

No. 666,620.

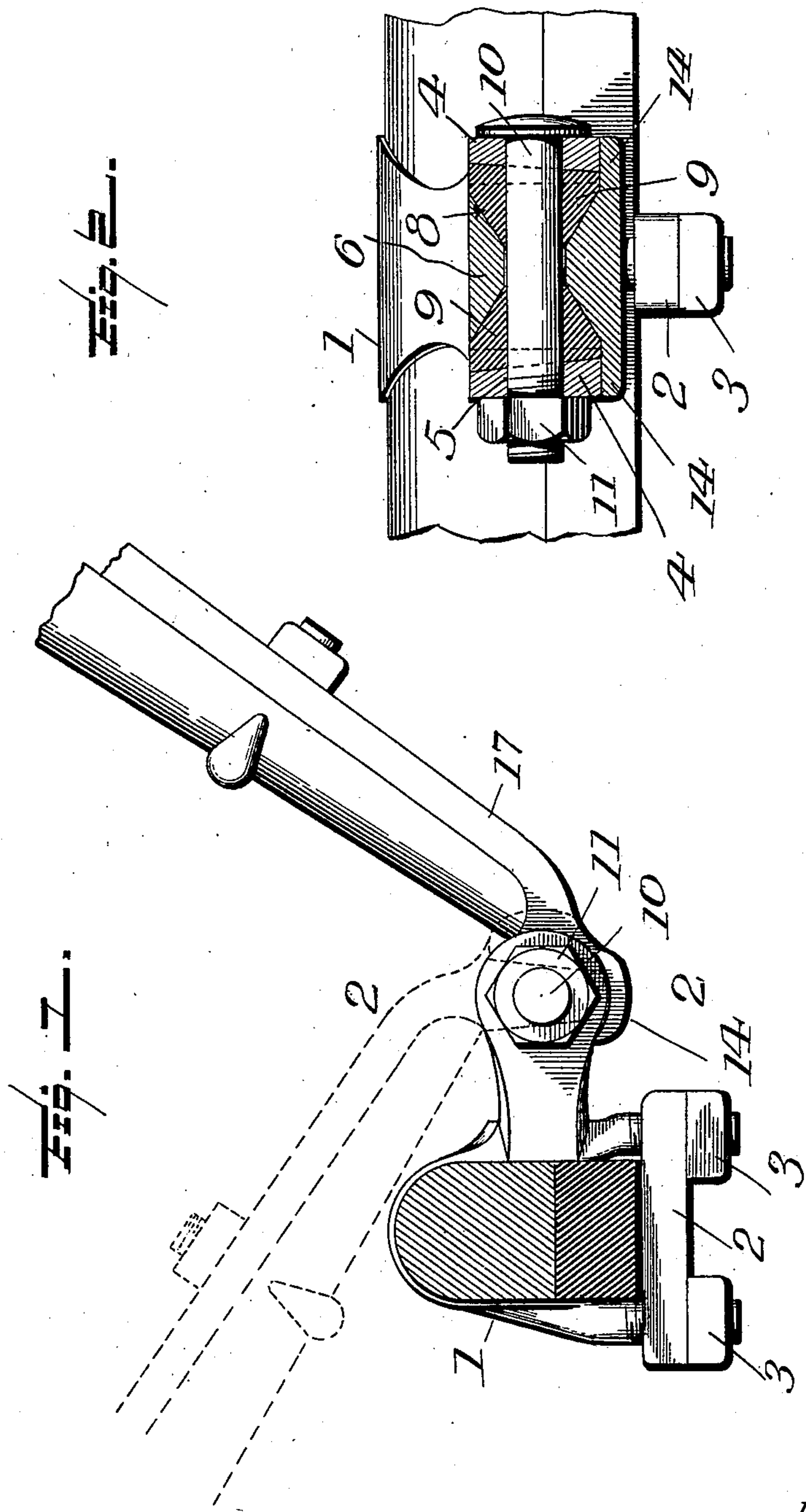
Patented Jan. 22, 1901.

J. EMENAKER.
THILL COUPLING.

(Application filed Sept. 26, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

L. C. Mills
Chas. L. Wallace

INVENTOR:

Joseph Emenaker

BY L. Deane Son

Attorneys

No. 666,620.

