No. 694,544. Patented Mar. 4, 1902.

J. HAFER, Sr.

SINGLETREE ATTACHMENT.

(Application filed Oct. 16, 1901.)

(No Model.)

Fig. 1.

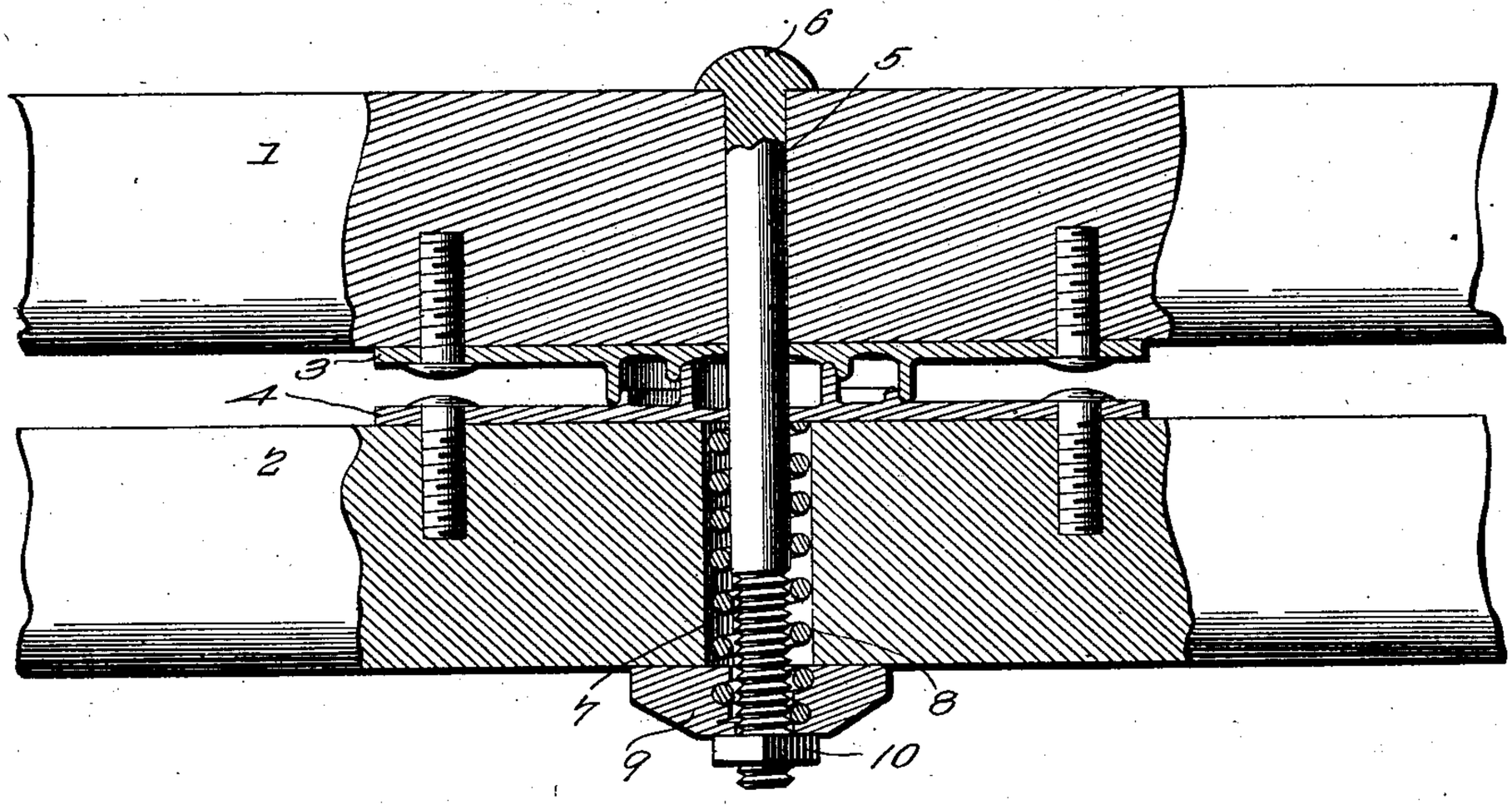


Fig. 2.

