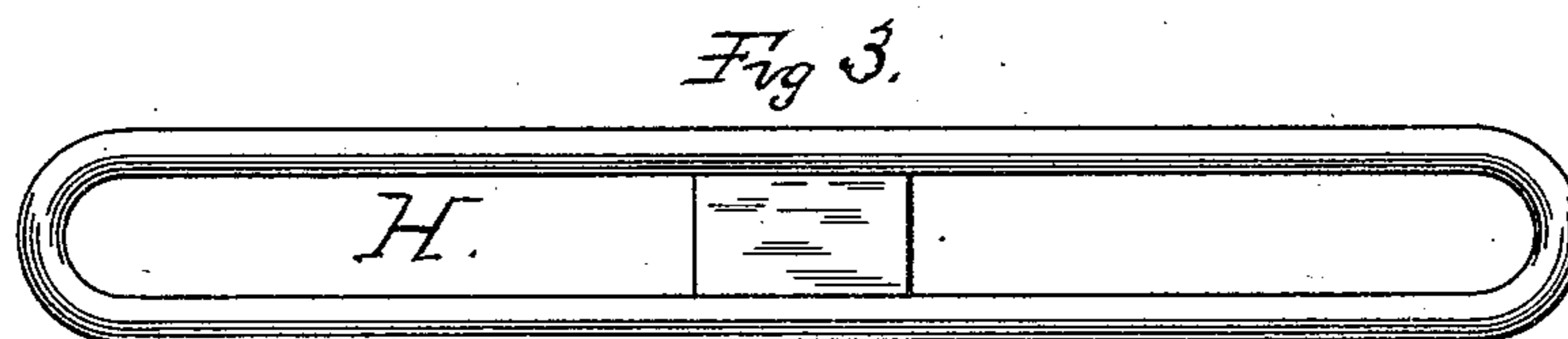
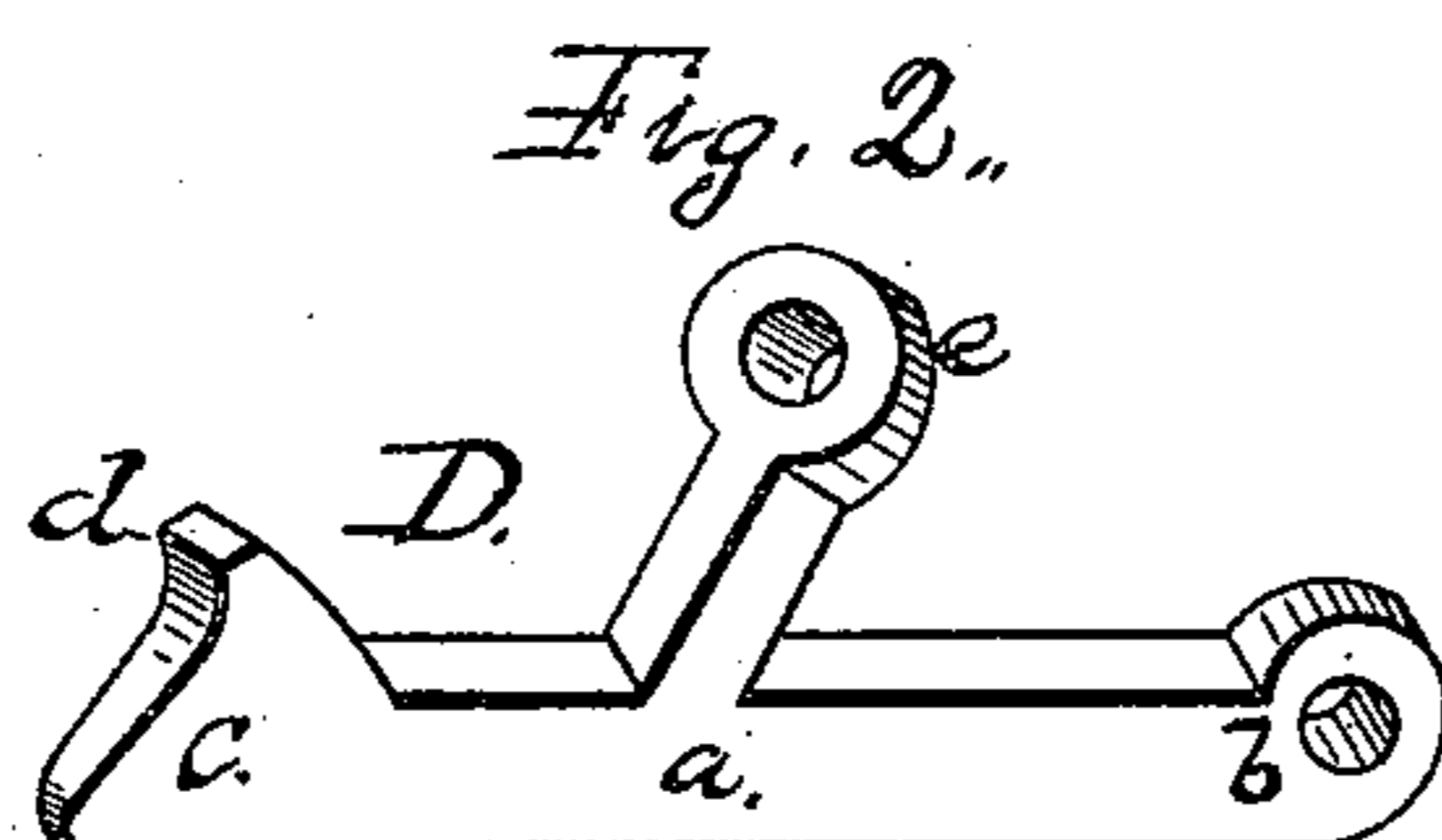
