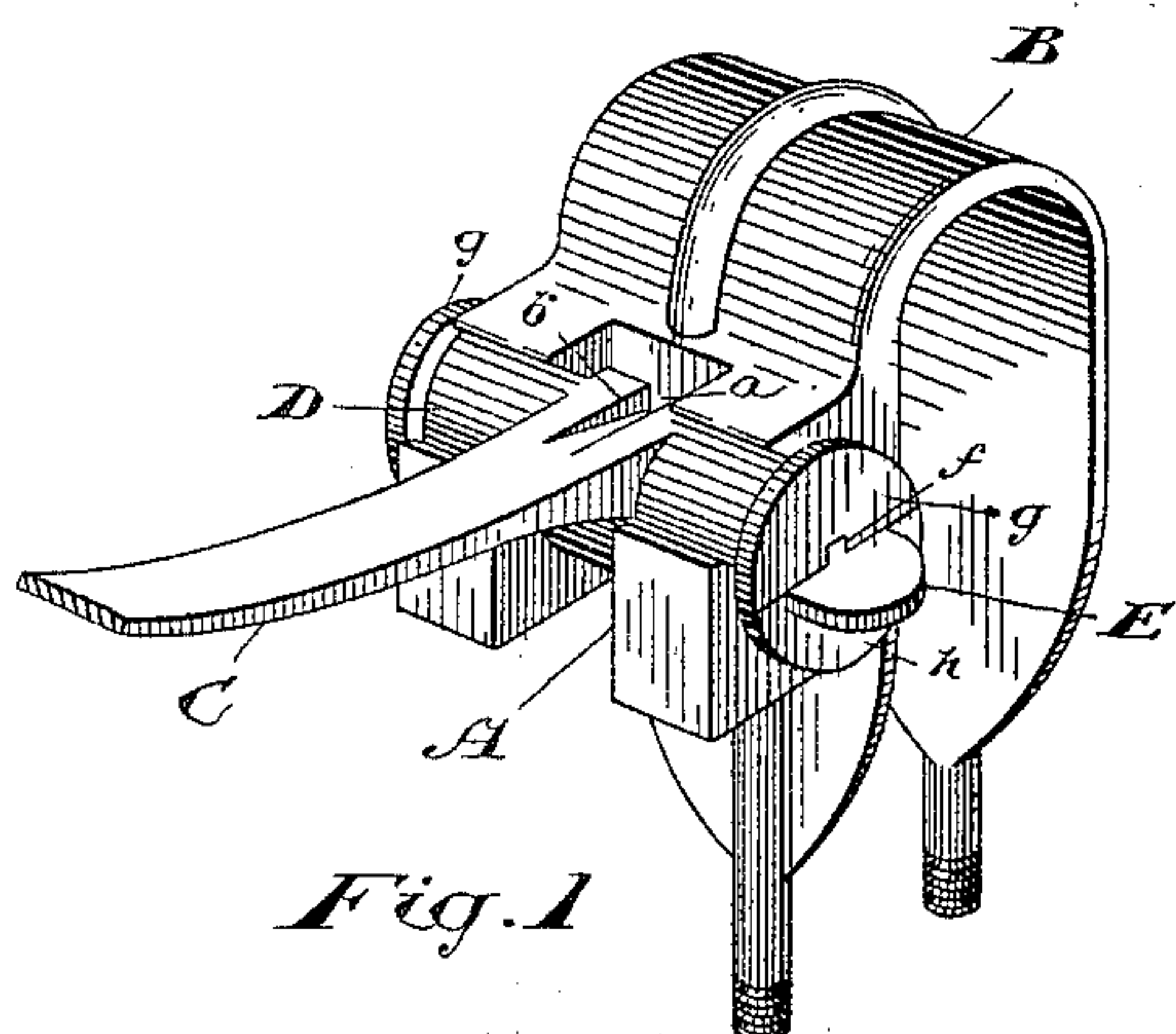


(No Model.)

