

(No Model.)

F. F. WHEELER.  
THILL COUPLING.

No. 590,010.

Patented Sept. 14, 1897.

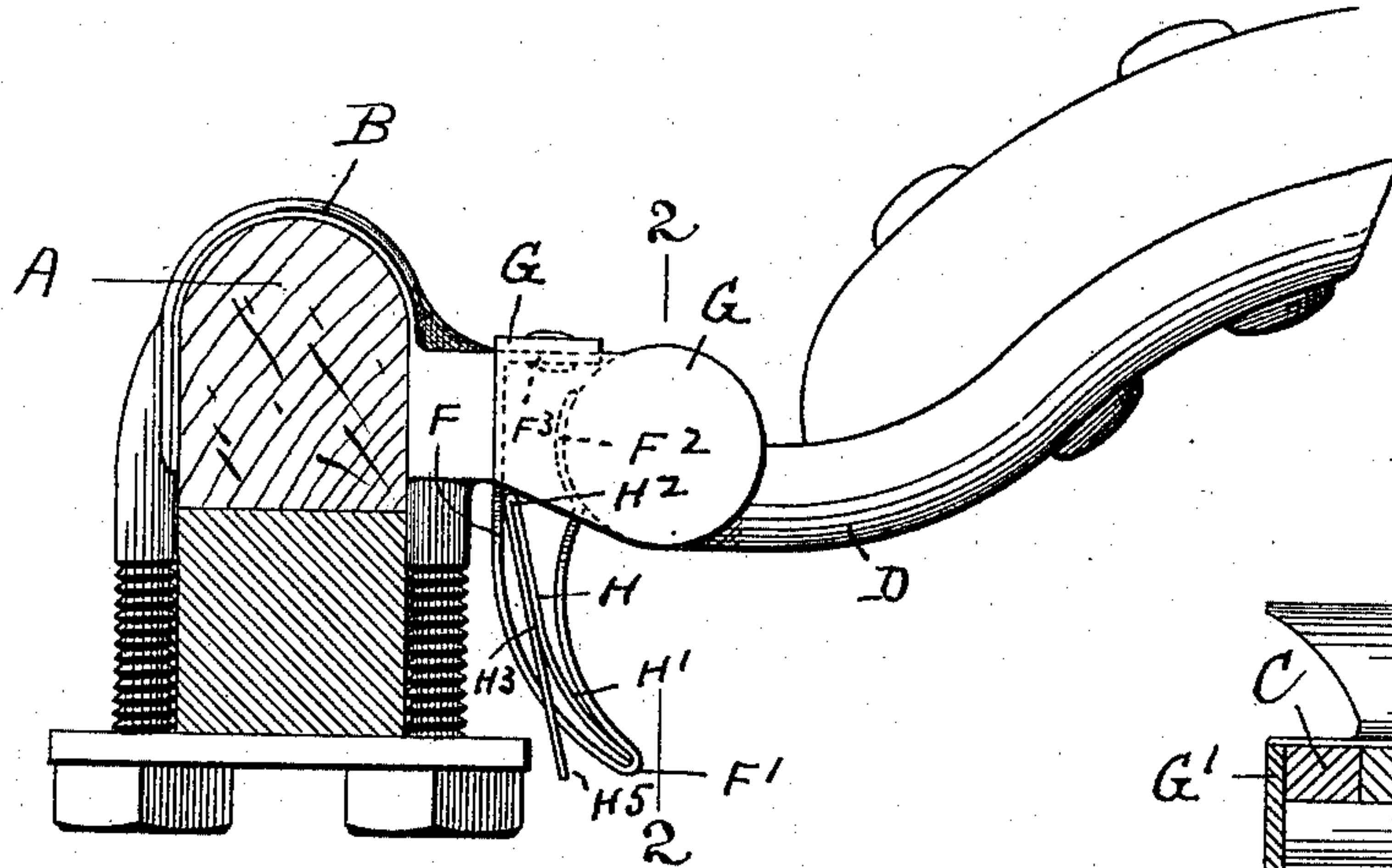


Fig. 1.

