Aug. 31, 1926. 1,598,274

P. J. FLAGG

FAN CONTROL DEVICE FOR MOTOR VEHICLES

Filed Jan. 19, 1924

Fig. 1.

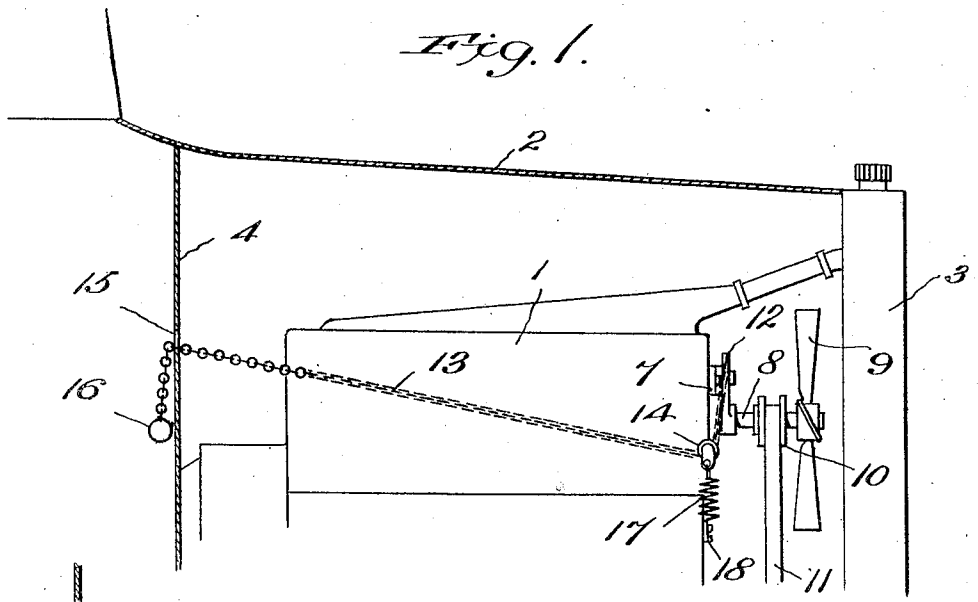


Fig. 2.

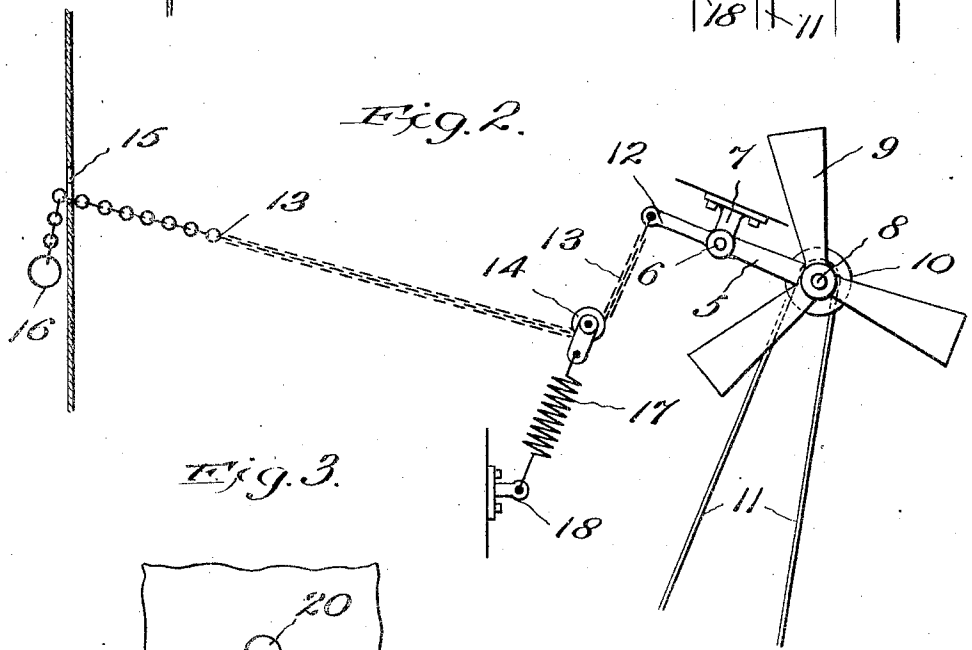
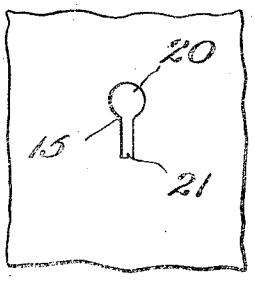


Fig. 3.



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UNITED STATES PATENT OFFICE.

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FAN-CONTROL DEVICE FOR MOTOR VEHICLES.

Application filed January 19, 1924. Serial No. 687,282.

