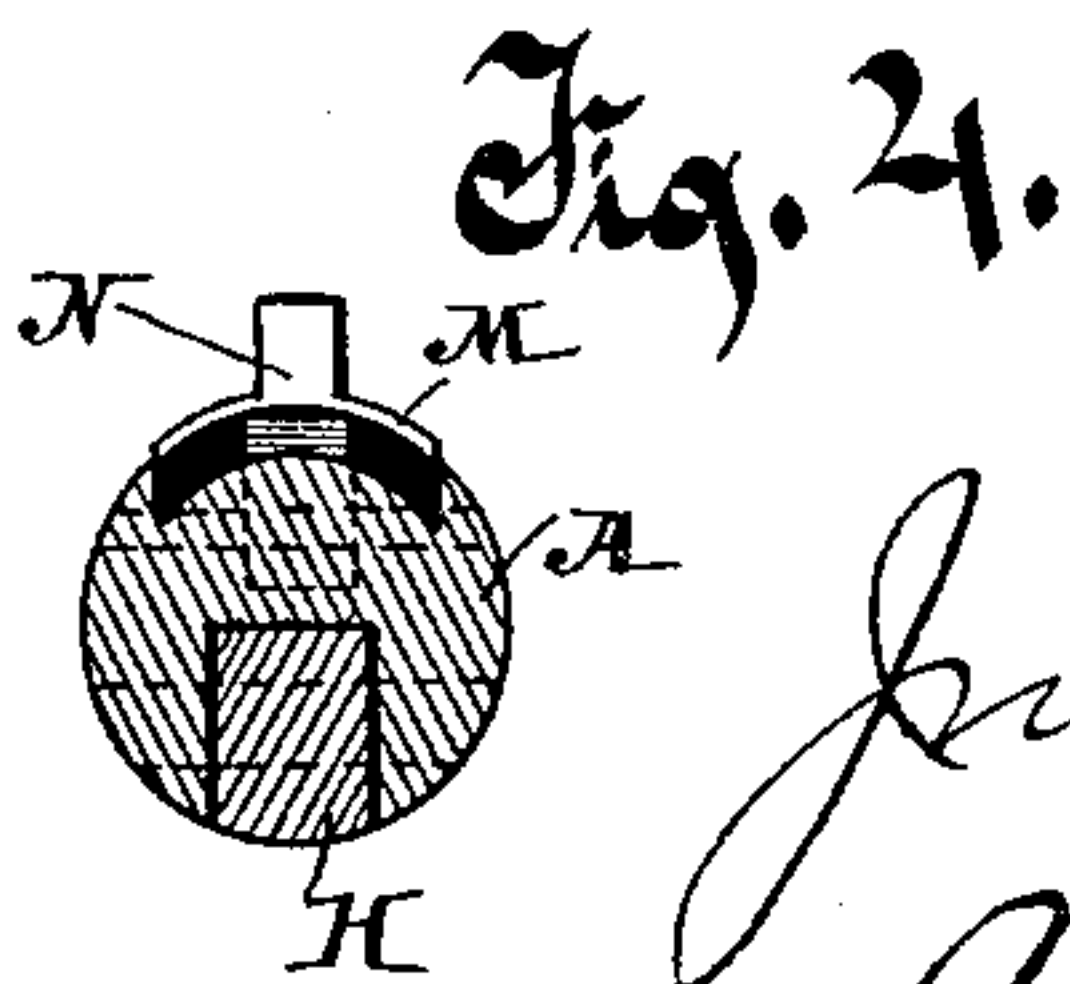
