

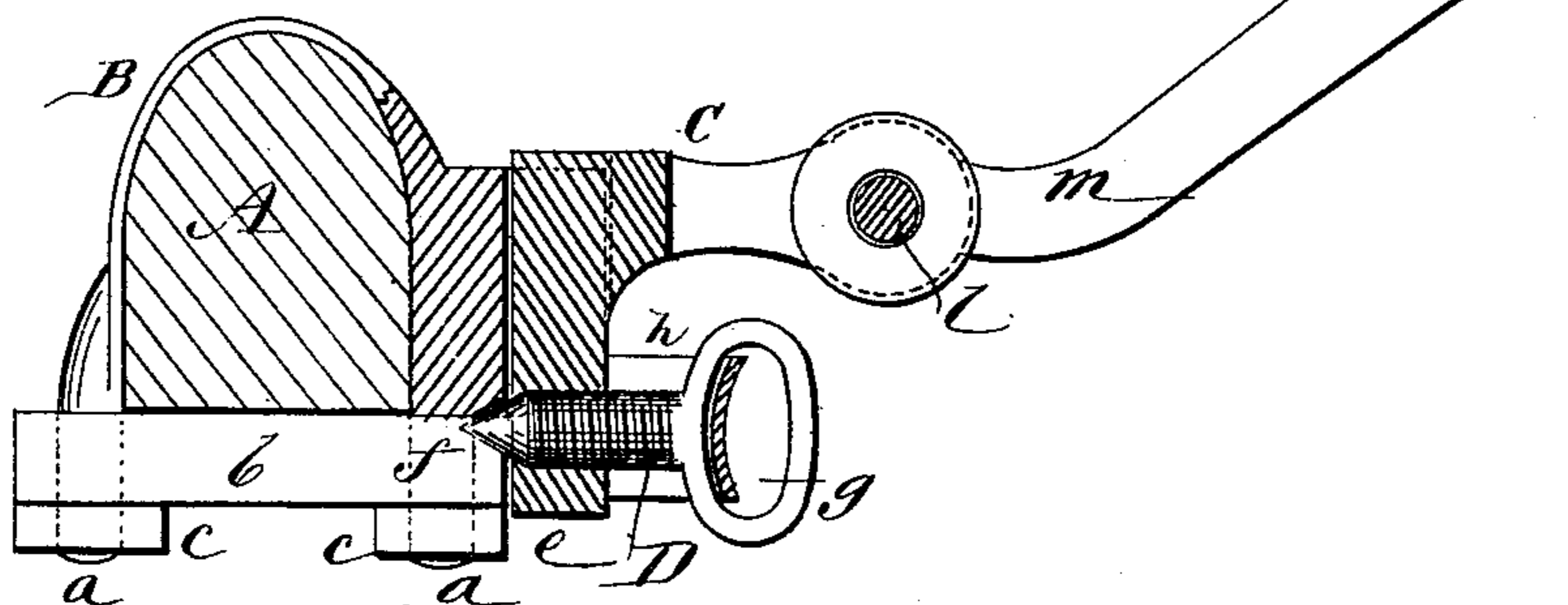
(No Model.)

