July 29, 1924. 1,503,366

P. JARAY

RADIATOR COVERING

Filed June 28, 1920

Fig. 1.

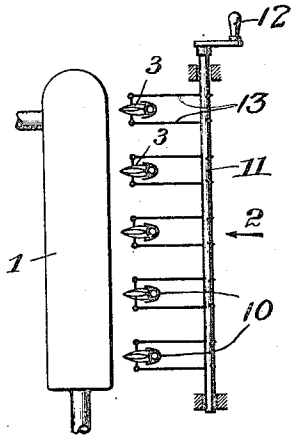


Fig. 2.

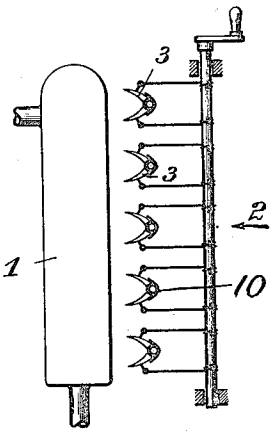


Fig. 3.

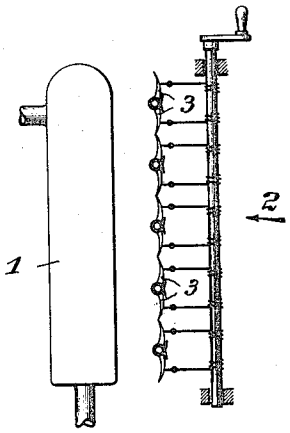


Fig. 4.

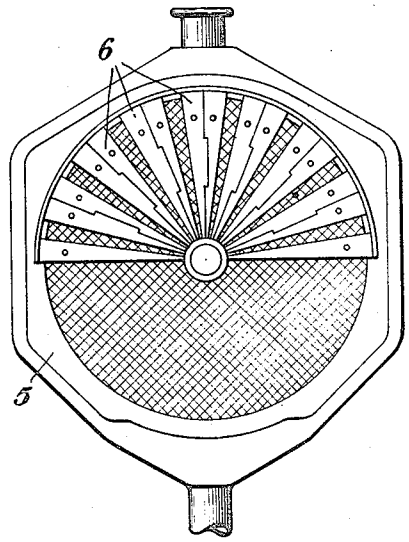


Fig. 5.

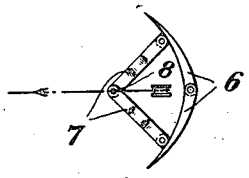
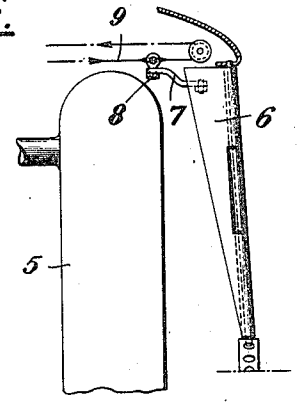


Fig. 6.



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UNITED STATES PATENT OFFICE.

PAUL JARAY, OF FRIEDRICHSHAFEN, GERMANY, ASSIGNOR TO THE FIRM LUFTSCHIFFBAU ZEPPELIN GESELLSCHAFT MIT BESCHRANKTER HAFTUNG, OF FRIEDRICHSHAFEN, GERMANY.

RADIATOR COVERING.

Application filed June 28, 1920. Serial No. 392,568.

To all whom it may concern:

Be it known that I, PAUL JARAY, a citizen of Austria, residing at Friedrichshafen, Germany, have invented certain new and useful Improvements in Radiator Coverings, of which the following is a specification.

My invention refers to the radiators of internal combustion engines on motor cars and more especially to means for regulating the supply of air to such radiators with a view to preventing an excessive cooling effect from taking place, more especially in cold weather. The devices of this kind hitherto used and having the form of shutters or the like involve considerable drawbacks inasmuch as they do not allow to exactly regulate the cooling effect.

The devices according to the present invention consist of movable streamlined shutters which do not offer to the air any resistance worth speaking of as long as they are kept closed, while on being spread apart they reduce the passage available for the cooling air after the manner of nozzles.

These shutters are preferably disposed either in parallel rows or radially.

In the drawings affixed to the specification and forming part thereof two modifications of a device embodying my invention are illustrated by way of example in a purely diagrammatic manner.

In the drawings—

Figs. 1 to 3 are side elevations of a radiator of the normal type with shutters according to the present invention arranged in front thereof in different positions.

Fig. 4 is a front elevation of a similar radiator with shutters radially disposed in front thereof.

Fig. 5 is a plan view drawn to a larger scale, of one of these shutters, and

Fig. 6 is a side elevation corresponding to Fig. 5 with the radiator shown to the rear of the shutters.

Referring to Figs. 1 to 3, 1 is the radiator. The air flowing counter to the direction of travelling, as shown by the arrow 2, encounters a number of streamlined shutters 3 in two parts hinged together, which when closed, as shown in Fig. 1, offer very little resistance to the air. The shutters are spread apart, against the action of springs 10, by aid of a vertical spindle 11 disposed in front of the radiator and provided with a crank handle 12, strings 13 fixed to the shutters being wound up on the spindle and thereby spreading the shutters when the spindle is rotated, whereas the springs will cause the shutters to close again, when the spindle has been released.

In Fig. 2 the shutters 3 are shown spread apart to a certain extent, whereby the passage available for the cooling air is reduced correspondingly.

In the position shown in Fig. 3 where the shutters 3 are fully spread apart they form a protective covering extending all over the radiator surface and preventing the air from entering the radiator altogether.

In the modification shown in Figs. 4 to 6, 5 is the radiator and 6, 6 are sector-shaped shutters disposed in front thereof, said shutters being arranged in pairs hinged together. These shutters may be opened or closed for instance, by aid of links 7 having their common pivot 8 attached to a cable 9 adapted to be operated from the driver's seat. The pivots 8 of all the links 7 may be connected by a curved rod (not shown), whereby, when one of the pairs of links which is directly connected to the cable 9 is spread, the other will follow this movement.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art.

I claim:

1. In a device of the kind described in combination, a radiator, a plurality of streamlined shutters in two parts hinged together disposed in front of said radiator and means for spreading said shutters apart and for closing them.

2. In a device of the kind described in combination, a radiator, a plurality of streamlined shutters in two parts hinged together disposed radially in front of said radiator and means for spreading said shutters apart and for closing them.

In testimony whereof I affix my signature.

PAUL JARAY.