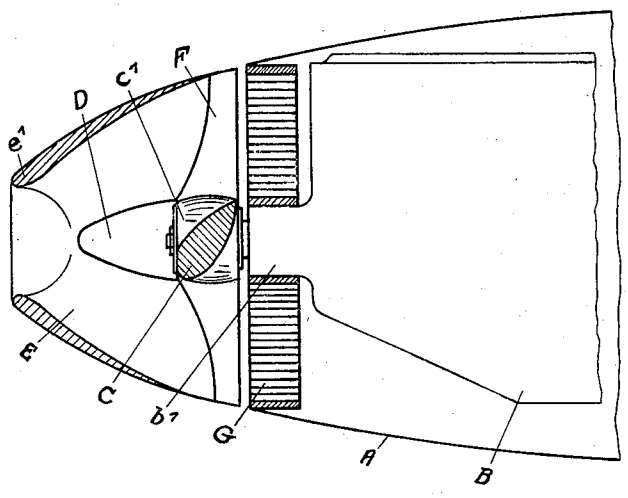
P. JARAY.

COOLING DEVICE FOR AERIAL VEHICLES.

APPLICATION FILED JUNE 28, 1920.

1,414,418. Patented May 2, 1922.



INVENTOR

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UNITED STATES PATENT OFFICE.

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COOLING DEVICE FOR AERIAL VEHICLES.

1,414,418. Specification of Letters Patent. Patented May 2, 1922.

Application filed June 28, 1920. Serial No. 392,567.

To all whom it may concern:

Be it known that I, PAUL JARAY, a citizen of the Austrian Republic, residing at Friedrichshafen, Germany, have invented certain new and useful Improvements in Cooling Devices for Aerial Vehicles, (for which I have filed application in Germany Nov. 16, 1917,) of which the following is a specification.

My invention refers to the cooling of the motors and the like in aerial vehicles and it consists substantially in guiding the cooling air in a peculiar manner so as to lead it on to a radiator disposed in the interior of the shell or body of the flying machine or the like behind the propeller.

Cooling devices have already been proposed which are provided with a single hood rotating along with the propeller and forming a hemispherical head for the propeller. Now the hoods of this kind which have been hitherto used were closed almost completely towards the rear by a dish-shaped piece of sheet iron serving as a support and which prevented the fresh air entering the hood from reaching the interior of the body. In other cases the hub of the propeller has been provided with a smaller hood entirely impervious to air and serving for deviating in a favorable manner the air along the hub of the propeller.

In contradistinction to these older devices my present invention refers to a cooling device comprising a closed propeller hood and an open hood disposed relatively to each other in such a manner that a channel for guiding the air is formed which leads the air flowing through it to a radiator disposed in a peculiar manner. In consequence thereof the subject matter of my invention is a cooling device of the kind aforesaid in which the combination of the closed inner hood known per se and the open outer hood forms an annular nozzle which serves, according to the present invention, for leading the cooling air towards a radiator arranged in the interior of the flying machine body behind the two propeller hoods and which is adapted, as far as the dimensions are concerned, to the area of the nozzle outlet.

In the drawings affixed to this specification and forming part thereof, the invention is shown by way of example as applied to the front portion of a flying machine body illustrated in a vertical longitudinal section.

The flying machine shell A formed of a body of favorable configuration with regard to air resistance and lacking a point has a motor B disposed in its front portion, the part of the said motor which carries the bearings b^1 for the shaft of propeller C extending forward of the body. The hub c^1 of the propeller is provided in a wellknown manner with a closed propeller hood D of parabolic section. The lacking point of the shell A is replaced in a wellknown manner by an outer hood N forming the continuation of the shell-covering, said outer hood being also rigidly fixed to the propeller C in any suitable manner. The axial section of the outer hood E represents a body e^1 confined by stream lines and arranged at such a distance from the propeller shaft that between the two hoods there is left a nozzle-shaped space having a circular inlet opening and an annular outlet opening. The outlet opening is provided with turbine vanes F. Immediately behind the outlet of the nozzle and between this latter and the motor B a radiator G of annular section is arranged.

I claim:—

In a device of the kind described in combination, a propeller, a motor disposed behind said propeller, a radiator between said propeller and said motor, a closed inner hood on the hub of said propeller and an open outer hood surrounding said inner hood at a distance therefrom.

In testimony whereof I affix my signature.

PAUL JARAY.