A. J. SPICER.  
THILL COUPLING.

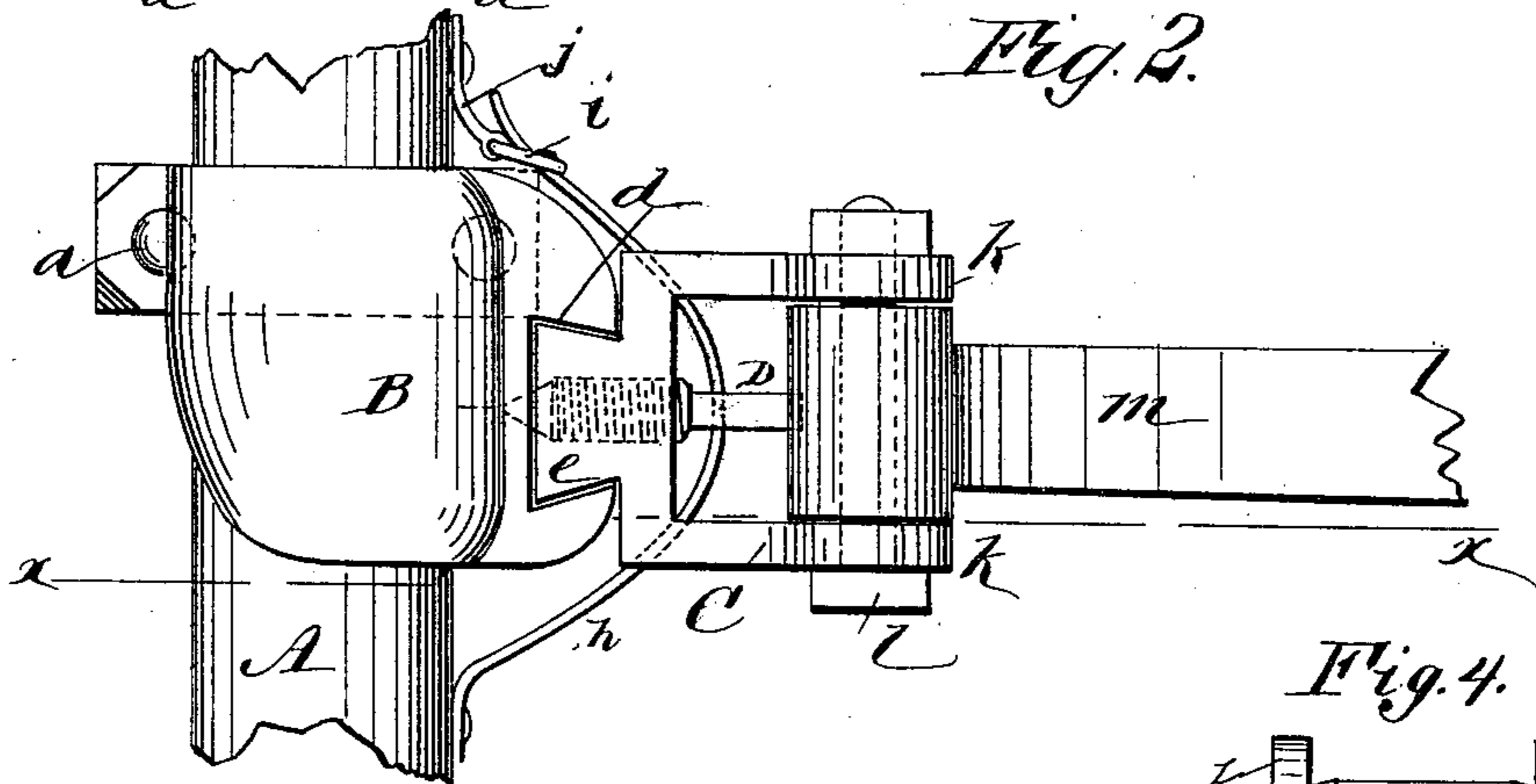
No. 386,276.

Patented July 17, 1888.