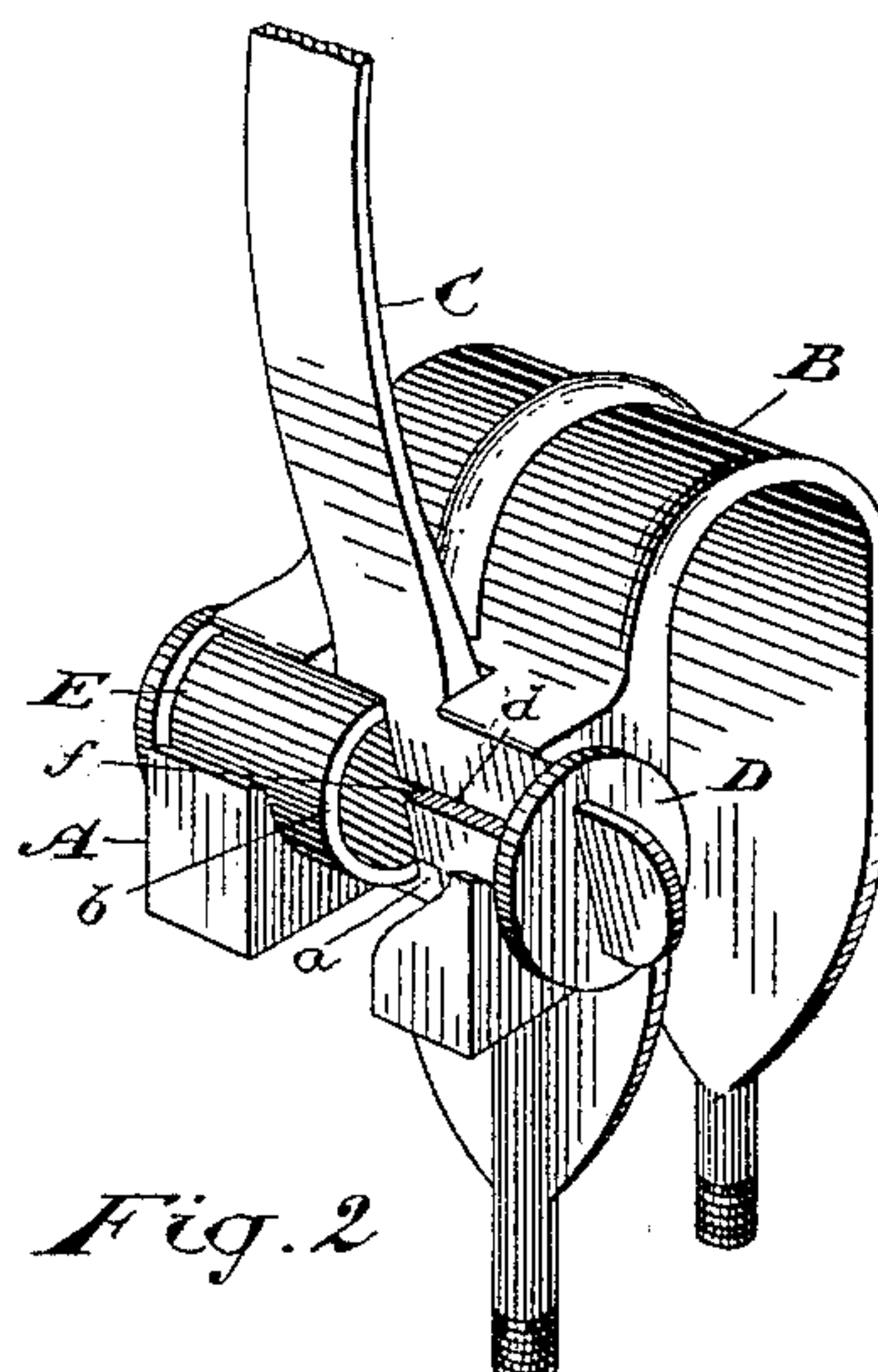
F. HURST.  
THILL COUPLING.

No. 433,290.

