L. J. LECOCQ.

Car Coupling.

No. 79,664. Patented July 7, 1868.

Fig. 1.

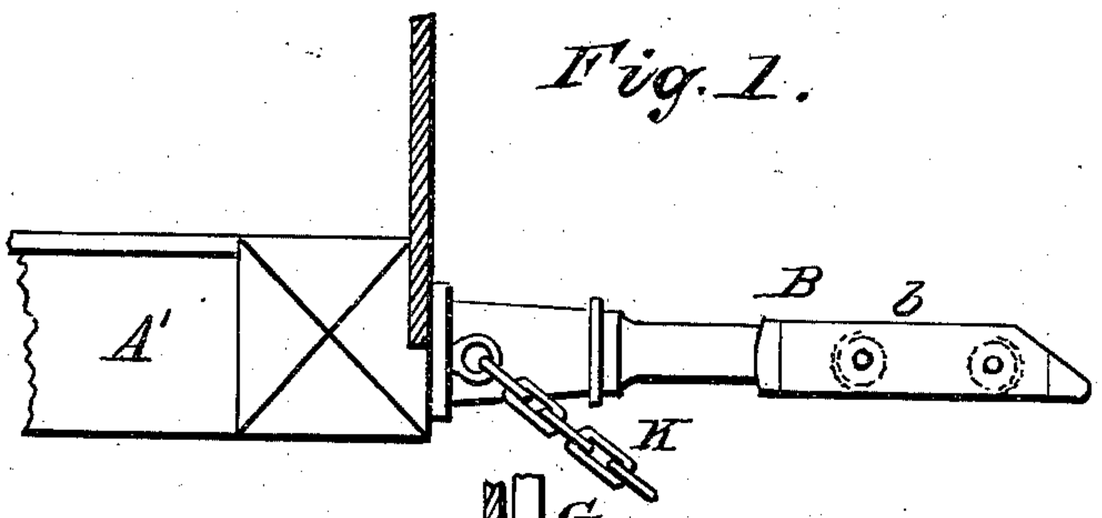


Fig. 2.

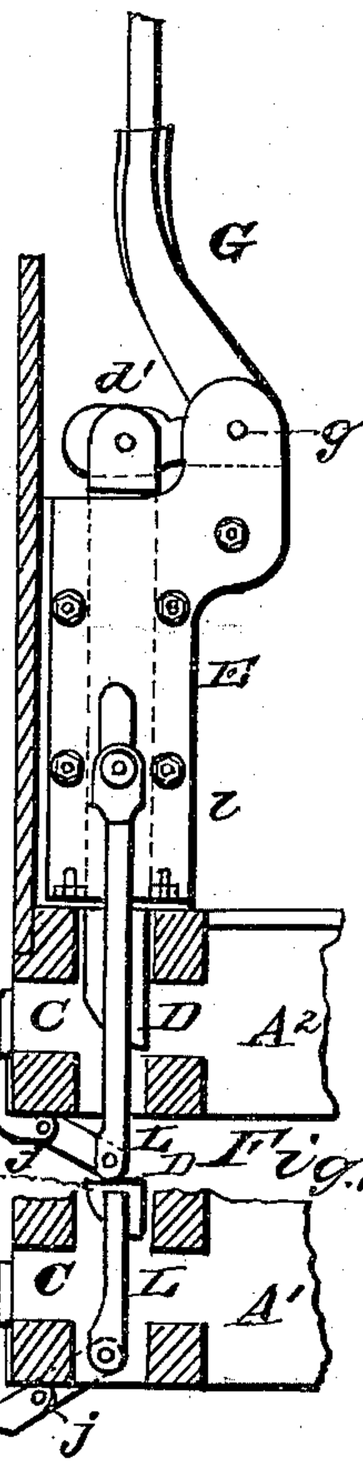


Fig. 2. a.

Fig. 4.

