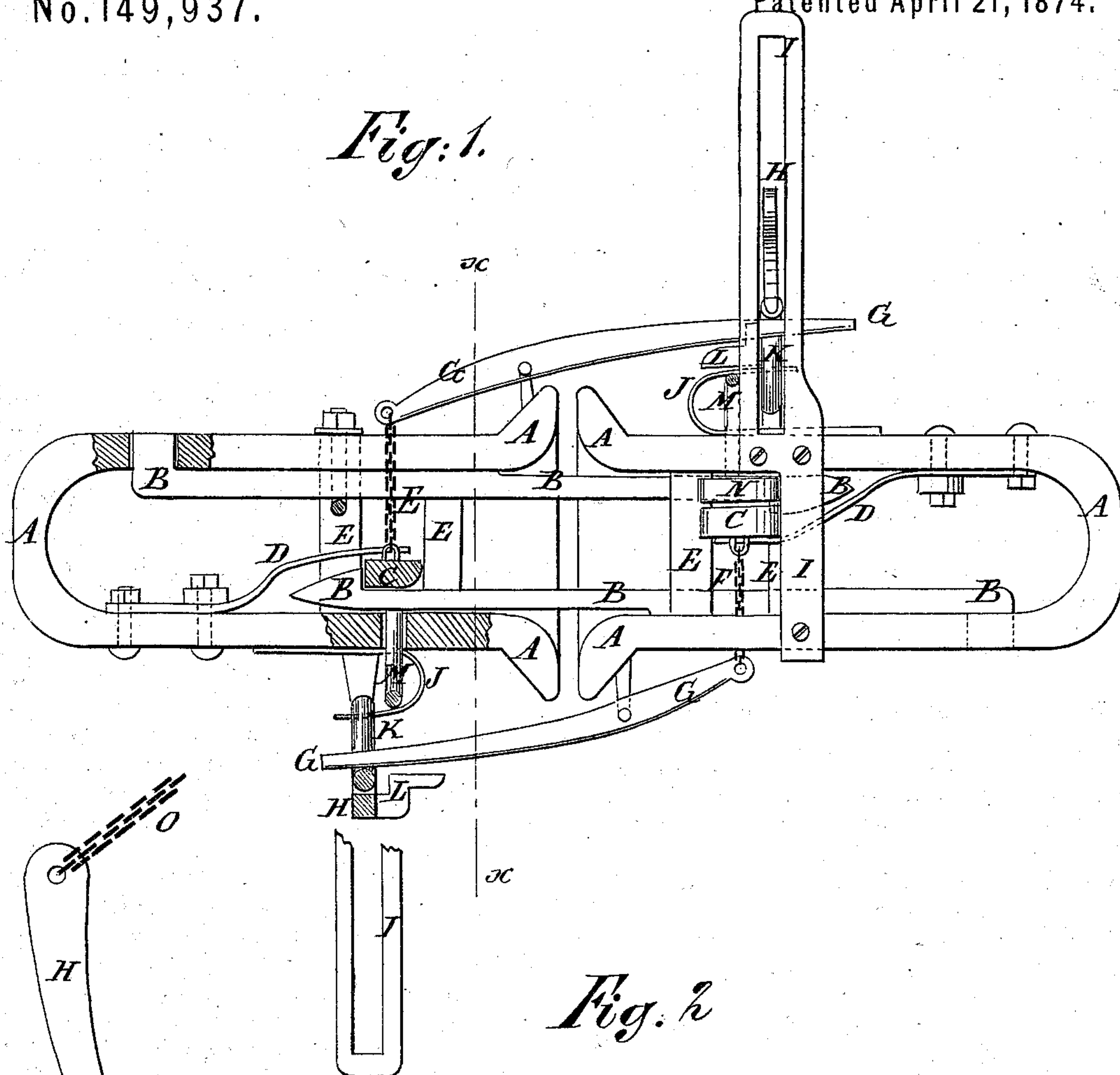


J. LEITH.  
Car-Couplings

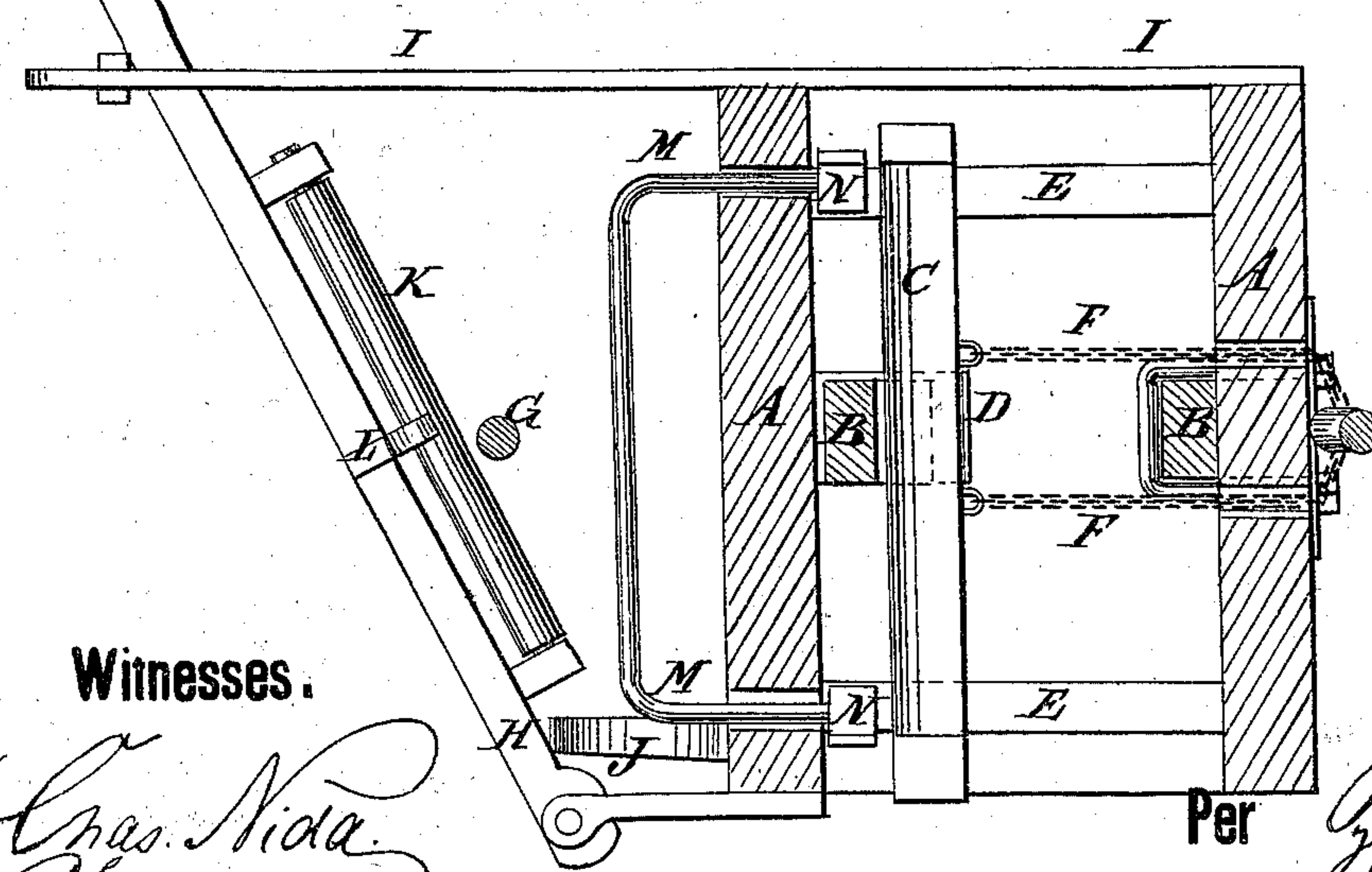
No. 149,937.

Patented April 21, 1874.

*Fig. 1.*



*Fig. 2.*



Witnesses.

*Chas. Nida.*  
*Auguett*

Inventor.

*J. Leith*  
*Munnell*  
Attorneys.



