

(No Model.)

2 Sheets—Sheet 1.

M. HARTZ.
CAR COUPLING.

No. 360,687.

Patented Apr. 5, 1887.

Fig. 1.

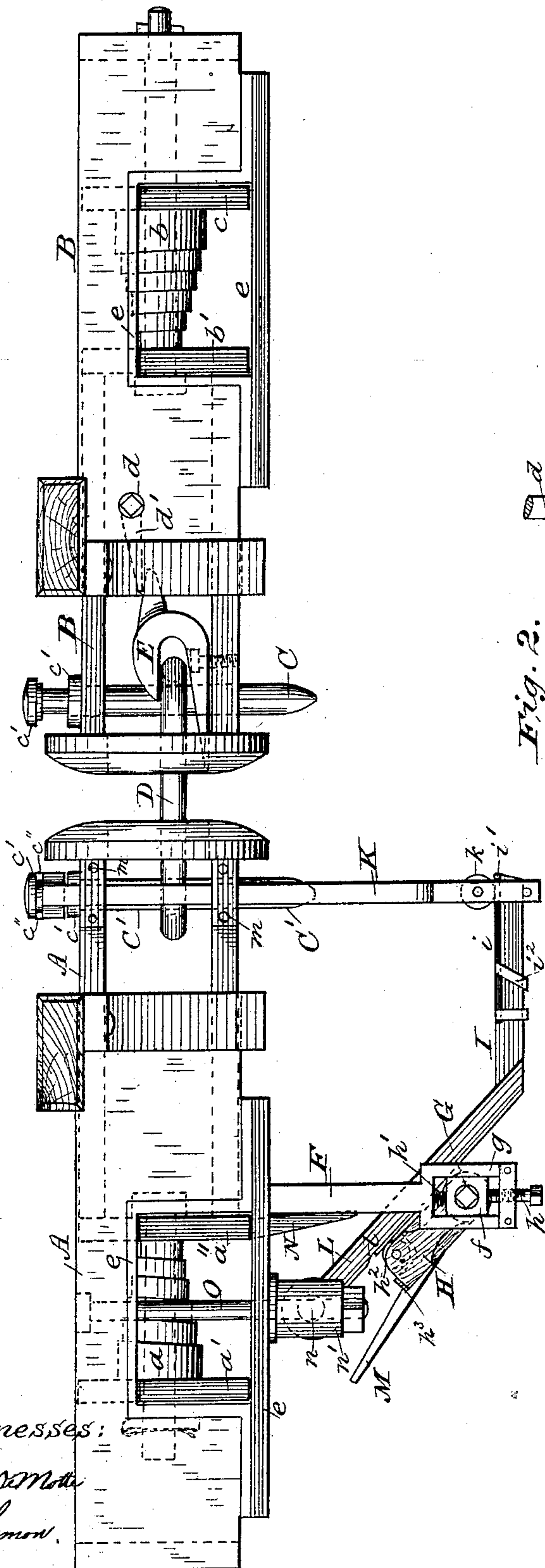
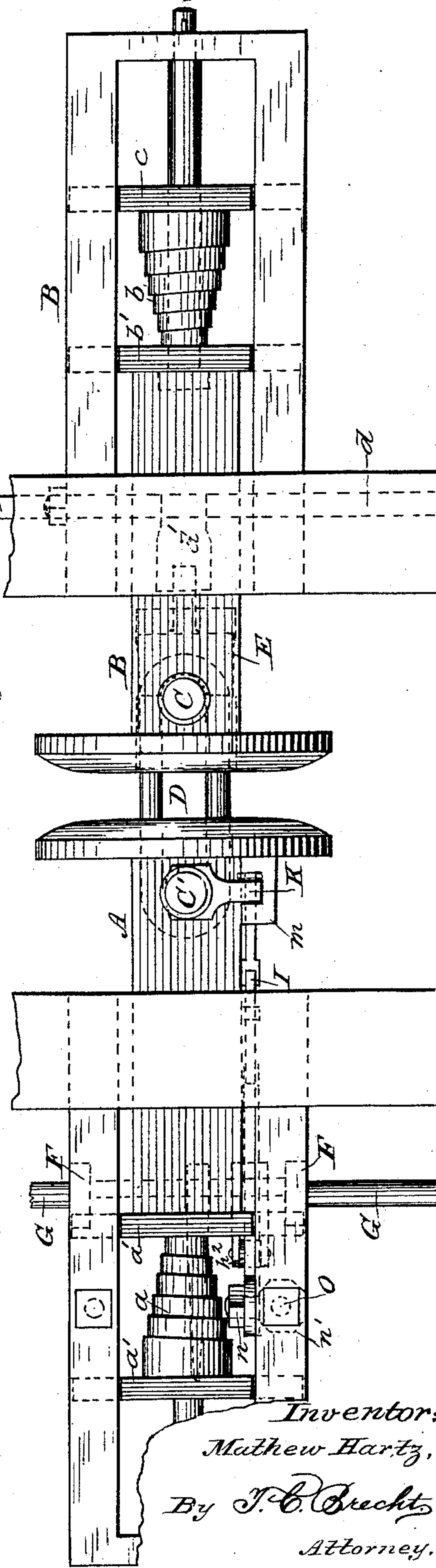


