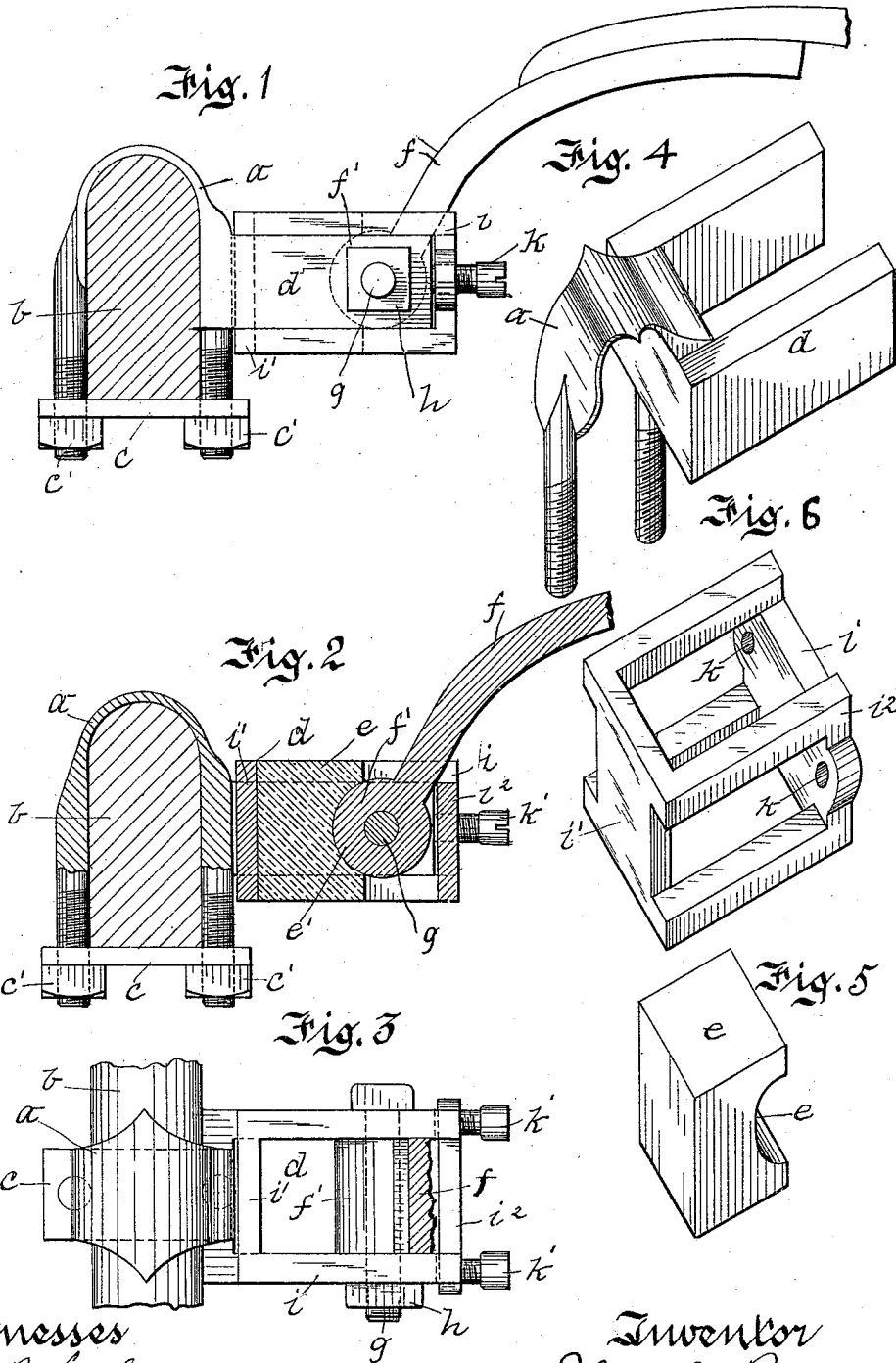


(No Model.)

E. A. BENNER.
THILL COUPLING.

No. 543,977.

