(No Model.)

H. W. JOHNSTONE.

CAR COUPLING.

No. 344,658. Patented June 29, 1886.

Fig. 1.

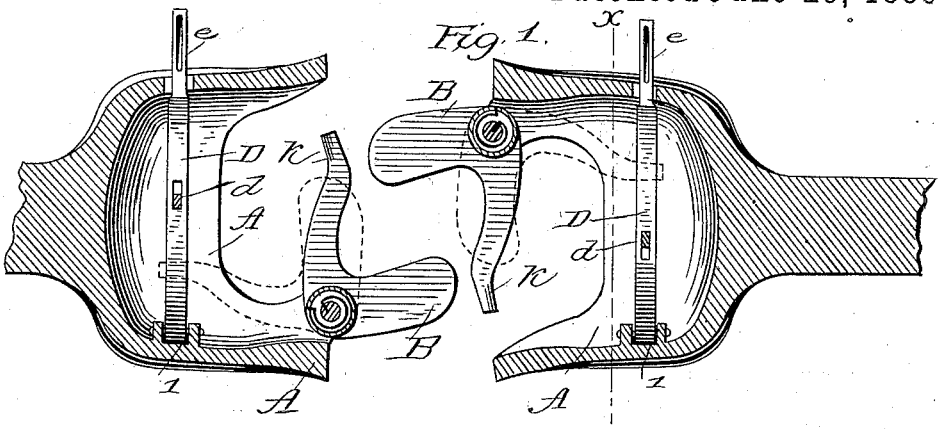


Fig. 4.

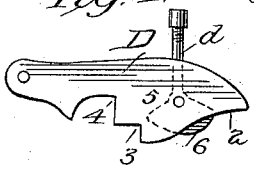


Fig. 2.

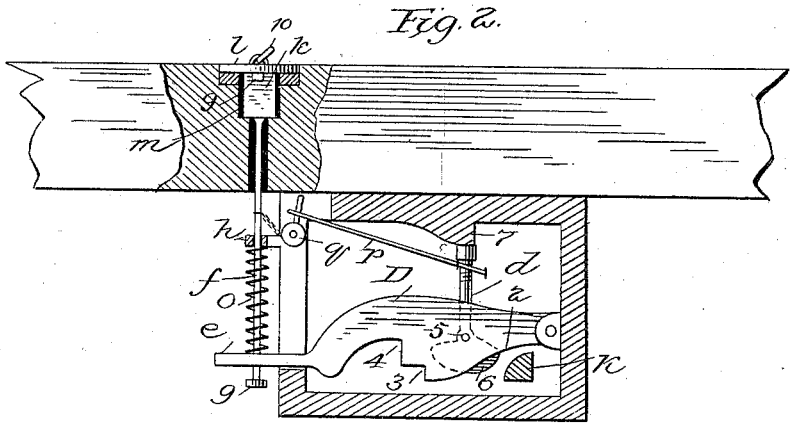
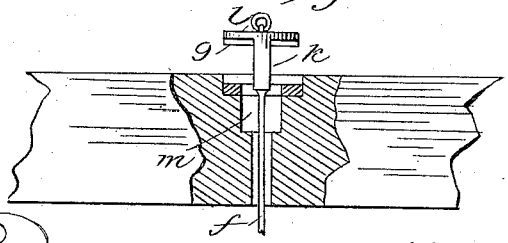


Fig. 3.



Attest
Walter Malcolm
F. L. Middleton

Inventor
Huger W. Johnstone
by Joyce & Spear
Attys.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

HUGER W. JOHNSTONE, OF IDLEWILD, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No 344,658, dated June 29, 1886.

Application filed October 23, 1885. Serial No. 180,756. (No model.)

To all whom it may concern:

Be it known that I, HUGER W. JOHNSTONE, of Idlewild, in the county of Gordon and State of Georgia, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to car-couplings of that class in which pivoted knuckles with the locking-tongue are carried in the end of the draw-bar, and in coupling swing to interlock with the mate on the end of the opposite draw-bar.

The invention consists in the special form of lock for the tongue of the knuckle, and of means combined with this lock for holding and operating it.

The object of this device is to lock the coupling-knuckles in their place, so as to prevent any liability of displacement by the jarring motion of the train, and, further, to provide means to readily uncouple the simple construction and adapt it to the platform of the passenger-car. These devices are illustrated in the accompanying drawings, in which--

Figure 1 shows a sectional plan view of the draw-head and knuckle. Fig. 2 is a transverse section on line *x x* of Fig. 1, showing the rod and hand connection for moving the lock. Fig. 3 is a sectional detail view. Fig. 4 shows the locking-piece used in the left-hand draw-head.

