress on the members which attach the belt to
10 the seat or framework of the aeroplane or the like.

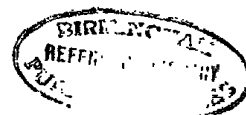
This latter result is attained by making the apparatus a complete belt in itself encircling the body of the wearer, apart from the members which attach it to the framework of the aeroplane, an adjustable strap connecting the two front flaps of the belt being provided for this purpose so that when the belt is passed
15 around the body and secured in front it will remain in the proper position, even should there be no tension on the attaching members or straps.

The front flaps, when brought together in front of the wearer, are secured by a spring catch readily releasable by a finger grip. This spring catch is preferably of such a character that it requires a simultaneous pressure upon two
20 finger grips to release the catch.

In the preferred construction of catch two levers with inwardly turned hooked ends are fulcrummed in the same plane between a pair of plates, the other ends of the levers extending outwardly and terminating in finger grips so disposed as to be conveniently actuated simultaneously by pressing them
25 towards each other by finger and thumb. The hooked ends of the levers or latches are urged towards each other by a spring or springs suitably accommodated between the two cover plates, and in addition another spring or springs may also be provided, the object of which is to press the catch piece which co-operates with the latches clear of the latter when the finger grips are pressed
30 towards each other.

The catch piece is formed on a plate or strip hinged to the other front flap of the belt and has a pair of shoulders and a nose portion so formed that, when pushed into an opening between the cover plates of the latch portion of the apparatus, the nose piece engages the two latches, displacing them against
35 the action of their return springs until the shoulders of the catch piece pass the hooks of the latches, which then engage over the shoulders and hold the two parts together until both finger grips are actuated as described. Also, the nose of the catch piece on being pressed home operates to compress the spring,

[Price 6d.]



A Safety Belt for use on Aeroplanes and the like.

when such is provided, which serves to eject the catch piece when the latches are released. The catch piece and the front cover plate are preferably provided with finger grips to facilitate the insertion and latching of the catch piece.

The front flaps of the belt may be attached to the seat or framework of the aeroplane in the usual manner, springs or other resilient members and adjustable straps being preferably interposed between the front flaps and the points of attachment. Alternatively, the front flaps themselves or the whole or any part or parts of the belt may be made of elastic material, so as to absorb the shock should the occupant of the aeroplane be thrown violently forward.

A padded flap may be attached to one of the front flaps of the belt on its inner side so as to overlap the join of the flaps and form a cushion interposed between the wearer and the metalwork of the catch.

Dated this 30th day of July, 1914.

ABEL & IMRAY,
Agents for the Applicant. 15

COMPLETE SPECIFICATION.**A Safety Belt for use on Aeroplanes and the like.**

I, REGINALD LENNOX GEORGE MARIX, Flight-Lieutenant, R.N., of the Royal Naval Flying School, Eastchurch, in the County of Kent, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to a safety belt adapted to secure the wearer to a structure such as the framework of an aeroplane.

According to the invention, the belt is adapted to retain the position to which it is adjusted on the wearer's body independently of the stress on the members which secure the belt to the structure, while it can be instantaneously fastened and unfastened by a grip operated by one hand.

The belt is complete in itself and encircles the body of the wearer, apart from the members which attach it to the framework of the aeroplane; an adjustable strap connecting the two front flaps of the belt is provided for this purpose, so that when the belt is passed around the body and secured in front it will remain in the proper position, even should there be no tension on the attaching members or straps.

The front flaps, when brought together in front of the wearer, are secured by a spring catch readily releasable by a finger grip. This spring catch is preferably of such a character that it requires a simultaneous pressure by two fingers to release the catch.

In the preferred construction of catch, two levers with inwardly turned hooked ends are fulcrummed in the same plane between a pair of plates, the other ends of the levers extending outwardly and terminating in finger grips so disposed as to be conveniently actuated simultaneously by pressing them towards each other by finger and thumb. The hooked ends of the levers or latches are urged towards each other by a spring or springs suitably accommodated between the two cover plates, and in addition another spring or springs may also be provided, the object of which is to press the catch piece which cooperates with the latches clear of the latter when the finger grips are pressed towards each other.

The catch piece is formed on a plate or strip hinged to the other front flap of the belt and has a pair of shoulders and a nose portion so formed that, when

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pushed into an opening between the cover plates of the latch portion of the apparatus, the nose piece engages the two latches, displacing them against the action of their return springs until the shoulders of the catch piece pass the hooks of the latches, which then engage over the shoulders and hold the two parts together until both finger grips are actuated as described. Also, the nose of the catch piece on being pressed home operates to compress the spring, when such is provided, which serves to eject the catch piece when the latches are released. The catch piece and the front cover plate are preferably provided with finger grips to facilitate the insertion and latching of the catch piece.