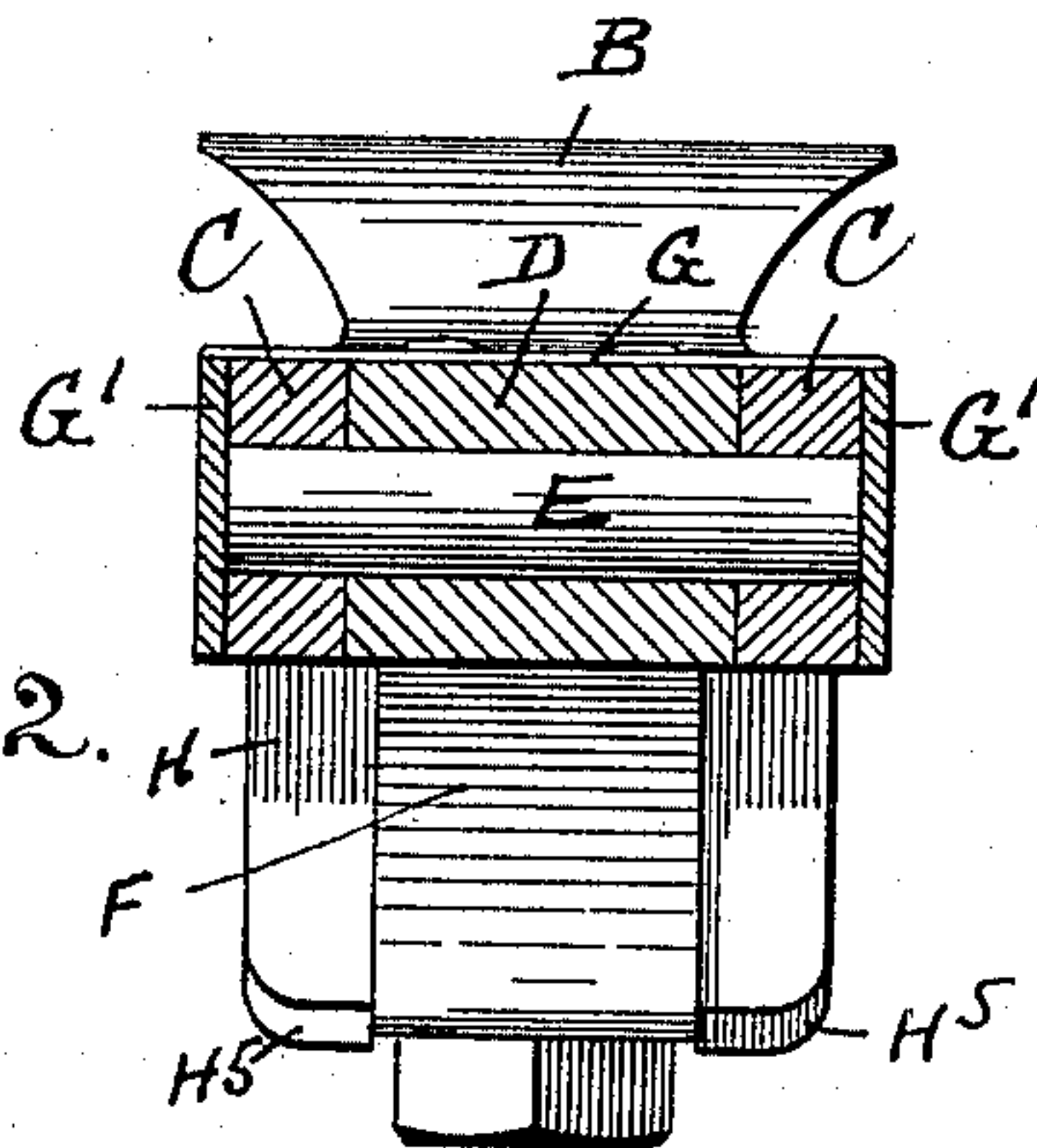


Fig. 2.