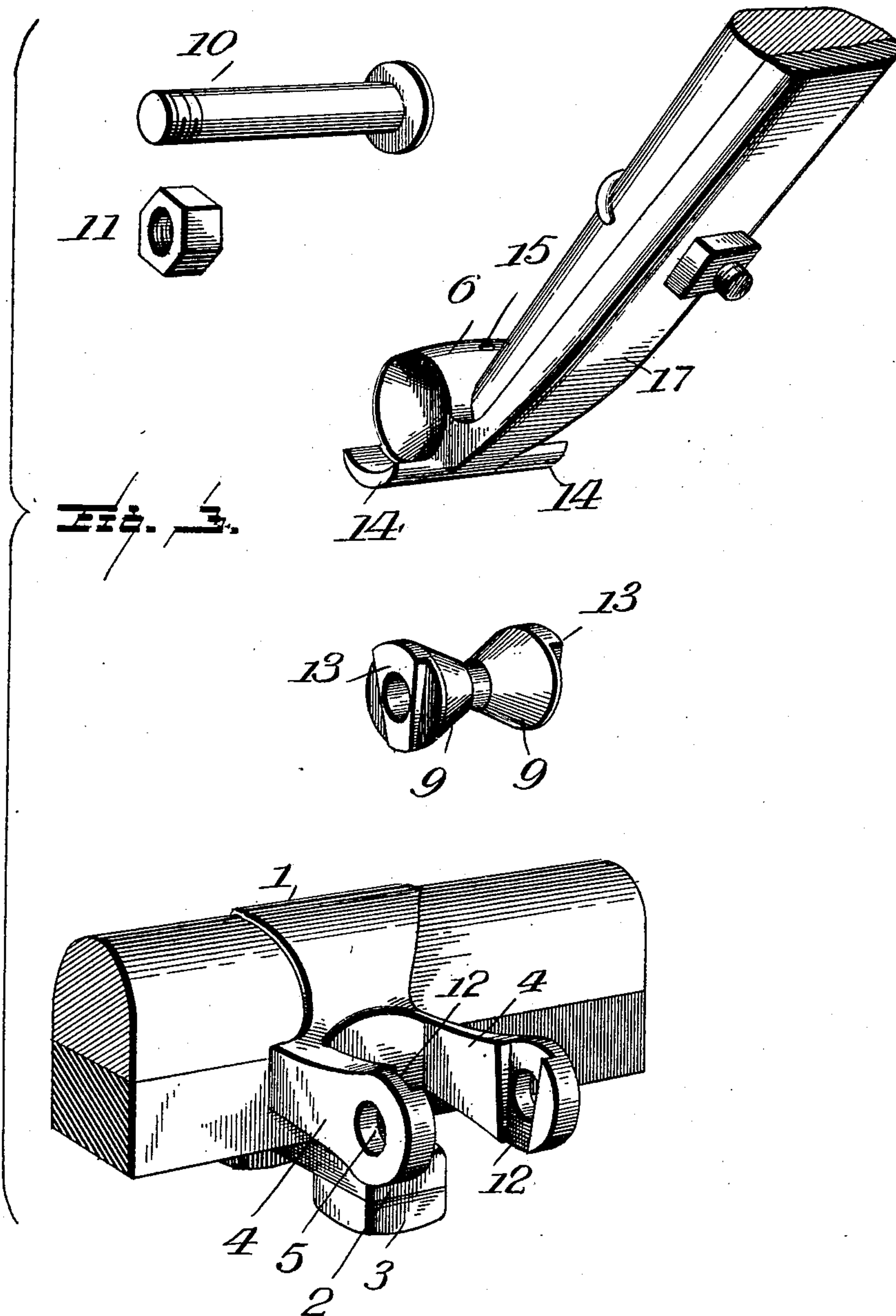
Patented Jan. 22, 1901.

J. EMENAKER.
THILL COUPLING.

(Application filed Sept. 26, 1900.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

L. C. Hills
Chas. R. Hallas

INVENTOR:

Joseph Ememaker,
BY *L. Deane & Son*
Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH EMENAKER, OF LAWRENCEBURG, INDIANA, ASSIGNOR OF ONE-HALF TO FRANK M. FITTERER, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 666,620, dated January 22, 1901.

Application filed September 26, 1900. Serial No. 31,131. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH EMENAKER, a citizen of the United States, residing at Lawrenceburg, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in thill-couplings.

One object of the present invention is the provision of a thill-coupling which is extremely simple in construction, yet capable of great endurance and strain, and one which embodies means for effectively taking up the wear incident to use, so as to obviate rattling of the parts when in use.

A further object of the invention is the provision of a thill-coupling which is so constructed that in the event of loss of the coupling bolt or pin the thill-iron will remain in engagement with the clip, and thereby retain the coupling intact.

A further object of the invention is to provide a thill-coupling the parts of which may be readily separated when such is desired and by means of which the thills may be easily detached when necessary.

With these and other objects in view, which will appear as the nature of the improvements is better understood, the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a thill-coupling constructed in accordance with the present invention, the dotted lines illustrating the position of the thill when the latter is to be detached. Fig. 2 is a vertical transverse sectional view on the line 2 2, Fig. 1. Fig. 3 is a perspective view illustrating the parts of the coupling as separated in order to more clearly disclose their construction.