10 The front flaps of the belt may be attached to the seat or framework of the aeroplane in the usual manner, springs or other resilient members and adjustable straps being preferably interposed between the front flaps and the points of attachment. Alternatively, the front flaps themselves or the whole or any part or parts of the belt may be made of elastic material, so as to absorb the shock should the occupant of the aeroplane be thrown violently forward.

15 A padded flap may be attached to one of the front flaps of the belt on its inner side so as to overlap the join of the flaps and form a cushion interposed between the wearer and the metalwork of the catch.

20 In the accompanying drawing, Fig. 1 shows the belt with the flaps fastened and the attachments for securing it to the structure.

Fig. 2 shows an example of the two parts of the spring catch which are attached respectively to the two flaps of the belt.

Fig. 3 is a view with a cover plate removed of the gripping levers in the positions which they assume when the finger grip is applied.

25 Fig. 4 is a view with a cover plate removed of the two parts of the catch in engagement.

Fig. 5 is a section on the line 5—5 of Fig. 2.

30 The belt *a* completely encircles the body of the wearer and can be adjusted as required by the usual devices. The belt is secured to the fixed framework by cords *c*, elastic strips *b* being interposed to absorb shocks and allow freedom of movement. In Fig. 1, *r* is a padding attached to a flap secured to one of the flaps of the belt, as above mentioned.

35 The parts *d* and *e*, formed of metal plates, are secured to the front flaps of the belt and are fastened together by the engagement of the hooked ends *h* of gripping levers *f* provided in the part *e* with the shoulders *k* of the nose piece *l* of the hinged plate, *d*.

The gripping levers *f* turn on pivots *g* and are forced into engagement with the nose piece *l* by a spring *j*.

40 When this spring is compressed by the pressure of a finger and thumb at *i*, *i*, the part *d* is released and, in the example shown, is forced outwards by the pressure of springs *m* provided in the part *e*.

45 In order to fasten the belt, the nose *l* of the catch piece is forced by means of the finger grips *p*, *q* between the plates *e* and *o* which enclose the latches until the shoulders *k* engage with the hooks *h* of the levers *f*. The distance pieces *n* between *e* and *o* allow of the free movement of the parts.

The contour of one edge of the plate *e* is shown at 1, 2, 3, 4, 5, in Fig. 2 and of one of the distance pieces *n* at 6, 7, 8, 9, 10, 11, 12 in Fig. 3.

50 It is obvious that the application of the invention is not limited to aeroplanes, but extends to any case in which the wearer is secured to a structure by a belt, which can be unfastened instantaneously.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A safety belt completely encircling the body of the wearer and adapted to 55 retain its position independently of the stress on the members by which it is