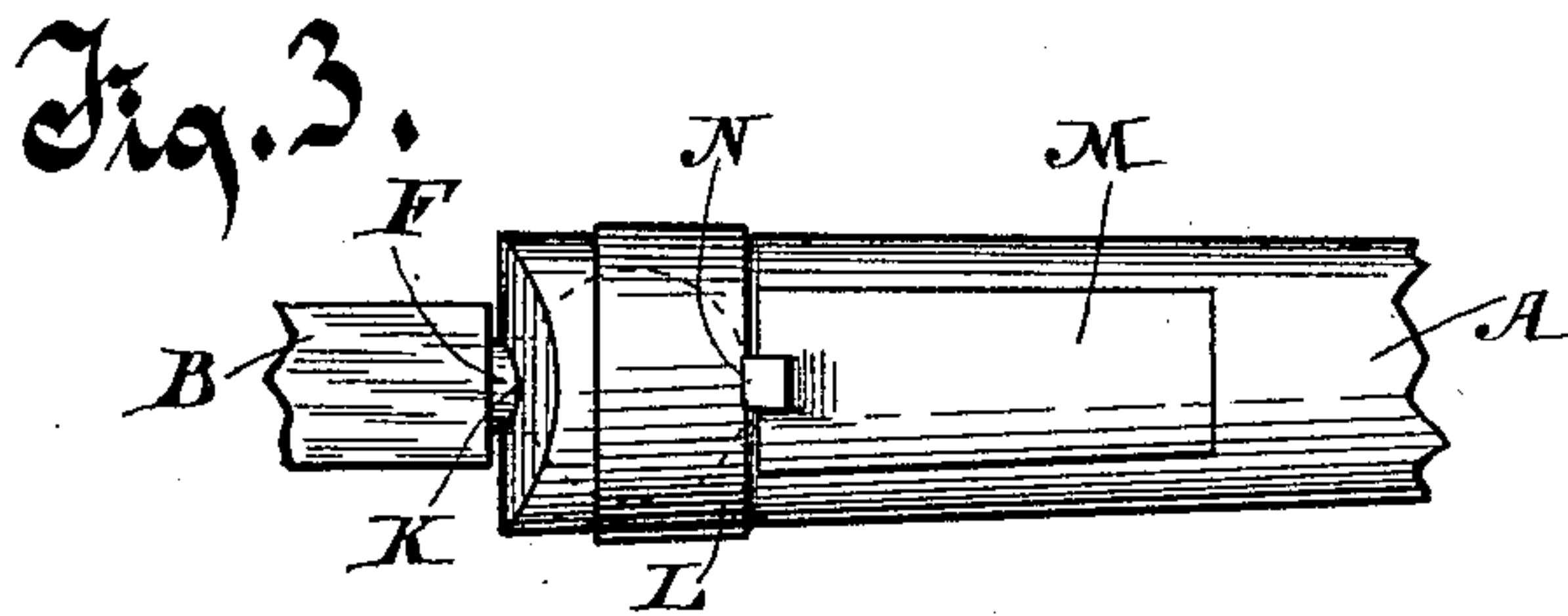
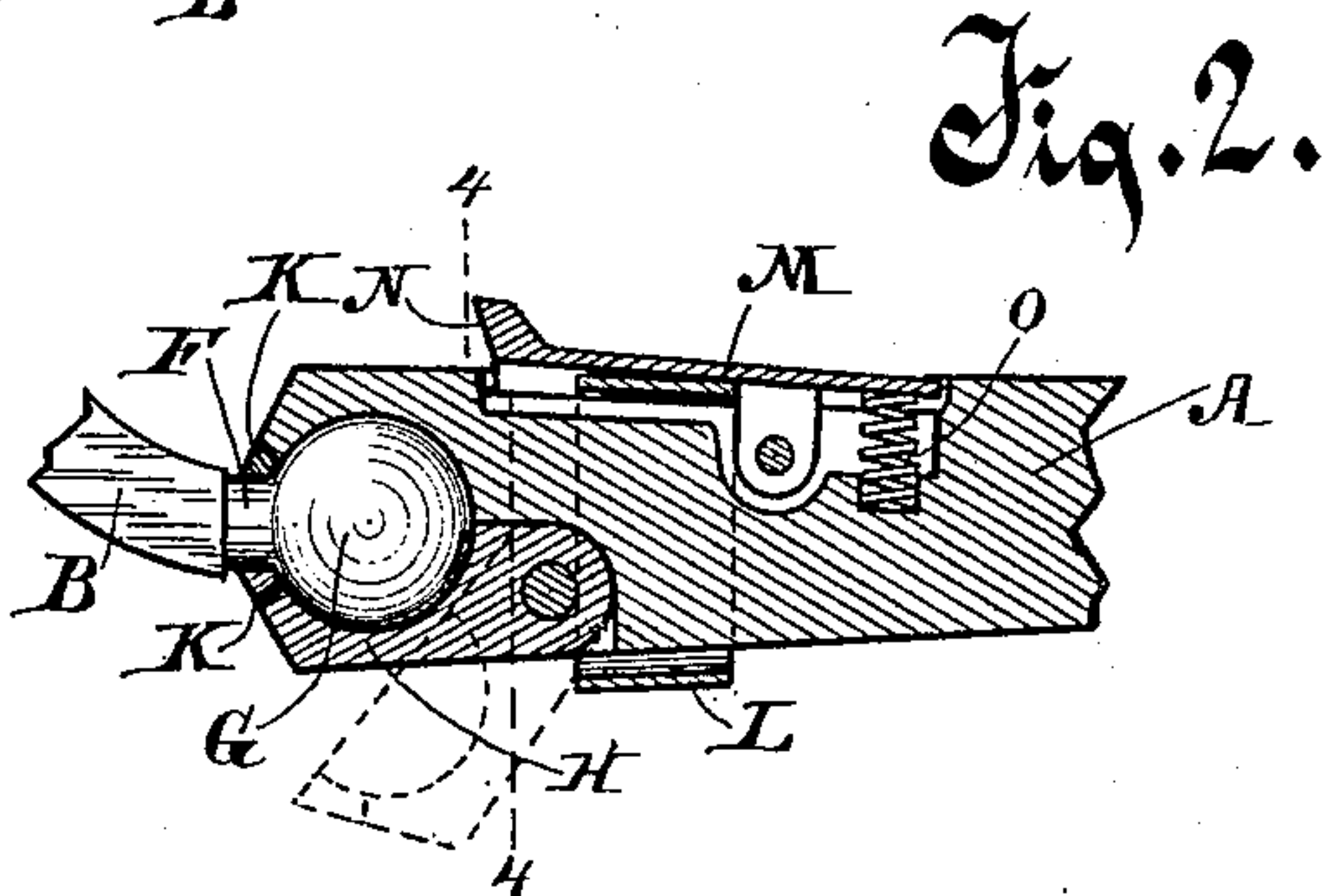