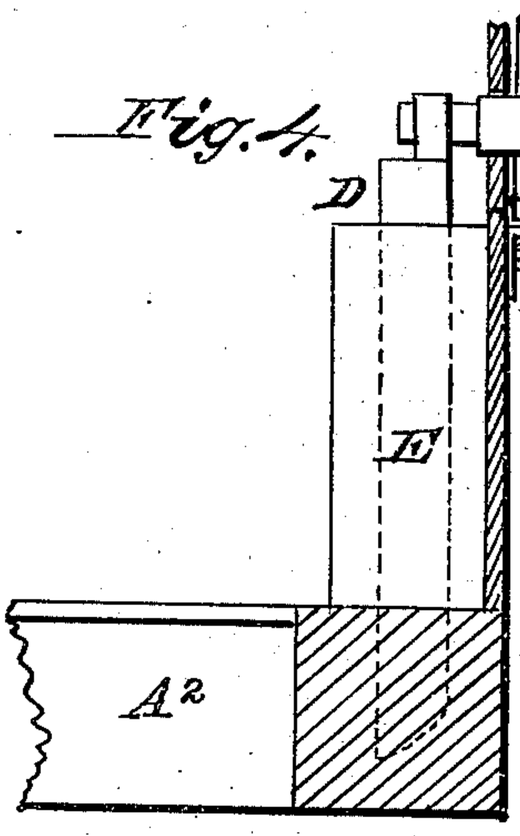


Fig. 5.

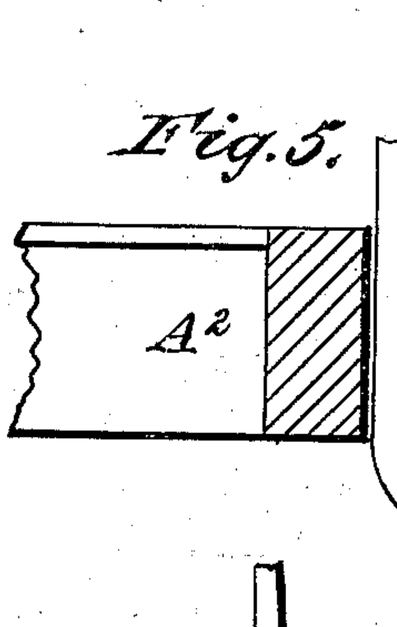
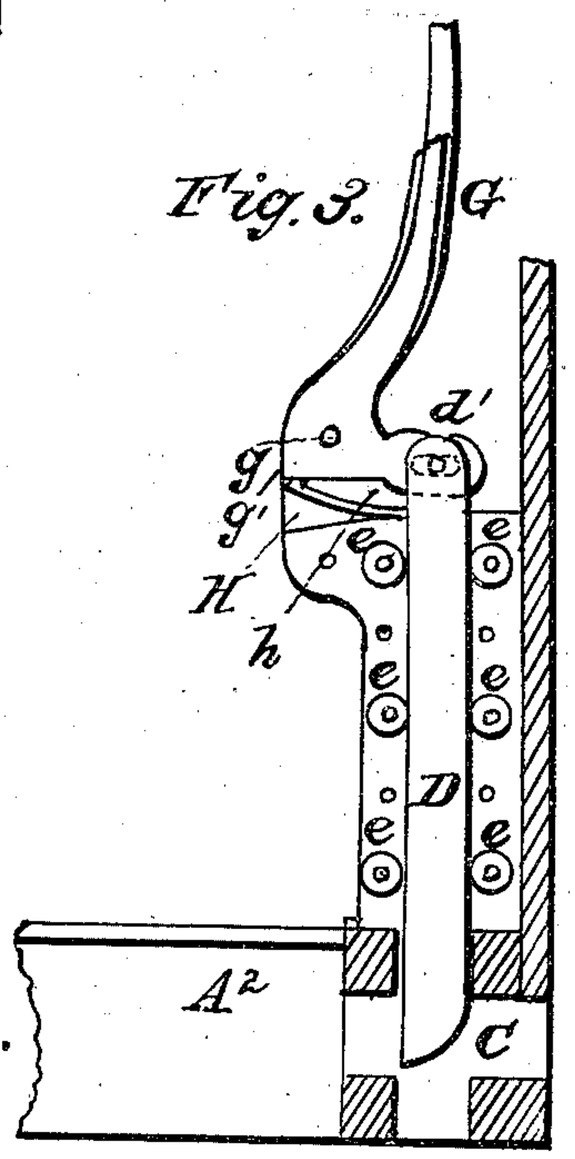