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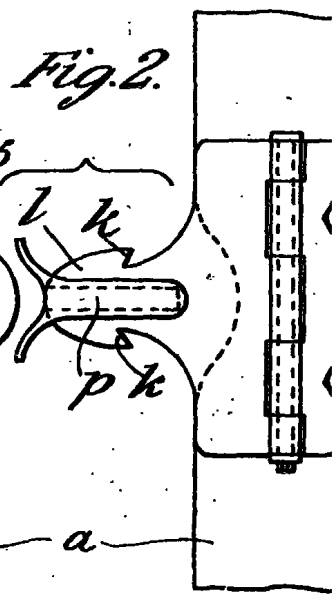
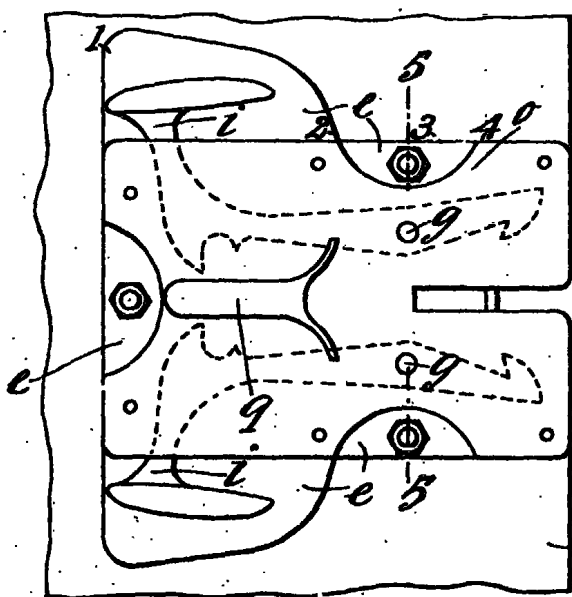
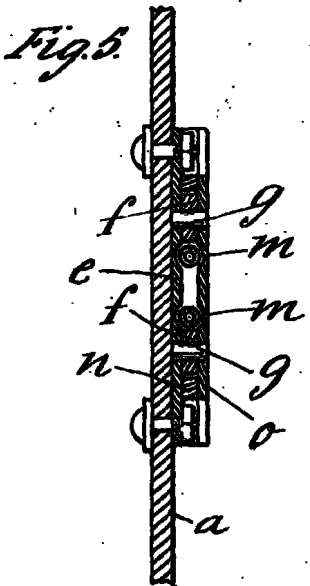
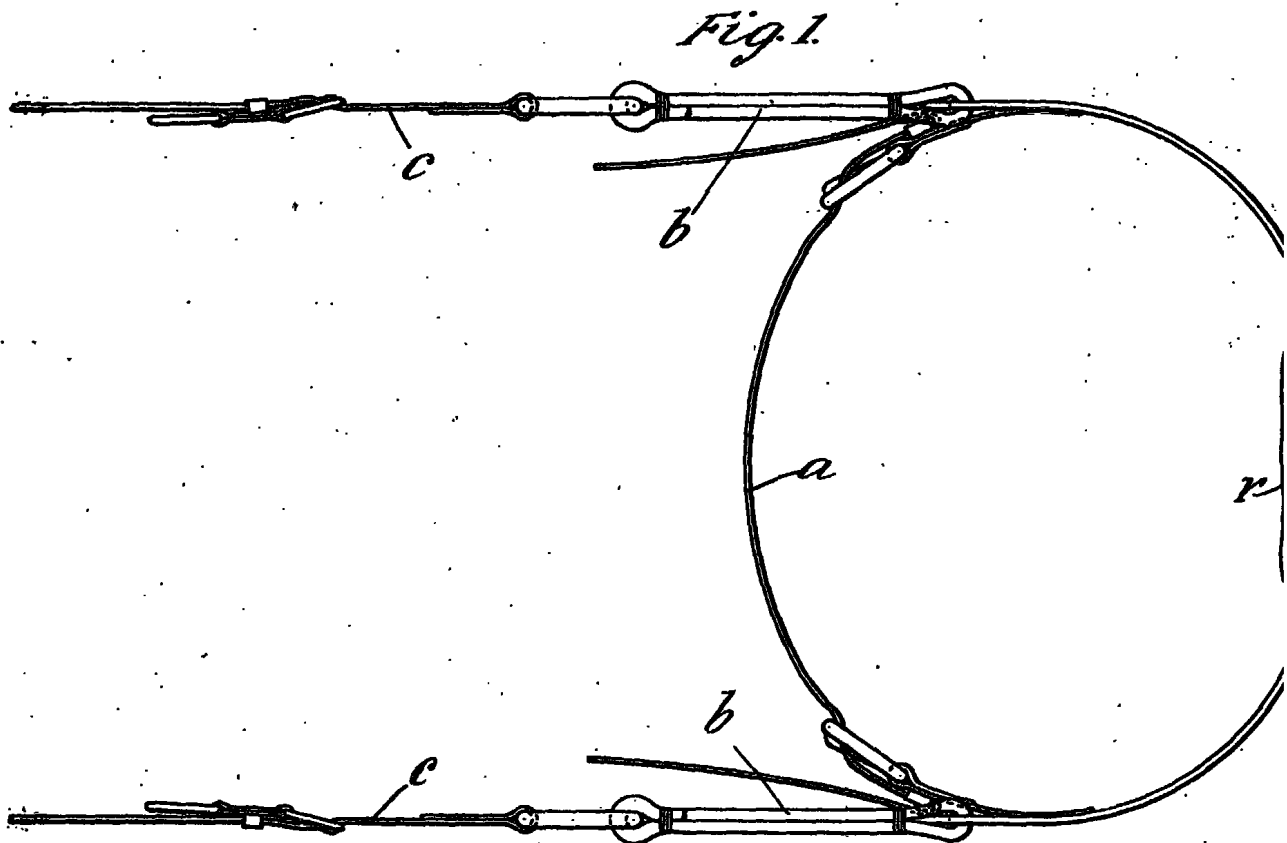
attached to the framework of an aeroplane or other structure and which can be instantaneously fastened or released by a finger grip operated by one hand.

2. A belt according to Claim 1, in which the flaps are secured by spring latches, placed within cover plates, both of which latches must be released before the belt is unfastened.