In the drawings, A represents the draw-head, and B the knuckle pivoted therein. In the cavity of the draw-head, and across the rear face thereof, is arranged the lock D, pivoted at 1. It is formed with an incline face, 2, under which the incline side of the tongue K passes on its way to lock, and lifts the locking-piece D so as to pass into the first notch, 3. This notch is provided for the purpose of catching the tongue when the coupling is effected upon the groove. The tongue passes through the second notch, 4, which causes a full lock when the train is drawn out on a straight line, so the locking-piece D is pivoted to drop freely by gravity, and its own weight tends to move it in place and keep it in place. On the locking-piece is pivoted a dog, *d*, which is pivoted at 5, and below the pivot is a weight, 6, which tends to hold the upper end of the dog under the shoulder 7, and when the dog is under the shoulder the lock is held down. The weight of the lower end tends to hold the upper end under this shoulder. The upper end is provided with a cap, 8, threaded upon the end, so as to be adjustable and to regulate its length. The weighted end 6 may project below the incline surface of the locking-piece D, so that as the tongue K swings underneath it strikes the lower end of the dog first and throws the upper end out from the shoulder 7, allowing the locking-piece to rise. From the free end of the locking-piece extends an arm, *e*, through the slotted end of which projects the rod *f* having a head, *g*. The rod extends up through the guide *h*, and through the front beam of the car-frame. On the upper end of this rod is a plate, *k*, forming a bar-like extension of the rod, and fixed horizontally upon its upper end is a disk, *l*, with a rib, 9, on its under face at right angles to the plate *k*. The plate *k* fits down into a socket, *m*, countersunk in the upper face on the platform, and at right angles to the slot in the plate is a groove adapted to receive the rib 9. A spring, *o*, is slipped onto the rod *f*, between the arm *e* and the guide *h*, so as to keep the locking-piece D pressed down; but the locking-piece may rise when the cars couple automatically without removing the rod, the arm on the locking-piece sliding up on the rod against the force of the spring.

In order to uncouple the cars, I lift the rods by means of the ring 10 in the plate on the upper end of the bar, which raises the locking-piece D away from the tongue K, and the rod is held up by giving it a half-turn. After the bar *k* is removed from the socket which brings the lower end of the car in line with the transverse groove, in this groove it rests and is held, and thus sustains the locking-piece D and leaves the car ready to be drawn apart at any time.

In order that the dog may be removed by the lifting of the rod before it acts upon the locking-piece D they extend to the lower end of the rod, a little below the arm *e*, when the upper end is in place, so as to give it when lifted a little lost motion, and I connect the rod to a bell-crank lever, *q*, and rod *p*, the end of the latter being attached to the dog *d* at its upper end, whereby the first motion of the rod pushes the dog aside from the shoulder. This construction is especially adapted to passen-

ger-cars, as it leaves the platform unobstructed. The plate of the upper surface being countersunk, so as to leave the whole, when the ring is drawn down, flush with the platform of the car.

I do not confine myself to the special construction of the bell-crank lever *q* and rod *p*, as other equivalent connections may be provided.

I provide coiled springs around the pivot of the knuckle—one at the upper and the other at the lower part—these springs being suitably secured in position, and adapted to throw open the coupler when released from the gravity-dog.

I am aware that it is not new to form car-couplings with twin jaws adapted to interlock and to be held in position by locking mechanism; and do not therefore broadly claim this as my invention.

I claim as my invention—

1. In a car coupling, knuckles B at points diagonally opposite, and having tongues *k*, a lever, D, pivoted within the rear cavity of the draw-head at one side thereof, and having lifting mechanism at its opposite end, the said lever having a locking-notch on its under surface adapted to receive and hold the tongue of the knuckle, substantially as described.

2. In combination with the tongue K of the knuckle and the locking-piece D, having an inclined face, the pivoted dog *d*, adapted to be swung aside from the shoulder 7 by the tongue K, the whole being combined with the lifting mechanism connected with the dog, substantially as described.

3. In combination with the arm *e* of the locking piece D, the lifting-rod and spring, and the plate, the bar on its upper end fitted to the socket set in the platform, said bar being adapted to be turned and fitted to the groove in the plate of the socket, substantially as described.

4. Combined with the lifting-rod and the dog *d*, the bell-crank lever *q* and rod *p*.

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

HUGER W. JOHNSTONE.

Witnesses:
J. B. THOMPSON,
F. L. MIDDLETON.