(No Model.)

J. H. DAVIS.

CAR COUPLING.

No. 362,253. Patented May 3, 1887.

Fig. 1.

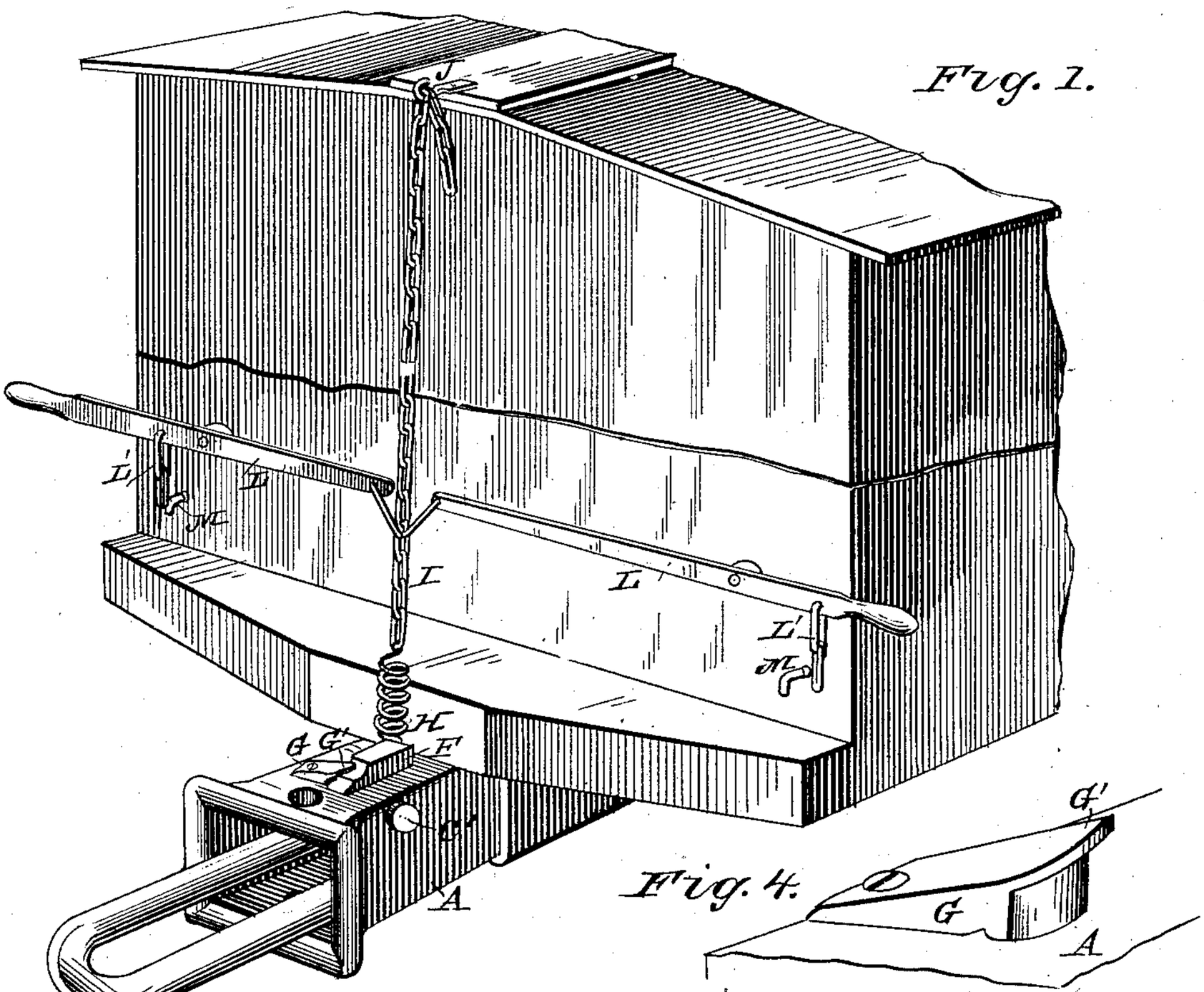


Fig. 4.

Fig. 2.

