

## Patent Rights in Aircraft

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# PATENT RIGHTS IN AIRCRAFT\*

CARL ZOLLMANN

PATENT rights in regard to aircraft though at first blush identical with similar rights arising out of other inventions yet present essential differences. Flying is a new art if ever there was one. "The claims for broad and basic patent rights are apt to be more numerous in a new art than in one the principles of which have long been known and applied."<sup>1</sup> In addition, flying machines are the most mobile of vehicles adapted to all countries and climates and readily find their use in interstate and international transportation. To allow a flight from country to country to be interrupted by patent claims made by the nationals of the various countries visited would seriously hinder the development of aëronautics. Therefore, the international convention of 1919 held in connection with the peace conference, in article 18 guarantees immunity to any foreign aircraft from seizure or detention while within the airspace or upon the territory of another nation "on the ground that the construction or mechanism of the aircraft is an infringement of any patent, design, or model, duly granted or registered in such state."<sup>2</sup> No similar exemption exists in any other field such as maritime commerce which perhaps bears the closest analogy to aëronautics. In view of these differences a short statement of the patent situation, as disclosed by the decided cases, would seem to be appropriate in a volume dealing with the law of the air.

Man naturally walks upon the earth and the conquest of the globe by him, therefore, was a foregone conclusion. Imitating the fishes was a somewhat greater accomplishment which, however, was very early achieved and indeed was very simple. Man from earliest times has dreamed of imitating the birds but his progress toward this goal has been very slow indeed. The fancied flight of Icarus into the higher levels of the air, in the course of which instead of freezing to death

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<sup>1</sup> A. K. Kuhn, "International Aërial Navigation and the Peace Conference," 14 Am. J. Int. L. 369, 376 (1920).

<sup>2</sup> For a criticism of this provision see "International Aërial Navigation and the Peace Conference," 14 Am. J. Int. L. 369, 375, 376 (1920).

as would actually be the case, his waxen wings were melted by coming too close to the sun, shows the turn in mind of the ancients and has its counterpart in more modern times in the traditional flight of Darius Green with his home-made flying machine which landed with such disastrous results on the flyer's barnyard manure pile. Only with the invention of the steam engine was a machine provided capable of developing sufficient power to sustain the flight of a heavier-than-air machine. Therefore, Erasmus Darwin, the grandfather of Charles Darwin, in 1802 wrote these lines:

Soon shall thy arm, unconquered steam, afar,  
 Drag the slow barge and drive the rapid car;  
 Or on wide-waving wings expanded bear  
 The flying chariot through the streams of air;  
 Fair crews triumphant leaning from above  
 Shall wave their fluttering kerchiefs as they move;  
 Or warrior bands alarm the gaping crowd  
 And armies shrink beneath the shadowy cloud.<sup>3</sup>

No less a person than Tennyson in 1842, in "Locksley Hall" uttered this remarkable prophecy:

Men, my brothers, men the workers, ever reaping something new,  
 That which they have done but earnest of the things that they shall do;  
 For I dipped into the future, far as human eye could see,  
 Saw the visions of the world, and all the wonders that would be;  
 Saw the heavens fill with commerce, argosies of magic sails,  
 Pilots of the purple twilight, dropping down with costly bales;  
 Heard the heavens fill with shouting, and there rained a ghastly dew  
 From the nation's airy navies, grappling in the central blue:  
 Far along the world-wide whisper of the south wind rushing warm,  
 With the standards of the peoples plunging through the thunder-storm,  
 Till the war drums throbbed no longer, and the battle flags were  
 furled

In the Parliament of Man, the Federation of the World.<sup>4</sup>

Accordingly, planes supported in their flight by the reaction of the air against an inclined surface which presses against the air as the plane advances, thereby inclining the plane to rise while the natural resistance to forward motion is overcome by steam machinery, were patented in Great Britain as early as 1842 (the Henson patent). The invention of the gasoline engine was a mere improvement of the driving machinery developing out of very volatile fuel greater power by the use of lighter machinery but left the plane still to flutter rather than fly and apt to crash to the ground on meeting any air pocket, adverse wind, or other impediment. It was this inability to adjust itself to the

<sup>3</sup> Blewett Lee, "Sovereignty of the Air," 7 *Am. J. Int. L.* 470, 471 (1913).

