

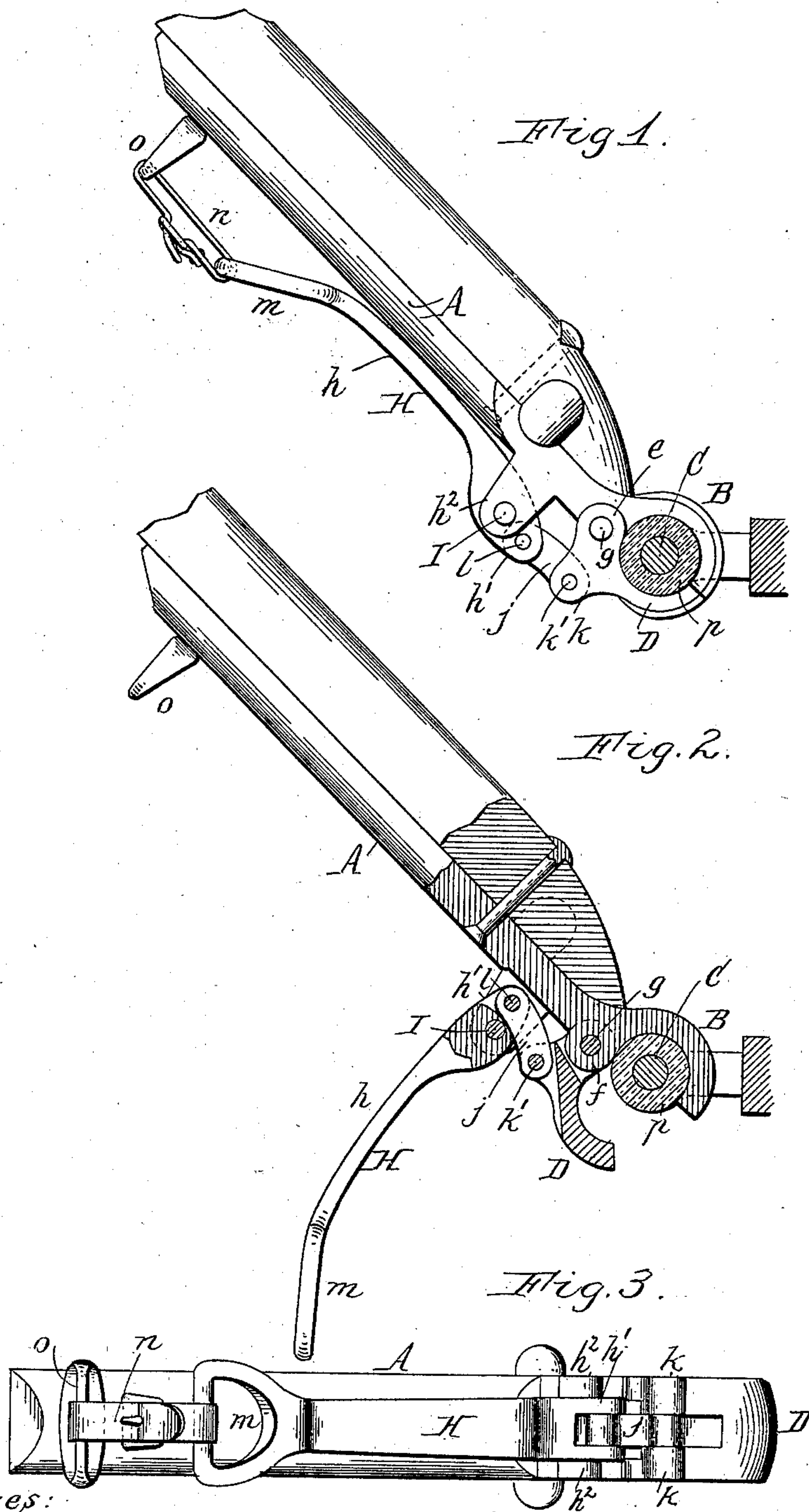
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Patented Jan. 28, 1902.

W. L. BODMAN.
THILL COUPLING.

(Application filed Oct. 28, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 691,891, dated January 28, 1902.

Application filed October 28, 1901. Serial No. 80,188. (No model.)

To all whom it may concern:

Be it known that I, WALTER L. BODMAN, a subject of the King of Great Britain, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to a thill-coupling in which the thill-iron is provided at its rear end with an upper fixed jaw, a lower movable jaw, which is pivoted to the thill-iron, and an operating-lever, which is located underneath the thill-iron and connected with the pivoted jaw for opening and closing the same when attaching and detaching the thills.

The object of the invention is to provide a very simple and inexpensive coupling of this character in which the lever is so arranged and connected with the movable jaw that the latter is positively forced into closed position and positively held in such position.

