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1,594,301

A. F. HEYMER
FAN BELT TIGHTENER

Filed Feb. 2, 1924

Fig. 1.

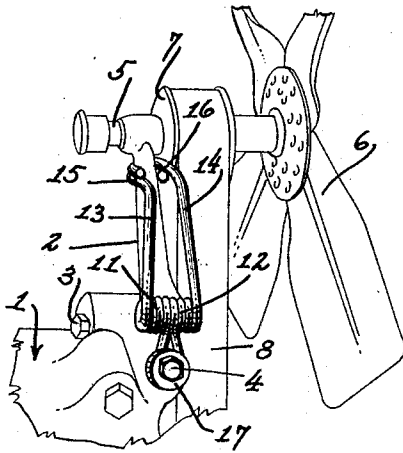


Fig. 2.

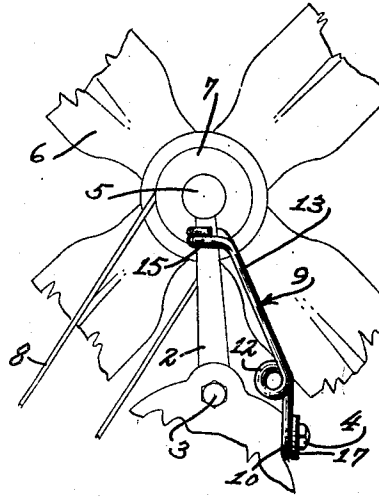


Fig. 3.

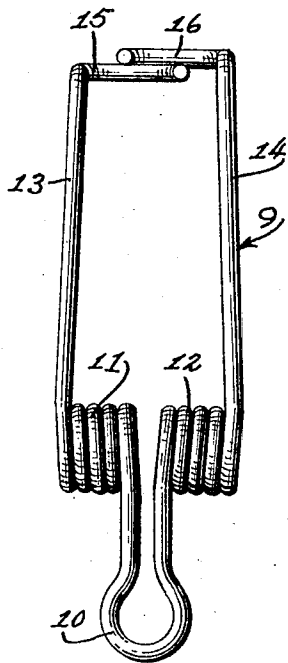


Fig. 4.

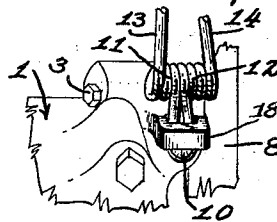
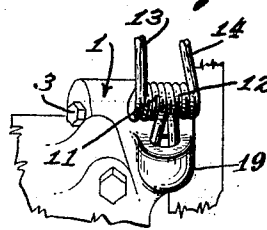


Fig. 5.



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FAN-BELT TIGHTENER.

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This invention relates to new and useful improvements in belt tightening devices and more particularly to automobile fan belt tighteners especially applicable to use in connection with the fan belt of a well known Ford automobile.

The primary object of the invention is to provide a device of this character for maintaining the fan belt at a desired tension at all times.

A further object of the invention is to provide a device of this character which is so constructed that it will firmly grasp and hold the fan shaft supporting arm in balanced or proper position at all times.

Still another object of the invention resides in providing a device of this character which will prevent the fan from becoming injured, should the fan belt become broken in use.

A still further object resides in providing a fan belt tightener which is formed of a single strand of wire bent and looped in such a fashion as to permit of its ready engagement at one end with the adjusting screw of the fan shaft supporting arm and engagement with said arm at its other end with a spring tension positive in action intermediate of its ends.

A still further object resides in providing a device which is simple and durable in construction, inexpensive to manufacture and one which is very efficient and useful in operation.

With these and other objects in view my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application and in which like numerals of reference designate like parts throughout the same:—

Figure 1 is a perspective view of the forward portion of the engine casing having the improved belt tightener applied thereon, Figure 2 is an end elevation.

Figure 3 is an enlarged detail view of the improved belt tightener,

Figure 4 is a perspective view of a modified form of retaining member, and

Figure 5 is a further modification of the retaining member.