<sup>4</sup> S. E. Baldwin, "The Law of the Airship," 4 *Am. J. Int. L.* 94, 108 (1910).

adverse conditions in the air which retarded the development of the art of flying until the beginning of the present century.

Thus the idea of machines sustained in their aërial movements by planes which travel through the air in a forward ascending or descending course at an angle of incidence driven or propelled by mechanical power or force of gravity is much older than the present century. However, such machines could maintain themselves in the air but for an uncertain and usually very short time, and resulted merely in the ability of man to flutter in the air like a wounded bird rather than fly. Not until means were discovered to guide planes both vertically and horizontally, to maintain or restore their equilibrium or lateral balance, and to remove or repress aërial forces which tend to divert their course was the art of flying (as distinguished from fluttering) discovered. The solution was a supporting surface or plane, the lateral portions of which are capable of adjustment to attain different angles of incidence and a vertical rudder in the rear through which the tendency of the plane to spin or swerve is checked or counteracted. This lateral yielding, warping, or distorting of the aëroplane is the essential feature by which this equilibrium is secured. It overcomes the obstacle with which prior inventors had struggled in vain. It makes it possible to prevent the precipitate unbalancing or upsetting of the machine. In short, it makes continuous flight upward and downward, to the right and to the left, through air pockets and windstorms, with and against the wind possible. It was this idea so new and revolutionary which the Wright Brothers of Dayton, Ohio, demonstrated in actual flight for the first time on December 17, 1903, and which will link forever their name with the new art of aëronautics. It is this which entitles their patent claim to a broad and liberal construction and induced the Circuit Court for the Western District of New York in 1910 to grant them a preliminary injunction against the Herring-Curtis Company because the elements of the Wright invention were found in the Glenn H. Curtis plane from the "Junebug" on, though with some dissimilarities in structure, change of form, and strengthening of parts.<sup>5</sup> After this case was reversed on the mere ground that a preliminary injunction should not be issued because the infringement was not clearly enough established by mere affidavits which, of course, gave no opportunity for cross-examination,<sup>6</sup> the Circuit Court on sworn testimony in 1913 reached substantially the

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<sup>5</sup> 1910, *Wright Co. v. Herring-Curtiss Co.* 177 Fed. 257; reversed 180 Fed. 110, 103 C.C.A. 31. For a very similar case decided very shortly after by the United States Circuit Court for the Southern District of New York see 1910, *Wright Co v. Paulhan*, 177 Fed. 261; reversed 180 Fed. 112, 103 C.C.H. 32.

<sup>6</sup> 180 Fed. 110, 103 C.C.A. 31.

same conclusion which before had been reached on the basis merely of affidavits<sup>7</sup> and this result was approved by the Circuit Court of Appeals.<sup>8</sup>

The invention of a vehicle capable of motion on land and in the air was naturally followed by the production of another vehicle which combines the qualities of a ship with those of a bird. Instead of having a body resting on wheels and capable of running along the ground, a boat with a rear water propeller is substituted which achieves sufficient speed on the water to enable it to rise into the air. This would seem to be a simple postulate of the invention of the *aéroplane* but the simpler a proposition appears to be retrospectively the harder it sometimes is prospectively. Early experiments made with such a machine showed merely that it was capable of traveling along the surface of the water somewhat like a flying fish. Such a machine is not a hydroplane though it was constructed on the same principles, and, therefore, did not interfere with a patent for a true hydroplane capable of rising into the air and thence returning to the water.<sup>9</sup> Such a crude experiment was in fact made by Curtis in May, 1910. He succeeded merely in skimming along the water at a great speed without ever rising from it. The District of Columbia Court held that this was not a reduction to practice, since in this new art nothing short of achievement can rise to the dignity of such reduction. The fact that the motor was not powerful enough would be an excuse which in good faith could be advanced by hundreds of inventors of *aéroplanes* who have sought patents during the last forty years of the nineteenth century. Albert S. Janin, having conceived the idea in 1907, and having filed his claim on the same day, January 26, 1911, on which Curtis finally rose from the water, was, therefore, held to be entitled to the preference.<sup>10</sup> However, on appeal to the Circuit Court of Appeals the prize was wrested from Janin and bestowed on Curtis on the ground that the specifications filed by Janin on January 26, 1911, did not disclose an operative hydroplane, did not show a boat but only a "hull-like body" the freeboard of something long and narrow like a boat which could never be lifted from the water by any power compatible with flying and placed in a flying machine.<sup>11</sup>

