

(No Model.)

2 Sheets—Sheet 1.

F. C. BARKER & G. W. S. AUSTIN.
CAR COUPLING.

No. 553,224.

Patented Jan. 21, 1896.

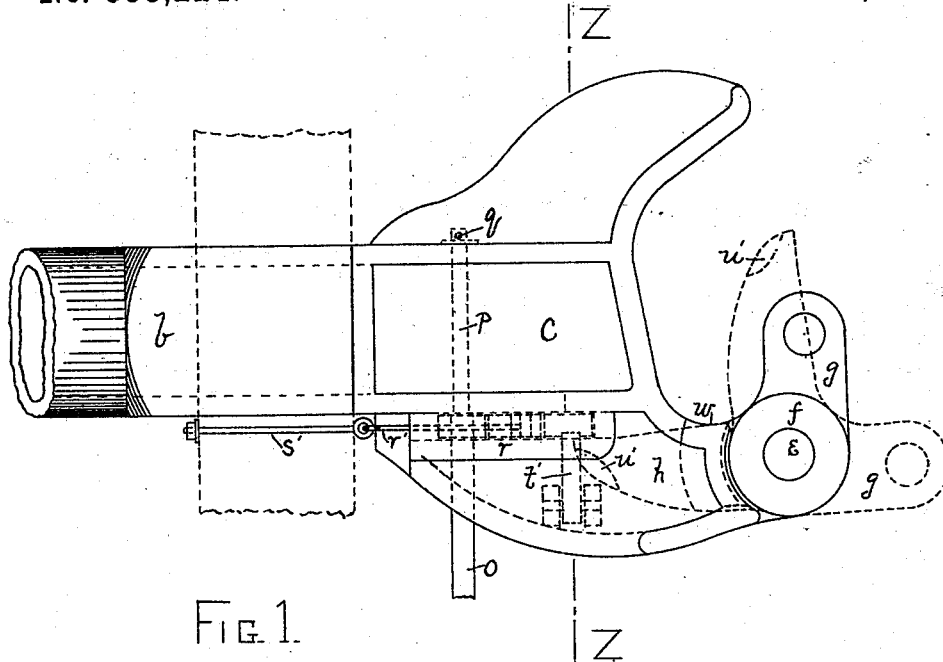


FIG. 1.

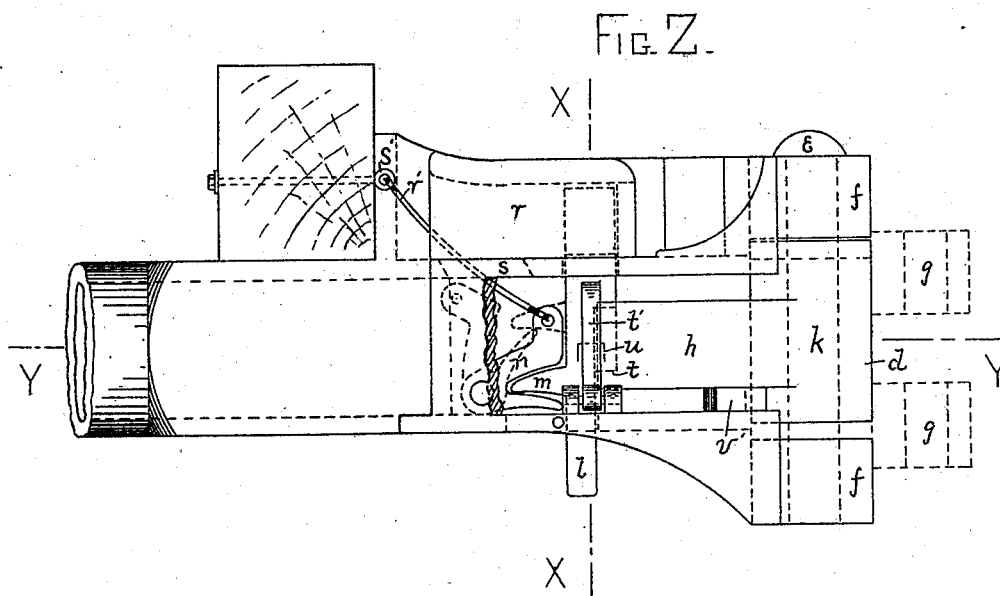


FIG. 2.