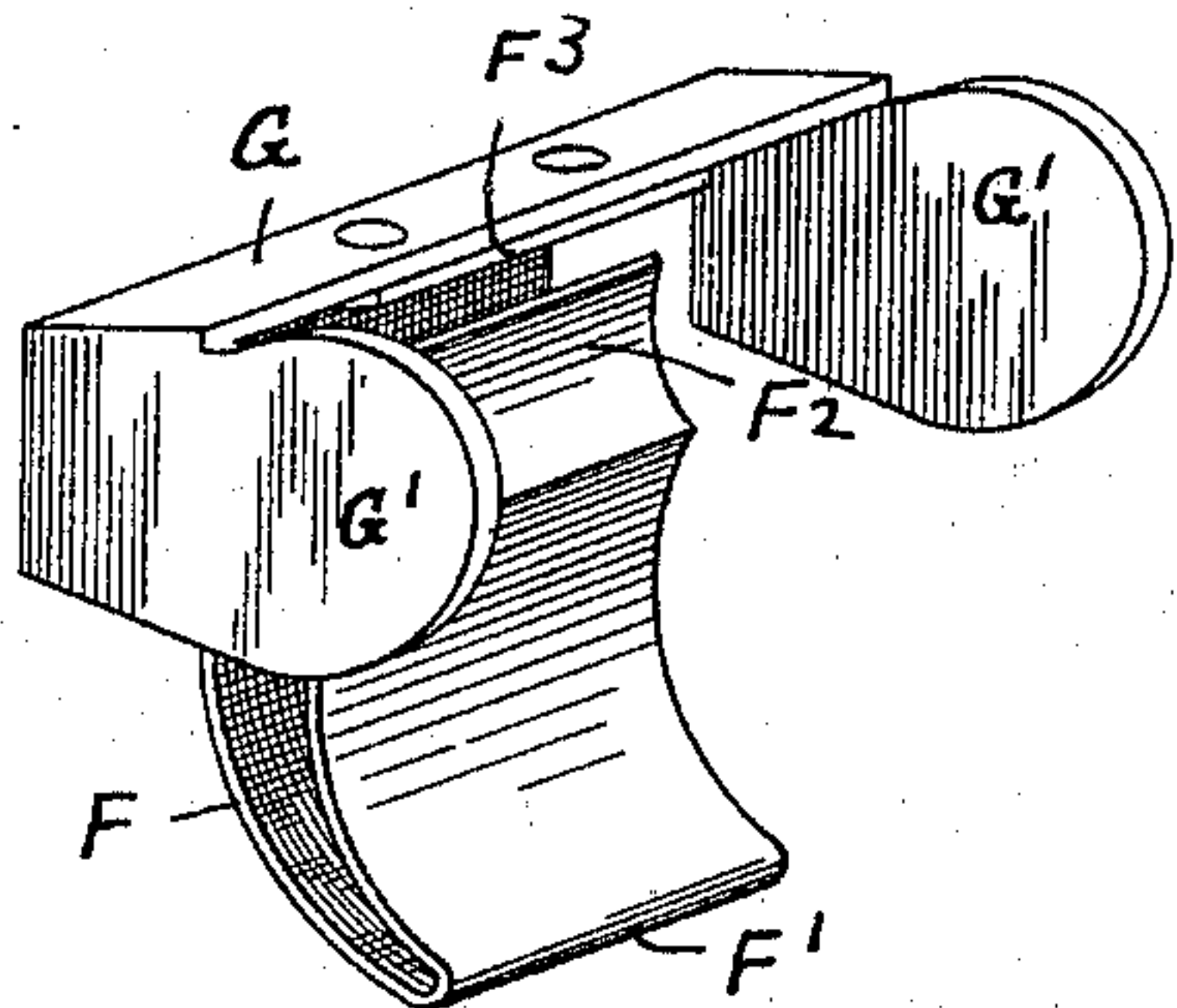


Fig. 3.