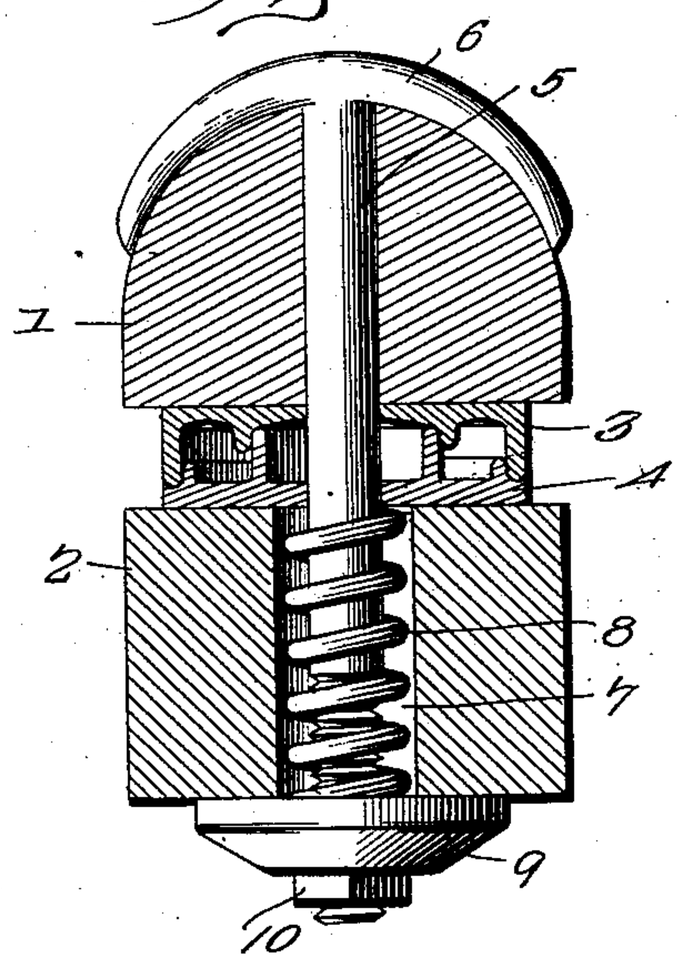
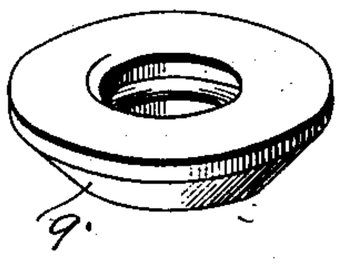


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES HAFER, SR., OF AUGUSTA, KENTUCKY.

SINGLETREE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 694,544, dated March 4, 1902.

Application filed October 16, 1901. Serial No. 78,844. (No model.)

To all whom it may concern:

Be it known that I, JAMES HAFER, Sr., a citizen of the United States, residing at Augusta, in the county of Bracken and State of Kentucky, have invented a new and useful Singletree Attachment, (Case A,) of which the following is a specification.

This invention relates to singletree attachments.

The object is to provide a simply-constructed and thoroughly-efficient form of antirattling singletree attachment which may be readily supplied to a singletree already equipped with another form of attachment and which in use will positively prevent any rattling even should the nut holding the singletree-bolt in position on the shaft of the cross-bar work loose.

A further object is to provide an attachment of the character specified having its parts so constructed and arranged as in operation to perform the double functions of an antirattler and a nut-lock.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a singletree attachment, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated two forms of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention, and in these drawings—

Figure 1 is a view in sectional elevation showing one form of the attachment associated with a singletree and a shaft cross-bar. Fig. 2 is a view in transverse section. Fig. 3 is a detached detail view of a spring-engaging socket.

Referring to the drawings, 1 designates an ordinary singletree, 2 a shaft cross-bar, and 3 and 4 wear-plates carried, respectively, by the under side of the singletree and the upper side of the cross-bar and operating in the usual manner to hold the parts spaced at the proper distance apart. Passing through the singletree is a bolt 5, having its upper end provided with a curved head 6 to embrace the singletree, as usual, the lower end of the bolt being projected through an orifice 7 in the cross-bar, the orifice being of greater diameter than the bolt to receive and house the antirattler 8, the same comprising a spiral spring mounted upon that portion of the bolt within the orifice and bearing at its upper end against the wear-plate 4. The spring 8 is of a length to project beyond the lower side of the cross-bar and is engaged by a spring-engaging socket 9, the opening in the socket that engages the spring being screw-threaded to permit of its being screwed onto the spring, and thus held associated therewith against accidental separation. The lower extremity of the bolt 5 is engaged by a nut 10, which is adapted to be turned against the socket 9, and thus force the latter against the under side of the cross-bar, thus depressing the spring and causing it to draw the wear-plate of the singletree tightly down on the wear-plate of the cross-bar, and thus effectively prevent any rattling, the pressure exerted by the spring on the singletree being constant, and therefore operating to take up any wear of the wear-plates which would result in rattling. In addition to preventing rattling the spring also operates in conjunction with the socket 9 as a nut-lock, as by the constant pressure exerted upon the nut 10 this will be prevented from working loose from the bolt. The object for having the spring threaded into the socket is that should the nut 10 work loose on the bolt, and thus permit the socket to move out of engagement with the cross-bar, the socket would still be held against rattling, as that portion of the spring within the orifice would operate effectively to hold the socket against any vibratory movement whatever. It will be obvious, however, as will presently appear, that the same effect would result were the spring seated in a smooth opening in the socket, as in either event the downward pressure of the spring, together with its coaction with the walls of the opening in the socket, would prevent any movement of the socket on the bolt.

It will be seen from the foregoing description that to adapt the antirattler to the cross-

bar of a pair of shafts will only require the provision of an orifice for the reception of the bolt 5 somewhat larger than that usually employed. In either case, however, the bolt 5 has to be made somewhat longer than that usually employed; but this will not result in any objectionable cost to the employment of the device.

Having thus fully described my invention, what I claim as new is—

1. The combination with a singletree and a cross-bar, of a bolt projecting through the parts, centrally of their width and constituting the sole assembling means therefor, a spring surrounding that portion of the bolt within the cross-bar, a socket engaging the lower end of the spring, and a nut on the bolt for forcing the socket against the cross-bar.

2. The combination with a singletree and a cross-bar, of a bolt projecting through the parts, a spring surrounding that portion of the spring within the cross-bar, a socket having a threaded engagement with the lower end of the spring, and a nut on the bolt for forcing the socket against the cross-bar.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES HAFER, SR.

Witnesses:
FRANK CLENNY,
C. BARTLETT.