

(No Model.)

J. N. STOWE, Jr.
THILL COUPLING.

No. 570,718.

Patented Nov. 3, 1896.

Fig. 1.

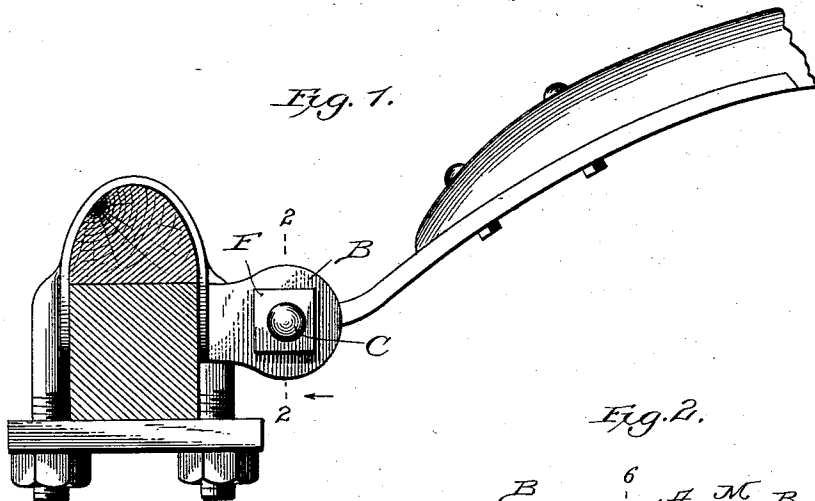


Fig. 2.

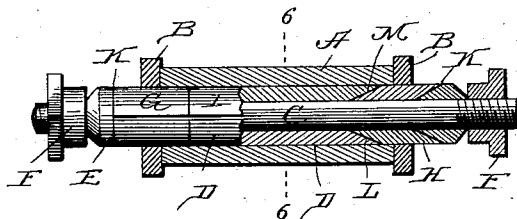


Fig. 3.

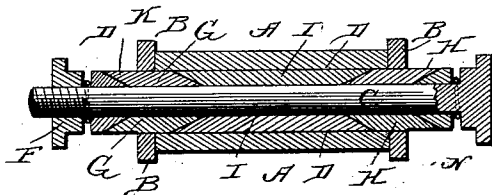


Fig. 4.

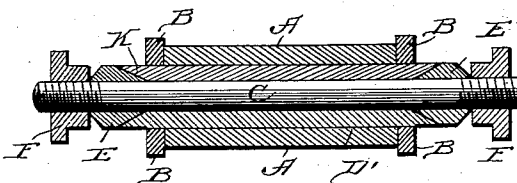


Fig. 5.

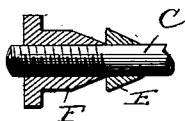
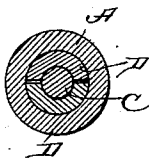


Fig. 6.



WITNESSES

Harry S. Rohrer.
Wm. M. Offley

INVENTOR

John N. Stowe Jr.
By W. W. Channing Attorney

UNITED STATES PATENT OFFICE.

JOHN N. STOWE, JR., OF GALVESTON, TEXAS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 570,718, dated November 3, 1896.

Application filed November 4, 1895. Serial No. 567,897. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. STOWE, JR., a citizen of the United States, and a resident of Galveston, in the county of Galveston, State of Texas, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The invention is designed to form an anti-rattler for the coupling, and to this end its object is to provide a simple but effective means for taking up the play between the coupling-pin and the eye of the thill, and as well the play in the lug-bearings, as looseness of these parts is produced by the wear thereof.

Broadly, the invention consists in an expansible coupling-bolt, the same comprising a pin having an outer bearing portion formed in longitudinal sections and adapted to fit the eyes of the coupling-lugs and the eye of the thill and means operating on said pin for expanding said bearing portion.

More specifically, the invention consists in the combination, with a pin having an outer inclosing bearing portion or sleeve divided longitudinally, of a wedge, preferably of conical form, operative on said pin and adapted to enter between the two sections of the bearing portion and force them apart, and means, such as a screw-nut, for operating the wedge and for holding the parts in their adjusted position.

The invention also consists in certain novel features in construction, as shown in the preferred form of device illustrated.

In the accompanying drawings, Figure 1 is a side elevation of a thill-coupling having my invention applied thereto. Fig. 2 is a longitudinal vertical sectional view taken through the coupling on the line 2 2 of Fig. 1, the pin and a portion of its expansible sleeve being shown in full lines. Fig. 3 is also a longitudinal vertical sectional view, but of a modified form of the device. Fig. 4 is another modification of the device shown by a longi-

tudinal vertical section. Fig. 5 is a detail view showing a section taken through a modified form of screw-nut, and Fig. 6 is a transverse vertical sectional view taken through the thill-eye and expansible bolt on the line 6 6 of Fig. 2.