It was further held in 1920 that a combination of an applicant's

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<sup>7</sup> 1913, *Wright Co. v. Herring-Curtiss Co.*, 204 Fed. 597.

<sup>8</sup> 211 Fed. 654, 128 C.C.A. 158.

<sup>9</sup> 1917, *in re Curtis*, 46 App. D. C. 183, 192.

<sup>10</sup> 1916, *Janin v. Curtis*, 45 App. D. C. 362, approved 1920, in *Curtis Aéroplane & Motor Cor. v. Janin*, 267 Fed. 198.

<sup>11</sup> 1921, *Curtis Aéroplane & Motor Cor. v. Janin*, 278 Fed. 454.

previously patented aëroplane with hydroplane features known to the prior art is not patentable, since assembling the mechanical equivalent of features old in the art into a single structure does not constitute invention. "The combination here sought to be patented, while not disclosed in a single structure of the prior art, is so completely shown in different prior inventions as to admit easily of mechanical simulation."<sup>12</sup>

With the invention of both the aëroplane and the hydroplane the words of the poet Gray, that man inherits

Nor the pride, nor ample pinion  
That the Theban Eagles bear,  
Sailing with supreme dominion  
Through the azure deep of air,<sup>13</sup>

became antiquated and out of date.

The outbreak of the great war has stimulated more than anything else the use of the aëroplane and has been instrumental in bringing undreamed-of treasure trove into the coffers of aëroplane companies. The end of the war raised the question what was to be done with the accumulated material. The answer, of course, was to sell it on the best terms obtainable. This in turn has raised another type of patent question. It has been held that the owner of thirteen patents issued by the United States covering aëroplane parts who sold in consideration of \$4,000,000 to the Imperial Munitions Board of Canada the right to manufacture aëroplanes which were to "become and be the absolute property of the British government" and did not in any manner restrict the right to either use or sell the manufactured planes, cannot prevent an assignee of the Munitions Board from selling such planes in the United States after the end of the war. The patent monopoly was not recognized at common law but was created by article 1, paragraph 8, of the Federal Constitution, which gives Congress power to promote the progress of science and useful arts by securing for limited times to inventors the exclusive right to their discoveries. A sale by the patentee or his assignee frees the article from the monopoly of any patents which the vendor may possess. The purchaser now has the absolute right to deal with that which he buys in any manner he sees fit. An aëroplane is the most mobile article manufactured and is not confined by geographical boundaries. It is susceptible of use anywhere in the world. Such widespread use was contemplated by the contract. When, therefore, the patent machines rightfully passed to the hands of purchasers

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<sup>12</sup> 1920, *In re Smith*, 262 Fed. 643, 644.

<sup>13</sup> Cited by Blewett Lee in "Sovereignty of the Air," 7 *Am. J. Int. Law* 470, 471 (1913).

they no longer are within the limits of the monopoly. The buyer has an absolute property in them unrestricted by time or space. The article has paid its tribute and hence is unfettered from the claim of monopoly.<sup>14</sup>

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<sup>14</sup> 1920, *Curtis Aeroplane & Motor Corp. v. United Aircraft Engineering Corporation*, 266 Fed. 71.