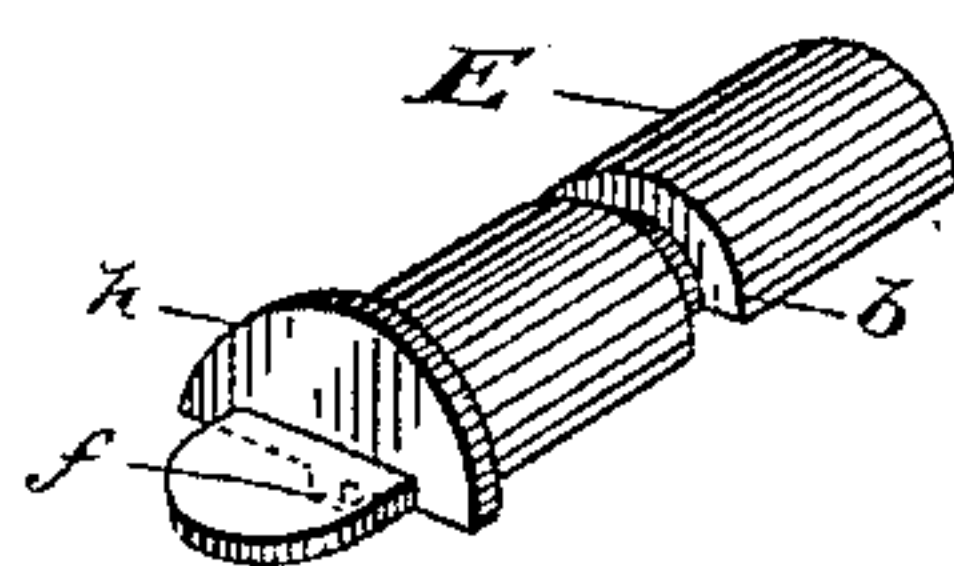
Patented July 29, 1890.



