

No. 654,339.

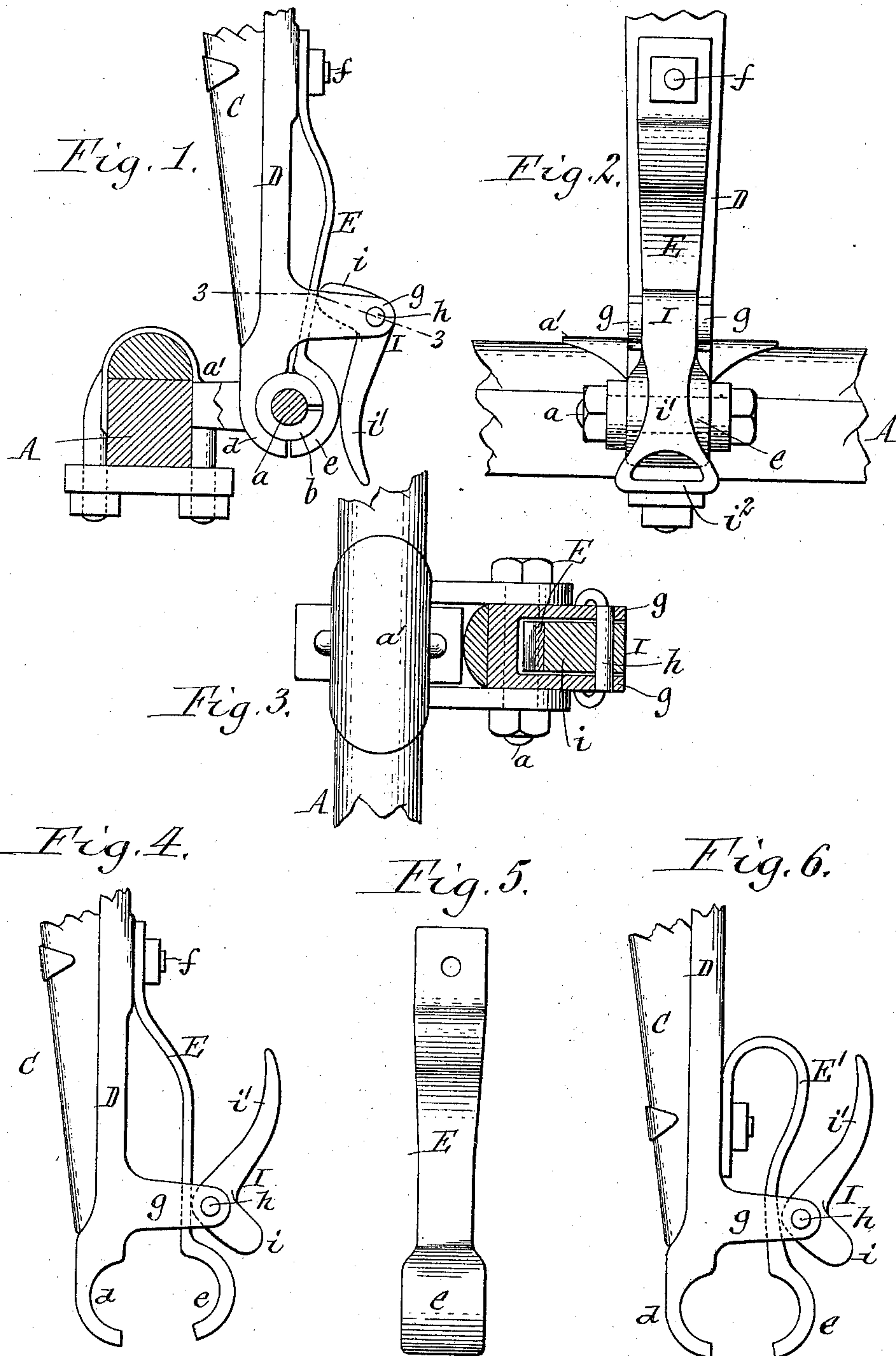
Patented July 24, 1900.

C. C. BRADLEY.  
THILL COUPLING.

(Application filed Mar. 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
Henry L. Deck.  
F. F. Schuyler.