Referring to the drawing, the numeral 1 designates an engine housing upon which is pivotally supported a fan shaft supporting arm 2, sometimes referred to as the fan assembly arm. This arm 2 is pivotally carried on a bolt 3 and provided with its usual lower toe portion (not shown), which latter portion is adapted to be engaged with the usual adjusting screw 4 whereby said arm 2 may be adjusted to its proper position in drawing the belt taut.

The arm 2 supports the fan shaft 5 which carries the usual fan 6 and also the pulley or hub 7 and a belt 8 extends over the pulley or hub 7, as clearly shown.

It is highly desirable to provide a belt tightener for such constructions as hereabove described to compensate for wear, casual adjustment and possible injury to parts and for this purpose I have provided my improved device. This device comprises a single strand of wire 9 which is looped intermediate of its ends to form an eye 10. The arms of the strand of wire continuing from the eye for a short distance parallel to one another in spaced relation are then coiled to provide a pair of aligning coil springs 11 and 12. The portions of the wire continuing from these coil springs form arms 13 and 14 which are directed in planes substantially parallel with the plane of the arms continuing from the eye 10. These arms 13 and 14 tend to converge slightly toward their outer ends and these outer ends are bent at right angles and thereupon hooked back upon themselves as shown at 15 and 16 to provide a pair of overlapping or superimposed hook members.

In applying the device to use, the fan adjusting screw 4 is first removed. The fan belt is then slipped from its lower pulley whereupon the arm 2 is pulled toward the operator as far as possible. The hooks 15 and 16 of the device are then gently forced apart and engaged over the arm 2 adjacent its outer end. The screw 4 is then returned to its proper position in the housing of the engine but is inserted through the eye 10 of this tightener and at the same time a washer 17 is placed on the screw as shown in the drawing. The arm 2 is then pushed away from the operator and the belt slipped back upon the lower fan driving pulley. When the hooks 15 and 16 are properly en-

gaged with the arm 2 so that said hooks are in register one with the other, the coils 11 and 12 which are normally spaced from each other at their inner ends, will be moved
5 in close contact with each other, as clearly shown in Figures 1, 4 and 5 of the drawing. In the form of the arrangement shown in Figures 1 and 2 of the drawing the screw 4 and the washer 17 constitute friction means
10 for engaging the surfaces of the eye 10 and for holding the ends of the coils in close contact with each other when the device is applied. In form of the arrangement as shown in Figure 4 a loop 18 is provided
15 for receiving the eye 10 and for frictionally engaging the surfaces thereof whereby the ends of the coils are held in contact with each other. In the form of the arrangement as shown in Figure 5 a pocket 19 is
20 provided for receiving the eye 10 and which serves as means for frictionally engaging the surfaces of the eye whereby the adjacent ends of the coils are held in contact with each other. The device is then in operation
25 for constant use and will positively carry out the purposes for which it is designed.

From the foregoing it will be seen that I have provided a simple, inexpensive and
30 efficient device for carrying out the objects of the invention and while I have particularly described the elements best adapted to perform the functions set forth, it is obvious that changes in form, proportion and the minor details of construction, within
35 the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described my invention, 40 what I claim is:—

1. A belt tightener consisting of a strand of resilient wire looped at its intermediate portion in the form of an eye and having normally spaced end portions, outwardly
45 disposed coils formed at the outer ends of said portions, normally parallel arms formed at the outer ends of the coils and terminating in angularly disposed overlapping hook portions, the transverse breadth
50 of each hook portion being equal to the sum of the axial lengths of both coils whereby the inner ends of the coils are brought in close contact with each other when the arms
55 are flexed and the hooks are brought into juxtaposed register with relation to each other.

2. A belt tightener consisting of a strand of resilient wire looped at its intermediate portion in the form of an eye and having
60 normally spaced end portions, outwardly disposed coils formed at the extremities of the end portions, normally parallel arms formed at the outer ends of the coils and terminating in angularly disposed overlapping
65 hook portions, the transverse breadth of each hook portion being equal to the sum of the axial length of both coils whereby the inner ends of the coils are brought in
70 close contact with each other when the arms are flexed and the hooks are brought into juxtaposed register with relation to each other, and friction means engageable with
75 the surface of the eye to hold the inner ends of the coils in contact with each other.

In testimony whereof I affix my signature.

ADOLPH F. HEYMER.