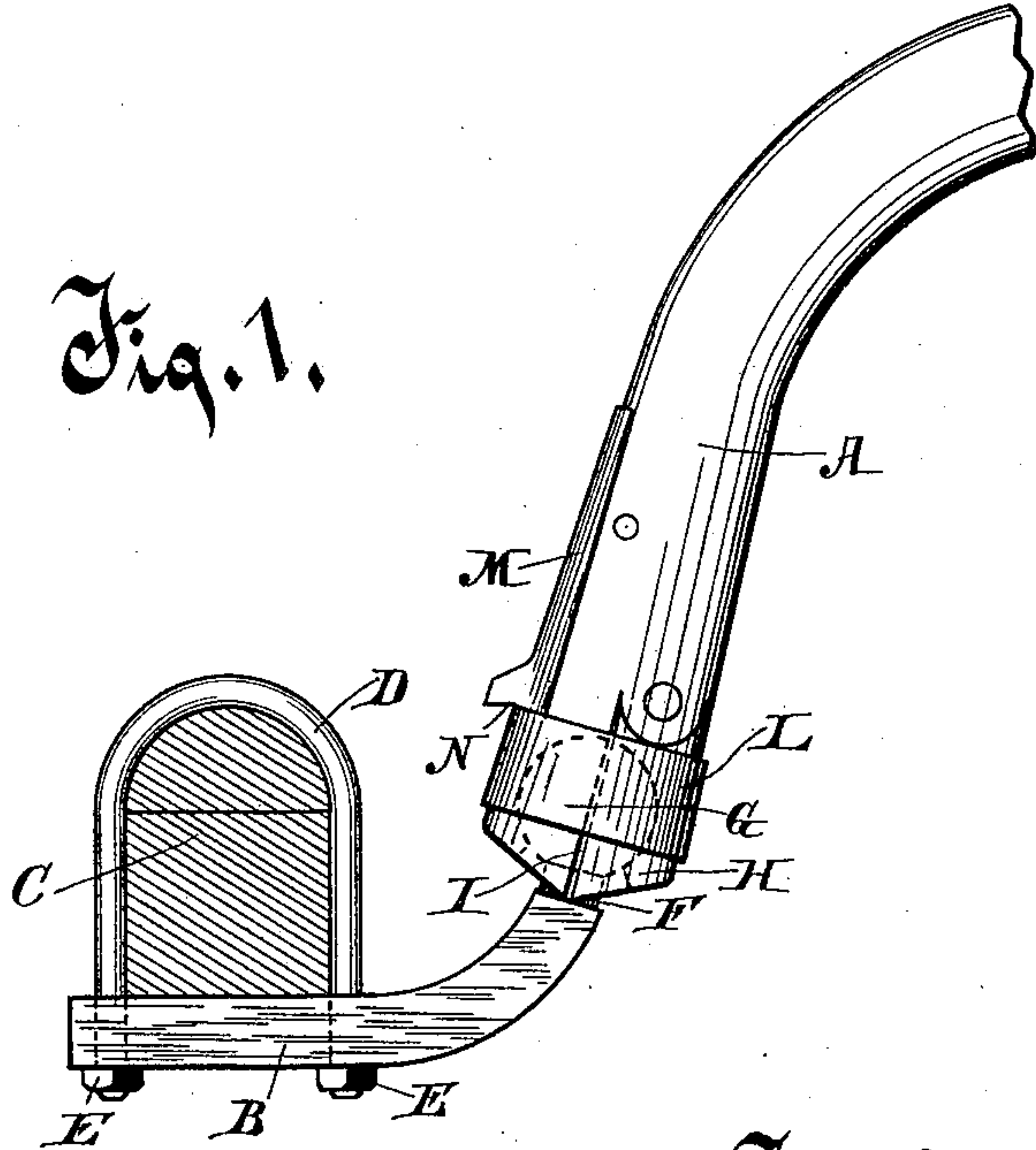