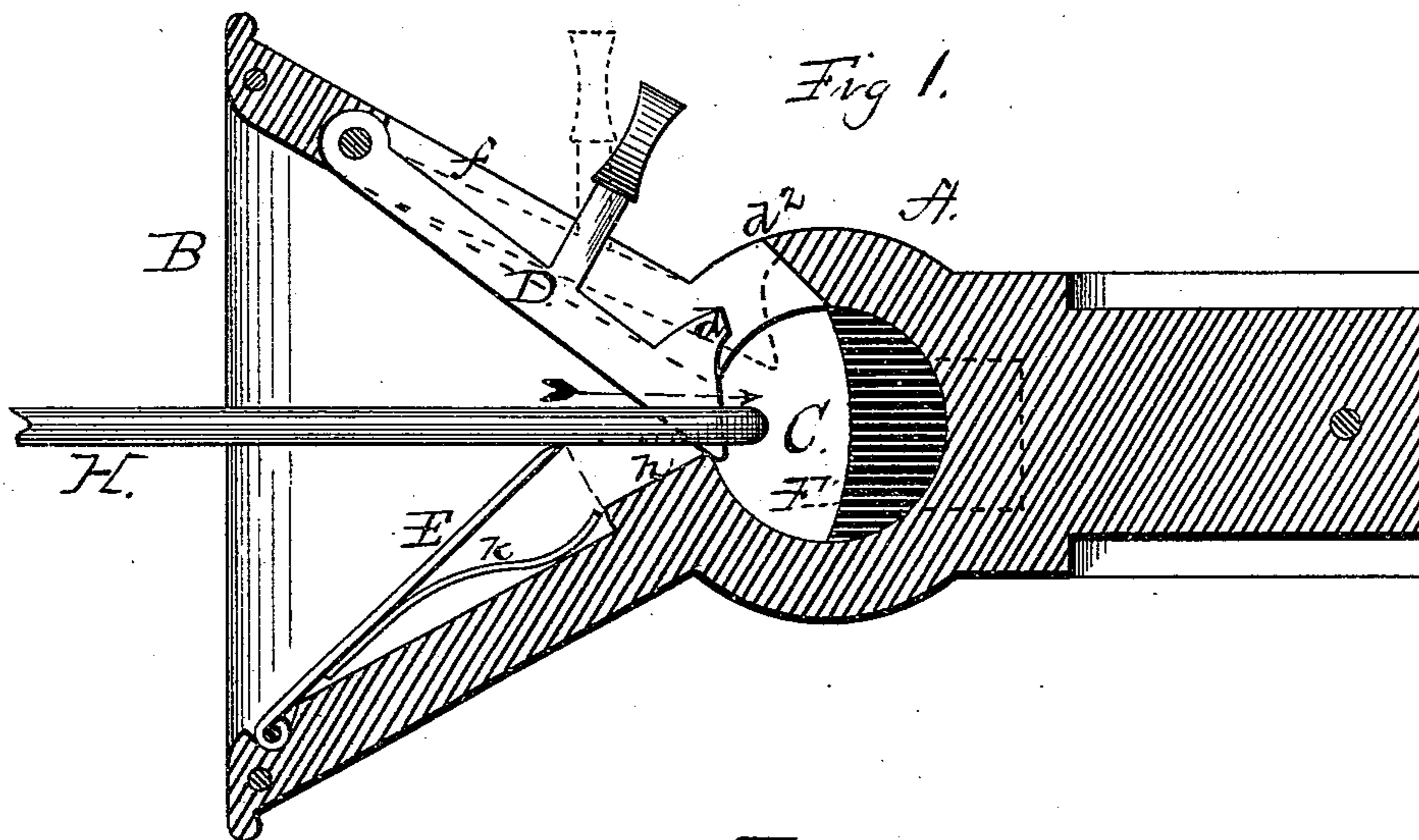


