

B. MOORE.
Car-Couplings.

No. 134,695.

Patented Jan. 7, 1873.

Fig. 1.

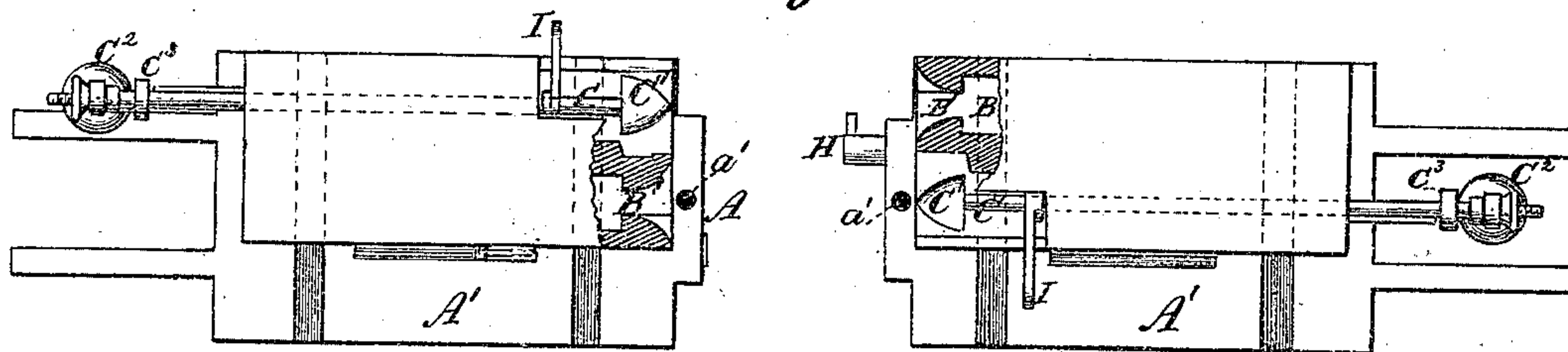


Fig. 2.

