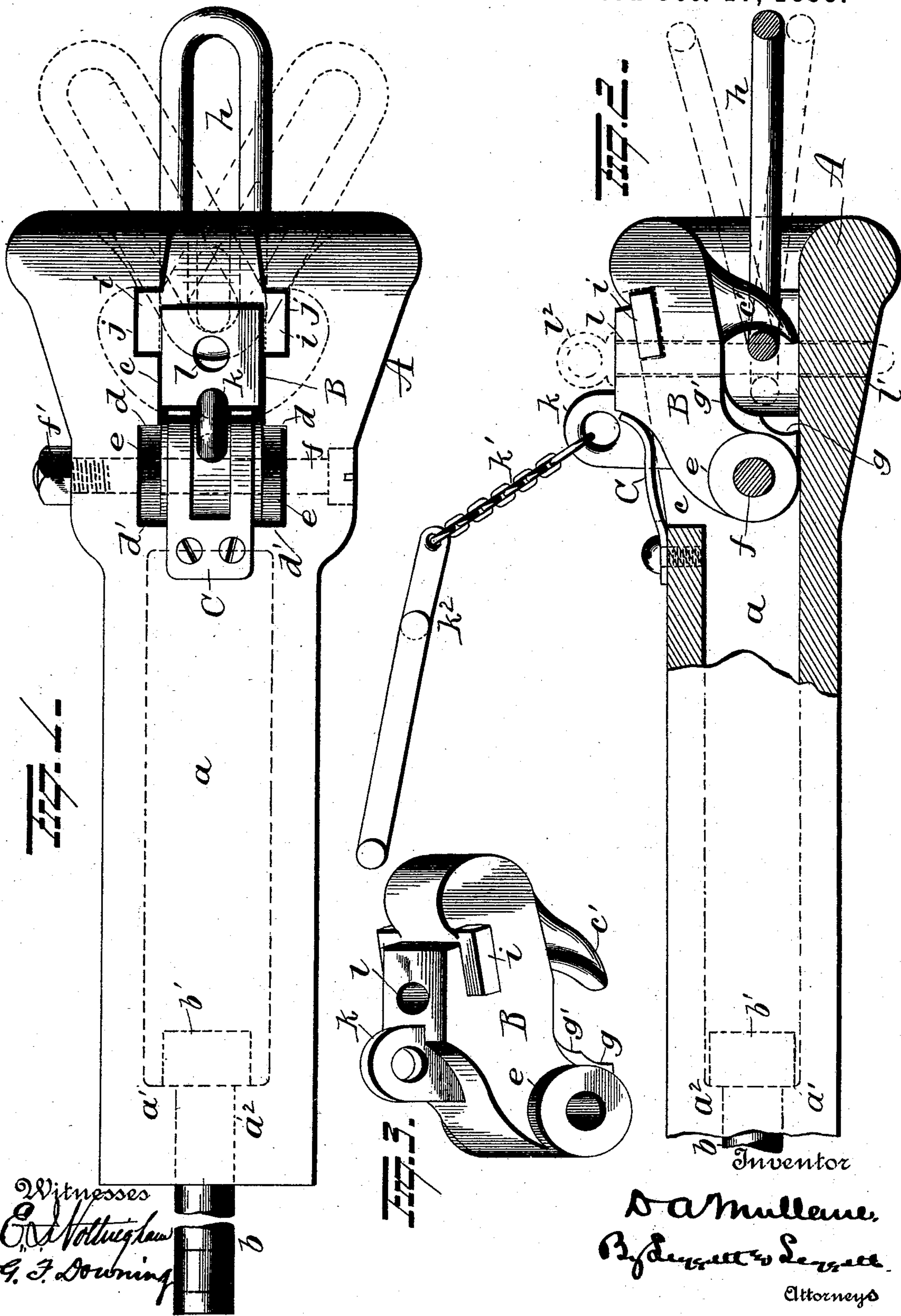


(No Model.)

D. A. MULLANE.
CAR COUPLING.

No. 506,788.

Patented Oct. 17, 1893.



UNITED STATES PATENT OFFICE.

DENIS A. MULLANE, OF NEW ORLEANS, LOUISIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 506,788, dated October 17, 1893.

Application filed May 6, 1893. Serial No. 473,268. (No model.)

To all whom it may concern:

Be it known that I, DENIS A. MULLANE, a resident of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in car couplings.

The object of the invention is to produce a simple and efficient car coupling which will be automatic and sure in its operation.

A further object is to so construct an automatic car coupling that the coupling link cannot accidentally escape therefrom.

A further object is to produce an automatic car coupling which shall be constructed in such manner that it will be capable of withstanding great strain without liability of breaking.

A further object is to produce a car coupling having a pivoted hook catch which shall be so constructed that the pivot of the hook catch will be relieved of undue, or more than its portion of strain.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a plan view illustrating my improvements. Fig. 2 is a longitudinal sectional view. Fig. 3 is a separate view of the hook catch.

