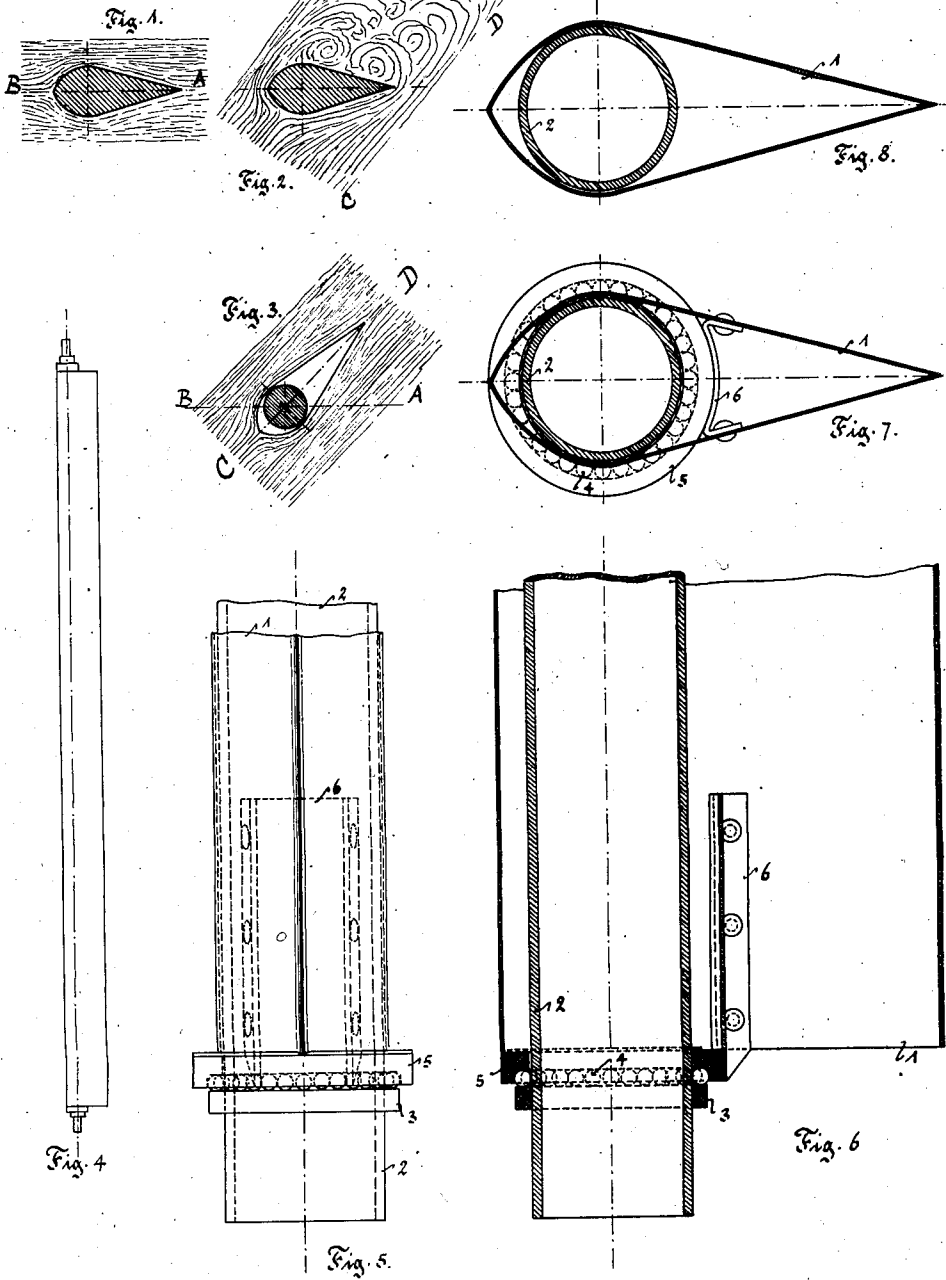


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 STRUT COVER OF STREAM LINE SURFACE.
 APPLICATION FILED DEC. 8, 1913.