WITNESSES

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INVENTORS

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by C. D. Huggins, atty. George W. S. Austin

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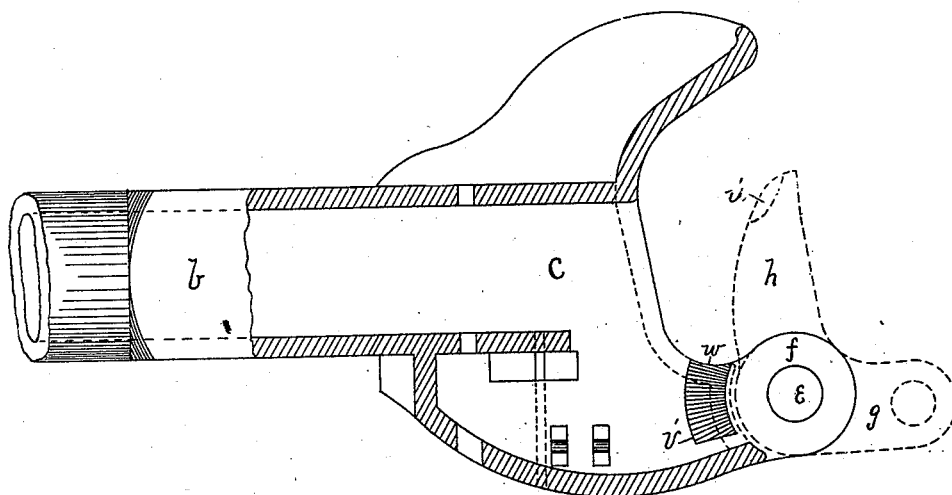


FIG. 3.

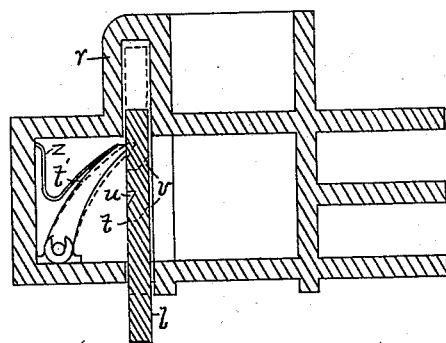


FIG. 4.

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UNITED STATES PATENT OFFICE.

FRANK C. BARKER, OF COLUMBUS, AND GEORGE W. S. AUSTIN, OF KENTON,
OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 553,224, dated January 21, 1896.

Application filed October 9, 1895. Serial No. 565,195. (No model.)

To all whom it may concern:

Be it known that we, FRANK C. BARKER, residing at Columbus, in the county of Franklin, and GEORGE W. S. AUSTIN, residing at Kenton, in the county of Hardin, State of Ohio, citizens of the United States, have invented a new and useful Improvement in Car Couplers and Uncouplers, of which the following is a specification.

Our invention relates to an improvement in automatic car couplers and uncouplers, by which the manipulation of coupling and uncoupling cars may be so controlled that the dangers to life and limbs and to the destruction of property may be reduced to a minimum.

Besides providing a modified and improved method of automatically coupling cars, it is further designed to provide means by which in the common event of a draw-head breaking loose from its anchorage the two cars at that point will automatically uncouple before the loose draw-head has been drawn from its guides and prevent it from falling to the track. It is a matter of common observation and experience that in accidents of this kind where couplers of this general type are used the draw-head after breaking loose and drawing out of the guide-timbers falls to the track and, because of its large size, breaks all of the brake-beams which pass over it, or causes the derailment of cars, resulting in a destructive wreck.

The mechanism with which we accomplish the results thus far and hereinafter described is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view; Fig. 2, an elevation; Fig. 3, a horizontal section on the line *y y*, and Fig. 4 a vertical cross-section on the line *z z* of Fig. 1 and the line *x x* of Fig. 2. In this view the dog *t'* is shown in elevation, although it is in the sectional plane.

Similar letters refer to similar parts throughout the several views.

The letter *a* refers to a car-coupler which in general form and construction will be of the type illustrated, the profile of the outer end of which will conform to the lines adopted by the Master Car-Builders, and includes as essential features the draw-bar *b* terminating

in the head *c* in which is pivoted the jaw *d* by means of the pin *e* passing through the hub of the jaw *d* and the bosses *f* of the head *c*.

The jaw *d* comprises the bosses *g* and the arm *h*, both integral with the hub *k*, and in the coupled position the arm *h* engages with the pin *l*, which has the projecting tooth *m* on its back which engages with the cam *n*, which is pivoted on the rod *o*, one end of which terminates in a brake-handle at the side of the car, while the other end *p* is reduced in diameter back to the point where it passes through the cam *n*, at which point it is made square to engage in a square hole in said cam *n* and converts into a collar at the junction of the square portion with the end of larger diameter. The end *p* of the rod *o* after passing through the cam *n* continues through the neck of the draw-bar and is held in position by the key *q*. The pin *l* and cam *n* are protected from the interference of snow and ice by the cap *r*, the back end of which is open for the passage of the trip-chain *s*, which is attached to the upper end of the cam *n* and passes through the opening *s* to the eyebolts.