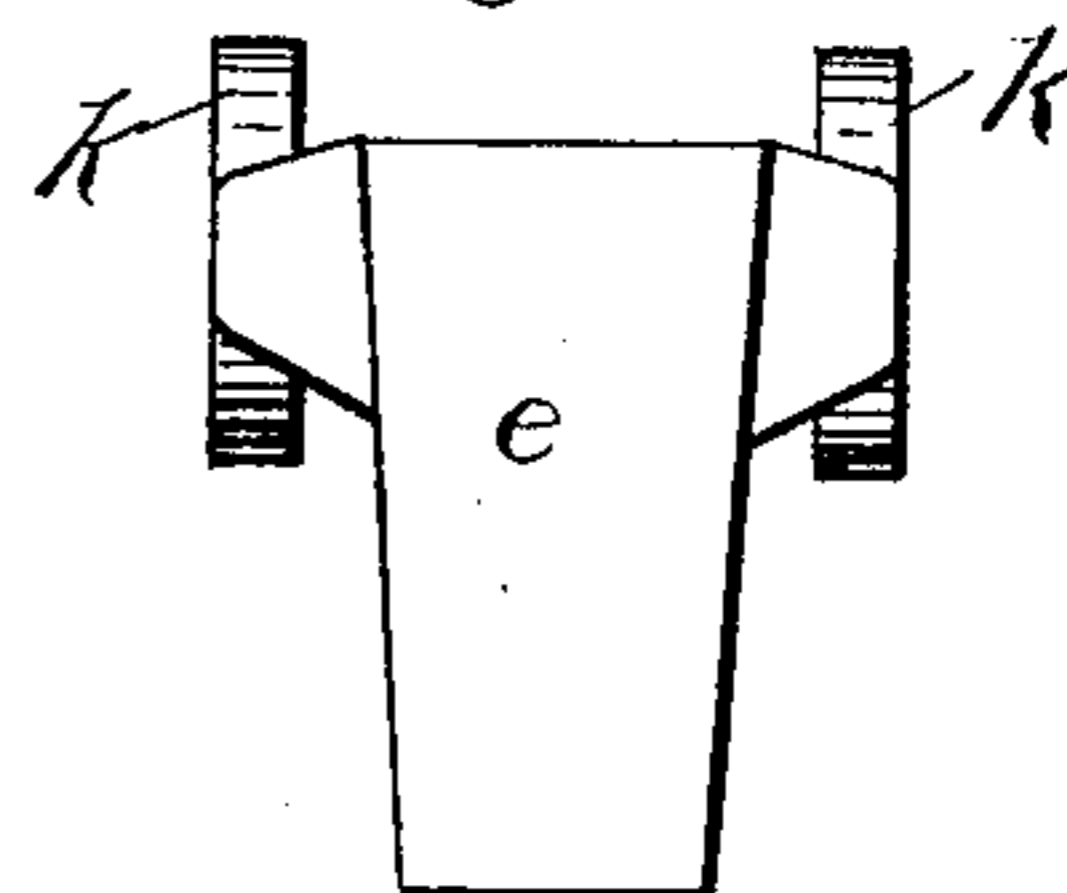
*Fig. 1*



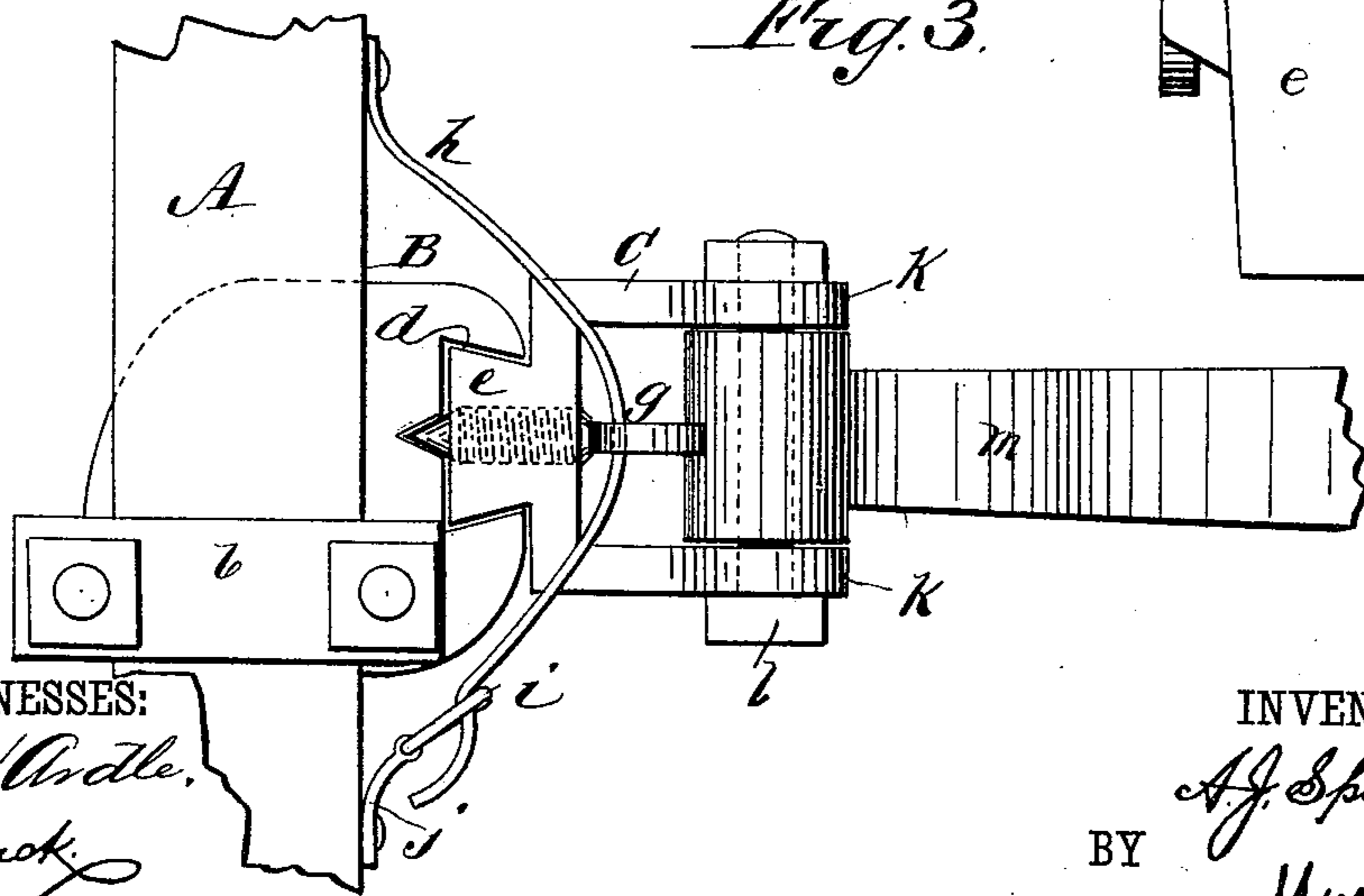
*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



