No. 619,881. Patented Feb. 21, 1899.

T. FILDES.

CAR COUPLING.

(Application filed Jan. 19, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

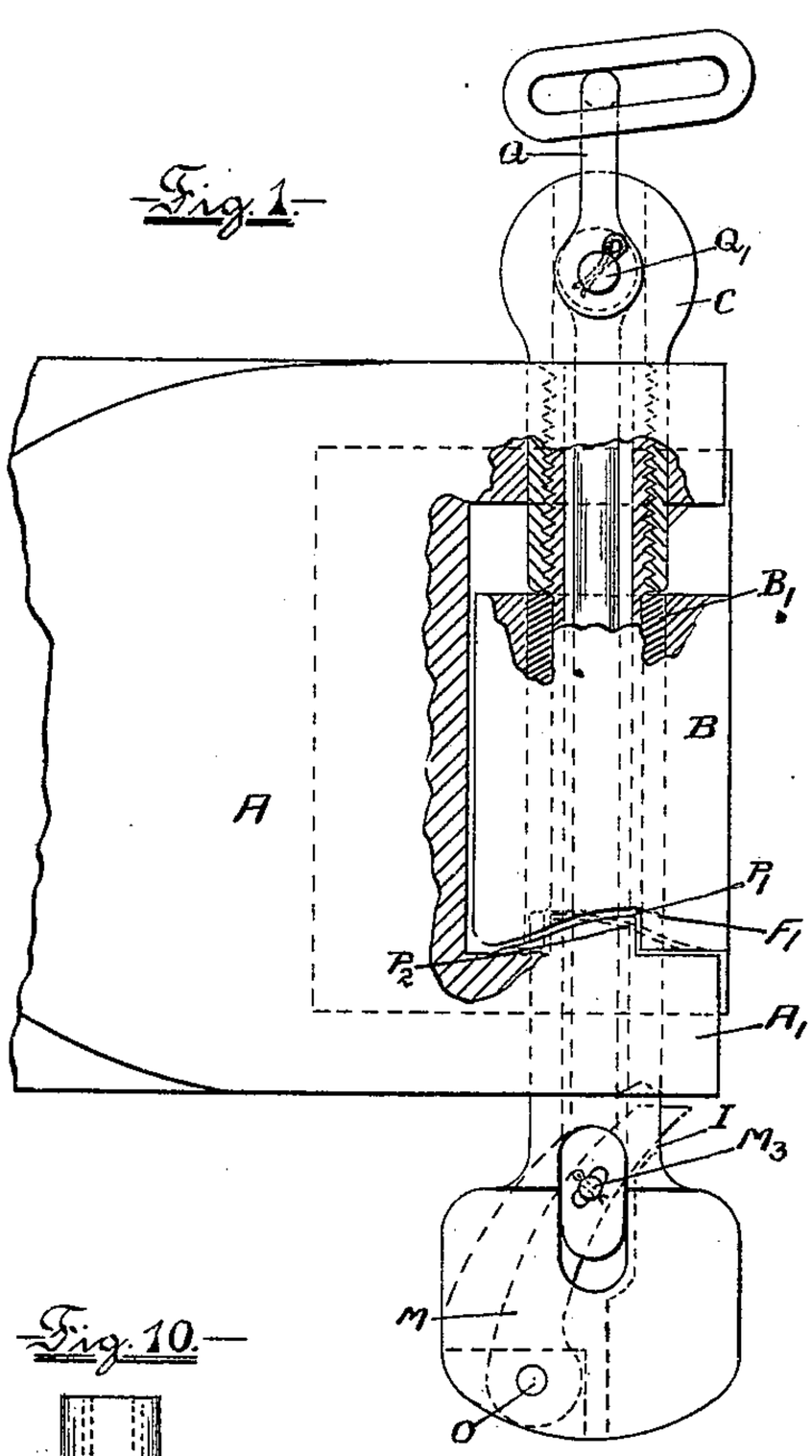


Fig. 2.