In the accompanying drawings, Figure 1 is a side elevation of the rear portion of a thill provided with my improved coupling, the figures showing the movable jaw closed. Fig. 2 is a similar view, partly in section, showing the movable jaw open. Fig. 3 is a bottom plan or front view of the coupling, showing the movable jaw closed.

Like letters of reference refer to like parts in the several figures.

A indicates the thill-iron, which is secured, as usual, to the under side of the thill and is provided at its rear end with a fixed jaw B, having in its under side a substantially semi-circular seat or pocket for the reception of the coupling-bolt C, which latter may be of any suitable construction. D indicates the movable jaw, which is provided with a similar seat or socket and which is pivoted at its forward end to the thill-iron in any suitable manner, preferably by means of hinge-lugs *e* on the jaw, embracing a hinge-lug *f* on the thill-iron, and a pintle or pin *g*, passing through these lugs.

H indicates the operating-lever, which is arranged longitudinally beneath or on the front side of the thill-iron and is pivoted to the latter a short distance in front of the pivoted jaw. The lever has a long front arm *h*

and a short rear arm *h'*, and is pivoted, preferably, between two lugs *h²* on the thill-iron by a fulcrum-pin I. The short rear arm of the lever is connected to the pivoted jaw by means of a short link *j*, which is pivoted at its rear end to the jaw, preferably between depending pivot-lugs *k*, formed on the latter, and a pivot-pin *k'*. The short rear arm of the lever is preferably bifurcated for the reception of the forward end of the link, which is pivoted to the lever by a pivot-pin *l*. The forward end of the long front arm *h* of the lever is preferably bent or turned downwardly or forwardly away from the thill-iron, so that this arm of the lever can be conveniently grasped when the long arm of the lever rests with its upper side or back against the thill-iron, as shown in Fig. 1. The lever is preferably provided at its front end with an eye or loop *m* for the reception of a safety-strap *n*, which passes through a loop *o*, depending from the thill-iron in front of the lever.

p represents a bushing or washer of leather or other suitable material, which surrounds the coupling-bolt C and which is of cylindrical or other suitable form, as the form of the bolt may require.

The arrangement of the fulcrum-pin I of the lever and the pivotal connections between the lever and link and between the latter and the pivoted jaw is such that when the movable jaw is closed, as shown in Fig. 1, the lever rests with the rear side or back of its front arm against the thill-iron, the lever and link are nearly in a straight line, and the pivotal joint between the rear arm of the lever and the link has passed downwardly beyond the dead-center, which lies in a line drawn through the fulcrum of the lever and the pivot connection of the link with the pivoted jaw. In this position of the parts it is impossible to open the movable jaw by force applied thereto, and the opening of the jaw can only be effected by moving the front arm of the lever downwardly toward or into the position shown in Fig. 2. The movable jaw is therefore positively held in its closed position. The action of the lever and link upon the movable jaw is similar to that of a toggle-joint and produces a powerful pressure upon the

jaw in closing it, which is particularly desirable when the bushing is made of compressible material.

My improved coupling is extremely simple
5 in construction, being composed only of a few rigid parts, and is not liable to become impaired in its operativeness either by use or long-continued non-use, as is liable to occur with couplings in which springs are employed.
10 Springs are liable to breakage, and they are liable to take a set by long-continued non-use—for instance, when a coupling is not disturbed for a long time, because no occasion arises for shifting from thills to a pole, or vice versa.
15 In my improved coupling a very short link answers for connecting the lever with the movable jaw, and the lever is therefore arranged in close proximity to the jaw, whereby the coupling is rendered very compact.

20 I claim as my invention—

1. The combination of a fixed jaw, a movable jaw pivoted at its front end and arranged on the under side of the fixed jaw, an operating-lever having its fulcrum arranged near
25 the pivoted end of the movable jaw and having a long front arm projecting forwardly

from the fulcrum and a short rear arm projecting rearwardly therefrom, and a rigid link connecting the short rear arm of the lever with the movable jaw, substantially as set forth. 30

2. The combination of a thill-iron, a fixed jaw formed at the rear end thereof, a movable jaw pivoted at its front end to the under side of the thill-iron, an operating-lever having a
35 long front arm and a short rear arm and pivoted to the under side of the thill-iron near the pivoted end of the movable jaw, and a rigid link connecting the short rear arm of the lever with the movable jaw, the long front
40 arm of the lever being arranged to bear against the thill-iron when the rear arm of the lever and the link have passed the dead-center and the movable jaw is closed, substantially as set forth. 45

Witness my hand this 9th day of October, 1901.

WALTER L. BODMAN.

Witnesses:

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