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BY A. P. C.

C. R. WASEIGE

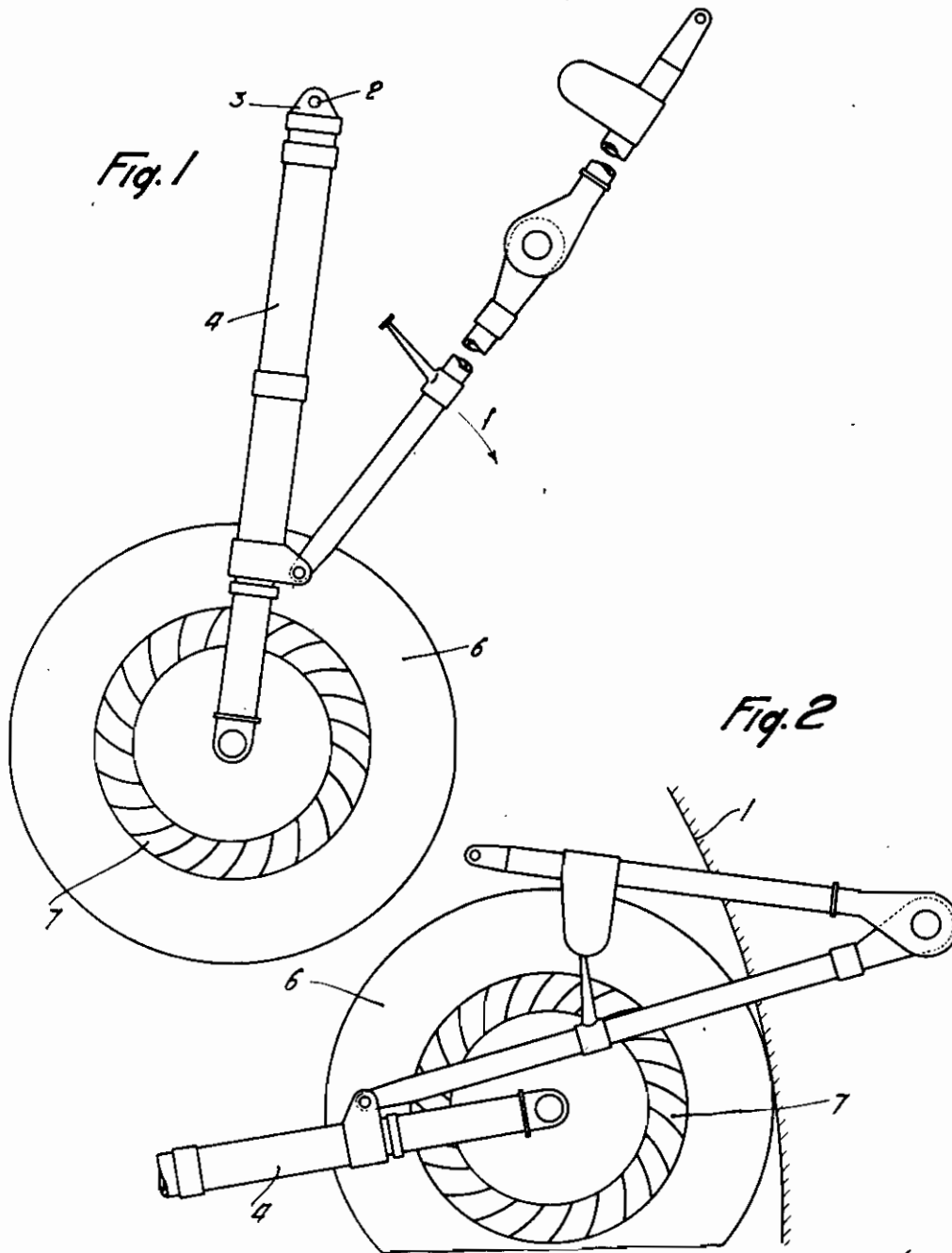
RETRACTABLE LANDING GEAR FOR AIRCRAFT

Filed Aug. 4, 1939

Serial No.