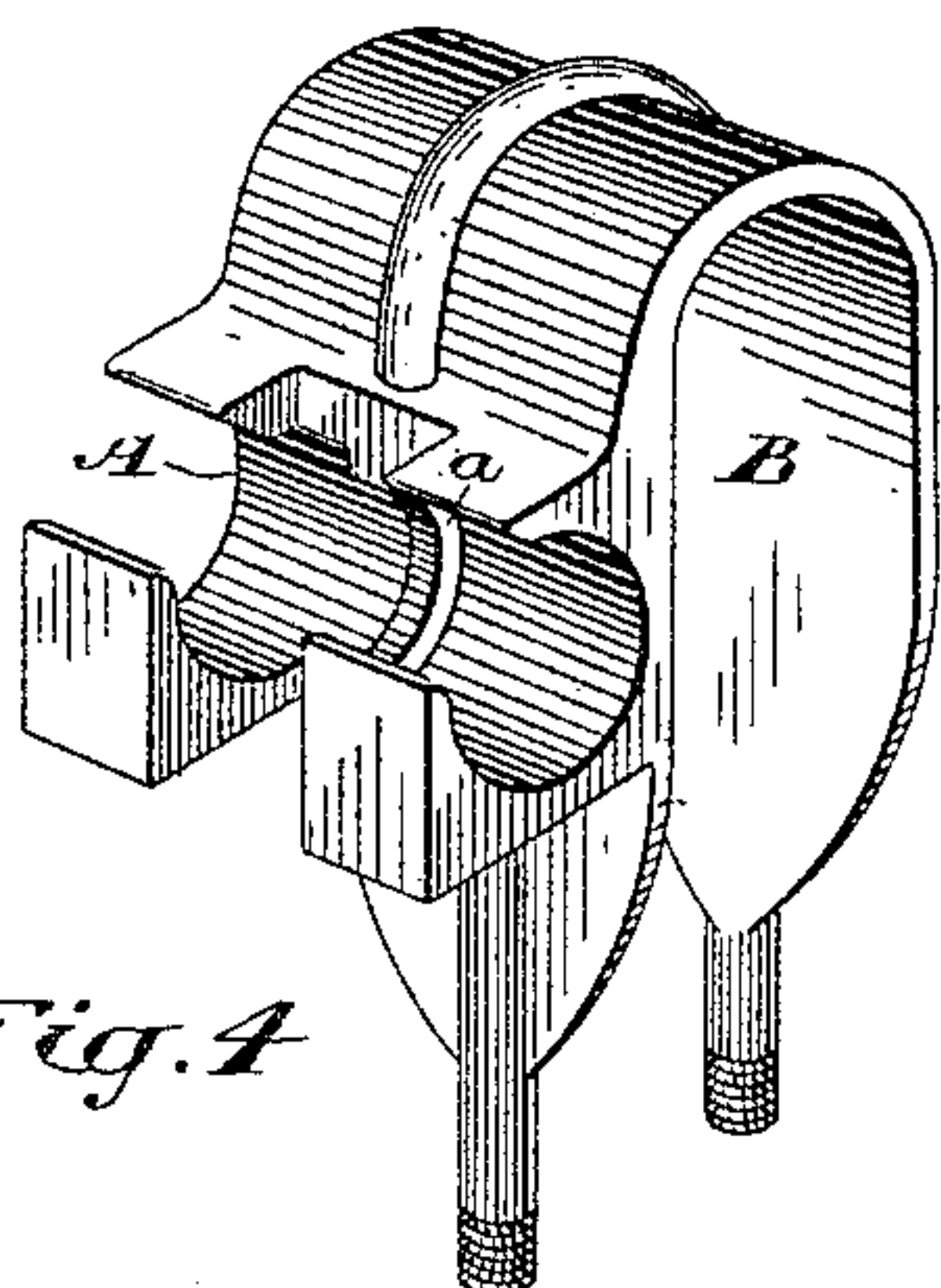
*Fig. 1*



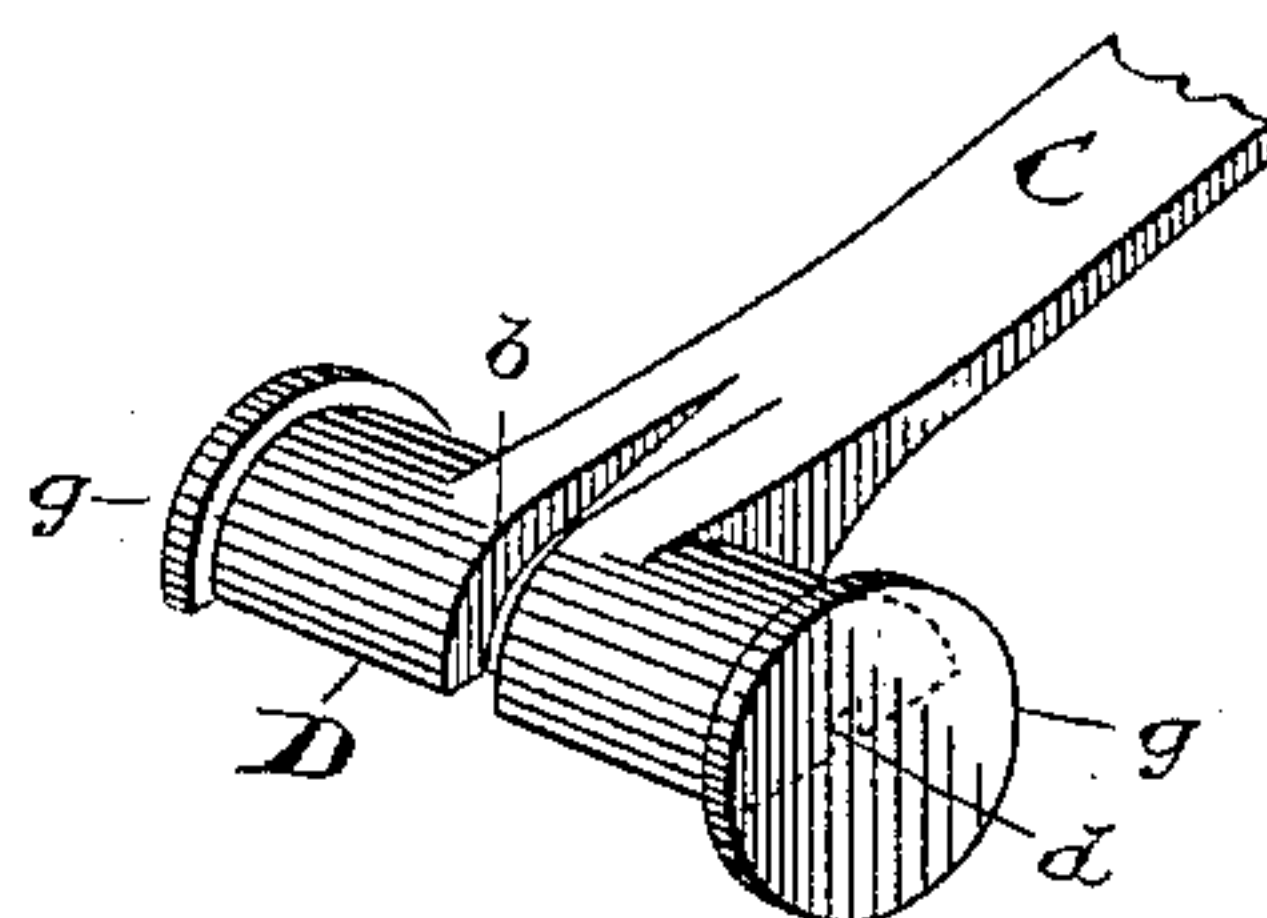
*Fig. 2*



*Fig.5*



*Fig. 4*



*Fig.3*

*Witnesses*

J. Edw. Maybee  
A. G. McMillan.

*Inventor*

Frederick Hurst  
by Donald C Ridout & Co.  
attys.

# UNITED STATES PATENT OFFICE.

FREDERICK HURST, OF TORONTO, CANADA.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 433,290, dated July 29, 1890.

Application filed April 24, 1890. Serial No. 349,346. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK HURST, butcher, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and Improved Thill-Coupling, of which the following is a specification.

The object of the invention is to provide a thill-coupling which may be easily and quickly connected or disconnected, and in which there is no possibility of any of the parts being lost while on the road; and it consists, essentially, of a T-shaped head formed on the end of the thill-iron and designed to fit into a socket formed on the clip or saddle-bolt, one side of the T-shaped head being removed to permit the correspondingly-shaped key to be inserted in the socket, in the center of which a rib is formed and designed to project into a groove made in the center of the key and of the T-shaped head, substantially as hereinafter more particularly explained.

Figure 1 is a perspective view of my improved thill-coupling. Fig. 2 is a similar view, partially in section, with the thill set in position to remove the key. Fig. 3 is a detail of the thill-iron. Fig. 4 is a detail of the socket and clip or saddle-bolt. Fig. 5 is a detail of the key.

In the drawings, A represents a socket formed on the clip or saddle-bolt B. In the center of this socket A, I form a rib *a*.

C is a thill-iron, and D the T-shaped head formed in the end of the thill-iron C. This head, it will be observed, is semi-cylindrical in form, and has a groove *b* formed in it to correspond with and fit onto the rib *a* formed in the socket A, as indicated. A longitudinal groove *d* is also made in the head D. The opening in the socket A is made sufficiently large to permit the T-shaped head D to be slipped into the socket.