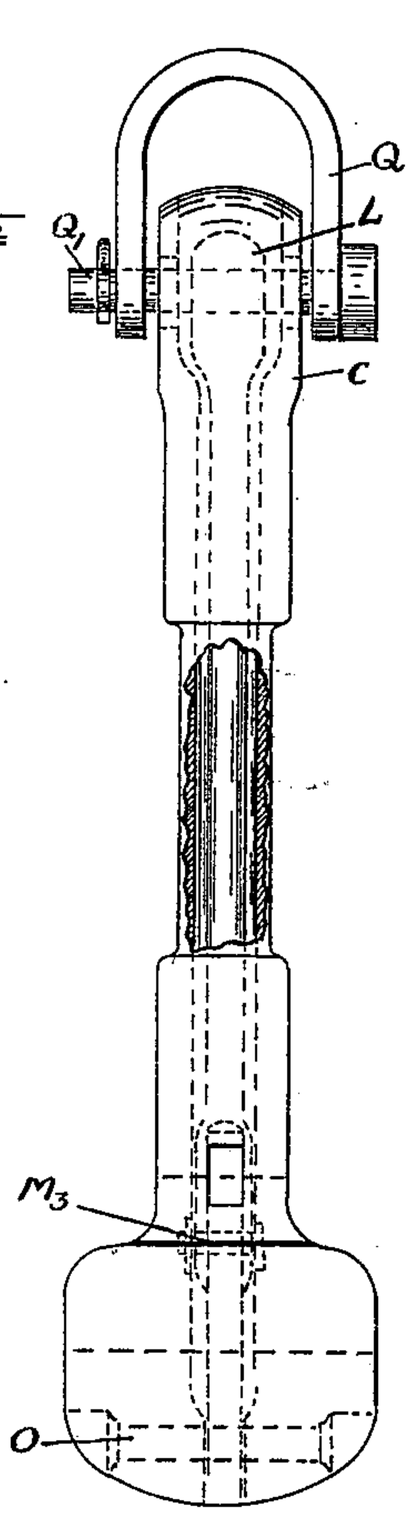


Fig. 10.

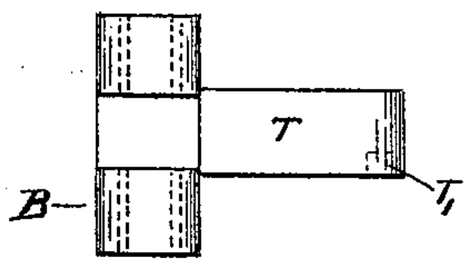


Fig. 11.

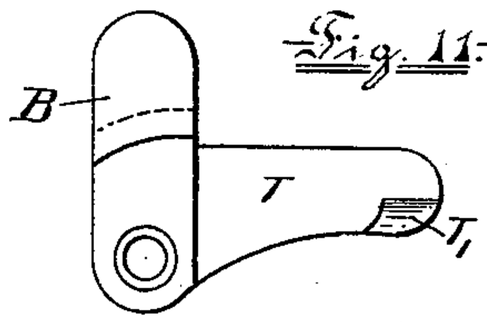
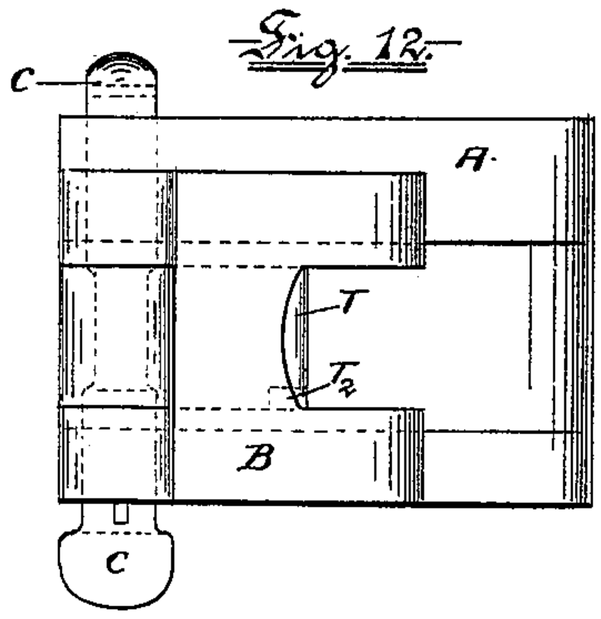


Fig. 12.



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T. FILDES.

CAR COUPLING.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

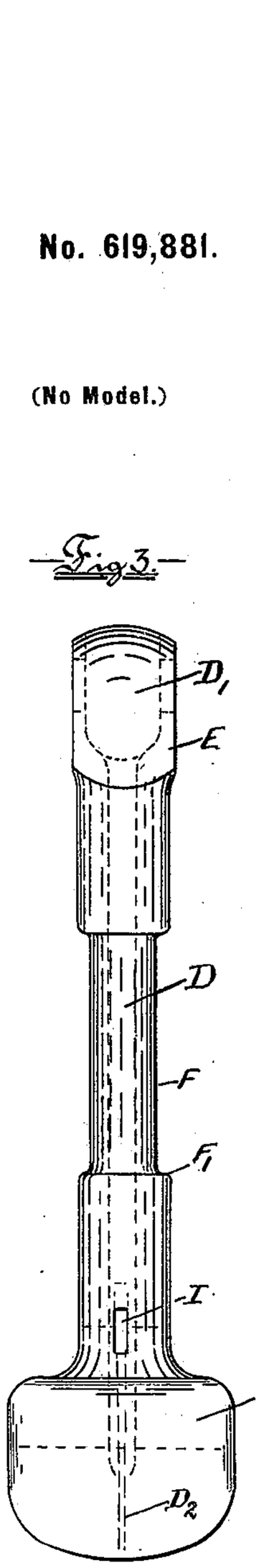


Fig. 4.