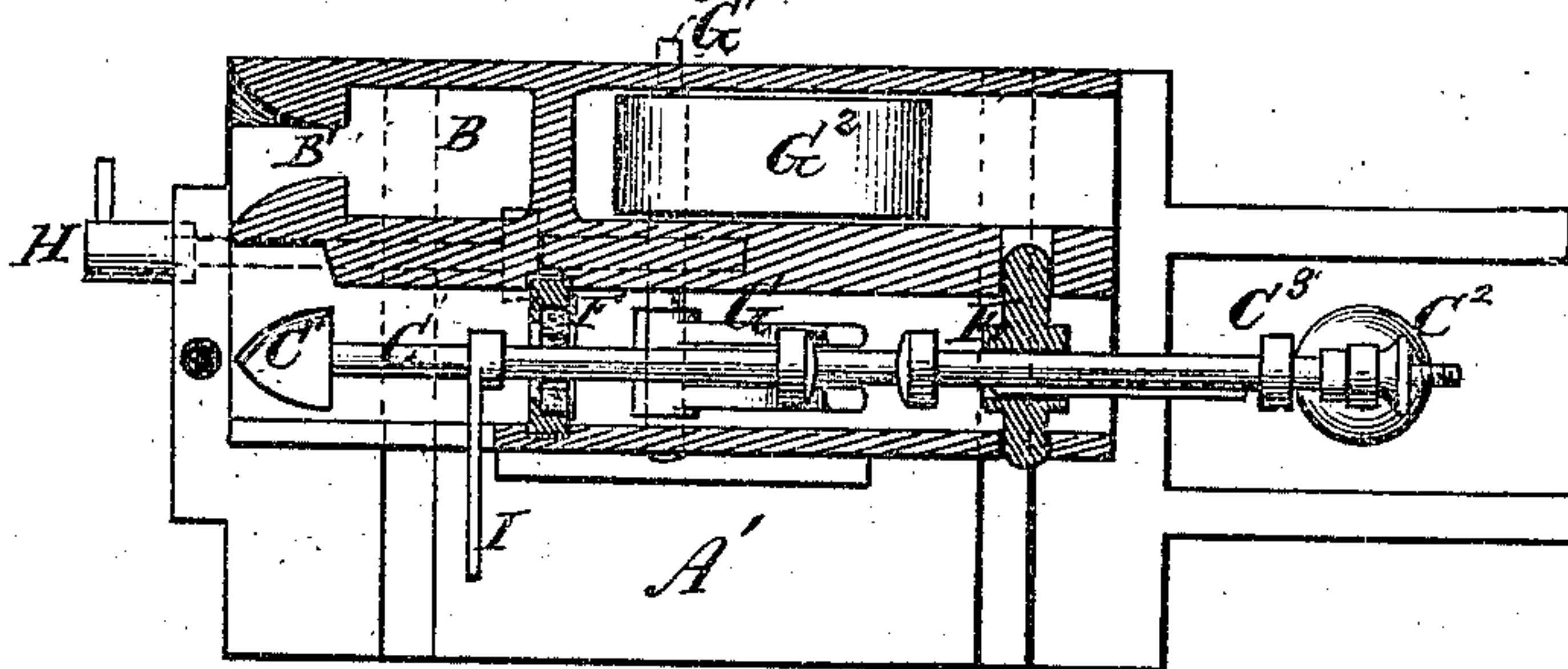


Fig. 3.

