May 15, 1923. 1,455,372

R. WICK

BRAKE BAND CONTROL MECHANISM

Filed April 9, 1921

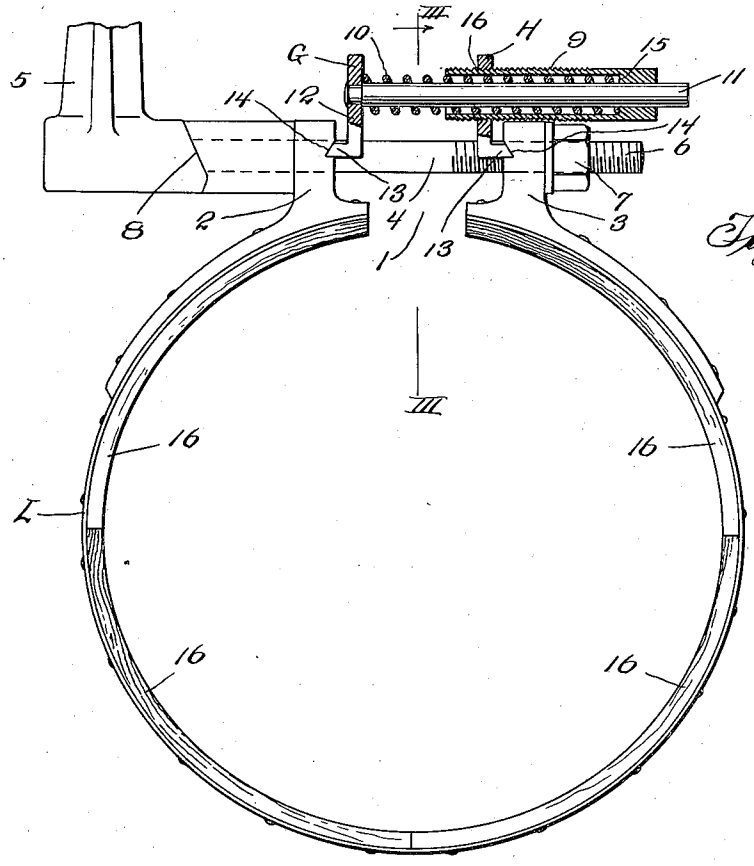
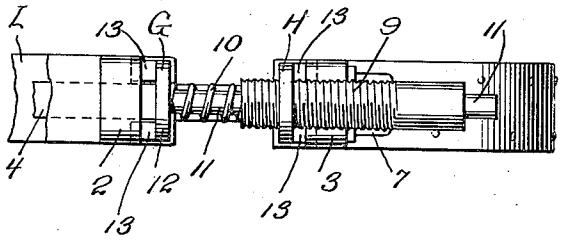


Fig. 1.

Fig. 2.



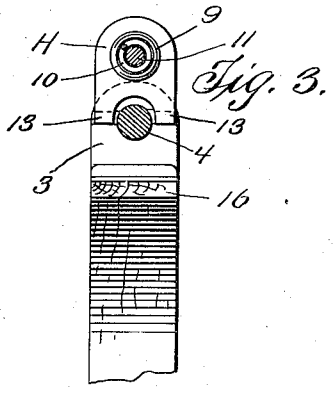


Fig. 3.

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UNITED STATES PATENT OFFICE.

ROBERT WICK, OF WOODRIDGE, NEW JERSEY.

BRAKE-BAND-CONTROL MECHANISM.

Application filed April 9, 1921. Serial No. 459,823.

To all whom it may concern:

Be it known that I, ROBERT WICK, a subject of the President of Switzerland, residing at Woodridge, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Brake-Band-Control Mechanism, of which the following is a specification.

This invention relates to an improvement in brake band control mechanism and particularly to means for resiliently holding the brake band under tension.

An object of the invention is to provide a simple, practical and efficient device adapted to engage the ends of the brake band and to exert a pressure constantly tending to separate said ends; that is, to resiliently urge said ends counter to the direction in which they are adapted to be moved by the manually operable brake lever.