# UNITED STATES PATENT OFFICE.

JAMES LEITH, OF RIDGWAY, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND WILLIAM T. BURDETT, OF SAME PLACE.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **149,937**, dated April 21, 1874; application filed March 7, 1874.

*To all whom it may concern:*

Be it known that I, JAMES LEITH, of Ridgway, in the county of Elk and State of Pennsylvania, have invented a new and useful Improvement in Automatic Car-Coupling, of which the following is a specification:

Figure 1 is a top view of my improved car-coupling, parts being broken away to show the construction. Fig. 2 is a vertical cross-section of the same taken through the line *xx*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved car-coupling, which shall be so constructed as to couple the cars automatically as they are run together, which may be conveniently uncoupled, which will uncouple itself should one or more of the cars be overturned, and which shall be simple in construction, convenient in use, and reliable in operation. The invention consists in the U-shaped draw-heads, the stationary hook-bars, the sliding pins, the springs, and the guide-bars or pins, in combination with each other; and in the combination of the chains, the horizontal levers, the upright levers, the slotted guide-arms, the springs, the friction-rollers, the arms, and the U-bars, with each other, and with the sliding pins, their springs, the hook-bars, and the U-shaped draw-heads, as hereinafter fully described.

A are the draw-heads, which are made U-shaped, and are designed to be secured to the cars in the same way as the ordinary draw-heads. The mouths of the draw-heads A may be made of any desired height and breadth, by making the parts that project from the cars with shoulders or offsets. To the inner surface of one side of each of the bumper-heads A is attached the shank of a bar, B, which, as the cars are run together, enters the mouth of the opposite bumper-head. The outer and inner sides of the free or forward ends of the bars B are beveled off, and upon the inner sides of said forward ends are formed shoulders or hooks, which catch upon square pins C, which are held out against the hooks B by springs D, which are attached to the draw-

heads A, and which press against the inner sides of the said pins C. The pins C pass down between two pairs of short cross-bars or pins E, formed upon or attached to the draw-heads A. To the inner side of the pins C are attached the ends of chains F, which pass through holes in the opposite sides of the draw-heads A, and with the middle part of which is connected the end of a lever, G. The lever G of each draw-head is pivoted to an arm or bracket attached to the side of said draw-head, and its free end projects so as to pass along the side of the opposite draw-head as the cars are run together. H are levers, the lower ends of which are pivoted to the lower part of the sides of the draw-heads A, opposite the hooks B, and the upper ends of which pass up through the slots of the laterally-projecting guide-arms I, attached to the tops of the draw-heads A. The levers H are held back by the springs J attached to the sides of the draw-heads in such positions as to bear against the lower part of said levers, so that, as the cars are run together, the levers G may pass between the levers H and the sides of the draw-heads A. To the inner sides of the levers H are attached long rollers K, to diminish the friction as the levers G H rub against each other. To the levers H are attached arms L, which, as the said levers are drawn inward, strike against the loops or U-shaped bars M, the arms of which pass in through holes in the sides of the draw-heads A, and have heads N formed upon or attached to their ends, which rest against the pins C, so that when the levers H are drawn inward the pins C may be forced away from the hooks B, uncoupling the cars. The same inward movement of the lever H of either draw-head also operates the lever G of the other draw-head, to withdraw the pin C of said other draw-head, so that the coupling may be uncoupled by operating the lever H of either draw-head. The lever H may be operated by hand from the platform of the cars, or they may have a short chain, O, attached to them, the other end of which is attached to a shaft provided with a hand-wheel similar to the shaft and hand-wheel of an ordinary car-

brake. This construction enables the cars to be uncoupled from the top of the cars when desired.

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

1. The U-shaped draw-heads A, the stationary hook-bars B, the sliding pins C, the springs D, and the guide-bars E, all combined substantially as shown and described.

2. The combination of the chains F, levers G, levers H, slotted guide-arms I, springs J, rollers K, arms L and U, bar M, with the sliding pins C, springs D, hooks B, and draw-heads A, substantially as shown and described.

JAMES LEITH.

Witnesses:

D. B. BURDETT,

JOSEPH REYNOLDS.