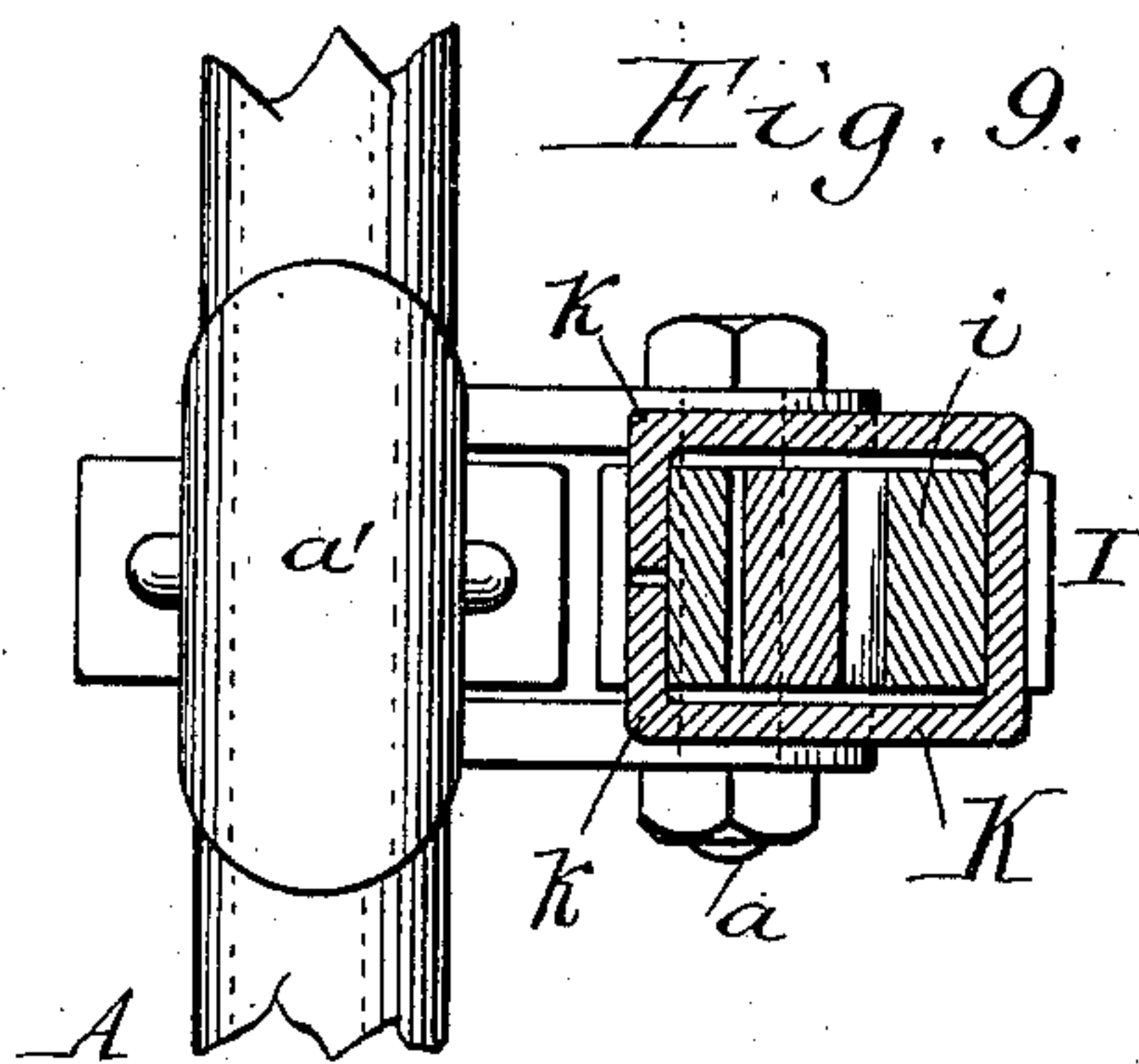
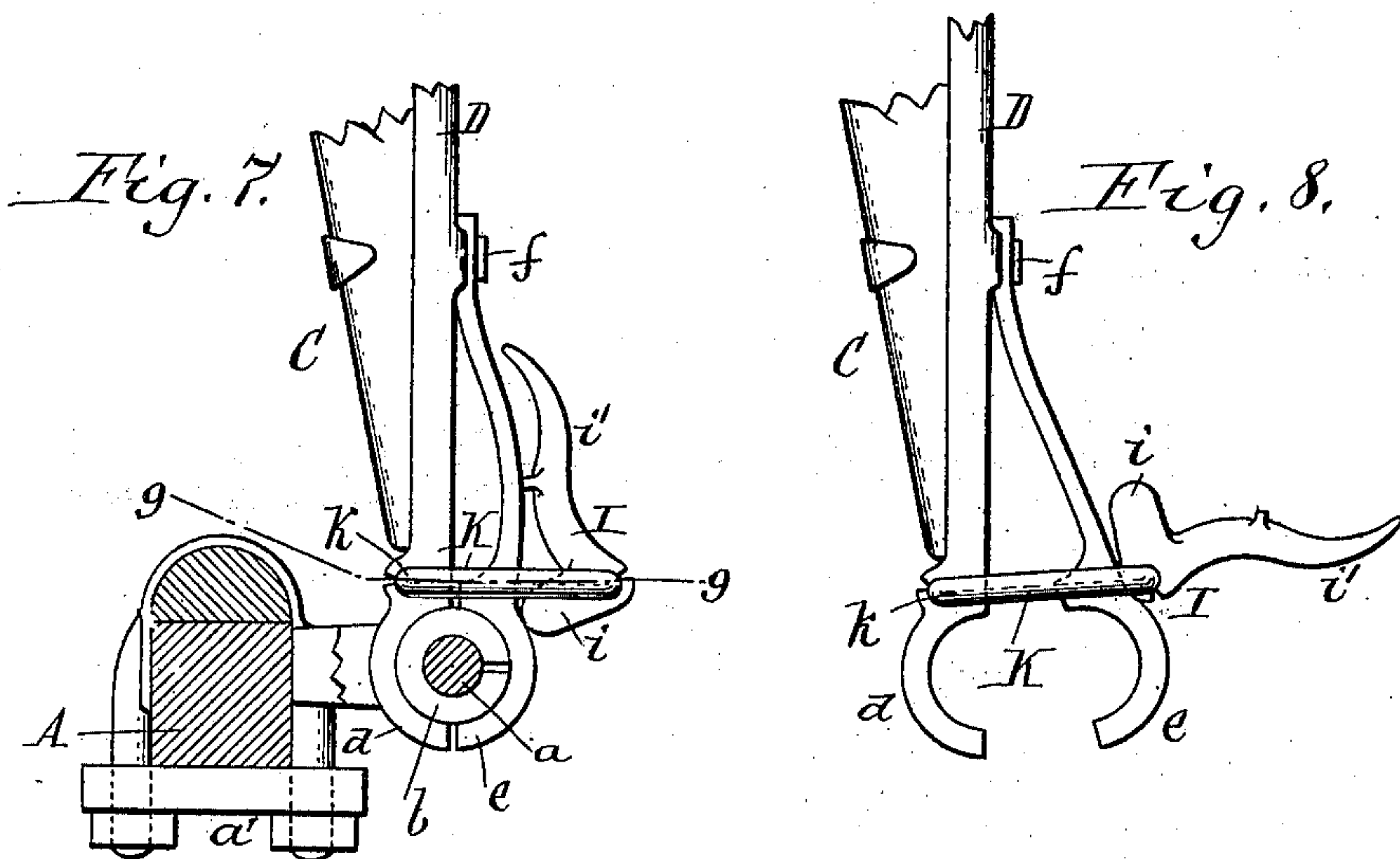
C. C. Bradley Inventor.  
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**C. C. BRADLEY.**  
**THILL COUPLING.**