1,104,254.

Patented July 21, 1914.



WITNESSES:
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GUSTAV R. EDELBUTTEL-REIMERS, OF GENEVA, WASHINGTON.

STRUT-COVER OF STREAM-LINE SURFACE.

1,104,254.

Specification of Letters Patent.

Patented July 21, 1914.

Original application filed June 28, 1912, Serial No. 706,481. Divided and this application filed December 8, 1913. Serial No. 805,417.

To all whom it may concern:

Be it known that I, GUSTAV R. EDELBUTTEL-REIMERS, a citizen of the United States, residing at Geneva, in the county of Whatcom and State of Washington, have invented new and useful Improvements in Strut-Covers of Stream-Line Surface, of which the following is a specification.

My invention relates to those means which minimize the head resistance of an aeroplane, and it is the device which I already disclosed with my patent application of June 28, 1912 for aeroplane struts, Serial No. 706,481 and for which division was required.

The purpose of my invention is to provide a strut-cover of streamline surface that will be able to adjust itself according to the direction of an air-current which may strike it, though the direction of said air-current may be another than that in which the strut travels.

Figure 1 is a horizontal cross section through a rigid strut of streamline surface, the strut traveling through still air in the direction from A to B. Fig. 2 is the same, but struck by a cross-wind that blows from C to D. Fig. 3 is a horizontal section through a rigid strut of round cross section, said strut being surrounded by my adjustable strut-cover; the strut traveling in the direction from A to B and met by an air-current that moves from C to D. Fig. 4 shows a side elevation of a strut provided with my adjustable strut-cover of streamline surface, said cover made movable around the strut by means of two ball bearings, one at each end. Figs. 5 and 6 show in detail the connection between strut-cover and the strut proper, front view and longitudinal section respectively. Fig. 7 shows a horizontal section through both strut and cover just above the ball bearing. Fig. 8 is another section through strut and cover showing the independence from each other clearly.

When a rigid strut of streamline surface Fig. 1 moves through still air or is met by an air-current which is opposed to the direction of travel of said strut, but parallel to it, then the streamline surface of the strut serves its purpose well. But if the same strut Fig. 2 is struck by a side-wind or when the aeroplane, of which the strut may be a

part, is describing sharp curves during its flight, then this strut of streamline surface loses all its previous advantages and offers a much greater head resistance than an ordinary strut of square, round, or other cross section. In order to overcome this disadvantage, as pointed out above, of a rigid strut of streamline surface or a fixed cover of streamline surface, I provide the movable strut-cover of streamline surface, preferably of sheet metal, which can adjust itself according to any irregularities that may occur in the air through which the strut travels.

In Fig. 3 I illustrate a case in which a round strut surrounded by an adjustable strut-cover is hit by a side-wind C—D, the strut traveling in the direction from A to B. This arrangement shows clearly the advantage over the rigid strut of streamline surface Fig. 2 under the same conditions in that the strut-cover being revoluble around its strut immediately complies with the new conditions.

Fig. 6 illustrates in detail the connection between adjustable cover of streamline surface 1 and the rigid strut 2 of round steel tube by means of a ball bearing. Said ball bearing consisting of a collar 3 which is shrunk on the strut, the balls 4, and the ring 5 to which is welded the strut-cover 1. The connection between cover 1 and ring 5 is reinforced by a bridge piece 6 of an essentially U shaped cross section.

The connection between movable cover 1 and the strut 2 as described is only a suggestion and may be effected in any other way that suits the circumstances of the particular case.

What I claim as new and desire to secure by Letters Patent is:

A revoluble strut-cover of streamline surface, said strut-cover to be connected to its strut in such a way as to allow said cover to swing freely around the strut, substantially as described and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUST. R. EDELBUTTEL-REIMERS.

Witnesses:

PERCY LIVESEY,
G. A. WRIGHT.