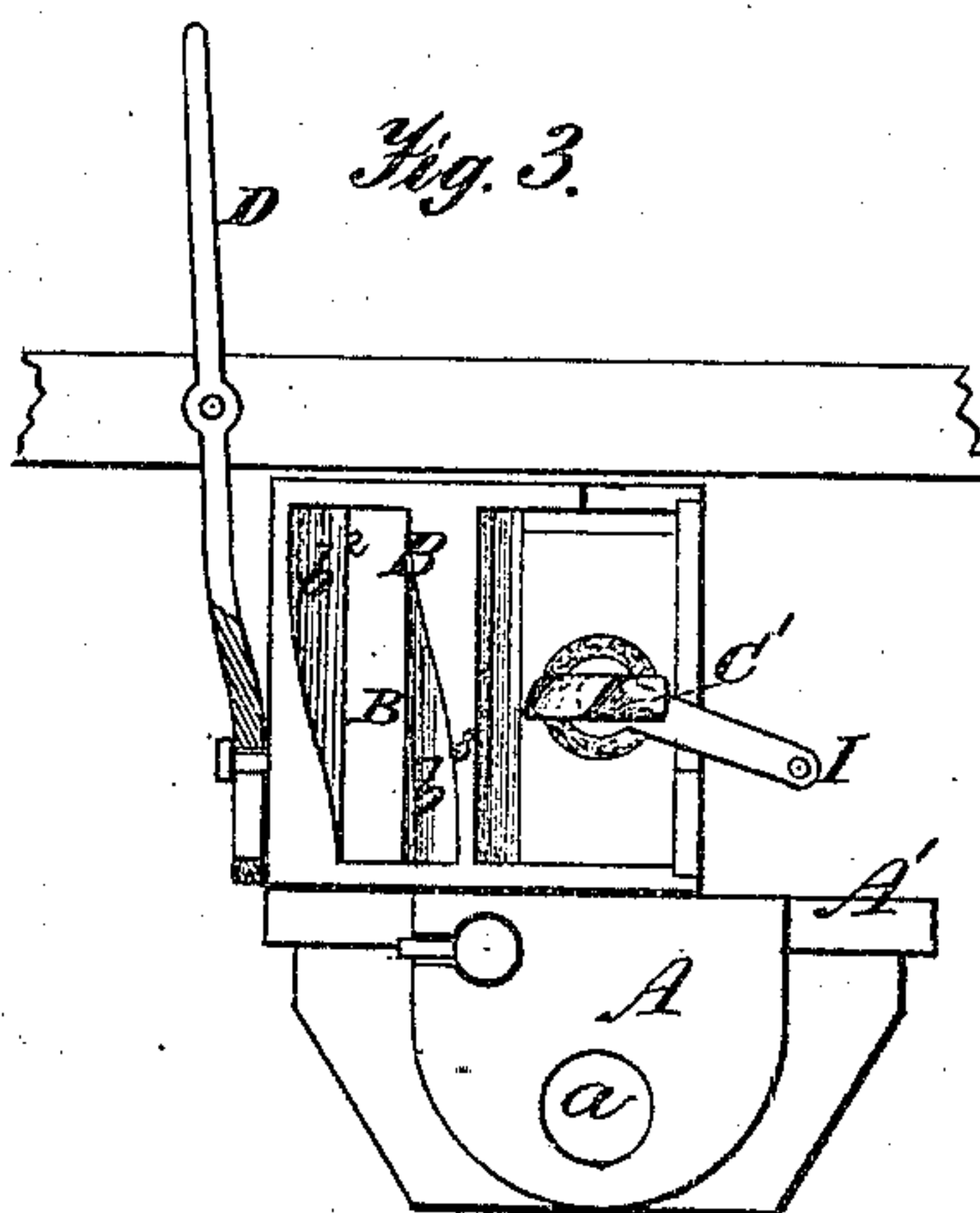


Fig. 4.