As will be seen by reference to Fig. 1, the anti-rattler device occupies the position and space of the ordinary bolt in thill-couplings, and like such its major portion is within the eye of the thill, while that part which projects beyond the lugs is not unlike the ordinary form of bolt in appearance. In view of the construction of the bolt in the present invention the eye of thill A and the eyes of the lugs B are preferably made larger than usual, so as to accommodate a bolt of such size as will allow it to be built after the manner of the present one and be practical in every respect.

The expansible bolt comprises the pin C, having a much smaller diameter than the thill-eye, and provided with an inclosing sleeve or bearing portion D, which is of such size as to fit the eyes of the lugs and thill. The sleeve or bearing portion D is divided longitudinally for the purpose of increasing its diameter when acted upon by the conical wedge E, operated by the adjusting-nut F.

The divided sleeve or bearing portion D is preferably made up of three parts independently of its longitudinal division, namely, two outer parts G and H and an intermediate or central part I. These three sections when combined have the same general operation as the part D', (shown in Fig. 4 as a modification of the invention,) but the object of the preferred form of construction is to vary the expansibility of the bearing portion and admit of a triple adjustment thereof, as there are three bearings to be provided for, the two lug-eyes and the eye of the thill. Were it not for the lack of uniformity in these three bearings, incident to the irregularity in wearing, the single divided expansible part, as shown in the modification referred to, would serve its function well, but even though the device were used in a single bearing the sectional feature would be preferred, as it admits of self-adjustment, and therefore there is provided a greater accommodation to the bearing-surfaces, which from wear

become more or less irregular. The sections G and H are beveled interiorly to form a conical recess, as shown at K, and in the same manner the ends of the expansible bearing portion D' in Fig. 4 are recessed, and into these conical recesses are fitted the respective cones E, which are carried by and adjustably mounted on the pin C.

The cones E are operated upon by the adjusting-nuts F, which turn upon the screw-threaded ends of the pin C, and the action of the cones so operated is that of a wedge, which as they are forced inward separate the portion D, thereby enlarging the bolt and making a snug fit within the thill-eye and the eyes of the lugs.

The intermediate section I is formed with a tapering recess L at its ends, into which fit the corresponding tapering ends M of the respective outer sections G and H, which act upon the said intermediate section in the same manner as the cones E act upon them. Thus it will be seen that through the operation of the nuts F upon the cones E the intermediate section I will be adjusted to the thill-eye, while the outer sections G and H will be adjusted by the same action to the lug-eyes.

In Figs. 2 and 4 I have shown cones beveled on their outer ends, forming thereby double cones, so that the frictional contact, as well as the purchase of the cones E upon the nuts F, will be lessened and the nuts made secure against turning through any movement of the cones. A similar provision against the turning of the nuts is had by using the single cones shown in Fig. 3 with a single coil-spring N interposed between the cones and the nuts, which has the additional advantage of imparting a slight yielding property to the parts of the bolt, or a single cone can be used with a beveled nut, as shown in Fig. 5.

In Fig. 3 I have shown the pin C provided with a bolt-head at one end, in which form the adjustment is made from the single nut

F, and it will be obvious that other changes can be made, if desirable, and be still within the scope and spirit of my invention.

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

1. In a thill-coupling, an antirattler-bolt comprising a bolt proper with the usual tightening-nuts, a sliding cone at each end of the bolt operated by the tightening-nuts, and a bearing-sleeve formed in two or more independent, longitudinal sections adapted to fit and rest upon the bolt and having their ends beveled to fit the incline of the cones and bear thereon, as and for the purpose set forth.

2. An expansible bolt for thill-couplings, comprising a pin, a bearing inclosing said pin, cones located at the ends of the bearing for expanding the same, and adapted to slide upon the pin, and means for operating the cones, the said bearing being formed into sections by transverse divisions, each of which sections is divided longitudinally into two or more independent parts, which parts are beveled at their ends, whereby the ends of one section will fit that of its adjoining section, and the outer ends of the outer sections will receive the sliding cones, as and for the purpose set forth.

3. An expanding-bolt for thill-couplings comprising a pin, a bearing inclosing said pin divided longitudinally into two or more independent sections, a sliding cone mounted upon the pin at each end of the bearing and adapted to enter between the said section of the bearing, said cones having a beveled or tapering head, and adjusting-nuts on said pin adapted to bear against the beveled heads of the cones, as and for the purpose set forth.

In witness whereof I have hereunto set my hand this 14th day of October, 1895.

JOHN N. STOWE, JR.

In presence of—

JAMES C. MABRY,
C. H. HUGHES.