A further object is to so design the device that it is readily detachable.

A further object is to so design the device that the pressure exerted thereby against the ends of the band may be readily adjusted and so that the adjusted parts will not be likely to move unintentionally out of their adjusted position.

A further object is to provide an improved and highly efficient brake band facing.

Other objects and aims of the invention, more or less specific than those referred to above, will be in part obvious and in part pointed out in the course of the following description of the elements, combinations, arrangements of parts and applications of principles, constituting the invention; and the scope of protection contemplated will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification, and in which I have shown merely a preferred form of embodiment of the invention:—

Figure 1 is a side elevational view of a brake band illustrating this invention in association therewith.

Figure 2 is a top plan view of the structure seen in Fig. 1, and

Figure 3 is a vertical sectional view taken substantially upon the plane of line III of Fig. 1, and looking in the direction of the arrow.

Referring to the drawings for describing in detail the structure which is illustrated therein, the reference character L indicates the brake band. This is in the usual circular form adapted to extend around a brake drum in the customary manner. This band is split, as at 1, and to its opposite ends are fixed ear pieces 2 and 3, and thru these ear pieces extends the operating rod 4, said rod carrying at its outer end a manually operable lever 5 and having its inner end threaded, as at 6. A nut 7 is adjustable upon the threaded end 6 and stands in engagement with ear 3. The lever 5 is provided with a cam portion 8 adapted upon swinging movement of the lever to operate for drawing the rod 4 thru the ear 2 to thereby cause the ear 3 to move toward the ear 2 and the band to tighten upon the drum, all as will be readily understood in the art.

Engaging between the ears 2 and 3 is the spring device operating to press said ears apart, and this consists of a pair of attaching members G and H arranged for attaching, or connecting, the device with said ears, a hollow sleeve 9 threaded thru one of said attaching members, a compression spring 10 engaging between said sleeve and the other attaching member, and a guide rod 11 carried by the second attaching member extending slidably thru the spring and sleeve.

The attaching members G and H are of substantially the same shape; that is, each consists of a body portion 12 which is cut away at its lower end to provide a pair of short legs 13 straddling the rod 4, and the lower ends of these legs are bent laterally to engage against the respective adjacent ears 2 and 3.

Preferably the ears are formed with grooves, as 14, into which the bevelled ends of the legs 13 engage. The ends of the legs 13 are bevelled to engage within the grooves 14, substantially as indicated, and engagement with the legs within these grooves together with the straddling position of the legs over the rod 4, effectually prevents likelihood of accidental dislodgment of the attaching members out of their appointed positions with respect to the ears.

The spring 10 surrounds the guide rod 11 and extends into the hollow of the sleeve 9 one end of the spring engaging against the attaching member G and the opposite end standing in engagement with a shoulder 15 which is provided to receive it within the sleeve.

By this construction a proper space is pro-

vided between the attaching member G and the shoulder 15 for a desirably long spring which, because of its length, will be capable of giving efficient service for an extended period of time. And by reason of the threaded engagement of the sleeve thru the aperture 16 of the attaching member H rotation of the sleeve can be readily effected for altering the tension of the spring.

It is to be particularly noted that pressure from the spring against the attaching member H is exerted against the upper portion of said attaching member and is resisted only by engagement of the ear 3 against the lower portion of said attaching member and that consequently there is always present a bending strain upon this attaching member operating to cause the walls of its threaded aperture 16 to bind against the threads of the sleeve 9 thereby operating to frictionally hold the sleeve against unintentional rotation within said aperture. The grip of the attaching member H upon the sleeve while being, therefore, sufficient to prevent movement of the parts out of adjusted position, is nevertheless such that the sleeve can be readily rotated by the use of a suitable wrench or the like whenever desired.