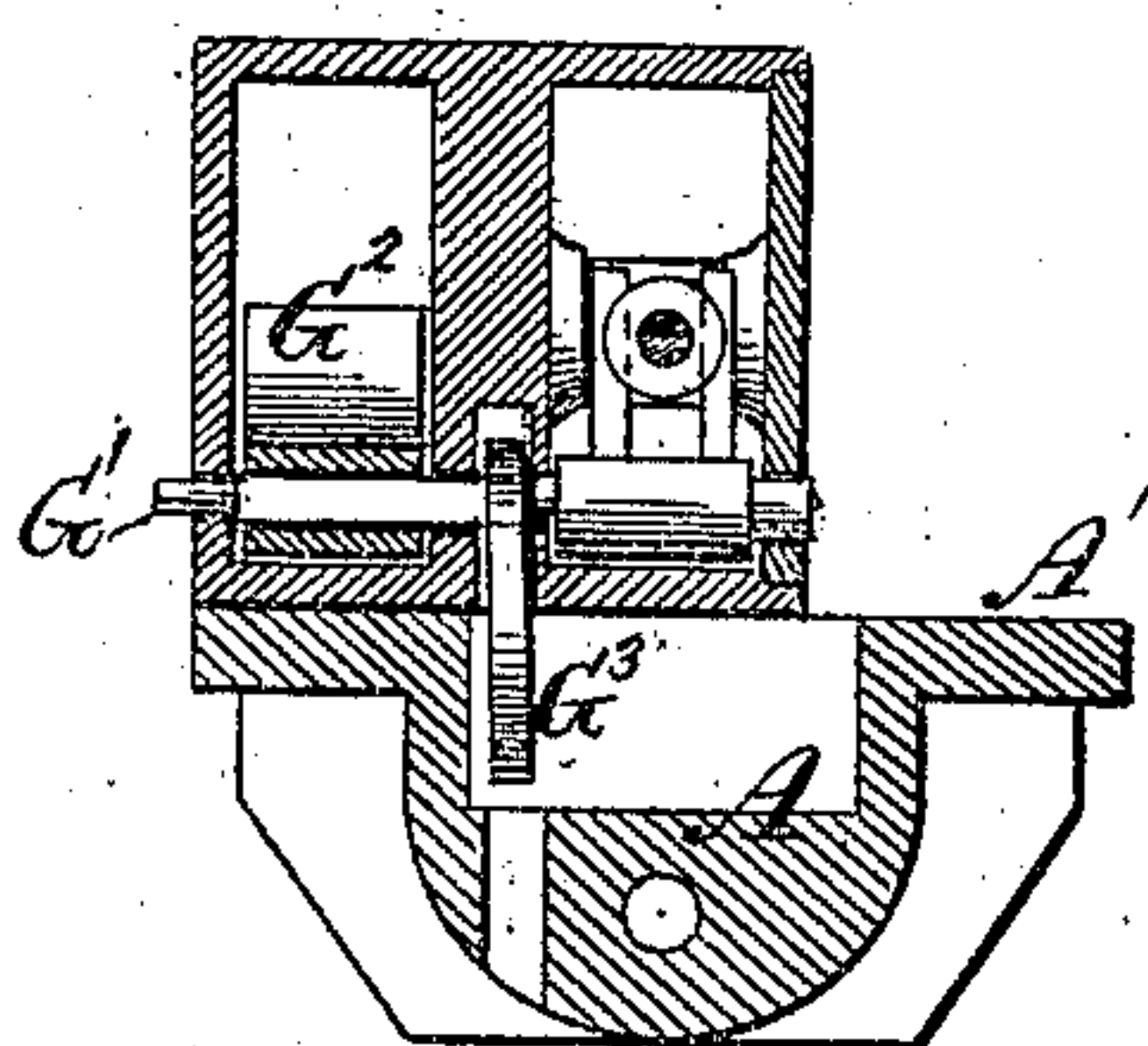


Fig. 5.

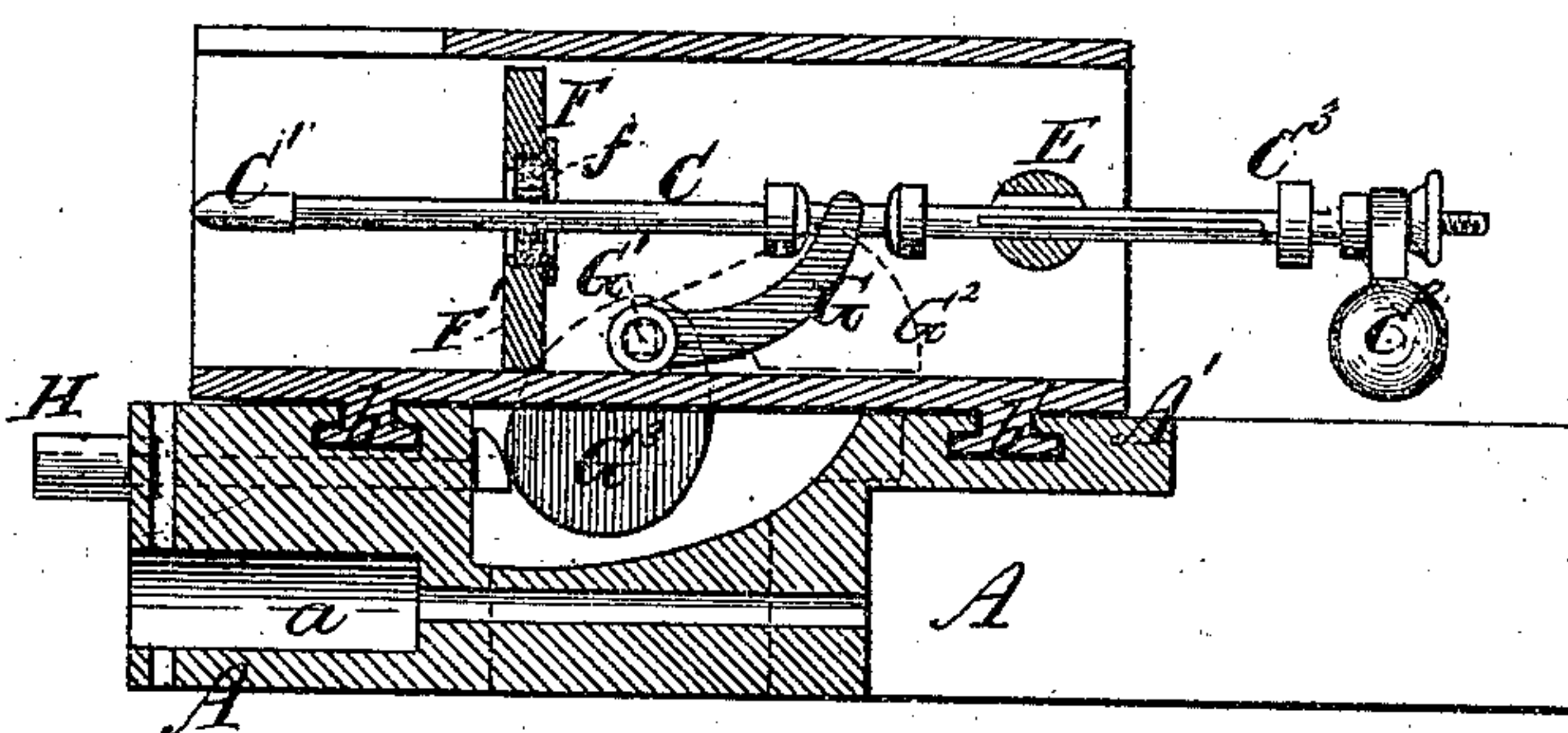
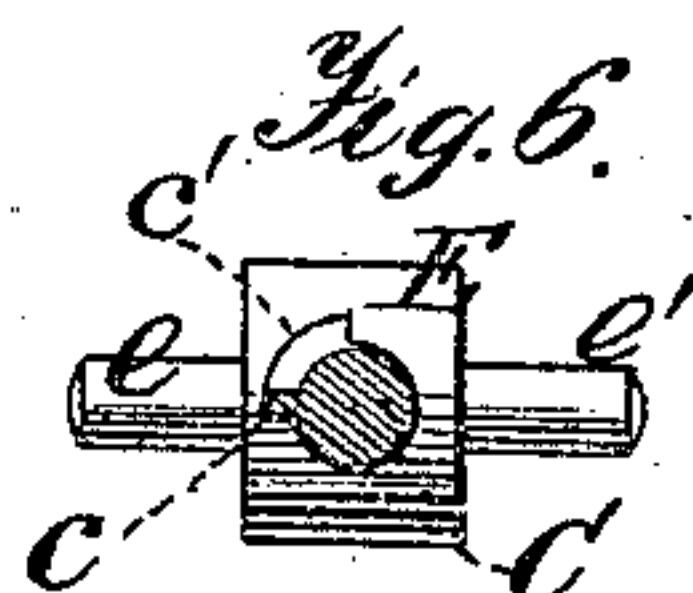