(No Model.)

J. M. FARMER.  
THILL COUPLING.

No. 463,699.

Patented Nov. 24, 1891.



Witnesses.  
C. H. Keeney,  
Anna C. Faust.

Inventor.  
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Attorney.



# UNITED STATES PATENT OFFICE.

JULIUS M. FARMER, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO GEORGE A. NEEVES AND WILLIAM B. NEEVES, BOTH OF SAME PLACE.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 463,699, dated November 24, 1891.

Application filed January 16, 1891. Serial No. 377,943. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS M. FARMER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Thill-Couplings and Anti-Rattlers, of which the following is a description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to means for attaching thills or a tongue to vehicles, which means consists of a device so constructed that the thills or tongue may be quickly and readily attached to the vehicle or removed therefrom, and when attached to the vehicle are capable of a vertical hinge motion by means of a connection or joint that is so constructed as to obviate all undesirable movement and all rattling of the parts of the joint.

In the drawings, Figure 1 is a fragment of a thill in connection with an axle of a vehicle shown in cross-section and a clip thereon and its bar to which the thill is connected. Fig. 2 is a central longitudinal section of the inner end of the thill and of the end of the clip-bar with which the thill is connected. Fig. 3 is a top plan view of the same portion of the device shown in Fig. 2. Fig. 4 is a transverse section on line 4 4 of Fig. 2.

A is the inner end or shank of a thill.

