(No Model.)

F. VON GARN.

CAR COUPLING.

No. 484,419. Patented Oct. 18, 1892.

Fig. 1.

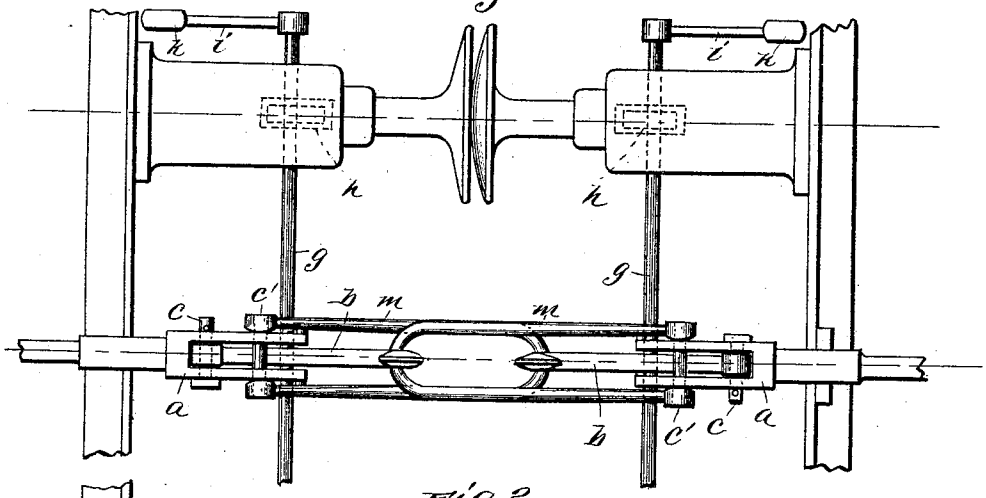


Fig. 2.

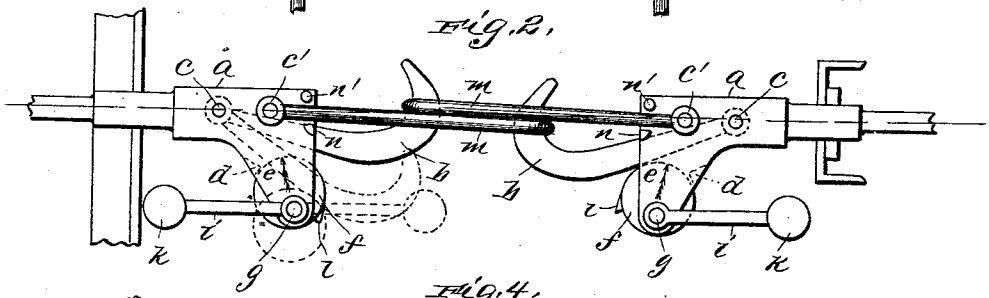


Fig. 4.

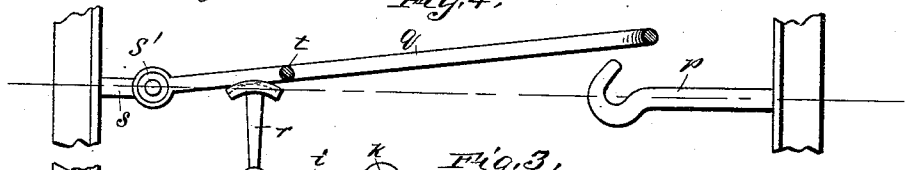
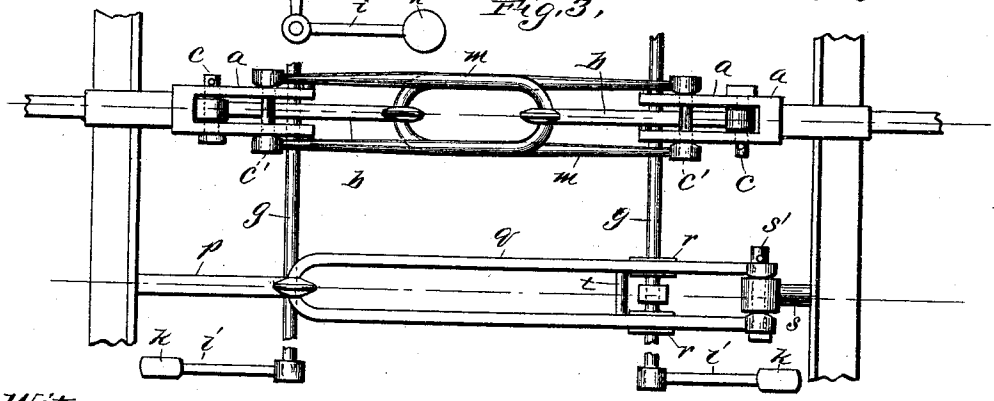
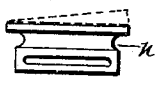


Fig. 3.