Fig. 2.



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Fig. 3.

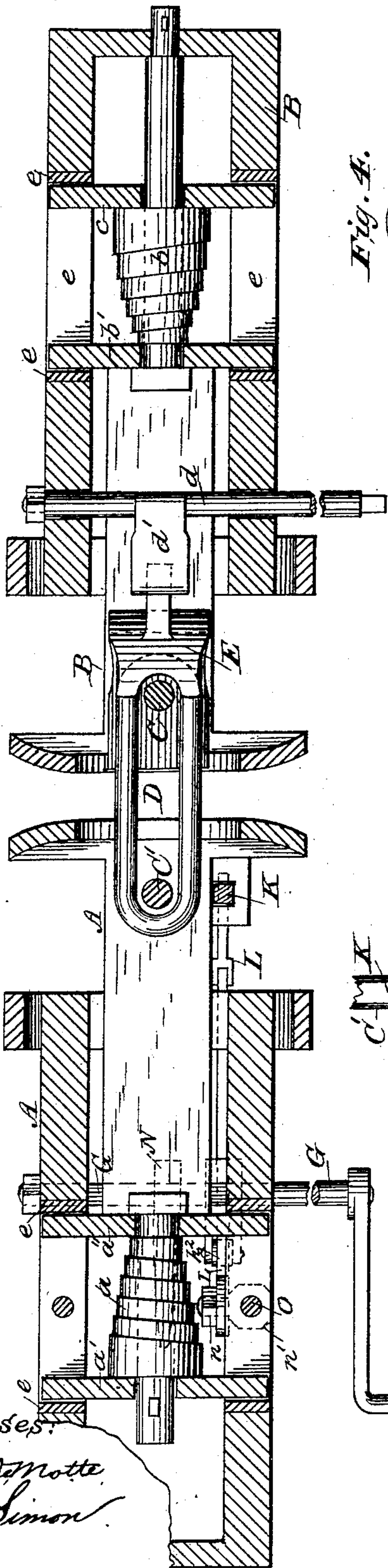


Fig. 4.