B is a bar secured rigidly to the axle C conveniently by the clip D, the two ends of which pass through the bar B, and are secured therein by the nuts E E turning thereon. The forward end of the bar B is provided with a neck F and a spherical or ball head G. The inner end of shank A of the thill is so constructed as to receive and grasp the ball G, whereby the thill is connected to the vehicle, and has vertical movement at its free end relative thereto.

For the purpose of connecting the thill to the bar B the extremity of the shank A is formed with a jaw H, tenoned and hinged at its inner end to the thill, and a socket is formed in the thill and in the jaw, one-half in each, adapted to receive therein the head G, and of such size that the jaw and thill will fit snugly on the head when the jaw is closed thereon, leaving a narrow longitudinal space

I between the jaw and the thill at their adjacent surfaces about the head G. This space is provided to permit the nearer closing of the jaw to the thill to take up wear between the head G and the parts surrounding it. A central aperture extends rearwardly from the ball-receiving socket to the end of the thill, which aperture is widened vertically at K K to permit the limited vertical movement of the thill on the bar B. A band L, fitted and sliding on the shank A, is adapted to be moved toward the extremity of the thill so as to embrace the jaw H, as shown in Fig. 1, and hold the jaw and thill to each other, grasping the ball-head of the bar. The thill and jaw are made slightly tapering enlarging toward the extremity of the thill, so that as the band L is pushed toward the extremity it will bind more and more tightly about the thill and jaw. For the purpose of automatically forcing the band L outwardly and thereby more tightly about the thill and jaw, a lever-latch M is pivoted medially in the thill, its outer end surface N being inclined or wedge-shaped and arranged to bear against the edge of the band L and lock it in place about the jaw H, and at the same time being adapted as the end of the latch is forced inwardly to push the band L farther out on the enlarging tapering end of the thill and close the jaw and thill tightly about the head G. A spring O is located in the thill beneath the other end of the lever-latch M, and is adapted to hold the latch yieldingly in position and force the wedge-shaped end N inwardly actively against the band L.

To remove the thill from the vehicle, the latch M is raised, permitting the band L to slide along the shank of the thill A off from the jaw H, which may then be swung outwardly, as indicated in Fig. 2, permitting the removal of the thill from the bar B. It is a matter of common knowledge that there are two thills connected permanently together used with a vehicle, and it will be understood that the devices herein described for connecting a thill to a vehicle are made in duplicate on the two thills and the bars for connecting them with the vehicle. These devices described as made in the end of a thill may also



be constructed in and used with the bifurcate ends or double necks of a tongue for attaching it to the axle.

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

1. A thill-coupling and anti-rattler comprising a bar secured to and projecting forwardly from an axle, which bar terminates in a ball-head, a thill enlarged by taper toward the rear end, a jaw pivoted to and forming a part of the terminal portion of the thill, a socket in the jaw and relatively fixed part of the thill slightly smaller than the spherical head of the bar held therein, an aperture smaller than the socket-opening therefrom to the end of the thill in the adjacent faces of the jaw and relatively fixed part of the thill, a band about the thill arranged to slide thereon and to increasingly tighten on the thill about the ball-head of the bar taking up wear and binding the jaw and relatively fixed part of the thill releasably to the bar, substantially as described.

2. A thill-coupling and anti-rattler comprising a bar secured to and projecting forwardly

from an axle, a ball-head terminating the bar, a thill enlarged by tapering toward its rear end, a jaw pivoted to and forming a part of the terminal portion of the thill, a socket in the jaw and relatively fixed part of the thill of a size and form to receive the head on the bar, an aperture smaller than the socket-opening therefrom to the end of the thill in the adjacent faces of the jaw and relatively fixed part of the thill, a sliding band about the thill adapted to increasingly tighten on and bind the jaw releasably to the relatively fixed part of the thill, and a spring-actuated lever pivoted in the thill having an inclined face on its end adapted to bear against and automatically force the band onto the larger part of the taper of the thill, substantially as described.

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

JULIUS M. FARMER.

Witnesses:

C. T. BENEDICT,  
ANNA V. FAUST.