(No Model.)

G. C. BURCH.

THILL COUPLING.

No. 371,170. Patented Oct. 11, 1887.

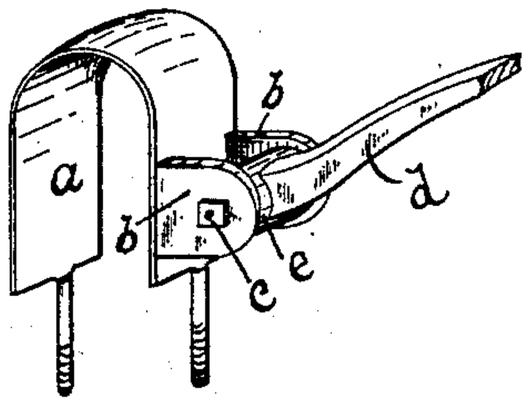


Fig. 1.

Fig. 2.

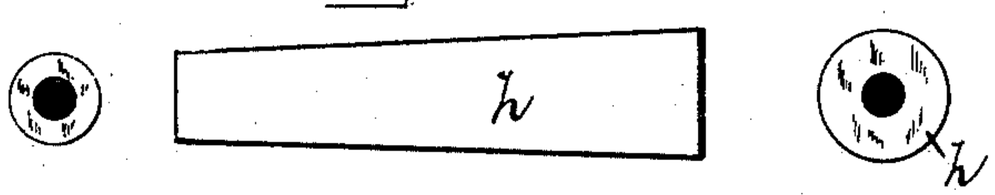
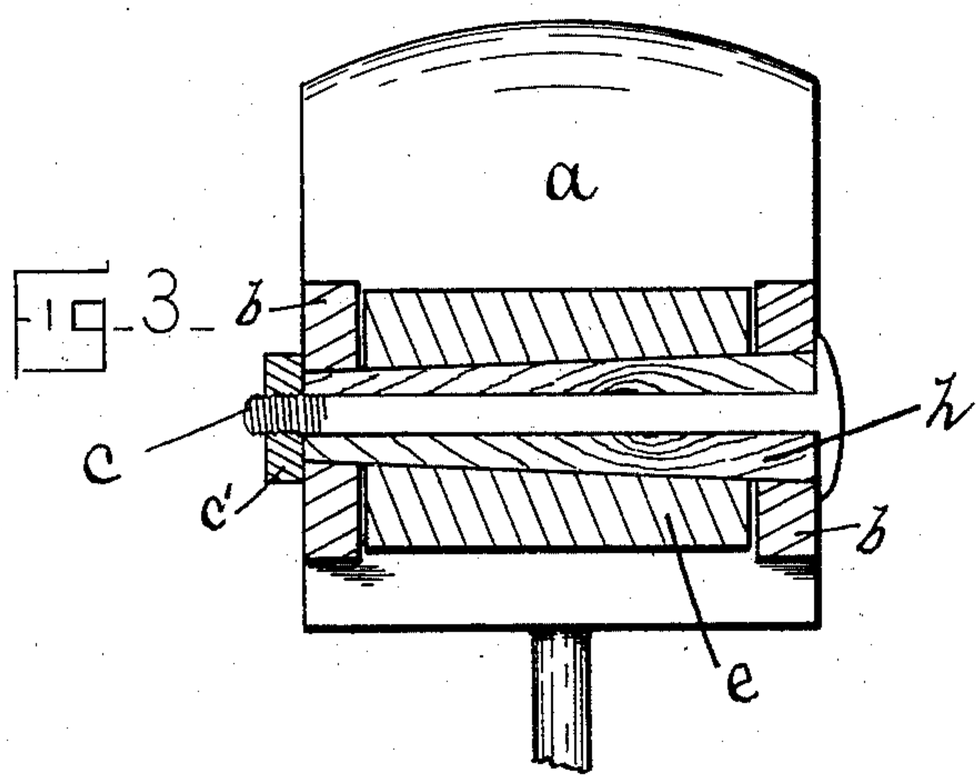


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE C. BURCH, OF GROTON, CONNECTICUT.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 371,170, dated October 11, 1887.

Application filed February 11, 1887. Serial No. 227,316. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. BURCH, a resident of Groton, New London county, Connecticut, have invented a certain new and useful Improvement in Thill-Couplings, which improvement is fully set forth and described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my coupling as it appears when the several parts are assembled and ready for use. Fig. 2 shows end and side views of my conical wearing-shell *h* detached and enlarged to about full size. Fig. 3 is a sectional view showing said shell in place ready for use and illustrating the relative positions of the other necessary elements.

My invention relates to the coupling by means of which the thills are pivotally attached to the front axle of a vehicle, and my immediate purpose is to combine with the simple form of coupling so long in use a shell of wood or other similar suitable material, which, being located between the bolt and the thill-iron, may receive the wear which ordinarily comes on said bolt, and which shall also prevent in a large degree the rattling of the operative parts.

I am fully aware that conical bearings of metal (some of them adjustable) have been provided heretofore to relieve the bolt from wear; but such devices have proven expensive to make, and consequently they have not been commonly adopted by vehicle-makers. My device, as compared with such metallic bearings, is very cheaply produced, and when worn may be removed and a new one substituted in a few minutes.

Referring to the drawings, the letter *a* indicates a clip of suitable shape to be clamped about the axle. *b b* are lugs projecting from said clip, and formed, preferably, as integral parts thereof.

c represents a bolt, and *d* an arm of metal, having a perforated head, *e*, which may enter between lugs *b* and be secured in place by the bolt *c*.

Thus far the parts referred to are identical with those of thill-couplings as most commonly made and used, with the single exception that the bolt-holes in lugs *b b* and in head *e* are considerably enlarged and tapered, so that a shell or washer, *h*, may be entered, as shown in Fig. 3 of the drawings. This shell *h* is shaped as a frustum of a cone, and is of a length sufficient to pass through the lugs *b b*. Shell *h* may be made of hard rubber, pressed paper, or other similar inexpensive material which will afford a good degree of wear; but with my present experience I prefer to use a hard close-grained wood thoroughly saturated with an animal oil, as such a shell is self-lubricating, and is less likely to grind and wear than rubber, paper, or even metal.

In assembling my device the head *e* of the thill-iron is entered between the lugs *b b*. The conical shell *h* is then entered to interlock said head and lugs, and is driven solidly into its seat in said parts. The projecting ends are then sawed off flush or about flush with the outer face of the lugs, the bolt *c* is passed through the central hole in the shell, and a nut, *c'*, screwed home, thus firmly holding the shell *h* in a given position.

It will be noted that in a coupling of my construction all wear comes on the shell, which, as above stated, may be replaced by a new one at a nominal cost by simply removing the nut and bolt. The substitution of a wooden bearing for the usual metallic bearing also reduces the tendency to rattle, although anti-rattling springs or rubbers may be added, if desired.

Having thus described my invention, I claim—

A thill-coupling formed of the thill-iron *e* and clip-lugs *b b*, each having their coincident bearing-holes tapered, as described, a conical wearing-shell of wood or similar suitable material adapted to fill said bearing-holes and pass completely through the lugs, and a clamping-bolt passing through said shell, as herein described, and for the object set forth.

GEORGE C. BURCH.

Witnesses:

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