E. C. LANE.

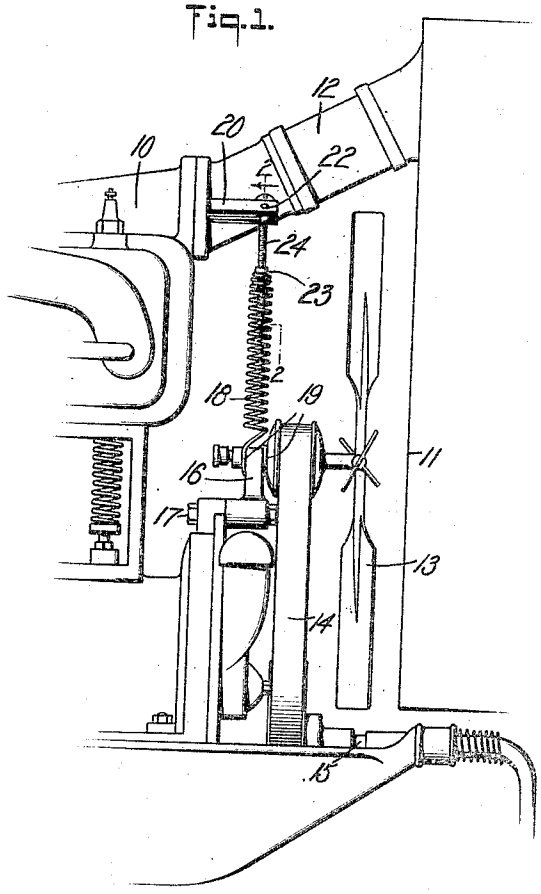
FAN BELT ADJUSTMENT.

APPLICATION FILED FEB. 2, 1916.

1,210,178.

Patented Dec. 26, 1916.

Fig. 1.



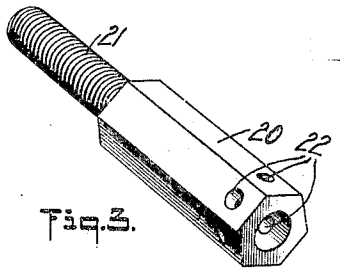


Fig. 3.

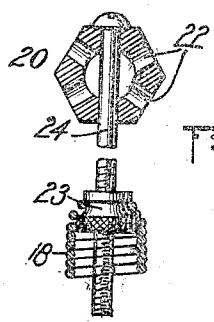


Fig. 2.

WITNESSES

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EDWIN C. LANE, OF MAHWAH, NEW JERSEY.

FAN-BELT ADJUSTMENT.

1,210,178. Specification of Letters Patent. Patented Dec. 26, 1916.

Application filed February 2, 1916. Serial No. 75,754.

To all whom it may concern:

Be it known that I, EDWIN C. LANE, a citizen of the United States, and a resident of Mahwah, in the county of Bergen and State of New Jersey, have invented a new and Improved Fan-Belt Adjustment, of which the following is a full, clear, and exact description.

This invention relates to automobile accessories and has particular reference to means for varying the tension upon the driving belt of a radiator fan.

Among the objects of the invention, therefore, is to provide a fan belt adjustment for a standard type of automobile, the mechanism comprising a rigid support in the nature of a lock screw having a head formed in a peculiar manner to adapt itself for the other parts of the adjustment device.

With the foregoing and other objects in view, the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a side elevation of the fan portion of an automobile showing the improved belt adjustment in operative position; Fig. 2 is a vertical transverse sectional detail on the line 2—2 of Fig. 1; and Fig. 3 is a perspective view of the support above referred to.

Referring now more particularly to the drawings, I show a standard form of automobile engine having a radiator 11, and a pipe 12 secured to the upper portion of the engine for conveying the hot water to the radiator, said pipe being secured to the body of the engine or water jacket thereof by locking bolts.