Patented Aug. 6, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

ELIAS A. BENNER, OF NOBLESTOWN, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 543,977, dated August 6, 1895.

Application filed December 4, 1894. Serial No. 530,769. (No model.)

To all whom it may concern:

Be it known that I, ELIAS A. BENNER, a resident of Noblestown, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to thill-couplings.

My invention comprises, generally stated, in conjunction with a suitable clip, a socket adapted to contain a bearing-block and the lower end of the thill-iron, and a clamp engaging said socket, the inner end of said clamp engaging with the rear face of said bearing-block, the outer end of said clamp being in front of the outer end of said socket, and means for drawing out said clamp, whereby any play between said bearing-block and the end of said thill-iron is taken up.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of my improved thill-coupling. Fig. 2 is a like view in section. Fig. 3 is a top view. Fig. 4 is a perspective view of the clip and socket. Fig. 5 is a view of the bearing-block. Fig. 6 is a view of the clamp.

Like letters indicate like parts in each of the figures.

In the drawings, *a* indicates a suitable clip, which is secured to the axle *b* in the ordinary manner by the plate *c* and nuts *c'*. Formed integral with the clip *a* is the socket *d*. Within the socket *d* is the bearing-block *e*, which may be formed of rubber, Babbitt metal, or other suitable material. The bearing-block *e* preferably extends above and below the socket *d*, for the purpose more fully hereinafter set forth. The inner end *f'* of the thill-iron *f* is also secured within the socket *d*, a bolt *g* passing through the end *f'* of said thill-iron and the sides of said socket, while a nut *h* holds said bolt in place. The inner end *f'* of said thill-iron *f* fits in a seat *e'* in said bearing-block *e*.

A clamp *i* is slipped over the socket *d* in

such a manner that the inner end *i'* of said clamp is within the socket and engages the rear face of said bearing-block *e*. The bearing-block *e*, as before stated, preferably projects above and below the sides of the socket *d*, so that a larger surface is presented to the inner end *i'* of the clamp *i*.

The outer end *i''* of the clamp *i* is provided with the threaded openings *k*, adapted to receive the set-screws *k'*. The position of the set-screws *k'* is such that they abut against the outer ends of the socket *d*, so that by turning the set-screws in the proper direction the clamp *i* is drawn forward. As the inner end *i'* of said clamp is in engagement with the rear face of the bearing-block *e*, said bearing-block will also be drawn toward the end *f'* of the thill-iron to take up any play which may have arisen between said bearing-block and said end *f'*. In this manner, by simply adjusting the set-screws *k'* from time to time, all play can be taken up, and thus a noiseless coupling can always be had.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a thill or like coupling the combination with a suitable clip having a socket attached thereto, of a thill-iron having the inner end thereof secured within said socket, a bearing block within said socket, a clamp fitting on said socket and constructed to slide thereon, said clamp having an inner end portion entering said socket in the rear of said bearing block, and an outer end portion in front of the outer end of said socket, and mechanism for moving said clamp on said socket, whereby the distance between said outer end portion and the front end of said socket may be increased, substantially as set forth.

2. In a thill or like coupling, the combination with a suitable clip having a socket attached thereto, of a thill-iron having the inner end thereof secured within said socket, a clamp fitting on said socket, and constructed to slide thereon, said clamp having an inner end portion entering said socket in the rear of said bearing block, and an outer end portion in front of the outer end of said socket,

and set-screws in said outer end portion abutting against the outer end of said socket, substantially as set forth.

3. The combination with a suitable clip, of
5 the socket *d*, the thill-iron *f* having its end *f'* secured within said socket, the bearing-block *e*, the clamp *i* having the inner and outer ends *i*, *i*, and the set screws *k'* in said outer

end *i*² and abutting against the front end of said socket, substantially as set forth. 10

In testimony whereof I, the said ELIAS A. BENNER, have hereunto set my hand.

ELIAS A. BENNER.

Witnesses:

ROBT. D. TOTEN,
JAMES I. KAY.