This invention relates to a resilient fan control device for motor vehicles and has for its object to provide a means whereby the fan belt may be loosened or tightened from the dash by an operator when the motor vehicle is in motion whereby the temperature of the engine may be regulated.

The cooling system of a motor vehicle depends to a large degree upon the proper functioning of the suction fan placed directly behind the radiator and the purpose of the fan is to increase the volume of air passing through the honeycomb cooling element.

In the past it has been customary when the weather becomes cold to cover the outside of the honeycomb element, thereby reducing the loss of heat through absorption by the air passing through this element.

Since different means are provided to bring about the cooling of the circulated water (in water-cooled cars) such as the water pump, increased radiator surface and a suction fan, the natural means of meeting reduction in temperature is to temporarily eliminate one or more of the elements which bring about cooling. It is a well-known fact that when the fan belt of the radiator fan breaks, the difference in the temperature of the motor resulting thereby, frequently makes it impossible to proceed, therefore it is proposed to regulate the speed of the suction fan by means of the dash control; throwing the belt completely out of action on the one hand or increasing the tension of the same to its maximum efficiency on the other.

It is customary in cold weather in the case of water cooled motors to replace a quantity of the circulating water by denatured alcohol, the resulting mixture preventing freezing, which would otherwise take place. A secondary effect of the replacement of alcohol is to render the resulting mixture more sensitive to temperature changes, an alcohol water mixture heating more quickly than water alone. This feature alone has a tendency to do away with the need of a winter cover, thereby rendering the margin of necessary control narrower than where water alone is used. An alcohol water mixture in cold weather often makes it necessary to completely remove a radiator cover in order to avoid overheating.

Another object of the invention is to provide a device which is simple, efficient and practical and one which can be quickly applied in a simple and expeditious manner.

A further advantage of this invention is a means of determining the actual tension of the fan at all times, indicating the breaking or slacking of the belt in warm weather.

A still further advantage of this invention affords a means whereby an old fan may be removed and a new fan more readily applied.

With these and other objects in view, the invention consists in the details of construction and combination of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings—

Figure 1 is a diagrammatic side elevational view of a front portion of an automobile and with the invention applied to use.

Figure 2 is a diagrammatic view of the invention and connecting parts and

Figure 3 is a detail view of a portion of the automobile dash showing the key slot.

Referring more particularly to the drawings in detail, 1 designates a motor covered by the hood 2; 3 the radiator and 4 the dash. 5 designates the rocker arm pivoted at 6 to a bracket 7 mounted on the engine and 8 designates a shaft mounted in the end of the arm 5 for carrying the fan 9. A pulley 10 is mounted on the shaft and over this pulley is trained the pulley drive belt 11 which is driven in the usual manner from the main shaft of the motor.

The rocker arm 5 on some automobiles, such for instance, as the Buick, is provided with a rearwardly extending arm 12. To the end of this arm I connect one end of a small chain or other suitable flexible connection 13 which runs downwardly and is trained around a sheave 14 and then rearwardly where it passes through a key slot 15 mounted in the dash 4. The end of the chain is located within convenient reach of an operator and may be provided with a ring 16 to serve as a convenient finger gripping means if desired. The sheave 14 is connected to one end of a coil spring 17 which has its other end connected as at 18 to a bracket mounted on the motor and the spring is provided for exerting a continuous yielding tension upon the fan bracket.

As clearly shown in Figure 3 the key slot 15 is shaped so as to provide an enlarged upper portion 20 for permitting the chain

to freely pass therethrough and a narrow or restricted lower portion 21 for engaging the different links when it is desired to fasten the chain in different adjusted positions.

From the foregoing it is obvious that when under normal working conditions, the chain is tightened and strong pressure is exerted on the spring 17 the full cooling effect of the fan is obtained. When it is desired to allow the engine to heat up to a certain extent the operator slackens the chain thereby reducing the tension on the spring which obviously results in the slackening of the fan belt so that the fan will become idle or run at a slow rate of speed desired.

Through the employment of the flexible and resilient connections, it is also obvious that the constant jarring of the motor vehicle over rough roads will not effect the speed of the fan after it has been adjusted.

It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of my invention, and, therefore, I do not wish to be limited to such features, except as may be required by the claim.

What I claim is—

The combination with a belt driven fan of a motor vehicle, of a rocker arm supporting the fan and pivotally mounted on the motor, an extension mounted on said rocker arm, a sheave, a coil spring connected at one end to the motor and at its other end to the sheave, a chain passing around the sheave and having one end connected to the rocker arm extension and its other end adjustably mounted in a key slot provided in the dash of the vehicle to increase or decrease the speed of the fan.

In testimony whereof, I have signed my name to this specification this 9th day of January, 1924.

PALUEL J. FLAGG, M. D.