288,461

2 Sheets-Sheet 1



Inventor,
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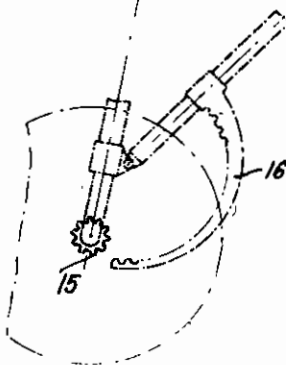
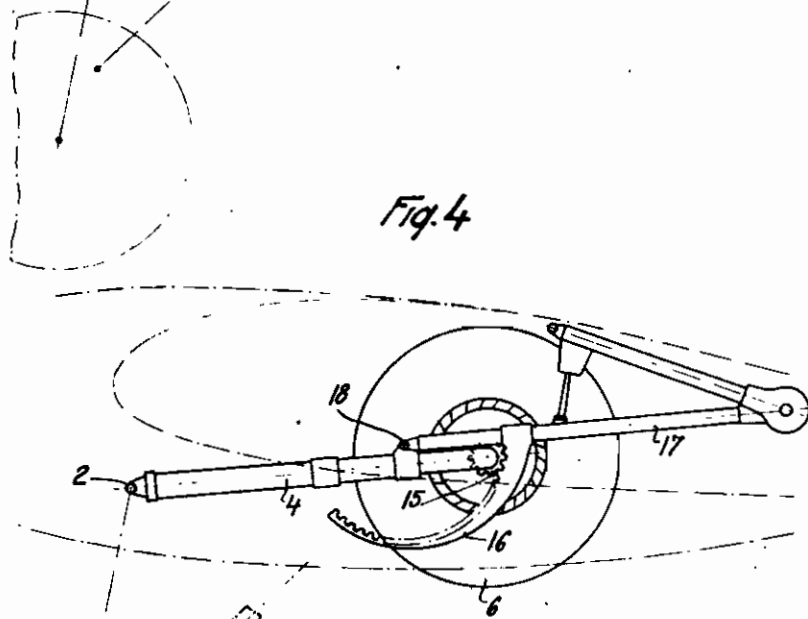
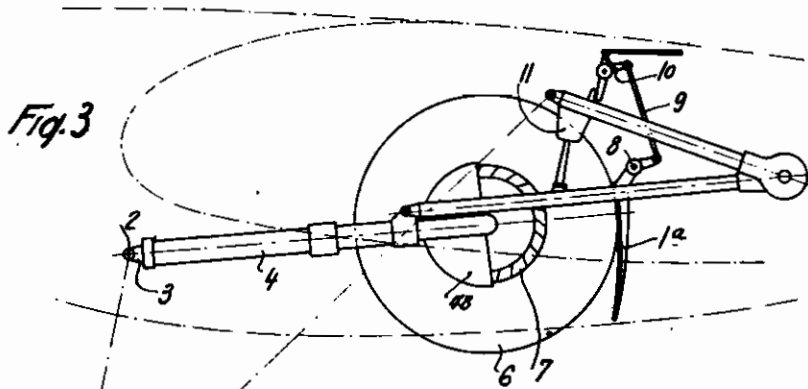
by: *Glascok Downing & Sebold*
ATTORNEYS

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ALIEN PROPERTY CUSTODIAN

RETRACTABLE LANDING GEAR FOR AIRCRAFT

Charles Raymond Waseige, Rueil, France; vested
in the Alien Property Custodian

Application filed August 4, 1939

The present application forms a continuation-in-part application of the co-pending application Serial No. 226,569 filed August 24, 1938.

The invention relates to retractable landing gears for aircraft and more particularly to means for minimising the wear of the pneumatic tyres of the landing wheels.

The primary object of the invention is to set the wheel in rotation before it comes into contact with the ground, this being done to avoid deteriorating the pneumatic tyre on landing, particularly on hard surfaces, such as concrete tracks for example.

By way of non-limitative examples three different embodiments of the invention are diagrammatically illustrated in the annexed drawings in which:

Fig. 1 is a side view of a half landing gear in the position for landing;

Fig. 2 is a similar view of this same landing gear, but in the retracted position.

Fig. 3 is similar to Fig. 1 and shows a modified embodiment.

Fig. 4 shows a further modified embodiment.

In the exemplary embodiment shown in Figs. 1 and 2, there is provided a circular track 1 which is concentric with the stationary pin 2 of the pivot jaw 3 for the landing struts 4 and said track 1 is carried by the structure of the aeroplane in such a manner that during the lowering of the landing gear i. e. during rotation of the landing struts 4 about the stationary pivot pin 2 the tyre rolls on said track and rotates the wheel 6 in the same direction as it has to rotate in when the aeroplane is rolling along the ground. Furthermore, the rim of the wheel carries on each side a set of blades 7, the blades of which are so constructed that the relative wind keeps up and accelerates the rotary movement thus imparted to the wheel. Optionally, said sets of blades may be eliminated and the track may remain alone.

The track may be movable on the aeroplane and be so controlled that it only comes into contact with the tyre by the action of a device which is driven in synchronism with the landing gear lowering mechanism.

An embodiment thereof is illustrated in Fig. 3. In this embodiment the track 1a is pivoted to the aircraft structure at a stationary point 8 and it is connected by a link 9 to the control means 10 for the locking device of the landing gear, which device is schematically illustrated at 11. When the landing gear is locked in its retracted position, the track 1a is out of engagement with the landing wheel 6 but on the pilot actuating the control means 10 to unlock the landing gear and cause it to move to its landing position the link 9 urges the track 1a to rock about the pivot 8 into engagement with the wheel 6. Further a stationary hood 13 covers the front half of the crown of blades 7 when the landing wheel 6 is in the retracted position.

In the embodiment illustrated in Fig. 4 a gear wheel 15 is secured to the wheel 6 coaxially therewith; it is for instance keyed on the wheel axle. Said gear wheel 15 meshes with an internally toothed gear wheel portion 16 carried by that member 17 of the landing gear which is pivoted at 18 to the landing strut 4 and this gear wheel portion 16 is concentric to said pivot 18. It is clear that when the landing gear is being lowered, i. e. when the landing strut 4 turns about its pivot 2, the gear wheel 15 rolls as a planet wheel on the gear wheel or sun wheel portion 16, thereby rotating the landing wheel 6. Towards the end of the lowering stroke the gear wheel 15 gets disengaged from the gear wheel portion 16 owing to the fact that the gear wheel portion 16 is made shorter than the stroke of the gear wheel 15.

Of course, the invention is in no way limited to the details of construction illustrated or described which have only been given by way of example. Thus, for example, the invention may be applied to retractable landing gears of any system and whatever be their operating mechanism; it is obvious that the position of the track for setting the wheel in motion varies according to the type of the landing gear, in particular according to whether the wheel is lowered from front to rear or from rear to front.

CHARLES RAYMOND WASEIGE.