J. M. DYER.
Car-Coupling.

No. 217,846.

Patented July 22, 1879.



WITNESSES

Nat. E. Oliphant-
A. G. Heylman.

INVENTOR

INVENTOR
James M. Wye
by *[Signature]* atty.

UNITED STATES PATENT OFFICE

JAMES M. DYER, OF BUSHNELL, ILLINOIS, ASSIGNOR OF SEVEN-EIGHTHS HIS RIGHT TO WILLIAM T. BEADLES, JAMES C. THOMPSON, ABRAM NEFF, HENRY M. HARRISON, JOHN L. GRIFFITH, ALMON TAINTER, AND PRESTON W. KING, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **217,846**, dated July 22, 1879; application filed March 29, 1879.

To all whom it may concern:

Be it known that I, JAMES M. DYER, of Bushnell, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a longitudinal sectional view of my improved car-coupler. Fig. 2 is a perspective view of the gravitating draw-hook. Fig. 3 is a plan view of the coupling-link.

This invention relates to that class of car-couplers in which a gravitating hook and a coupling-link are employed to couple the cars in a train; and the object is to provide new and better means which shall be effective in operation.

Heretofore the coupling-link has been sustained in a horizontal position by means of a spring-plate placed upon the inclined upper surface of the lower part of the mouth of the bumper, the inner part of the spring-plate resting against the under side of the link, in rear of the vertical coupling-pin, to hold it in a horizontal position, so that it will enter the bumper-head of the adjacent approaching car. This device is objectionable, for the reason that the support is in rear of the pin, and the weight of the forward portion of the link will have a tendency to swag or droop.

My improvements consist, first, in a draw-head having an independent rear chamber for the elastic material and an independent flaring mouth with a suspended gravitating draw-hook, and provided with a flat spring-plate placed upon the inclined upper surface of the lower part of the mouth of the draw-head, in front of the coupled end of the link, whereby the link is automatically coupled and sustained, after coupled, in a horizontal position, so that it will enter with certainty the draw-head of the next car of the approaching train;

second, in the novel construction of the draw-head, the mouth portion of which is provided with provisions and means for receiving the automatic coupling-hook and sustaining the link in a horizontal position, respectively, as will be hereinafter more fully set forth.

In the annexed drawings, forming a part of this specification, the letter A represents the draw-head, with a flaring mouth, B, and a chamber, C. This draw-head may be attached to the car in any of the well-known ways.