Fig. 3.



Witnesses:
C. C. Langs
F. C. Dey

Inventor:
L. J. Lecocq
by his attorney J. L. Stetson

United States Patent Office.

LOUIS JOSEPH LECOCQ, OF ARGENTEUIL, FRANCE.

Letters Patent No. 79,664, *dated July* 7, 1868.

IMPROVED CAR-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LOUIS JOSEPH LECOCQ, of Argenteuil, of the departement Seine et Oise, in the Empire of France, have invented certain new and useful Improvements in Car-Couplings, which may also be used for attaching other carriages together on railroads and elsewhere; and I do hereby declare that the following is a full and exact description thereof.

I will proceed to describe what I consider the best means of carrying out my invention, and will afterwards designate the points which I believe to be new therein.

The accompanying drawings form a part of this specification.

Figure 1 is a side view of the male part, with a longitudinal section of the parts of the female part which come in contact therewith.

Figure 2 is an elevation of the female part and its connections partly in section.

Figure 3 is a section through these parts in a reversed position.

All these show the parts adjusted for locking.

Figure 3ª is a view of a part of the mechanism when adjusted for disconnecting or unlocking.

Figure 4 shows the locking-bolt and its lever differently constructed, so as to obtain the same end by a movement of the lever G in a plane across instead of lengthwise of the car.

Figure 5 shows a modification of the mode of opening the eyes.

Similar letters of reference indicate like parts or corresponding parts in all the figures.

Tints are employed merely to aid in distinguishing parts, and do not imply differences of material.

The material of all the novel parts may be iron and steel. The bodies of the cars may be wood.

Referring to figs. 1, 2, and 3, the device is composed as follows:

First. A male part on one carriage, and a female part on the other carriage; the male part being bevelled, and the female flared, to adapt them to connect more easily, and the male part being mortised to allow a locking-bolt to enter.

Second. A locking-bolt carried near the female part, and adapted to enter and cross it, so as to take in the mortise in the male part, and hold it strongly, when required, with means for operating said bolt.

Third. Divided eyes for the safety-chains, capable of opening to liberate the chains, with connections therefrom to the locking-bolt, so that the movement of the latter to open the coupling and release the male part will also open the eyes and release the chains.

A^1 is the body of one car, and A^2 is the body of the other. B is the male part of the coupling, attached to the car A^1. It is mortised or perforated, as indicated by *b*. C is the female part of the coupling. It is fixed in the car A^2, which latter carries all the moving parts of the mechanism to which I attach importance.

D is the transverse or locking-bolt. It slides in the housing E, which is provided with anti-friction rolls *e*, to facilitate the movements of the enclosed bolt D.

G is a bent lever, turning on the fixed centre *g*, and taking hold of the pin *a'* on the end of the bolt D, by embracing it in a long hole, as shown, so that it may operate the slide or bolt D without moving it to the front or rear. The other end of the bent lever G may be worked by the hand, either applied directly or through any suitable mechanism. This handle may be pressed constantly in one direction by a suitable spring, or by gravity, or other force, if desired, and, in such case, the force of the hand is only necessary to operate it in the opposite direction; but the hand must, in such case, be applied with sufficient force to overcome the resistance of the bolt D, and also of the spring or gravity. I prefer the employment of a spring in the manner represented, so that it shall serve to hold the lever G and consequently the bolt D in either position, according as it is set by the hand or otherwise in such position.