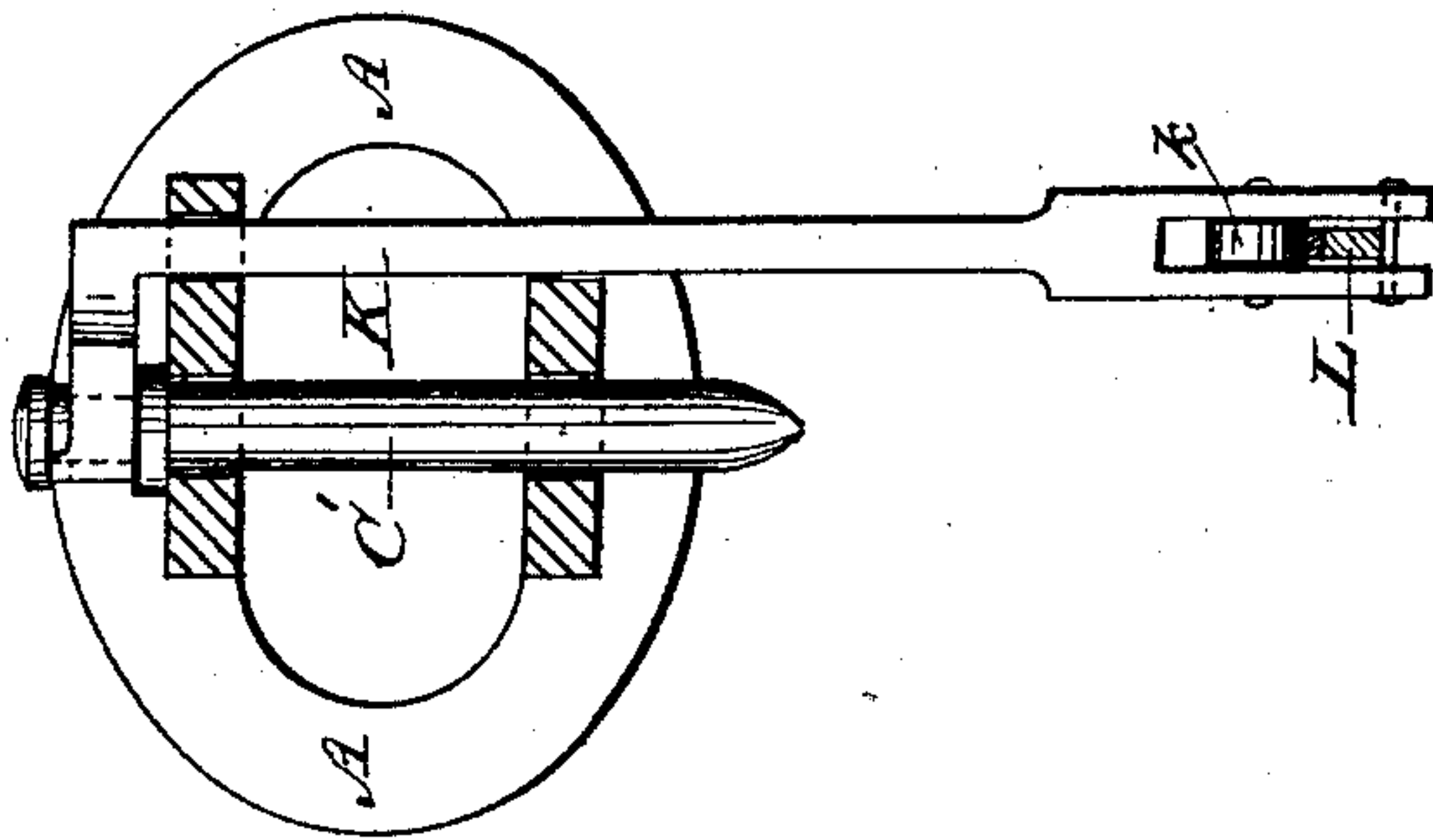


Fig. 5.