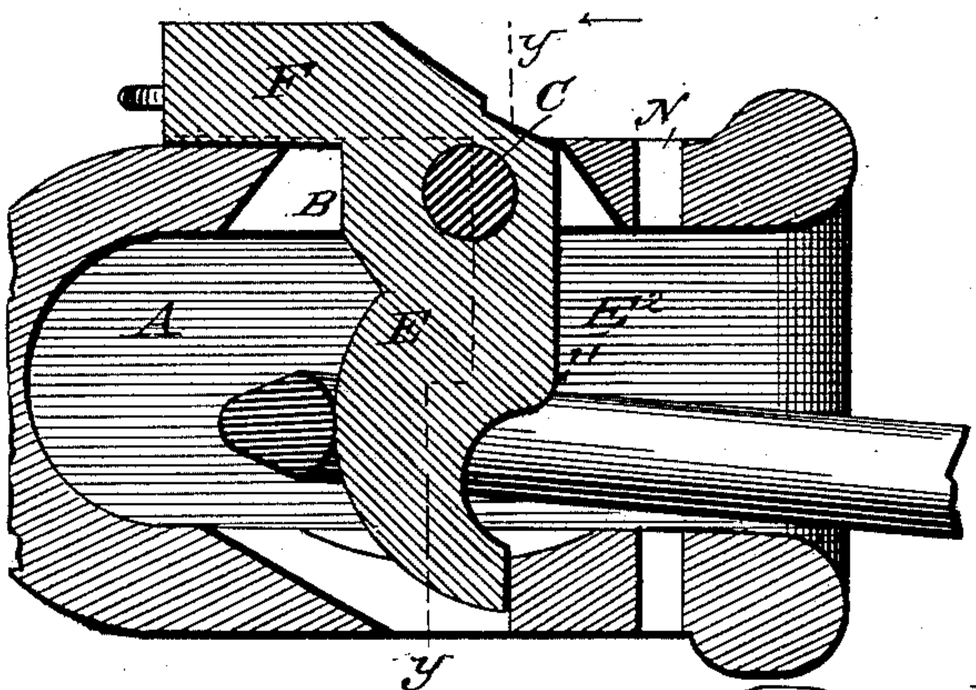


Fig. 3

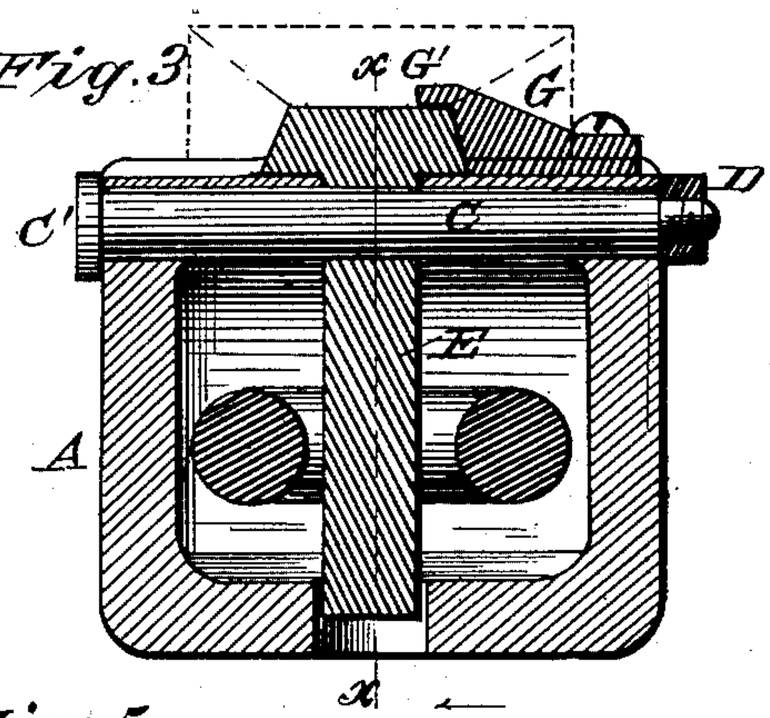
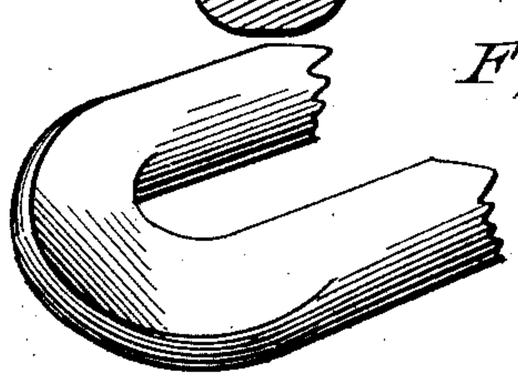


Fig. 5.



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JAMES H. DAVIS, OF DANVILLE, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 362,253, dated May 3, 1887.

Application filed September 7, 1886. Serial No. 212,954. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. DAVIS, of Danville, in the county of Boyle and State of Kentucky, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention consists of an improved car-coupling, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improved car-coupling with parts of the draw-head broken away. Fig. 2 is a longitudinal vertical sectional view taken on line *x x*, Fig. 1. Fig. 3 is a cross-sectional view taken on line *y y*, Fig. 1. Fig. 4 is a detail view of the pivoted catch, and Fig. 5 is a detail view of the coupling-link employed with my improved car-coupling.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A represents the draw-head, which has the opening B formed in its top, and C indicates the transverse pivot-pin on which the locking-pin turns. This pivot-pin C extends through a transverse opening in the upper solid part of the draw-head, its lower side being on a level with the lower inner side of the top part of the draw-head, as shown in the sectional view, Fig. 3 of the drawings, and one end of the pivot-pin is formed with a head, C′, while on its other end a nut, D, is screwed to secure it firmly in its operative position in the draw-head. This pivot-pin extends across the vertical opening B in the solid top of the draw-head, passing through a transverse opening in the coupling-pin E. This coupling-pin E, which turns on the pivot-pin, is of such a length that its lower end fits down within an opening in the bottom of the draw-head, which is so formed that the lower end of the coupling-pin comes in contact with its abrupt forward side when the said pin falls into its vertical position, as shown in Fig. 2 of the drawings. The forward lower portion of this coupling-pin is cut away to form the deep recess E′, leaving the shoulder E^2 extending over the said recess, the edges or walls of this recess being curved or rounded, as shown.