Referring to the drawings, the numeral 1 designates the clip of the herein-described

coupling, which clip is of the usual form and secured to the axle by means of a strap-iron 2 and the usual nuts 3.

The clip 1 is provided with a pair of forwardly-extending parallel spaced arms 4, which arms are each provided with an opening 5, arranged in coincident relation with each other. The arms 4 are designed to receive an attaching-eye 6, formed at the rear end of a thill-iron 7, and said eye closely fits between said arms in order to snugly work therein. Each end of the eye 6 is provided with an inwardly-tapering conical socket 8, and fitting in each of said sockets is a conical bearing-plug 9, said plugs being each provided with a longitudinal opening adapted to register with the openings 5 of the arms 4, so that a fastening bolt or pin 10, provided with a securing-nut 11, may be passed through said plugs and openings for securing the attaching-eye 6 against displacement.

It will be observed at this point that the inner face of each of the arms 4 is provided with a downwardly-tapering groove 12, and each of said grooves is designed to receive a downwardly-tapering rib 13, carried by each of the conical plugs 9 at its outer face. It will thus be seen that when the ribs 13 are inserted into the grooves 12 a wedge-like action takes place, and after the ribs 13 have reached the limit of their downward movement further downward movement of the bearing-plugs 9 is prevented. This will position the openings of the plugs in alinement with the openings 5 of the arms 4, and thus the bolt or pin 10 may be freely passed through the arms 4 and the eye 6. It will also be observed by referring to Fig. 2 that the inner walls of the grooves 12 and the outer faces of the ribs 13 incline downwardly, and by reason of such construction a wedge-like action between said parts also takes place when the eye 6 is inserted between the arms 4.

To prevent upward displacement of the attaching-eye 6 in the event that the bolt or pin 10 is lost, the attaching-eye 6 is provided at its under side and at the ends thereof with outwardly-extending wings 14, the upper faces of which are concaved in order to conform to the curvature of the ends of the arms

4, and when the eye 6 is positioned between the arms 4 and the thill-iron is in its normal or working position the wings 14 lie beneath said arms, as clearly seen in Fig. 2, so that
 5 should the bolt or pin 10 become displaced said wings will preclude upward movement of the eye 6. Downward movement thereof is likewise prevented by the wedging action of the ribs 13 in the grooves 12.

10 With the parts in the position shown in Figs. 1 and 2, should it be desired to disengage the thill-iron 7 from the clip 1 the thill is swung to the position shown by dotted lines, whereupon the wings 14 move to the front
 15 of the arms 4 and are thus free to move upwardly. Upon removal of the bolt or pin 10 and with the application of upward pressure on the thill the eye 6, together with the bearing-plugs 9, will move upwardly, and the
 20 thill thereby becomes freed from engagement with the clip. If, on the other hand, it is desired to connect the thill with the clip the thill is caused to assume the position shown by the dotted lines, and when the ribs 13 of
 25 the plugs 9 have been introduced into the grooves 12 it is obvious that the thill will gravitate to its proper position, and when therein the bolt or pin 10 may be readily
 30 passed through the arms 4, the plugs 9, and the eye 6, so as to secure the parts in connected relation:

35 The herein-described invention provides a thill-coupling which is extremely simple in construction, yet strong and durable, and by its use the thill will remain in constant engagement with the clip, even though the bolt 10 be lost.

While the form of the invention shown and described is what is believed to be a prefer-

able embodiment thereof, it is obvious that 40 the invention is susceptible of various changes in the form, proportion, and minor details of construction, and the right is therefore reserved to modify or vary the invention as falls within the spirit and scope thereof and 45 as use and experience may require.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a thill-coupling, the combination with 50 the clip thereof, of a thill-iron having an eye with oppositely-disposed tapering conical sockets, and outwardly-extending wings with concaved upper faces to engage the under faces of the arms of the clip, conical plugs in 55 said sockets having ribs to engage in the said arms, and a securing-bolt passed through the eye, plugs and arms and provided with a nut, all substantially as herein shown and described. 60

2. In a thill-coupling, the combination with a clip having arms provided upon their adjacent faces with downwardly-tapered grooves, of a thill-iron having oppositely-tapered conical sockets, conical bearing-plugs 65 fitted in said sockets and each provided upon its outer end with wedge-shaped ribs to engage in said grooves and a securing-bolt passed through the sockets and through openings in the plugs and their wedge-shaped ribs, 70 and provided with a nut, all substantially as shown and described..

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

JOSEPH EMENAKER.

Witnesses:

FRANK M. GIVAN,
 ROBERT ELLERBROOK.