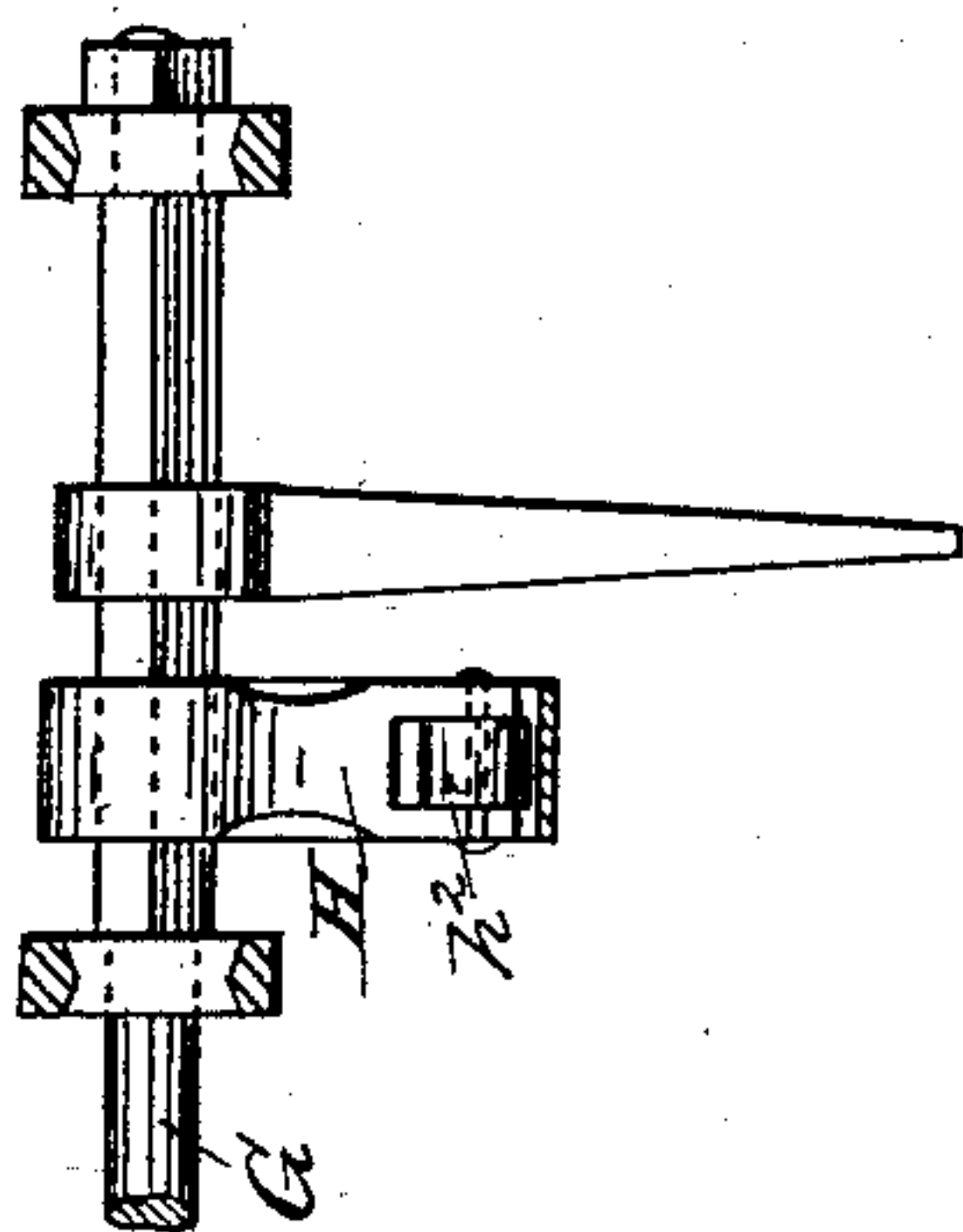
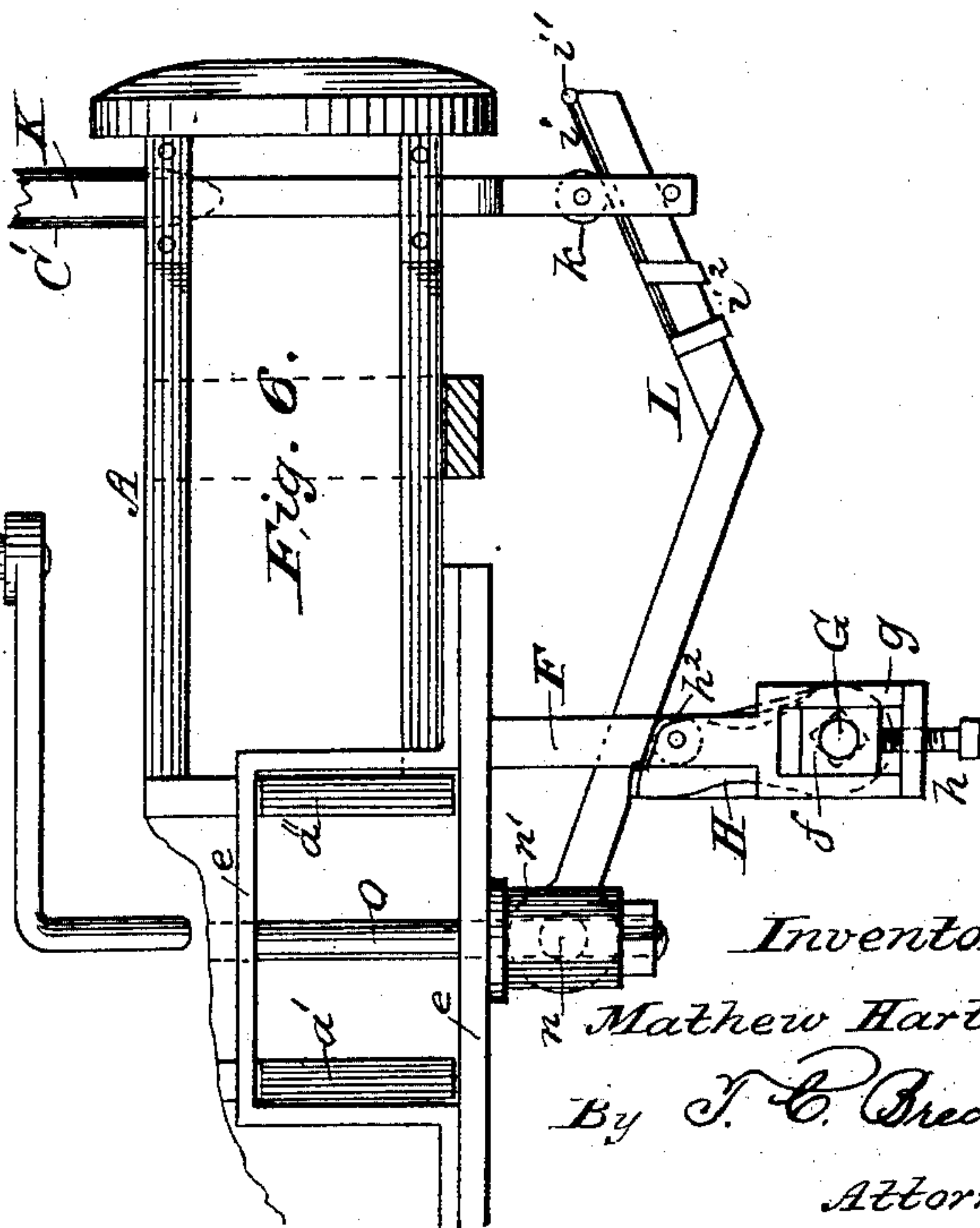