In order to lock the thill-iron in the socket, I raise the shaft sufficiently to cause the thill-iron and its head D to assume the position

indicated in Fig. 2. When in this position, the rib *a* is entirely covered by the head D, so that the key E, which is shaped, as indicated, to fit into the socket, may be inserted. It will be observed that a rib *f* is formed on the key E to fit into the groove *d* made in the head D. When the thill is dropped down in the position it will occupy when in use, or when it is on the ground, the rib *a* will fit into the groove *b*, which not only extends around the head D, but also around the key E, thus effectually preventing the end movement of either the key or head. Consequently the said key cannot drop out or be removed except by raising the shafts so as to bring the groove *b* in the key E clear of the rib *a*. A flange *g* is made on each end of the head D, and a flange *h* is made on one end of the key E. These flanges are not absolutely necessary; but I prefer them.

What I claim as my invention is—

1. A thill-iron C, having a semi-cylindrical T-shaped head D formed on it, a groove *b* being made in the said head D to fit onto a rib *a* formed in the socket A, in which the T-shaped head D is placed, in combination with a semi-cylindrical key E, having a groove *b*, corresponding with the groove in the T-shaped head D, substantially as and for the purpose specified.

2. A thill-iron having a semi-cylindrical T-shaped head D formed on it, a groove *b* being made in the said head D to fit onto the rib *a* formed in the socket A, in which the T-shaped head D is placed, in combination with a semi-cylindrical key E, having a groove *b*, corresponding with the groove in the head D, and a longitudinal rib *f* to fit into the longitudinal groove *d* made in the head D, substantially as and for the purpose specified.

Toronto, March 28, 1890.

FREDERICK HURST.

In presence of—

CHARLES C. BALDWIN,  
E. CUMMINGS.