T. HIBBERT.

CAR-COUPLING.

No. 173,289. Patented Feb. 8, 1876.

FIG. 1.

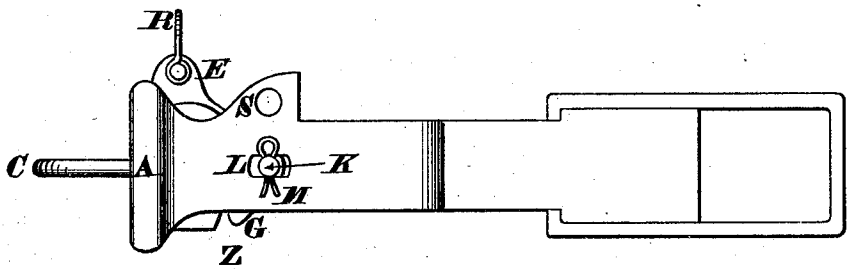


FIG. 2.

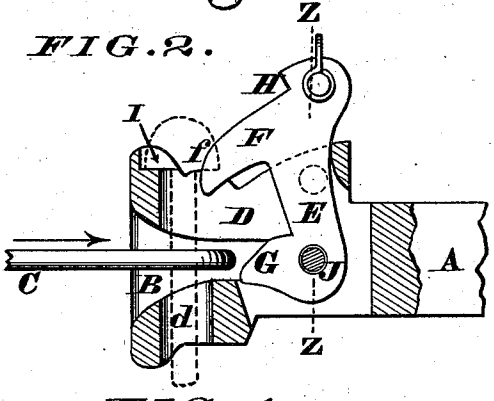


FIG. 3.

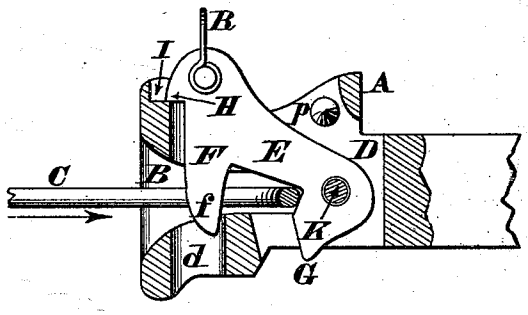


FIG. 4.

FIG. 5.

FIG. 6.

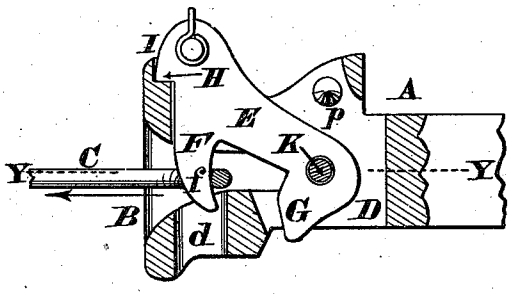


FIG. 7.

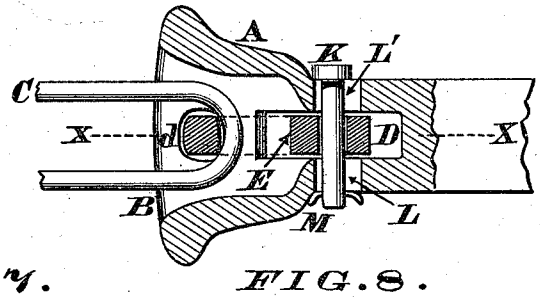
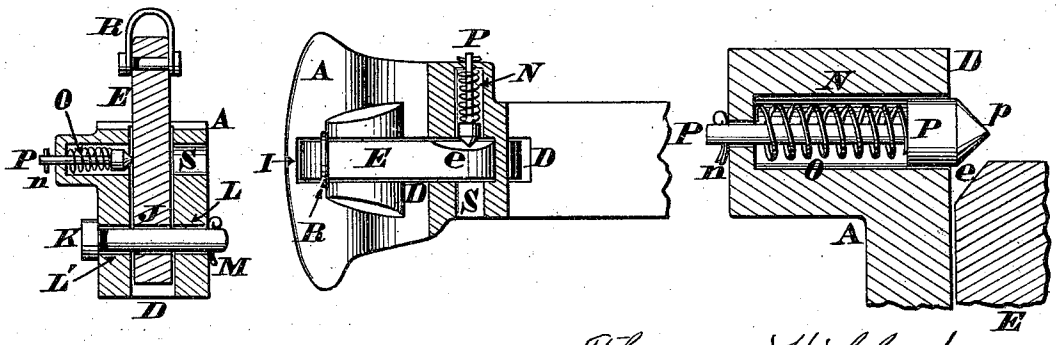


FIG. 8.



Attest,
Jas. N. Seymour
Chas. Hooch

Thomas Hibbert.
By Knight Bros Attys.

UNITED STATES PATENT OFFICE.

THOMAS HIBBERT, OF COCHRAN, INDIANA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **173,289**, dated February 8, 1876; application filed December 9, 1875.