Fig. 6.



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UNITED STATES PATENT OFFICE.

MATHEW HARTZ, OF PITTSBURG, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 360,687, dated April 5, 1887.

Application filed August 16, 1884. Renewed September 15, 1886. Serial No. 213,633. (No model.)

To all whom it may concern:

Be it known that I, MATHEW HARTZ, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-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.

My invention relates to improvements in car-couplings, and the object is to automatically couple and connect railway-cars when the bumper-heads of such cars are brought together with a coupling-link in one of the bumper-heads, and which may be uncoupled and coupled without necessitating the train-man to pass between the cars; also, to furnish a means by which the coupling-link can be raised or lowered to suit different heights of cars without passing between the cars, and thus endangering the life of the train-man.

The invention consists in the construction of parts and arrangement of certain details, as will be more fully described hereinafter, and more specifically pointed out in the claims, reference being had to the accompanying drawings, and the letters of reference marked thereon.

Like letters indicate similar parts in the different figures of the drawings, in which—

Figure 1 represents a side elevation of my improved couplings in position and coupled. Fig. 2 is a plan view of the same. Fig. 3 is a horizontal section on the line *x x*. Fig. 4 is a cross-section on line *y y* of Fig. 1. Fig. 5 is a detail view of the lifting-lever. Fig. 6 is a detail view showing the coupling-pin raised out of contact with the coupling-link.

In the accompanying drawings, A and B represent the two buffer-heads, which are provided at their inner ends with the buffer-springs *a* and *b*, placed between the plates *a'*, *a''*, and *b'*, and one of which, *c*, is held stationary. The buffer-head B has the coupling-pin C, and supports the link D upon a pivoted curved guide, E, having its lower end to project even with the face of the buffer-head, so that the link can be easily entered. In the rear of said guide is arranged a transverse shaft, *d*, to which a finger or lug, *d'*, is attached, which bears on the upper rear part of

the guide E, and when said shaft *d* is acted upon by a suitable handle it bears upon said guide, and the link D can be elevated and guided to suit different heights of cars, so as to enter into the buffer-head A. Suitable guides, *e*, are arranged in each buffer-head to guide the plates *a'* and *b'* in their longitudinal movements.

The buffer-head A is provided with two arms, F, having at their lower ends a journal-box, *f*, in which a transverse shaft, G, is supported. The boxes *f* are arranged in a yoke or frame, *g*, and can be adjusted by set-screws *h* in case of wear, and at their upper ends they bear against a spring, *h'*, to prevent concussion when the parts are operated.