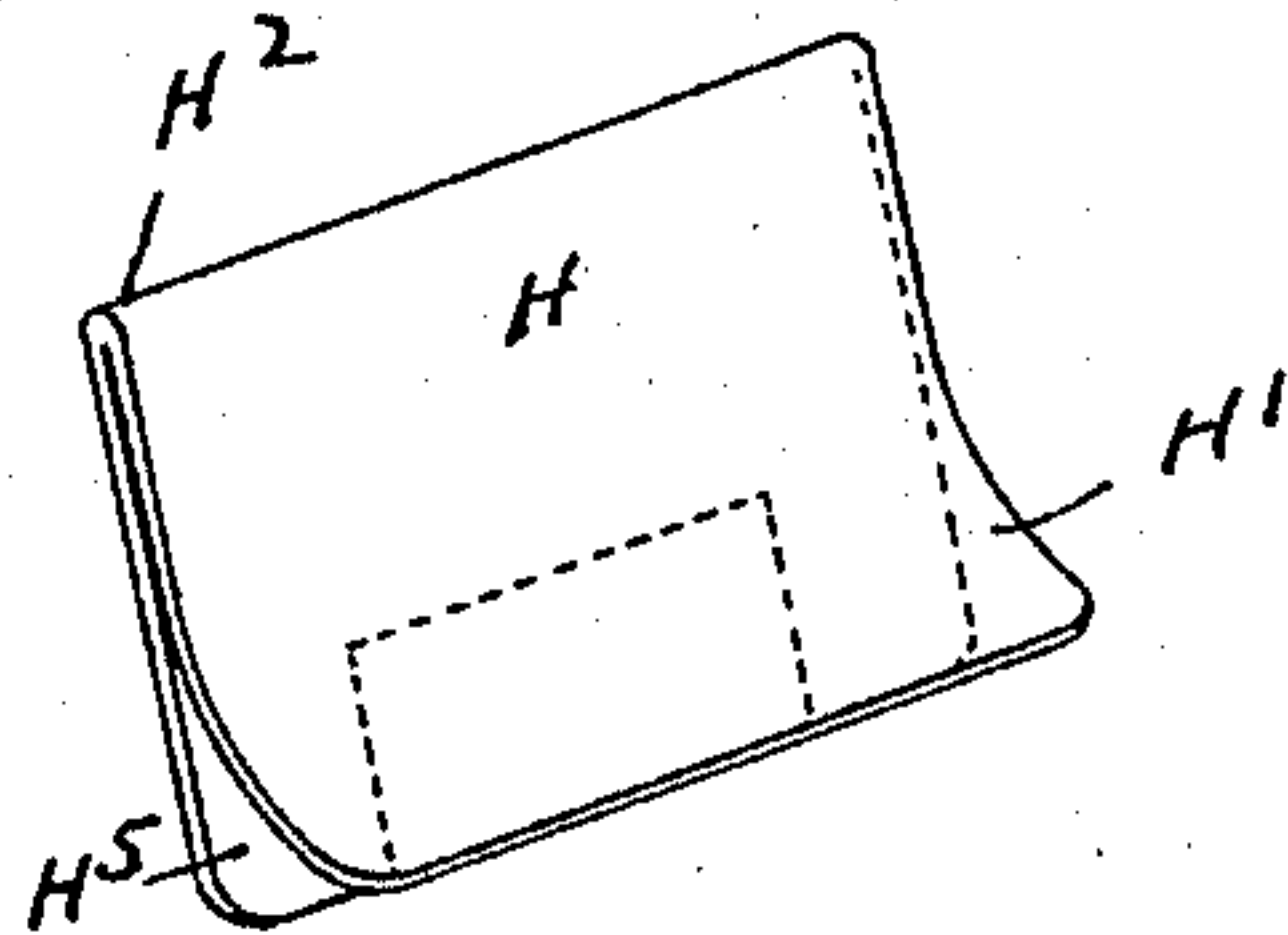


Fig. 4.

