July 27, 1926. 1,593,744

C. P. BENNING

ENGINE BASE TIGHTENER

Filed Nov. 14, 1924

Fig. 1.

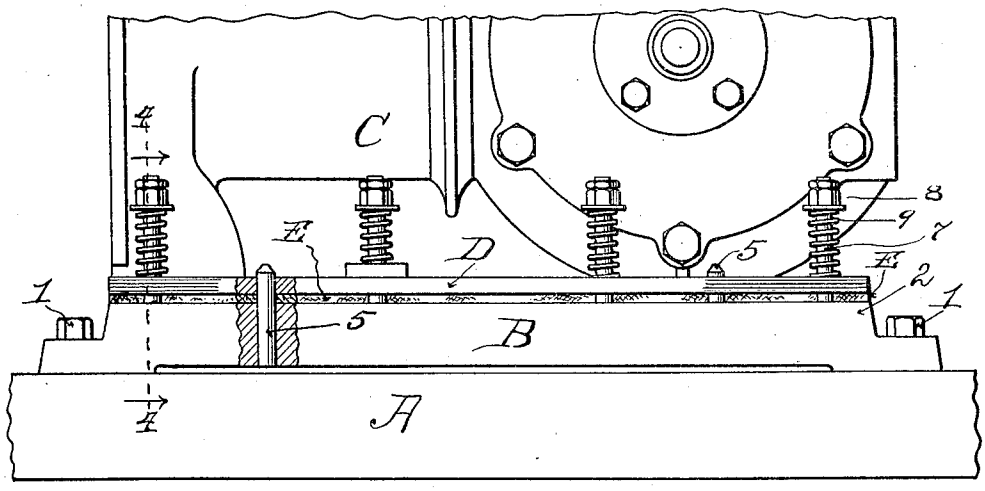


Fig. 2.

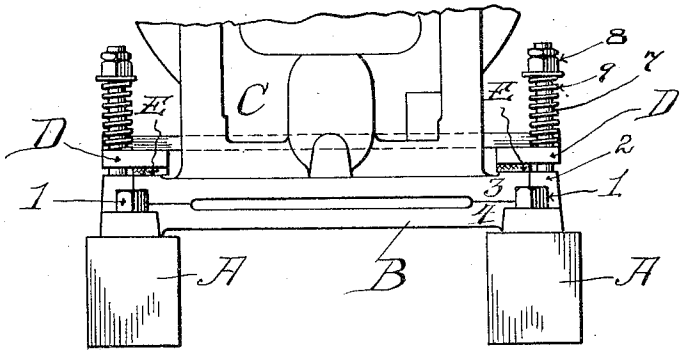


Fig. 3.

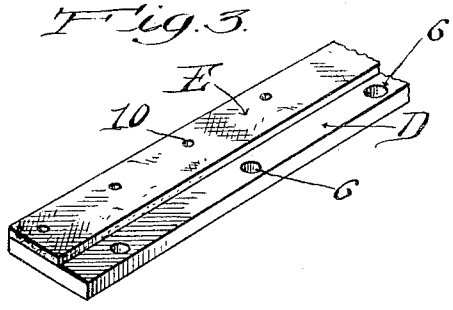
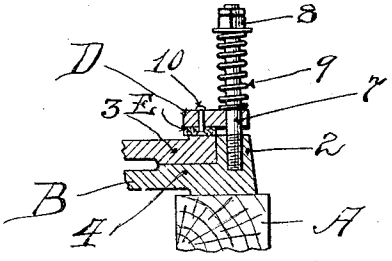


Fig. 4.



Inventor:
Clyde P. Benning.
by Taylor & Brown Attys.

Patented July 27, 1926. 1,593,744

UNITED STATES PATENT OFFICE.

CLYDE PHILIP BENNING, OF OAK PARK, ILLINOIS, ASSIGNOR TO MUDGE & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ENGINE-BASE TIGHTENER.

Application filed November 14, 1924. Serial No. 749,895.

This invention relates to automatic engine base tighteners and consists in the structure and combination of parts herein illustrated, described and claimed.

In the drawings:

Fig. 1 is a side elevation of an engine base, to which my invention has been applied, and of the lower part of the engine mounted thereon, partially sectioned to show a detail.

Fig. 2 is an end elevation of the same, partially in section.

Fig. 3 is a perspective view of a portion of the device, detached.

Fig. 4 is a transverse, sectional view, showing a detail, the section being taken in the vertical plane indicated by the dotted line 4—4 on Fig. 1.

In said drawings, A indicates a fixed support, such as the side sill of a motor driven car, such as used upon railways and commonly designated as a section, extra gang or inspection car. B is a cast iron base thereon, upon which the cylinder C of the engine is movably mounted.

The base B is firmly secured by bolts 1 or other suitable means to the support A, and extends lengthwise thereof. It is provided with raised side flanges 2, the inner surfaces of which form parallel guideways for the side margins of the cylinder base 3. Intermediate these side flanges 2 are machined surfaces 4 on the base B upon which the cylinder base 3 is supported and upon which the cylinder C has a short longitudinal movement.

D, D, are side plates for holding the cylinder base 3 in its proper position upon the base B, and are held in position by dowel pins 5. These pins extend inwardly from the base B, through the plates D, as shown in Fig. 1.