It is also noteworthy in this connection that the fit of the sleeve within the aperture 16 may be sufficiently loose so that normally, that is, before application of the device into position between the ears of the brake band, said sleeve may be very easily rotated by hand within said aperture thus facilitating the initial adjustment of the parts of the device preparatory to placing it between said ears.

As above suggested it is a feature of this invention to provide an improved form of brake band facing for the band L and this consists in the use of wood and preferably dog wood for the making of the facing. This materially may consist of a single strip of wood extending entirely around the inner surface of the band or it may be made up of a plurality of sections, as 16, arranged end to end as indicated. An essential point, however, is that the strip, or strips, of wood shall be bent to conform to the curvature of the band so that the grain of the wood shall extend longitudinally in a circular direction; that is, the circular shape of the strip shall be obtained by bending a straight grained strip instead of by cutting out a circular piece from a flat board. By having the grain of the wood extend in a circular direction no end grain is presented for engaging the surface of the drum. The entire surface of the wood is of substantially the same texture and of the same degree of hardness, and the fibers of the wood lie approximately parallel with the surface of the drum so that the mass of wood is more resilient and durable than would be the case if the grain of the wood did not extend in a circular direction.

As many changes could be made in this construction without departing from the scope of the invention as defined in the following claims, it is intended that all matter contained in the above description or shown in the accompanying drawings, shall be interpreted as illustrative only and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the class described, the combination with a brake band having the usual ears thereon, of means carried by said ears adapted for resiliently urging said ears apart, said means comprising in part a compression spring of greater length than the distance between said ears.

2. In a device of the class described, the combination with a brake band having the usual ears thereon, of means carried by said ears adapted for resiliently urging said ears apart, said means comprising a pair of attaching members one for engaging each of said ears, and means urging said attaching members apart.

3. In a device of the class described, the combination with a brake band having the usual ears thereon, of means carried by said ears adapted for resiliently urging said ears apart, said means comprising a pair of attaching members one of which has a part slidably engaging the other, and a spring positioned to urge said attaching members apart.

4. In a device of the class described, the combination with a brake band having the usual ears thereon, of means carried by said ears adapted for resiliently urging said ears apart, said means comprising a pair of attaching members one of which has a part slidably engaging the other, and a compression spring arranged for urging said attaching members apart, said spring being of greater length than the distance between said ears.

5. In a device of the class described, the combination with a brake band having the usual ears thereon, and having an operating rod extending between said ears for drawing said ears together, of a coil spring for urging said ears apart, said spring extending longitudinally in substantially the same direction as said operating rod, and being of greater length than the distance between said ears, and means operatively connecting said spring with said ears.

6. In a device of the class described, the combination with a brake band having the usual ears thereon, and having an operating rod extending between said ears for drawing said ears together, of a coil spring for urging said ears apart, said spring extending

longitudinally in substantially the same direction as said operating rod and being of greater length than the distance between said ears, and means operatively connecting said spring with said ears, said last means comprising parts operable to alter the pressure of the spring against said ears at will.

7. A device of the class described comprising a pair of attaching members, a spring adapted for urging said attaching members apart, and means carried by one of said members against which said spring is adapted to press, said part being adjustable for the purpose set forth.

8. A device of the class described comprising a pair of attaching members, a spring adapted for urging said attaching members apart, and a hollow sleeve serving as an abutment against which one end of the spring may engage, said sleeve telescoping over said spring and having threaded engagement with one of said attaching members.

9. A device of the class described comprising a pair of attaching members, a spring adapted for urging said attaching members apart, a hollow sleeve serving as an abutment against which one end of the spring may engage, said sleeve telescoping over said spring and having threaded engagement with one of said attaching members, and the last mentioned attaching member having a part spaced away from said sleeve adapted for engaging one portion of a clutch band.

In testimony whereof I affix my signature in the presence of two witnesses.

ROBERT WICK.

Witnesses:
L. GESSFORD HANDY,
MAY SCHULZ.