Witnesses:
R. Harpich.
G. Fischer.



Inventor:
Franz von Garn
by Robert Dressler
Attorney.

UNITED STATES PATENT OFFICE.

FRANZ VON GARN, OF COLOGNE, GERMANY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 484,419, dated October 18, 1892.

Application filed September 9, 1891. Serial No. 405,237. (No model.)

To all whom it may concern:

Be it known that I, FRANZ VON GARN, a subject of the King of Prussia, German Emperor, and a resident of Cologne, in the Province of the Rhine, German Empire, have invented new and useful Improvements in Couplings for Railway-Cars, of which the following is a specification.

The object of my invention is to diminish the danger which arises when men have to creep in between two cars for sake of connecting or disconnecting the same. I obtain this object by arranging the coupling in such a manner as to enable the engaging or disengaging from the side of the cars.

In order to make my invention well understood, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the different views, and in which—

Figure 1 is a plan of my improved car-coupling. Fig. 2 is an elevation of the same. Fig. 3 is a plan of my improved car-coupling in combination with an auxiliary coupling, and Fig. 4 is an elevation of the latter.

The draw-hook, which is usually integral with the draw-bar, is replaced by a bifurcated draw-head *a*, having a pin *c*, on which hangs loosely the draw-hook *b* between its bifurcations. When lowered, the hook rests on the cross-piece *d*, forming part of the draw-head. The raising of the hook is accomplished by the cam or eccentric *f*, being arranged, also, between the bifurcations of the draw-head below the hook and keyed unto the horizontal cross-bar *g*. The cross-bar *g* extends throughout the breadth of the car, has its bearings *h* below the buffers, and is furnished within handy reach of anybody standing on the side with an arm *i*, carrying on its end a counterweight *k*. Weight *k* and cam *f* stand at right angles to each other, so that when the arm *i* is horizontal the point *e* will either be the lowest or highest. By turning the counterweight *k* forward the cam will be brought round to its lowest position, wherein it will be held by its tooth *l*, bearing against the solid cross-piece *d*. Thereby the draw-hook *b* is released and allowed to lower. When turning the counter-weight *k* back again, the cam raises the hook again and is itself held by the cross-piece *d*, which prevents a further lowering of the weight. The second member of the coupling is the loop-link *m*, which is pivotally attached to the draw-head by the pin *c'*. Noses *n* and *n'*, being fixed to the draw-head, prevent the loop-link from being raised or lowered too much. The link is beveled at its point in order to allow two such links of different cars to pass each other and thus prevent them from colliding. Now when it is required to couple two cars the hooks of both are lowered and then the cars are brought nearer together until the hook of one car comes within the range of the loop of the other. At this moment the hooks are raised again and the coupling is complete. The manipulation may all be done outside by merely turning the arm *i* in either direction. The length of the loop-links *m* may be different on goods or passenger trains, according to the application of the buffers.

Should it be required to make use of auxiliary couplings when the above-described double coupling is not thought safe enough, chains may be employed such as illustrated by Figs. 3 and 4. The loop *q*, being hinged to the car by the pin *s'*, is adapted to engage with the hook *p* of the next car. Somewhat above the cross-bar *g* the loop is provided with a turnable joint, means, however, being provided to prevent an upward bending out of the same. The cross-bar *g* is provided below the loop *q* with a bifurcated arm *r*, having curved heads with grooves to suit the shape of the loop *q*. This arm *s* will be lowered when the cam *f* is raised. When it is required to disconnect the cars, the bar *g* is turned in such a manner that the arm *r* is brought upright. The said grooves of the latter catch up the loop *q*, stretch the same at its joint *t*, and lift it out of the hook *p*. When coupling the cars, the arms will be lowered down, releasing the loop *q*, which sinks down upon the neck of the hook *p*, shortens by the joint *t* bending down, and thereby enters the hook itself.

Having thus fully described the nature of my said invention, what I desire to secure by Letters Patent of the United States is—

1. The combination, with the bifurcated draw-head *a*, having a hook *b* pivotally attached thereto and provided with a cross-piece *d*, of a cross-bar *g*, operated from the

side of the car by means of the arm *i*, provided with counter-weight *k*, the cam *f*, mounted on the cross-bar *g* and provided with a tooth *l*, adapted to collide with the cross-piece *d*, said cam *f* being arranged so as to lift and lower the hook *b*, and the loop-link *m*, engaging with the hook *b* of the adjacent car, substantially as and for the purpose described.

2. The combination, with a main coupling having a cross-bar *g*, by which the same may be governed from the side of the car, of an auxiliary coupling consisting of a hook *p*, a loop *q*, and a bifurcated arm *r*, mounted on the cross-bar *g* of the main coupling and adapted to lift and lower the loop *k* out of or into engagement with the hook *p*, as set forth.

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

FRANZ VON GARN.

Witnesses:
A. LOHMANN,
H. A. MAXWELL.