The fan 13 is indicated in the rear of the radiator and driven in the usual manner by a belt 14 from the motor shaft 15. The fan shaft and pulley connected thereto are mounted upon an arm 16 pivoted at 17 upon the engine frame. The belt 14, under varying atmospheric conditions or other circumstances incident to constant or irregular usage, is likely to become loose and the result is that many times the fan is not performing its duty. I therefore provide a means for automatically holding the belt 14 under a proper degree of tension. The means I employ for this purpose includes a coil spring 18 having at one end a hook 19 for engagement with the arm 16, and the other end of the spring is connected by suitable means for varying the tension upon the spring and through the resiliency of which the tension upon the belt is either controlled or adjusted. The action upon the belt is mainly automatic due to the resiliency of the spring, and yet subject to adjustment to compensate for variations in effective length of the belt due to atmospheric or other conditions.

The main rigid support is indicated at 20, the same comprising a binding bolt having a threaded shank 21 and a long polygonal head shown of hexagonal prismatic form. This support 20 takes the place of one of the above mentioned locking bolts serving to secure the hot water pipe 12 to the top of the engine. The standard lock bolt is removed when this adjustment device is to be attached to the machine and the shank portion 21 of the new support is screwed into its place. This support, therefore, serves all the usual functions of the standard binding bolt.

The front or free end of the hexagonal head is bored diametrically from the center of each flat face to the center of the opposite flat face as indicated at 22, the axes of all of these diametrical holes being indicated as lying in the same plane and closely adjacent the extreme end of the hexagonal head, such plane being practically the same as the vertical plane in which the arm 16 lies. The length of the head of the support 20 is such as to bring the bored portion thereof in practically the same vertical plane as the arm 16, and it provides also for free access to the parts for adjustment or manipulation in practice.

Within the upper end of the spring 18 is tightly gripped a nut 23, the uppermost coils of the spring for this purpose being materially contracted in circumference. The nut 23 is formed also with a circumferential groove in which the extreme end coils of the spring are gripped not only to hold the nut from rotation but to prevent any possibility of withdrawing the nut from the spring. After the supporting bolt 20 is screwed into place, reëstablishing tight connection between the pipe 12 and the en-

gine jacket, one of the flat faces of the head will practically be sure to be horizontal or perpendicular to the line corresponding to the axis of the spring as it extends from the arm toward the support 20. An adjustment and connecting member in the form of a long screw 24 is then inserted into that hole 22 which has its axis in alinement with the axis of the coil and the threaded end of the screw is made to connect with the nut 23. Since the hook 19 embraces the arm 16 holding the spring from rotation around its axis and the nut 23 is held from rotation by the spring, a screw driver applied to the head of the screw may readily determine the degree of tension necessary to be applied to the belt. Fig. 1 shows the spring 18 placed under a certain degree of stretch or tension due to the coöperation between the rotary screw and the non-rotary nut. The strength of the spring is proportional to the ordinary tension desired to be placed automatically upon the belt, and therefore the virtue of the spring is such as to maintain the proper degree of tension upon the belt even though the belt itself may be adjusted to compensate for variations in effective length due to different conditions of the weather or usage. When it is required, however, to tighten the belt, a few turns of the screw will suffice.

The device is simple, convenient, easy of attachment, and when once attached, is perfectly safe and reliable in use and is not only neat in appearance but does not obstruct or endanger any other parts of the machine.

I claim:—

In a fan belt adjustment for motor cars, the combination with the hot water pipe and the engine body, of a bolt to connect the pipe to the body, said bolt comprising a long prismatic rigid support whose outer end has a plurality of holes formed diametrically therethrough in a plane widely spaced from the engine body, a rotary threaded connection adapted to be journaled in any one of said holes with its axis lying in said plane, a coil spring, means whereby one end of the spring acts upon the bolt, and a nut secured to the other end of the spring and adapted to receive the free end of said threaded connection.

EDWIN C. LANE.

Witnesses:
HARRY B. BERDAN,
BERT HURRELL.