Secured in the side flanges 2 of the base B, and projecting upwardly through apertures 6 in said plates D, are studs or bolts 7 provided upon their upper ends with nuts 8. Intermediate the nuts and the plates and surrounding said studs are coiled tension springs 9.

To the under surface of the plates D, I secure by rivets 10 or other suitable means, a friction member E, such, for example, as a brake band lining, as is in ordinary use.

The plate D is of greater width than the width of the base flange 2, so as to project above and permit the member E to have contact with the top surface of the lateral extensions of the cylinder base 3, the member E being upon the projecting portion of the under surface of said plate, as shown clearly in Fig. 3.

The engine C, in this type of cars, is arranged to move longitudinally in a horizontal plane, upon the base B, at the will of the operator, to effect a tightening or a slacking of the driving belt between the engine and the car axle. This mechanism being old and in use, it is not deemed necessary to illustrate nor further describe the same.

It will be understood, of course, that it is necessary to hold the engine C snugly in the base B, and this constant movement of the engine longitudinally of the base B, in practice, has caused undue wear between opposing rubbing surfaces, and a loosening of the parts. The ordinary operator of cars thus equipped, is usually incapable of properly adjusting and tightening the parts and thus holding the engine firmly to the base B for its intended work, while at the same time permitting the desired relative movement between them.

In my device, the plates D are yieldingly held down upon the engine flange by the tension springs and the wear upon the friction member E is automatically taken up by the springs which exert a constant tension upon the plates D. The friction member E bears upon the top of the lateral extension of the cylinder base 3, and automatically holds the engine C tightlyy and snugly in its place. It will thus be manifest that my device is "fool-proof", so to speak, and acts automatically in maintaining the parts properly adjusted. Its use in practice has demonstrated its efficiency and utility, greatly increasing the life of the car.

I claim as my invention:

1. An engine cylinder base mounting for belt driven railway car chassis, comprising a casting secured to the side sills of the chassis, said casting having longitudinal guideways in which said cylinder base is slidably mounted, retaining plates adjustably mounted on said casting and overlapping the cylinder base, and means for automatically adjusting the retaining plates for wear, where-

by the cylinder base is longitudinally adjustable relative to said chassis for adjusting the driving belt.

2. An engine cylinder base mounting for belt driven railway car chassis, comprising longitudinal guideways on the side sills of said chassis in which said cylinder base is slidably mounted, retaining plates yieldingly mounted on said sills, and friction members secured to said retaining plates and yieldingly engaging said cylinder base.

3. In a device of the character described, comprising an engine base and a cylinder base mounted upon and having relative longitudinal movement with respect to said engine base, of a retaining plate on each side of the engine base and overlapping the cylinder base, a friction member interposed between the plate and the cylinder base, and means for holding the plate tightly upon the cylinder base, said means including a stud on the base projecting through said plate and a coiled spring upon said stud and a nut on the stud.

4. The combination of a fixed base having an engine seat and side flanges, a cylinder slidably mounted on said seat between said flanges, dowel pins projecting upwardly from said base, apertured plates movably mounted upon said pins and projecting inwardly, over the cylinder base, a friction member secured to the lower face of said plates and adapted to bear upon the cylinder base, studs mounted in the side flanges of the fixed base and extending upwardly through said plates, a spring coiled about each stud, one end bearing upon the top of said plates, and a nut on the end of the pin for confining and adjusting the spring.

5. In a device of the character described, a fixed support, a cylinder base movably mounted thereon, a keeper plate yieldingly mounted above the support, and a friction member secured to and longitudinally of the under face of said plate to bear upon the cylinder base.

6. In a device of the character described, comprising an engine base and a cylinder base mounted upon and having relative longitudinal movement with respect to said engine base, of a retaining plate on each side of the engine base and overlapping the cylinder base, a friction member interposed between the plate and the cylinder base, and resilient tension means holding the plate to the cylinder base.

7. In a device of the character described, comprising an engine base and a cylinder base mounted upon and having relative longitudinal movement with respect to said engine base, of a retaining plate on each side of the engine base and overlapping the cylinder base, a friction member interposed between the plate and the cylinder base, and means for automatically taking up wear of the friction member and thus keeping the plate tight upon the cylinder base.

8. In a device of the character described, comprising an engine base and a cylinder base mounted upon and having relative longitudinal movement with respect to said engine base, of a retaining plate on each side of the engine base and overlapping the cylinder base, a friction member interposed between the plate and the cylinder base, and means for holding the plate tightly upon the cylinder base, said means including a stud on the base projecting through said plate and a coiled spring upon said stud and a nut on the stud.

9. The combination of a fixed base having an engine seat and side flanges, a cylinder slidably mounted on said seat between said flanges, dowel pins projecting upwardly from said base, apertured plates movably mounted upon said pins and projecting inwardly, over the cylinder base, a friction member secured to the lower face of said plates and adapted to bear upon the cylinder base, studs mounted in the side flanges of the fixed base and extending upwardly through said plates, a spring coiled about each stud, one end bearing upon the top of said plates, and a nut on the end of the pin for confining and adjusting the spring.

In testimony that I claim the foregoing as my invention, I affix my signature this tenth day of November, 1924.

CLYDE PHILIP BENNING.