D indicates the peculiar-shaped gravitating draw-hook, (see Fig. 2,) consisting of the bar *a*, perforated head *b*, toe *c*, heel *d*, and lifting-handle *e*. This draw-hook D is pivoted at its upper forward end within the slot *f*, formed in the upper or top wall of the mouth portion of the draw-head, and the lower end, or toe portion, rests upon the block or elevated portion *h*, forming a lock, so as to prevent any downward movement of the hook and confine the link-bearing surface within the chamber C.

The heel *d*, it will be seen, is inclined corresponding with the inclined wall *d'* of the roof of the draw-head, which limits the upward movement of the draw-hook.

At the forward end of the lower inclined wall of the draw-head, within the mouth-chamber, is pivoted or journaled a plate, E, of the same width, or nearly so, as the chamber, so that the said plate can move vertically within the same. This plate, on its under surface, is provided with a spring, *k*, resting in a recess, to keep the plate in outward or extended position, substantially as shown in Fig. 1 of the drawings. A rubber ball firmly attached either to the inclined wall or the plate may be substituted in lieu of the metal spring to accomplish the same result. The office of this pivoted plate and spring is to provide a support, in advance of the coupling device, to retain the link, after inserted, in a horizontal position, and direct it into the opposing draw-head of the approaching car with an automatic coupler.

At the rear end of the circular chamber C, immediately in rear of the mouth-chamber,

and connected therewith by means of the passage or throat indicated by the arrow, is arranged a piece of rubber or other elastic material, F, to deaden the blow in coupling and in other causes—for instance, surging of the cars against each other in checking the speed of the train. In some cases the rubber can be let into a recess, as indicated by dotted lines, formed in the draw-bar.

The coupling-link H is formed with two slots or elongated openings. One of the longitudinal side plates forming the draw-head can be removably attached by means of bolts or keys slotted at one end and spring-keys passing through the slots.

It will be seen that this draw-head is provided with two independent chambers, but communicating with each other by means of a throat for the passage of the link. The front chamber, B, has arranged therein the automatic-coupling draw-hook D, pivoted near the upper end of the upper wall thereof, and the lower end of the same, in its normal position, terminates, or nearly so, with the chamber, (see Fig. 1;) and the flat spring-plate, pivoted or journaled at the forward end of the lower wall, terminates at a point in front of the throat and coupling end of the draw-hook that shall sustain the forward portion of the link in a horizontal position. (See Fig. 1.) The rear chamber, C, is designed more especially for the elastic buffer and a space for the end of the coupling-link, and the throat at times serves as an intermediate rest for the link.

Operation: As one end of the coupling-link enters the draw-head it thrusts up the gravitating hook, which immediately falls into the slot of the link automatically, and the spring plate or arm arranged in front of the coupling end of the draw-hook supports the projecting

portion of the link in a horizontal position for coupling the next car. To uncouple, the hook is lifted from the top or side of the car through the medium of mechanical means applied to the handle of the draw-hook. Of course an ordinary coupling-link can be used in lieu of the link H to good advantage.

The advantages of this invention are: It is an automatic coupler, and does not necessitate the brakeman going between the cars to make the connection, so that the cars are readily and rapidly coupled; that in case the cars are thrown from the track and turned over (should there be any slack) they are uncoupled, thus saving time in clearing up the wreck; also, that low and high cars can be coupled, owing to the shape of the flaring head.

What I claim as my invention is—

1. In a car-coupler, the draw-head having an independent chamber for the elastic material and end of link, and an independent flaring mouth having a suspended gravitating draw-hook for automatically coupling the link, and a flat spring-plate, arranged in advance of the coupling end of the said draw-hook, for retaining the coupling-link in a horizontal position, as described.

2. The mouth-chamber B of the draw-head, having its upper wall slotted at *f*, within which is suspended the gravitating draw-hook D, and the lower wall thereof recessed, within which rests the flat spring *k* of the plate E, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES M. DYER.

Witnesses:

JAMES C. THOMPSON,
HENRY M. HARRISON.