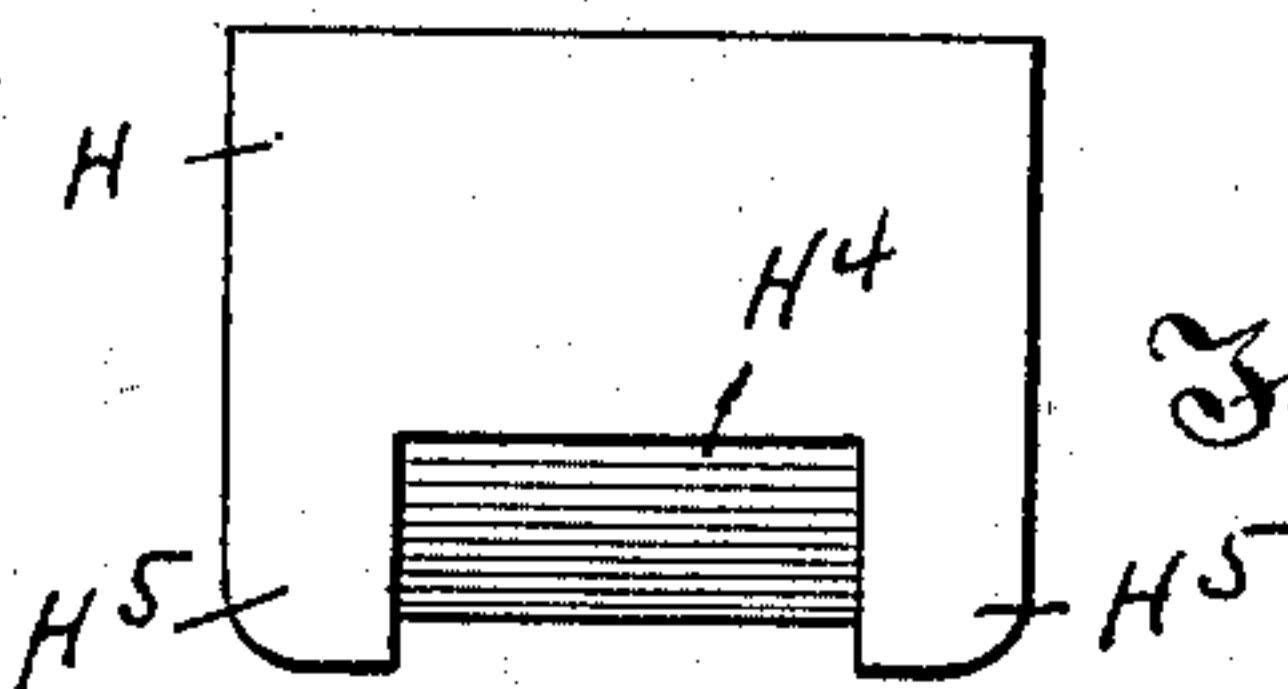


Fig. 5.

Witnesses  
A. Whiting.  
Lena Foster.

Inventor  
Fred F. Wheeler.  
By his Attorney  
Rufus B. Fowler



# UNITED STATES PATENT OFFICE.

FRED F. WHEELER, OF ATHOL, MASSACHUSETTS.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 590,010, dated September 14, 1897.

Application filed July 31, 1896. Serial No. 601,236. (No model.)

*To all whom it may concern:*

Be it known that I, FRED F. WHEELER, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same, in which—

Figure 1 represents a sectional view of a vehicle-axle with one of my improved thill-couplings attached thereto, represented in side elevation. Fig. 2 is a front view of the thill-coupling, shown in section on line 2 2, Fig. 1. Fig. 3 is a detached perspective view of the blade-spring adapted to press against the thill-iron and preventing its rattling and also having projecting ears which overlap the ends of the pintle upon which the thill-iron is hinged; and Figs 4 and 5 represent perspective and rear views, respectively, of the sheet-metal key by which the blade-spring and pintle-retaining device shown in Fig. 3 are held in position.

