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A.D. 1909

Date of Application, 14th Apr., 1909

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PROVISIONAL SPECIFICATION.

“Improvements in Flying Machines.”

I, WILLIAM BRITAIN, of Wildwood, Rowantree Road, Enfield, Middlesex, do declare the nature of this invention to be as follows:—

This invention relates to flying machines and consists more especially in a mechanism for transmitting the drive of the motor equally to two fans rotating in opposite directions.

To the motor shaft is connected a comparatively small double grooved pulley and a rocking beam or double armed lever is mounted on the same axis as that of the motor shaft or one approximately near thereto, this beam or double armed lever carrying on each of its arms another comparatively small single grooved pulley, hereinafter referred to as a jockey pulley. The two fans to be driven, or their shafts, are provided with pulleys of relatively large diameter, all the pulleys being approximately in the same plane. A single endless rope is carried about these pulleys as follows: commencing at any point, for example, below the left hand fan pulley the rope may be said to extend over the motor shaft pulley, clockwise around about three quarters of the circumference in one of the grooves of the same, over the left hand jockey pulley, around about three quarters of its circumference in anti-clockwise direction, thence over the right hand fan pulley, clockwise round about three quarters of the circumference thereof, thence to the under side of the motor shaft pulley, clockwise round about three quarters of its circumference in the other groove thereof, thence anti-clockwise round about three quarters of the circumference of the right hand jockey pulley, thence over the left hand fan pulley anti-clockwise round about three quarters the circumference thereof and thus to the point whence the tracing of this circuit commenced.

The two arms of the beam, or lever carrying the jockey pulleys lie at such angle to one another that the rope may normally contact with as large a part of the circumference of the motor shaft pulley as is conveniently possible without causing contact between two oppositely moving parts of the rope.

A spring connects the beam to some convenient fixed part of the frame work, tending to draw and hold the beam in such position as to tension the rope and maintain driving friction on the pulleys.

A suitable mechanical connection to the beam enables the latter to be rocked when desired in a direction contrary to the tension of the spring and so enables the rope to be slackened and the driving friction reduced so that the rope may slip.

Dated this 14th day of April, 1909.

HERBERT HADDAN & Co.,

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[Price 8d.]



Britain's Improvements in Flying Machines.

COMPLETE SPECIFICATION.

“Improvements in Flying Machines.”

I, WILLIAM BRITAIN, of Wildwood, Rowantree Road, Enfield, Middlesex, 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:—

This invention relates to flying machines and consists more especially in a mechanism for transmitting the drive of the motor equally to two propellers rotating in opposite directions, said mechanism comprising the novel features hereinafter fully described and specifically pointed out in the appended claims, reference being made to the accompanying drawing, which shows in front elevation an embodiment of the invention. 5

To the motor shaft *x* is connected a comparatively small double grooved pulley *r* and a rocking beam or double armed lever *t* is mounted on the same axis as that of the motor shaft or one approximately near thereto, this beam or double armed lever carrying on each of its arms another comparatively small single grooved pulley *s* ^{s¹} hereinafter referred to as a jockey pulley. 10
The two propellers to be driven, or their shafts, are provided with pulleys *q* of relatively large diameter, all the pulleys being approximately in the same plane. A single endless rope *v* is carried about these pulleys as follows: commencing at any point, for example, below the left hand propeller pulley the rope may pass in the directions indicated by the arrows over the motor shaft pulley *r*, clockwise around about three quarters of the circumference in one of the grooves of the same, over the left hand jockey pulley *s* around about three quarters of its circumference in anti-clockwise direction, thence over the right hand propeller pulley *q* clockwise round about three quarters of the circumference thereof, thence to the under side of the motor shaft pulley *r*, clockwise round about three quarters of its circumference in the other groove thereof, thence anti-clockwise round about three quarters of the circumference of the right hand jockey pulley *s* ^{s¹} thence over the left hand propeller pulley *q* anti-clockwise round about three quarters the circumference thereof and thus to the point whence the tracing of this circuit commenced. 15 20 25 30

The two arms of the beam or lever *t* carrying the jockey pulleys lie at such angle to one another that the rope may normally contact with as large a part of the circumference of the motor shaft pulley *r* as is conveniently possible without causing contact between two oppositely moving parts of the rope.

A spring *u* connects the beam to some convenient fixed part of the frame work, tending to draw and hold the beam *t* in such position as to tension the rope *v* and maintain driving friction on the pulleys. 35

A suitable mechanical connection to the beam such as the rod *w* enables the latter to be rocked when desired in a direction contrary to the tension of the spring and so enables the rope to be slackened and the driving friction reduced so that the rope may slip. 40

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. Mechanism for transmitting the drive of the motor equally to two propellers rotating in opposite directions comprising a comparatively small double grooved driving pulley, a rocking beam carrying on each of its arms another 45

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comparatively small single grooved pulley, pulleys of relatively large diameter on the two propellers to be driven, or their shafts, and a single endless rope carried about these pulleys in the manner hereinbefore described.

5 2. Mechanism as in Claim 1, in which the two arms of the rocking beam lie at such angle to one another that the rope may normally contact with as large a part of the circumference of the driving pulley as is conveniently possible without causing contact between two oppositely moving parts of the rope.

10 3. The combination with the mechanism set forth in Claim 1, of a spring connecting the beam to some convenient fixed part of the frame work, tending to draw and hold the beam in such position as to tension the rope and maintain driving friction on the pulleys.

15 4. The combination with the mechanism set forth in Claim 1, of a suitable mechanical connection to the beam enabling the latter to be rocked when desired in a direction to slacken the rope and reduce the driving friction.

Dated this 30th day of September, 1909.

HERBERT HADDAN & Co.,
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[This Drawing is a reproduction of the Original on a reduced scale.]