In the process of uncoupling the rod *o* is rotated until the cam *n* has elevated the pin *l* to a point where its shoulder *t* will clear the end of the arm *h*, at which point the jaw *d* will rotate and release. When the pin *l* has been thus elevated to the position for uncoupling it is held in the elevated position by the dog *t'*, which is actuated by the spring *z*, the end of which engages in the notch *u* in the side of the pin *l*. The object in holding the pin *l* in an elevated position while uncoupled is to overcome the necessity of striking the cars together violently in coupling to overcome the friction of elevating the pin *l* through a long travel, as is the case in many couplers of this class. When the arm *h* is thrown back in the act of coupling the beveled surface *u'* will strike the beveled surface *v* of the shoulder *t* and elevate the pin *l* sufficiently to release the dog *t'* and at the same time the back of the arm *h* strikes the dog *t'* and throws it back out of the notch *u* and allows the pin *l* to drop and lock.

On the upper side of the lower boss *f* and cast integral with it is the inclined surface *v'* attenuating toward the point *w* and con-

centric with the pin *e*. The hub *k* of the jaw *d* is shorter than the distance between the two bosses *f*, permitting it to travel up and down on the pin *e* as the arm *h* rides up and down on the inclined surface *v'*.

The function of the inclined surface *v'* is to throw the jaw *d* open by gravity as soon as uncoupled and cause it to assume the position indicated by the dotted lines, thus avoiding the necessity of going between cars to hold the jaw *d* open, as is frequently necessary when a car is standing on a curve where the incline of the track causes the car to lean to one side and the jaw to swing to nearly a closed position by its own gravity.

The process of uncoupling automatically in case of the accidental breaking of the anchorage of the draw-bar is accomplished by the chain *r'*, which is provided with sufficient slack so as not to interfere with the usual service coupling and uncoupling, but which slack is taken up as soon as a broken draw-head has been drawn a few inches from its anchorage, at which point the chain *r'* throws the cam *n* and uncouples the head and holds the draw-bar from being drawn out of its guide-timbers and falling to the track to cause a wreck or other damage.

The foregoing sections of this specification are intended to fully cover the technical construction and operation of our invention, and the points claimed therein, and which we wish protected by Letters Patent, are as follows:

1. In a car coupler of substantially the form shown, the combination of the draw-bar *b* terminating in the head *c*, forming a part of which are the bosses *f*, in which is pivoted by means of the pin *e* the jaw *d*, having the hub *k*, bosses *g*, arm *h*, and the beveled surface *u'*, the beveled surface *v*, the locking pin *l* having the tooth *m*, shoulder *t*, beveled surface *v*, and the notch *u*, in which engages the pivoted dog *t'* actuated by the spring *z*, the lock operating rod *o* operating the cam *n*, the trip chain *r'*, the eye bolt *s'*, the slot *s*, and the casing *r*, substantially as shown and specified.

2. In a car coupler of substantially the form

shown, the combination of the draw-bar *b* terminating in the head *c*, having the bosses *f* in which is pivoted the jaw *d*, having the bosses *g*, arm *h*, and the beveled surface *u*, the beveled surface *v'*, the locking pin *l*, having the tooth *m*, shoulder *t*, and notch *u*, in which engages the pivoted dog *t'*, the lock operating rod *o* operating the cam *n*, the chain *r'*, the eye bolt *s'*, slot *s*, and casing *r*, substantially as shown for purposes stated.

3. In a car coupler of substantially the form shown, the combination of the draw bar *b* terminating in the head *c* in which is pivoted the jaw *d*, the beveled surface *v'*, the locking pin *l* having the tooth *m*, the shoulder *t*, beveled surface *v*, and the notch *u* the pivoted dog *t'*, engaging therein, the lock operating rod *o* operating the cam *n*, the trip chain *r'*, and the eye bolt *s'*, substantially as set forth.

4. In a car coupler of substantially the form shown the combination of the jaw *d*, the locking pin *l* having the tooth *m*, the shoulder *t*, the beveled surface *v*, and the notch *u* in which engages the pivoted dog *t'*, the lock operating rod *o* operating the cam *n*, and the trip chain *r'*, substantially as shown for purposes stated.

5. In a car coupler of substantially the form shown, the combination of the locking pin *l* having the tooth *m*, the shoulder *t*, the beveled surface *v*, and the notch *u*, in which engages the pivoted dog *t'* actuated by the spring *z*, the lock operating rod *o* operating the cam *n*, and the trip chain *r'*, substantially as shown and described.

6. In a car coupler of substantially the form shown, the combination of the locking pin *l* having the tooth *m*, the shoulder *t*, and the beveled surface *v*, the lock operating bar *o* operating the cam *n*, the trip chain *r'*, and the eye bolt *s'*, substantially as shown and described.

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Witnesses:

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