To all whom it may concern:

Be it known that I, THOMAS HIBBERT, of Cochran, Dearborn county, Indiana, have invented a new and useful Car-Coupling, of which the following is a specification:

This invention relates to that class of devices which employ a pivoted gravitating hook-shaped catch or latch-lever, for the purpose of retaining the coupling-link within the draw-head; and the first part of my improvements consists in arranging the latch-lever in the draw-head in such a manner as to relieve its pivot of all strains incident to the violent and irregular motions of the car. To accomplish this result I pass said pivot through slots in the sides or walls of the draw-head, which slots are arranged longitudinally of the coupling, and they are of such length as to prevent the pivot coming in contact with their ends when the stress is brought to bear upon the link. These slots, therefore, allow the latch to be drawn toward the mouth of the draw-head by the link, and in so doing the latch or catch becomes seated in an excavation of the head, which excavated portion acts as an abutment to receive the entire strain that is brought to bear upon the coupling devices.

The second part of my invention consists in providing the draw-head with a horizontally-sliding spring-bolt, which presses against one side of the latch with sufficient force to maintain the latter in its elevated position after it has been raised by the attendant. This bolt not only maintains the latch in its elevated or normal position, and prevents it rattling, but said bolt acts, also, as a guard, to secure the latch in its closed or coupled condition. In this connection the latch cannot be accidentally opened so as to disengage the link, by the oscillations of the car; while, at the same time, the bolt will yield readily to any moderate degree of force, whenever the latch is raised either by hand or by the entering link.

In the accompanying drawing, Figure 1 is a side elevation of my improved coupling attached to an ordinary draw-bar. Fig. 2 is a vertical section through the draw-head, the latch being shown at its normal or elevated position, and a link from the opposing car in the act of entering the draw-head. Fig. 3 is a similar section, but showing the latch inserted in the coupling-link. Figs. 4, 5, and 6 are sections, taken, respectively, at the lines X X, Y Y, and Z Z. Fig. 7 is a top view, with part broken away, to show spring-bolt engaged with the catch. Fig. 8 is a view of the spring-bolt on a larger scale. Of the above illustrations Fig. 1 is to a reduced scale.

The draw-head A is provided with the customary flaring mouth or muzzle B, to facilitate the entrance of coupling-link C, which latter may be of the represented or any other suitable shape. The draw-head has a vertical slot, D, for the gravitating and hook-shaped catch or latch lever E, which constitutes the coupling device proper of the draw-head. This latch is furnished with a hook, F, with which the link C engages when the cars are coupled. The opposite end of said latch terminates in a downwardly-projecting spur or heel, G, against which heel the advancing end of link C impinges after the latter has entered the draw-head a suitable distance. Furthermore, said latch is provided with a shoulder, H, which bears against a jog, I, in the draw-head, when the latter is closed. By this means said shoulder and jog act as stops to limit the descent of the latch within the draw-head. Located near the inner end of the latch E is a perforation, J, traversed by a pin, K, which serves as the pivot of said latch. This pin passes through two longitudinal slots, L L, in the draw-head, and said pivot may be secured in position by means of a spring-key, M, or other means.

The draw-head is chambered out at N to receive a spiral spring, O, which surrounds a bolt, P, the stress of said spring tending to force the bolt toward the latch E. When this bolt is applied to the draw-head, it is first passed through a perforation, S, directly opposite the chamber N, after which a pin, *n*, is applied, so as to prevent said bolt becoming detached. The inner end of this bolt terminates in a conical point, *p*. One end of the latch is chamfered off at *e*, in order that said latch may the more readily force back the bolt whenever the device E is elevated. R is a shackle, wherewith the latch E may be elevated by hand, whenever it is desired to uncouple the cars.

My coupling is operated in the following manner: In the normal condition of the various operative parts, the catch E is elevated and maintained in position by the pressure of bolt P against the appropriate side of said catch, as seen in Fig. 5. In this position of the catch its hook F is raised high enough to afford an unobstructed entrance to the mouth of the draw-head, while the heel G occupies the rear of slot D. As soon as the coupling-link C enters the draw-head a suitable distance, the advancing end of said link impinges against the heel G with sufficient force to cause the latch E to turn upon its pivot K, which act instantly engages the hook F with said link. (See Fig. 3.) The moment the hook engages with the link the bolt P is retracted by the action of spring O, and said bolt then acts as a stop, to prevent such vertical play of the device E as would be sufficient to liberate the link, and thereby accidentally uncouple the cars. In this closed condition of the latch its shoulder H seats upon the jog I, while the entire latch is drawn forward by the stress of link C, and, consequently, the hook F is brought to bear against the end of slot D, and the pivot K relieved from all strain.

To uncouple the cars, it is only necessary to lift the latch E to the position shown in Fig. 2, so as to liberate the link C for withdrawal.

When the latch E is elevated, an ordinary pin can be passed down through slot D and perforation *d*, as indicated by dotted lines in Fig. 2. Or, if preferred, the hook may be made long enough and of such shape as to enter said perforation when the latch is closed. In this case, however, the ordinary pin could not be employed, as the increased length of the hook would prevent the pin entering the perforation *d*.

In case the short latch should be closed when the cars are brought together, the rounded edge *f* of the hook will allow the link to enter readily, and to automatically engage with the latch.

I claim as new and of my invention—

The chambered draw-head A N, for receiving the spring-bolt O P, that operates upon the latch E in the manner set forth.

In testimony of which invention I hereunto set my hand.

THOMAS HIBBERT.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.