(Application filed Mar. 19, 1900.)

(No Model.)

**2 Sheets—Sheet 2.**



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# UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BRADLEY, OF SYRACUSE, NEW YORK.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 654,339, dated July 24, 1900.

Application filed March 19, 1900. Serial No. 9,295. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTOPHER C. BRADLEY, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to that class of thill-couplings in which the draft-eye is attached to the thill or pole iron and composed of a fixed jaw and a movable jaw, which latter is closed and tightened by a spring device and clamping-lever. In this class of thill-couplings the movable jaw is usually attached to the thill-iron or the fixed jaw by a pivotal connection. As these couplings are exposed to water and dirt in use the movable jaws frequently become set when they have remained closed for a long time, in which case much difficulty is experienced in opening the draft-eye.

The object of my invention is to avoid this difficulty by a simple and inexpensive construction of the coupling.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional side elevation of my improved thill-coupling, showing the draft-eye closed. Fig. 2 is a front elevation thereof. Fig. 3 is a horizontal section in line 3 3, Fig. 1. Fig. 4 is a side elevation of the coupling, showing the draft-eye open. Fig. 5 is a detached front view of the movable jaw and its spring-arm. Fig. 6 is a side elevation of the coupling having the spring-arm of the movable jaw formed with a return-bend. Fig. 7 is a side elevation of the coupling, showing the standards for the clamping-lever formed by a link. Fig. 8 is a side elevation of this coupling with the draft-eye open. Fig. 9 is a horizontal section in line 9 9, Fig. 7. Figs. 10, 11, and 12 are cross-sections of different forms of jaws.

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

A represents the front axle of the vehicle, and *a* the draft bolt or knuckle, which is supported in front of the axle, as usual, by a clip *a'*.