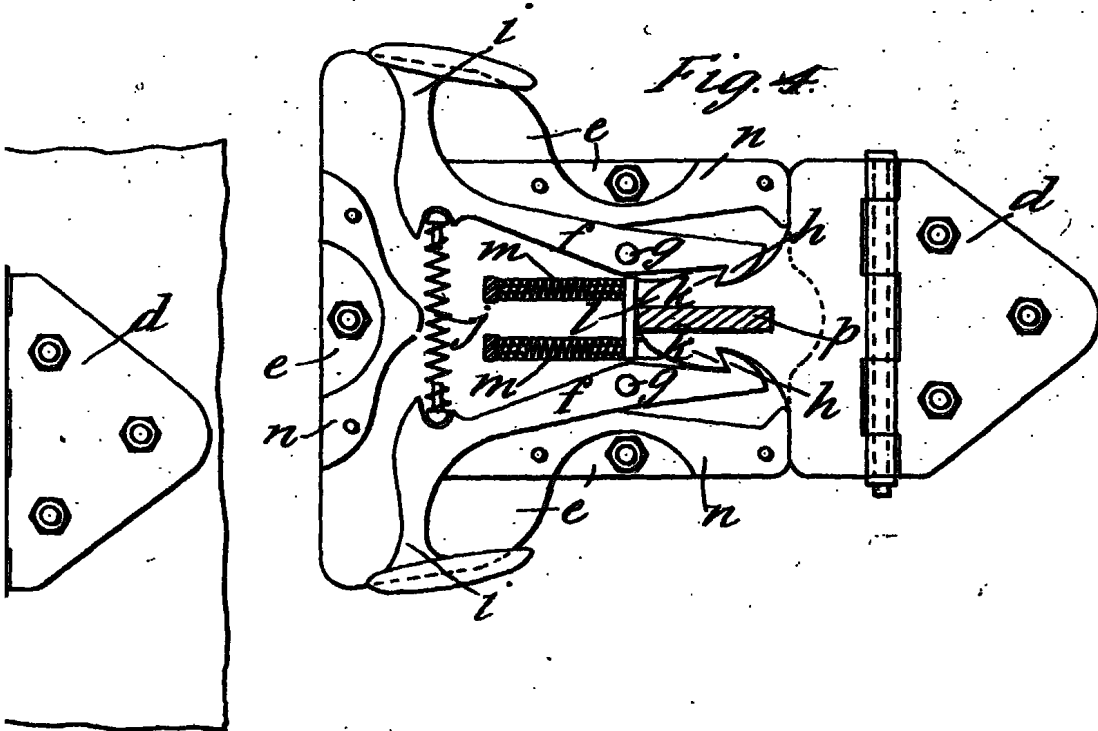
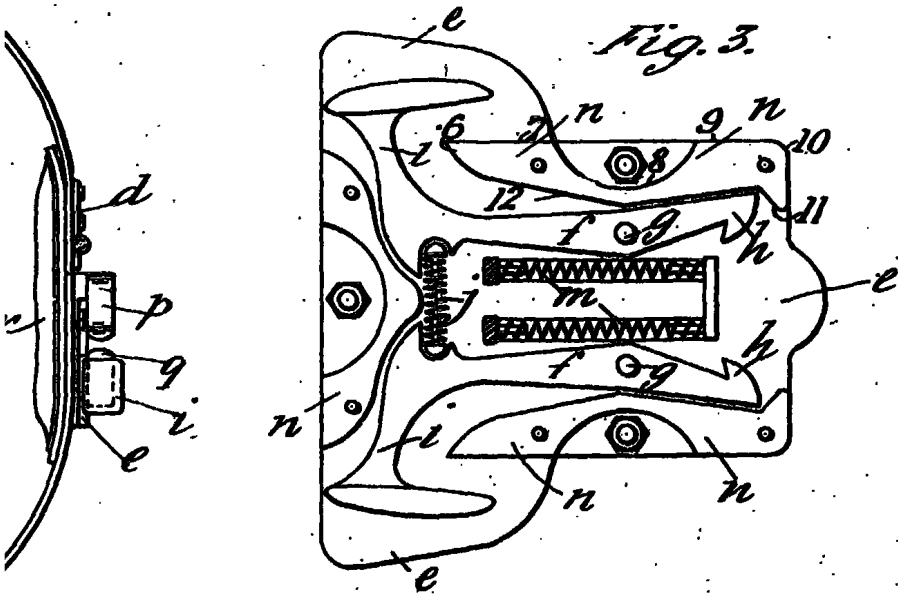
3. A safety belt, substantially as described with reference to the figures of the accompanying drawing. 5

Dated this 30th day of January, 1915.

ABEL & IMRAY,
Bank Chambers, Southampton Buildings, London, W.C., 10
Agents for the Applicant.



[This Drawing is a reproduction of the Original on a reduced scale.]



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