H is the spring, and *h* is a bolt, which holds it. Its free end is enlarged, and provided with a V-shaped surface or knife-edge, which presses against or near a corner or angle, *g'*, of the lever G, as plainly shown in fig. 3. So long as the bolt G is down in the position shown, the spring H tends to hold it there. It will yield

to allow the bevelled end of the male part B to lift under the bevelled end of the bolt D, when the cars or carriages are forced together to be coupled or connected, and will still act in the same direction, and immediately depress the bolt D and lock the cars firmly; but when, by the force of the hand applied to the free end of the lever G, the lever is turned a little further than the motion just described, the angle *g'* passes the knife-edge on the spring H, and then the spring immediately acts to hold the bolt D up. In this condition the cars may be thrown together with any force desired, without causing the couplings to connect. In short, my spring H, as arranged relatively to the other parts, makes the coupling capable of being transformed, by a single movement of the hand applied to a convenient handle, G, from a self-acting coupling to one which is not self-acting, and, by an equally simple movement in the opposite direction, it may be transformed back again.

In the condition indicated in figs. 2 and 3, it is a self-acting coupling; in the condition indicated in fig. 3, it is not.

I I is a stout hook, with the point downward, which forms the upper half of an eye to hold the safety-chains K. There are two of these safety-chains, one on each side of the coupling, but only one is represented. These chains extend from one car to the other, to hold the cars together in case of accident to the coupling. The lower half of the eye is formed by the lever J, which is hinged at *j*, and is connected at its opposite end to the locking-bolt D by two connections L, one on each side of the bolt. These connections are secured to the sides of the bolt by pins *l*, which, as the bolt moves up and down in the housing E, traverse in slots provided as represented.

The coupling having been joined, as described, and the safety-chains attached to the eyes I J by hooks, as usual, they serve, as usual, so long as desired; but, when it is desired to disconnect the cars, it is not necessary to unhook the safety-chains, because the movement of the lever G, to raise the bolt D and release the coupling, at the same time opens the eyes I J by lowering the lower part, and, at the same instant that the male part B is released from its locking-bolt D, the chains K are released, and the cars are entirely disconnected.

Some parts of my invention may be used without other parts, though with less advantage, and various modifications of the construction may be devised, which will be somewhat effective. Some modifications or improvements will, perhaps, be made by others, based on my original invention, or some part thereof herein described. I do not wish to confine my claim to the details arranged precisely as herein shown.

I have shown two modifications in figs. 4 and 5, which seem to me to possess some merit.

In fig. 4, the lever G takes hold of and operates the bolt D as in figs. 2 and 3, except that it works in a different plane. In fig. 5, the lever moves to and from the eye of the observer, while in figs. 2 and 3 it works to the right and left.

In fig. 5, the eye is opened and closed by raising and lowering the bolt D, not represented, being in this respect the same as that above described; but the fixed part of the eye is not a hook, and the part which is opened and closed is not a lever. The fixed part is in the form of two brackets, I^1 I^2, and the lever, operated as in fig. 2, raises and lowers the hook-shaped bolt J' to confine and release the safety-chains. The effect of both these modifications is nearly the same as the construction before described.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. I claim the parts B and C, and the locking-bolt D, the spring H, and angle *g'* on the bearing-part G, all constructed, combined, and operated substantially as described, as and for the purposes specified.

2. I claim the compound eyes I J, connected to and opened and closed by the motion of the locking-bolt D of the coupling, so as to confine the safety-chains K so long as the coupling is connected, and to liberate the safety-chains simultaneously with the attachment of the coupling, substantially as and for the purposes herein specified.

In testimony whereof, I have hereunto set my name in presence of two subscribing witnesses.

L. LECOCQ.

Witnesses:

A. SIMONNEF,

G. BARRAL.