Similar letters refer to similar parts in the different figures.

The object of my present invention is to combine with an elastic blade-spring commonly employed to prevent the rattling of a thill-coupling means for holding the pintle in position, whereby the use of a bolt and nut is avoided, and also to provide means to secure the same in position and prevent them from being accidentally displaced, and these results are secured by means of the device hereinafter described, and represented in the accompanying drawings.

Referring to the drawings, A denotes the axle of a vehicle, shown in sectional view, and B the axle-clip, provided on its forward side with two projecting lugs C C, to which the thill-iron D is hinged by means of a pintle E, which passes loosely through the thill-iron D and lugs C C, having its outer ends flush with the outside of the lugs C C.

In the space between the lugs C C and at the rear of the thill-iron D, I insert what is known as an "antirattler," consisting of a blade-spring F, projecting downward beneath the lugs C C and being bent back upon itself at F', with its end F<sup>2</sup> bearing against the rear side of the thill-iron with sufficient pressure

to take up any lost motion in the hinged joint of the coupling. The upper end of the blade-spring F is bent at right angles at F<sup>3</sup> and a cross-bar G is riveted thereto, which rests upon the upper side of the lugs C C and is provided at its ends with downwardly-projecting ears G', which overlap the outer sides of the lugs C C and the ends of the pintle E, thereby holding the pintle in place. In order to prevent the blade-spring F from being accidentally raised, so as to release the pintle, I insert within the bent portion of the blade-spring a sheet-metal key H.

The key H consists of a plate which is slightly bent at its lower edge at H' to correspond with the curvature of the blade-spring F and is bent back upon itself at its upper edge at H<sup>2</sup> of proper width to fill the space between the bend F' of the blade-spring and the lower side of the lugs C C. The straight portion H<sup>3</sup> of the key is notched at H<sup>4</sup> to form the prongs H<sup>5</sup> H<sup>5</sup>, which inclose the blade-spring F and prevent the lateral movement of the key, which, when placed in the position shown in Fig. 1, serves to hold the blade-spring from being raised.

In order to disconnect the thill-iron D from the lugs C C, one of the prongs H<sup>5</sup> H<sup>5</sup> is pressed forward against the bent section H' of the key, so as to allow the key to be pushed endwise and removed from the blade-spring, thereby allowing the blade-spring F and ears G' G' to be raised sufficiently to release the pintle E.

I am aware that it is not new to employ a bent blade-spring inserted between the axle-clip and the thill-iron as an antirattler, for such have long been in use in various forms, but so far as I know they have been held in place by their frictional contact and the thill-iron has heretofore been hinged to the lugs C C by means of a screw-threaded bolt provided with a head on one end and carrying a nut on the opposite end, which was liable to become loosened by the jar of the vehicle.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a thill-coupling, the combination with the axle-clip, a thill-iron hinged thereto and a bent blade-spring arranged to press against said axle-clip and said thill-iron, of a key inserted in said bent spring, said key having

elastic prongs overlapping the edges of said spring, whereby said key is held from displacement sidewise and said blade-spring is held from being lifted, substantially as described.

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2. The combination with an axle-clip and a thill-iron of a loose pintle E by which said thill-iron is hinged to said axle-clip, a bent blade-spring F arranged to bear against said  
10 axle-clip and said thill-iron, a plate G attached to said spring and provided with ears

G', G', overlapping the ends of said pintle and a removable key H inserted in said blade-spring, said key having elastic prongs H<sup>5</sup> overlapping the edges of the blade-spring 15 whereby said key is held from sidewise movement, substantially as described.

Dated this 29th day of July, 1896.

FRED F. WHEELER.

Witnesses:

J. W. WHITE,

ANDREW J. HAMILTON.