To the upper end of the coupling-pin, and forming a part thereof, is attached the weighted lever F, the weight of which causes it to rest normally upon the top of the draw-head with the locking-pin in its vertical or lowered position. The inner side of the bottom of the draw-head is hollowed out or concaved around the lower end of the coupling-pin, as shown, and the ends of the coupling-link are beveled on both sides. It will now be seen that by inserting one end of the link in the draw-head until it enters the recess in the forward lower portion of the coupling-pin, and by pushing the said pin backward or forward more or less, the link may be adjusted, first, in a level position; second, raised at any desired angle, being firmly held by the shoulder on the pin and in the recess in the bottom of the draw-head, the said shoulder catching around the forward side of the end of the link and holding it firmly; third, the link may be turned either to the right or left, and to incline its outer end downward it is only necessary to push the inner end of the link back clear of the coupling-pin, when the weight of its outer end will cause the said end to incline downward, the inner end of the link being raised back of the pin, which holds it in position in the draw-head.

It will be seen that when the end of the link is thus held at any angle in the recess in the front of the coupling-pin, when the cars come together to be coupled the moment that the free end of the link enters the other draw-head the slightest back-pressure will force the link back so as to raise the coupling-pin and let the inner end of the link pass back of it, when the weight of the lever F brings the pin instantly back to its vertical position, thus locking the link in the draw-head and effecting the coupling. The rear side of the coupling-pin is rounded, so as to enable it to be easily swung back and raised to uncouple the link and cars.

When the coupling-pin is raised, it may be secured in that inoperative position by turning under its lever the end of the pivoted catch G, which is pivoted on the top of the draw-head, and the lever and pin may be locked in their lowered positions by turning the shouldered end G′ of the said catch over the top of the lever, as shown in Fig. 1.

To the rear or free end of the weighted lever F is secured the lower end of a spiral

spring, H, to the upper end of which is fastened the lower end of a chain, I, which extends to the top of the car, this chain being formed of open links, any one of which may be caught over a hook, J, at the top of the car. The cars may thus be uncoupled from the top of the car, and the spiral spring is especially valuable, as when making up trains, &c., the operator may, while the couplings are held tight by the cars, raise the chains so as to stretch the springs on one or as many cars as it is desired to uncouple, and then leave them to attend to other matters, and as soon as the cars slacken and the strain is removed from the links the tension of the springs which have been tightened by the operator will raise those levers and pins, and thus automatically uncouple the desired cars. The chains can be raised to any point and the links at that point caught over the hooks J, as will be readily understood.

The couplings may be uncoupled from the sides by means of levers L, centrally pivoted to the ends of the cars, and connected at their inner ends to the vertical chains I, and having at their outer ends open links E', which may be caught over hooks M, to hold these levers down when the cars are not desired to couple. It will be seen that the forward portion of the weighted lever covers to a great extent the opening in which the coupling-pin is pivoted, thus preventing rain and snow from entering the said opening and clogging the working parts of the coupling.

The draw-head is also formed with a vertical slot, N, in its top and bottom, registering with each other, in which a common coupling-pin may be inserted to make the coupling in case my improved pin should accidentally become broken.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my improved car-coupling will be readily understood. It will be seen that the several parts are simple, solid, and strong in construction, dispensing with all complicated mechanism, and that the invention is exceedingly efficient in its operation.

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

1. The combination, with the draw-head having the vertical opening and the transverse opening in its top, and the opening in its bottom surrounded by the concave recess, of the coupling-pin having the recess in its forward side forming the shoulder, and having the weighted lever secured to its upper end, the transverse pivot-bolt, and the pivoted catch, substantially as and for the purpose herein set forth.

2. The combination, with the draw-head having the concaved recess and the opening in its bottom, of the pivoted coupling-pin having the recess in its forward side forming the shoulder, the rounded lower rear side, and having the weighted lever secured to its upper end, the spiral spring, and the chain having the open links adapted to engage a hook at the top of the car, as set forth.

3. The combination, with the draw-head having the vertical top and bottom openings, the concave recess in its bottom, and the transverse opening in its top, of the coupling-pin having the recess in its forward side forming the shoulder, the rounded lower side, and having the weighted lever secured to its upper end, the transverse pivot-bolt, the pivoted catch, the spiral spring, the vertical chain, and the centrally-pivoted levers having the end links, all constructed and arranged to operate substantially in the manner and for the purpose herein set forth.

4. The combination, with the car having a catch, as J, of the coupling-pin having an extension, F, the spring connected with such extension, and the chain connected with the spring and adapted to engage the catch J, substantially as set forth.

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