*b* represents the washer or bushing, of leather or other suitable material, which is applied to the draft bolt or knuckle.

C represents the end portion of the thill or pole, and D the metallic strap which is se-

cured to the under side thereof and which carries at its lower end the fixed jaw *d* of the draft-eye.

E is a spring-arm which is arranged in front of the pole or thill iron or strap D and which carries at its lower end the movable jaw *e*. This spring-arm is secured at its upper end to the thill or pole iron and to the thill or pole by a bolt *f* and is free at its lower end, which carries the movable jaw. The tension of the spring-arm is such that it holds the movable jaw open or away from the fixed jaw, as shown in Fig. 4, but yields toward the fixed jaw under pressure.

*g g* represent two standards which are formed on the thill-iron D and project forwardly therefrom on opposite sides of the spring-arm above the movable jaw. These standards project forwardly beyond the spring-arm and support the pivot *h* of the clamping-lever I, by which latter the movable jaw is closed or opened. This lever has a short arm *i*, by which it acts upon the spring-arm, and a long arm *i'*, by which it is manipulated. As shown in Fig. 1, the long arm of the lever extends downwardly when the eye is closed and upwardly, as shown in Fig. 4, when the eye is open. Upon swinging the long arm down out of the open position shown in Fig. 4 to the closed position shown in Fig. 1 the short arm bears against the spring-arm and presses the same and the movable jaw rearwardly toward the fixed jaw until the jaws have been tightened upon the washer surrounding the draft bolt or knuckle. In this position of the parts the short arm of the lever has passed beyond the dead-center and the long arm bears against the movable jaw, whereby the lever is locked in its closed position. The long arm of the lever may be provided with a loop *i''* for the reception of a safety-strap.

The spring-arm E, being arranged between the standards *g*, is inserted between the standards by an endwise movement from below and is imperforated between its point of attachment and the movable jaw, so that it retains its full elasticity and temper. The movable jaw can be secured to this spring-arm by drop-forging or by riveting. Upon opening the clamping-lever the movable jaw follows the same and opens, thereby avoid-



ing the necessity of opening the movable jaw by a separate swinging movement on its hinge after the clamping-lever has been opened, which is required in couplings in which the movable jaw is pivoted to the thill-iron or to the fixed jaw. As these couplings are liable to become stiff by rust and dirt when in use, pivoted jaws are liable to become set when they have remained closed for a long time, in which case much difficulty is encountered in opening the same. In the present construction the movable jaw is not pivoted and therefore not liable to become set.

In the construction of the coupling represented in Fig. 6 the spring-arm  $E'$  is constructed at its upper end with a return-bend by which it is secured to the thill-iron and thill. This shortens the distance through which the spring-arm extends upwardly along the under side of the thill-iron.

In the construction of the coupling represented in Figs. 7, 8, and 9 the standards between which the spring-arm is arranged and to which the clamping-lever is pivoted are formed by a link  $K$ , which straddles the spring-arm and the clamping-lever and which is divided at its inner end, forming two opposing arms  $k$ , which engage in a transverse opening in the thill-iron above the fixed jaw. As shown in these figures, the clamping-lever is arranged to close by an upward movement instead of a downward movement, as in the construction shown in Figs. 1 to 6.

The jaws of the draft-eye are shaped to correspond with the form of the draft bolt or knuckle which is used. For instance, they may be straight transversely, as shown in Fig. 10, to connect with a cylindrical draft-

bolt, or flaring from the middle toward both ends, as shown in Fig. 11, to connect with a bolt which is reduced at the middle, or approximately spherical, as shown in Fig. 12, to connect with a spherical draft-knuckle.

I claim as my invention—

1. The combination with the thill-iron provided at its lower end with a fixed jaw and above the same with standards projecting forwardly on both sides of the thill-iron, of a spring-arm which is arranged to play between said standards and which extends above and below the same and is secured at its upper end to the thill-iron, a movable jaw secured to the lower end of said spring-arm, and a clamping-lever pivoted between said standards in front of said spring-arm and adapted to bear against the latter, substantially as set forth.

2. The combination with the thill-iron provided at its lower end with a fixed jaw and standards formed on said thill-iron and projecting forwardly on both sides thereof, of a spring-arm arranged between said standards, carrying a movable jaw below the same and secured to the thill-iron at its upper end, a transverse pivot arranged in said standards in front of said spring-arm, and a clamping-lever mounted on said pivot and adapted to bear against said spring-arm, substantially as set forth.

Witness my hand this 12th day of March, 1900.

CHRISTOPHER C. BRADLEY.

Witnesses:

F. L. SCHARFF,  
F. RAYMOND.