A represents a draw-head having an elongated recess *a*, terminating near its rear end in a shoulder *a'* and communicating with an opening *a''*, for the passage of a draw rod *b*, the head *b'* of said draw rod being located within the recess *a* and adapted to abut against the shoulder *a'*. The forward end of the draw head *A* is provided in its upper portion with a recess *c* for the accommodation of a hook catch *B*, the hook proper *c'* being adapted to extend normally to the lower jaw of the draw head as shown in Fig. 2. The rear end of the recess *c* is enlarged to produce curved shoulders *d* and in this enlarged portion of the recess the trunnion *e* at the rear end of

the hook catch *B* is located, said trunnion being adapted to bear against the shoulder *d* when the coupler is in operation, and against a shoulder *d'* in rear of it when a link enters the drawhead in the act of coupling two cars. The trunnion *e* is perforated for the accommodation of a pivot bolt *f* which passes through it and through the walls of the drawhead, one end of said bolt being preferably screw threaded whereby to screw it into the draw head and thus retain it in place, and is preferably provided with a nut *f'*. From this construction and arrangement of parts it will be seen that when the coupler is in use, the strain brought to bear on the hook catch *B* will not come upon the pivot bolt *f* alone, but will be partially taken up by the shoulder *d* and thus the pivot bolt is not depended upon to withstand the entire strain which may be brought to bear on the hook catch when in use. It will also be seen that when a link enters the drawhead and abuts against the hook catch, the shoulder *d'* will prevent undue strain on the pivot bolt.

On the forward portion of the trunnion *e*, below the axis of the same, a seat *g* is located and between said seat and the bottom of the hook catch in rear of the hook proper, is an inclined face *g'*. From this construction it will be seen that when the link *h* enters the draw head and passes the hook proper *c'*, it will strike the inclined face *g'* and by it will be directed to the seat *g* against which it will momentarily bear with some pressure, and said seat being below the axis of the trunnion *e*, the pressure of the link against it will prevent the hook from rising and releasing the link when the same moves forward to engage the hook proper *c'*. The hook catch *B* is provided, preferably near its forward end, with laterally projecting ears or lugs *i* which enter recesses *j* in the draw head, when the device is in use, thus providing an additional means for taking up the strain brought to bear on the hook catch when in use and preventing such strain coming upon the pivot of the said hook catch. Thus it will be seen that the strain brought to bear on the hook catch when the coupling is in use will, in effect, be brought to bear on the draw head at four points, other than the pivot *f* and that the strain on said hook catch when cars are

being coupled will be brought to bear on the draw head at an equal number of points.

To provide an additional means for insuring the retention of the hook catch in its proper working position, a spring C is secured to the draw head A and is preferably bifurcated and made to bear on the curved rear end of the hook catch as shown in Figs. 1 and 2. A perforated lug or ear k projects from the top of the hook catch and is intended for the reception of a chain k' , the other end of said chain being attached to a rock shaft k^2 carried by the car to which the coupling is applied, whereby to raise the hook catch when it is desired to uncouple the cars.

In order to provide means whereby the coupling can be adapted for use with an ordinary coupling pin, should the hook catch B become impaired, I provide said hook catch with a vertical perforation l adapted to align with similar perforations l' in the draw head, for the accommodation of an ordinary coupling pin l^2 .

My improved coupling is automatic in operation, simple, strong and durable in construction and effectual, in every respect, in the performance of its functions.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to limit myself to the precise details of construction herein set forth, but,

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

1. In a car coupling the combination with a draw head having a recess therein, of a hook catch located in said recess, a bolt for pivotally supporting said hook catch, a trunnion carried by said hook catch and shoulders on the draw head against which said trunnion is adapted to bear, substantially as set forth.

2. In a car coupling, the combination with a draw head having a recess, of a hook catch, a trunnion carried by said hook catch, a shoulder on the draw head adjacent to said trunnion, and a pivot bolt passing through said trunnion and drawhead, substantially as set forth.

3. In a car coupling, the combination with a draw head having a recess therein, of a hook

catch located in said recess, a trunnion carried by said hook catch, a shoulder on the draw head adjacent to said trunnion, and a bolt passing through said trunnion and drawhead and adapted at one end to be passed through or be screwed into said draw head, substantially as set forth.

4. In a car coupling, the combination with a draw head having a recess therein, of a pivoted hook catch in said recess, and lugs projecting from said hook catch and adapted to enter seats in the upper end of the drawhead, substantially as set forth.

5. In a car coupling, the combination with a draw head having a recess therein, of a hook catch, a trunnion carried by said hook catch, a shoulder on the draw head adjacent to said trunnion, a pivot bolt passing through said trunnion and draw head, and lugs projecting from said hook catch and adapted to enter seats or recesses in the draw head, substantially as set forth.

6. The combination with a draw-head, of a hook pivoted therein, said hook and floor of the draw-head provided with holes for the reception of a coupling pin, substantially as set forth.

7. In a car coupling, the combination with a draw head having a recess therein, of a hook catch located in said recess and provided with a vertical perforation adapted to align with perforations in the draw head for the reception of a coupling pin, and means for preventing undue strain on the connection of said hook catch with the draw head, substantially as set forth.

8. In a car coupling, the combination with a draw head having a recess therein, of a hook catch pivotally supported in said recess, a seat for the reception of a link, in proximity to the rear end of said hook catch and below the axis thereof, and an inclined face extending from said seat to the bottom face of the hook catch in rear of the hook proper, substantially as set forth.

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

DENIS A. MULLANE.

Witnesses:

M. A. ALLEYN,
M. J. LASKIN.