WITNESSES:

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INVENTOR:

*A. J. Spicer,*  
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# UNITED STATES PATENT OFFICE.

ANDREW J. SPICER, OF PORTLAND, OREGON, ASSIGNOR TO HIMSELF, WILLIAM J. MATCHETT, AND EDWARD A. KING, ALL OF SAME PLACE.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,276, dated July 17, 1888.

Application filed December 21, 1887. Serial No. 258,553. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW J. SPICER, of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Thill-Coupling, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a transverse section of my improved thill-coupling taken on line *xx* in Fig. 2. Fig. 2 is a plan view. Fig. 3 is an inverted plan view, and Fig. 4 is a detail rear view, of the coupler.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide a simple, inexpensive, and efficient coupling for quickly and securely connecting thills or poles with carriages.

My invention consists in a clip adapted to clamp the carriage-axle and provided with a tapering dovetailed vertical groove, a thill-coupler jointed to the thill-irons and provided with a dovetailed arm fitted to the tapering dovetailed groove in the clip, a conically-pointed screw inserted in the dovetailed arm of the coupler, adapted to engage the clip, and provided with an eye at its outer end and a strap attached to the axle and extending through the eye of the screw, all as hereinafter more fully described.

To the axle *A* is fitted the clip *B*, having the threaded shanks *a* at one edge of the clip, and the clip is secured by an apertured cross-bar, *b*, fitting over the shanks *a* and held in place by nuts *c*. The front side of the clip is thickened and provided with a tapering dovetailed groove, *d*. To the dovetailed groove *d* is fitted a dovetailed arm, *e*, formed integrally with the coupler *C*. A screw, *D*, having the end *f* pointed, and provided at the opposite end with an eye, *g*, is inserted in the threaded aperture in the arm *e*, in position to engage the under surface of the thickened front portion of the clip *B*. To the axle *A* is secured a strap, *h*, which passes through the eye *g* of the screw *D*, and is engaged by a buckle, *i*, secured to a short strap, *j*, connected with the axle.

The coupler *C* is provided with the usual apertured ears, *k*, for receiving the coupling-bolt *l*, which passes through the thill-irons *m*, of the ordinary form. The tapering form of the arm *e* causes it to fit closely in the dovetailed groove *d* by its own gravity, the wider end of the said arm being uppermost. The screw *D*, passing through the arm *e* and engaging the clip *B* in the manner described, prevents the accidental escape of the arm *e* from the groove *d*, and also prevents rattling. The strap *h*, inserted in the eye *g* of the screw *D*, prevents the said screw from being accidentally loosened. To remove the thills from the vehicle, the strap *h* is withdrawn from the eye *g* and the screw *D* is loosened, when the arm *e* may be readily lifted from the groove *d* of the clip.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the clip *B*, provided with the tapering dovetailed groove *d*, of the coupler *C*, having the tapering dovetailed arm *e*, substantially as described.

2. The combination, with the clip *B*, having a dovetail groove, *d*, the coupler *C*, having a dovetail arm, *e*, adapted to enter the groove *d*, of the conically-pointed screw *D*, substantially as and for the purpose described.

3. The combination of the clip *B*, provided with the tapering dovetailed groove *d*, the coupler *C*, having the arm *e*, the conically-pointed screw *D*, furnished with the eye *g*, and the strap *h*, attached to the axle and extending through the eye *g* of the screw, substantially as described.

4. The combination, with the clip, *B* having a tapering dovetail groove, *d*, of the coupler *C*, said coupler consisting of the body portion having a tapering dovetail arm, *e*, adapted to be fitted in the groove *d*, and the forwardly-extending arms terminating in apertured ears *K*, substantially as and for the purpose described.

ANDREW J. SPICER.

Witnesses:

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THOS. N. STRONG.