Fig. 6.



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UNITED STATES PATENT OFFICE.

BAYARD MOORE, OF SEAFORD, DELAWARE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 134,695, dated January 7, 1873.

To all whom it may concern:

Be it known that I, BAYARD MOORE, of Seaford, in the county of Sussex and State of Delaware, have invented certain Improvements in Car-Couplings, of which the following is a specification:

This invention relates to that class of couplings which automatically form the connection between cars when they are brought together. My improvements consist, first, in the combination of a coupling-box having a narrow contracted mouth, the lips of which are square upon the interior but beveled upon the exterior side, and a coupling-bar terminating in a spear-head with beveled edges, which stands at right angles to the length of the mouth of the coupling-box, and in entering the latter is turned by the cam-surfaces thereon so as to pass in flatwise; after the spear-head has passed entirely through the mouth, it is turned again so as to interlock with the lips; second, in the combination with such a coupling-box and spear-headed coupling-bar, which in its normal position does not protrude beyond the face of the box of a slide-bar, which, as two cars come together, is pushed inward and acts through a suitable medium upon the coupling-bar, projecting it so that its spear-head may enter the box upon the adjacent car; third, in arranging the spear-headed coupling-bar in an elastic support and swiveling-guide so that it may readily move and accommodate itself to the oscillations of the cars; fourth, in mounting the coupling-box and coupling-bar in such a manner upon the drawhead that they may be slid laterally to bring either one into action while the other remains passive.

Figure 1 illustrates in sectional plan a pair of my improved car-couplings. Fig. 2 is also a sectional plan, on an enlarged scale, however, of my improved car-coupling. Fig. 3 is a front elevation of the same. Fig. 4 is a transverse vertical section. Fig. 5 is a longitudinal vertical section. Fig. 6 shows in detail the means for limiting the oscillatory movement of the coupling-bar.

The same letters of reference are employed in all the figures in the designation of identical parts.