The shaft G projects to the outside of the car, so that it can be operated without the train-man passing between the cars, and has secured upon it an arm, H, which is provided with a friction-roller, *h²*, that bears against a bent lever, L, when the coupling-pin C' is to be acted upon. The lever L has at its forward end a sliding bar, *i*, having the projections *i'*, which act as stops, and said bar *i* serves as a guide to carry the lifting-bar K, with the coupling-pin C', back to its normal position. The lifting-bar is provided at its lower end with a friction-roller, *k*, to prevent wear, and also to facilitate the movement of said bar. At its upper end this bar is bent at right angles, and has a forked end which passes around the pin C', between the two collars *c'*, and on the ends of the forked part are two hooks, *c''*, which prevent the pin from dropping out of its place in the forked end, while allowing said pin to be easily taken out and replaced when desired. The bar K is guided in its place and moves up and down in the bearings or lugs *m* on the buffer-head. When it is desired to uncouple the cars, the bar K, with the coupling-pin, is raised by means of the lever L, arm H, and shaft G, with the crank-handle, and is supported on the friction-roller *h²*, and held by a small cross-piece, *h³*, on the arm H, that engages with a notch, *l*, in the lever L.

Another arm or lever, M, on the shaft G serves to facilitate the dropping of the pin C', lever L, and arm H to move back when the buffer-heads are brought together by coming in contact with depending lug N on the plate *a''*.

The lever L is pivoted at its rear end to a

stud, *n*, secured to the thimble *n'*, placed on the elongated end of the bolt *O*, and can freely move on said stud when the lever is to be operated upon. The sliding bar *i* is provided with two open lugs or hasps, *i'*, which serve to guide said bar in its movements on the lever *L*.

The cars are to be provided at one end with a buffer-head, *A*, and at the opposite end with a buffer-head, *B*, and as they will therefore always be alike the coupling-link should be usually not less than nine or more than ten inches. The pins should in all instances be provided with the double collars, so that they can be used in both buffer-heads.

The buffer-heads are supported in the ordinary manner by the straps or bars *P*, secured to the under side of the frame-work of the cars.

The operation is as follows: The coupling-link is inserted in place in the buffer-head *B*, and is held by the coupling-pin *C*. The coupling-pin *C'* of the buffer-head *A* is raised by turning the shaft *G*, with its crank-handle, by which the arm *H* comes in contact with the lower face of the lever *L*, and this in turn raises the lifting-bar *K* and the coupling-pin *C'*, attached to it. As soon as the cars are brought together, the arm *M* comes in contact with the depending lug *N* as the spring *a* is compressed between the plates *a' a''*, and the arm *H* is released from contact with the angular lever *L*, and this allows the lifting-bar *K*, with the coupling-pin *C'*, to drop and engage the opposite end of the coupling-link, thus rendering the coupling of the cars automatic.

To uncouple the cars, it is only necessary to impart a slight rotary motion to the shaft *G*,

when the lever-lifting bar and coupling-pin will be raised by the arm *N* on said shaft out of engagement with the coupling-link, and this operation can be performed from either side of the car, as the shaft *G* is to be extended to both sides.

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

1. The combination of a lever, *L*, having sliding extension-bar and a lifting-bar with coupling-pin, with a shaft, *G*, provided with an arm, *H*, having friction-roller and a cross-piece, *h'*, for engaging with a notch, *l*, in the lever *L*, all arranged substantially as set forth.

2. The combination of the buffer-head *A* and plate *a'*, having lug *N*, with the lever *M*, secured to the shaft *G*, arranged as and for the purpose specified.

3. The combination of the bolt *O*, having the thimble *n'*, provided with stud *n*, with the lever *L*, having sliding bar *i*, the lifting-bar *K*, and coupling-pin *C'*, all constructed and arranged for operation as and for the purpose herein set forth.

4. The combination of the buffer-head *A*, having the arms *F*, provided with adjustable journal-boxes *f*, with the shaft *G*, having arm *H*, for operating the coupling pin *C'*, in the manner herein shown and specified.

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

MATHEW HARTZ.

Witnesses:

ADOLF GRAF,
LOUIS MOESER.