The draw-head A, which in its front end contains a cavity, *a*, for the reception of a link of an ordinary car-coupling, and a hole,

a', for a pin to lock such link, contains upon its top a platform, A', for the support of the coupling devices. These consist essentially of a coupling-box, B, and a sliding coupling-bar, C, spear-headed, which are arranged side by side, and are connected together, the latter being suitably inclosed in a case formed or secured on the former. A rectangular case is thus formed, which is constructed with rails *b b'* upon its bottom side, fitting grooves running transversely across the platform A'. The case may be moved laterally by means of a lever, D, or other preferred device, to bring either the coupling-box or the spear-headed coupling-bar in line with the center of the draw-head. Whichever is thus arranged will be in position for action, while the other remains inactive. The mouth B' of the coupling-box is quite narrow, so much so that the spear-head C' of the coupling-bar can pass in flatwise only; and as the spear-head stands in its normal position at right angles to the mouth, it becomes necessary to give it a quarter turn before it can enter through the mouth. For this purpose the cam-surfaces *b²* and *b³* are formed upon the exterior of the lips of the mouth B', and the edges of the spear-head C' are beveled, so that as they strike said cam-surfaces the coupling-bar will receive a quarter turn in a definite direction. After the spear-head has passed through the mouth B' the coupling-bar is turned back, by a weighted arm, C², into its normal position, which causes the square base of the spear-head to hook behind the lips, which are also square upon the interior side. The coupling-bar rests in a swiveling-guide, E, and a yielding-bearing, F, the guide being supported on journals *e e'* (see Fig. 6) in the walls of the case, and the bearing in a partition, F'. The bearing consists of a rubber plate fastened in a corresponding opening in the partition F', and contains in its center a metal bush, *f*, through which the coupling-bar passes. Thus arranged the coupling-bar, when interlocked with a coupling-box of another car, may readily move with the oscillations of the cars. When the coupling-bar is in action its collar C³ is brought up against the guide E, which thus also serves as an abutment. The rotatory movement of the coupling-bar on entering a coupling-box is controlled or limited by

means of a feather, c , on the bar, and a sectoral slot, c' , in the guide E, (see Fig. 6.) On the release of the coupling-bar from the coupling-box it is retracted so as not to protrude beyond the face of its case, by means of the tappet G, the fork of which embraces the bar between two collars thereon, and which is fast to a shaft, G^1 , carrying a weighted arm, G^2 , whose tendency is to oscillate the shaft G^1 so as to retract the bar by the tappet. The shaft also carries a downwardly-projecting arm, G^3 , which, when the coupling-bar is in position for action, is in line with a slide-bar, H, and rests against the inner end thereof. The slide-bar then protrudes at its other end from its bearing in the draw-head a sufficient distance, so that, when pushed inward by the coming together of the cars, it will impart sufficient motion to the coupling-bar, through the intermediate devices specified, to project the same the proper distance for entering the coupling-box upon the opposite car. When the coupling-bar is not in position for action the arm G^3 stands to one side of the slide-bar, and the latter may be pushed inward without affecting the former.

It is evident that the coupling-box B may consist of a mere plate, having the narrow slot B^1 and cam-surfaces b^2 and b^3 . An arm, I, is secured to the coupling-bar, by means of which it may be turned in uncoupling.

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

1. The combination of a coupling-box, B B', and rotatory spear-headed coupling-bar C C', arranged side by side and connected together,

but operating independently, substantially as specified.

2. The combination, as set forth in the first claim, of the coupling-box B B' and rotatory spear-headed coupling-bar C C', the latter being capable of being projected and retracted, substantially as and for the purpose specified.

3. The combination of a coupling-box, B B', b^2 b^3 , spear-headed rotatory coupling-bar C C', and feather c , and sectoral groove c' to limit the rotatory motion of the coupling-bar, substantially as specified.

4. The coupling-bar C, in combination with the swiveling-guide E and yielding-bearing F, substantially as and for the purpose specified.

5. The combination of the coupling-bar C, slide-bar H, and intermediate devices for imparting the motion of one to the other, substantially as specified.

6. The combination of the collared coupling-bar C, tappet G, shaft G^1 , arm G^3 , weighted arm G^2 , and slide-bar H, substantially as set forth.

7. A coupling-box and a coupling-bar connected together, but operating independently, as described, in combination with a draw-head upon which they are laterally adjustable, in the manner and for the purposes specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BAYARD MOORE.

Witnesses:

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D. P. HOLLOWAY.