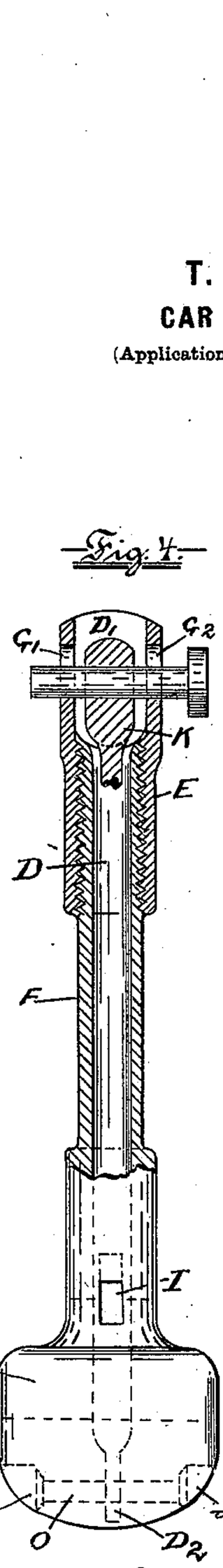


Fig. 5.

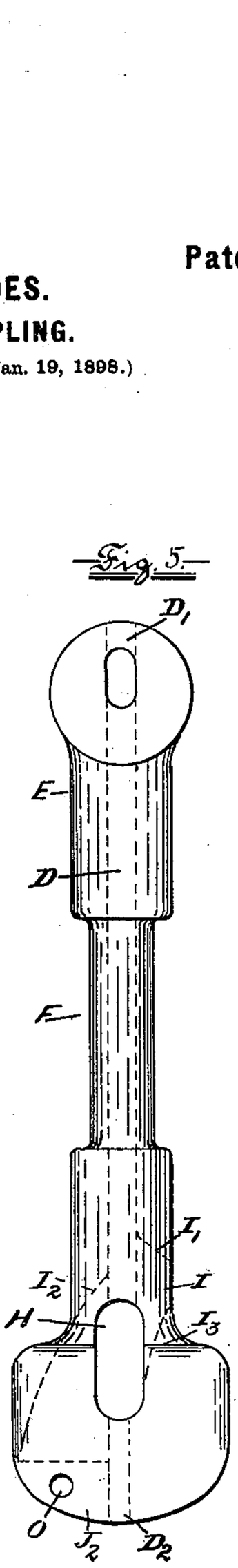


Fig. 7.

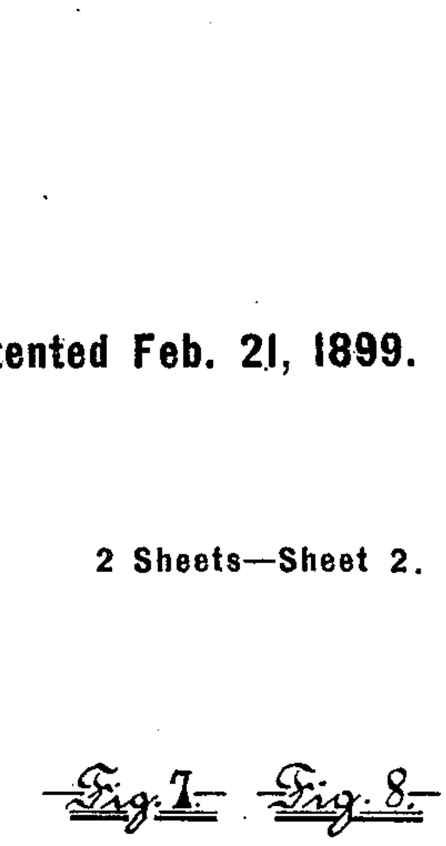


Fig. 8.

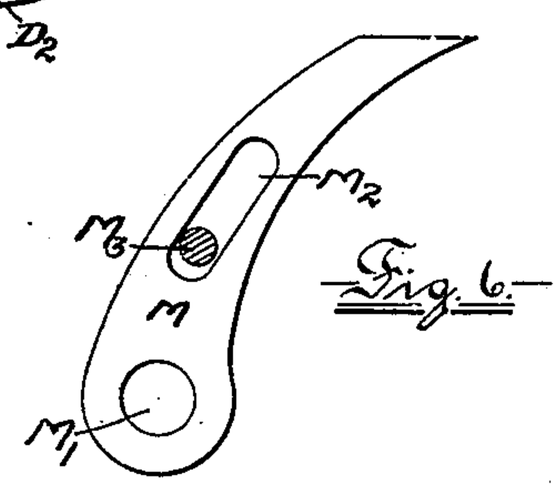
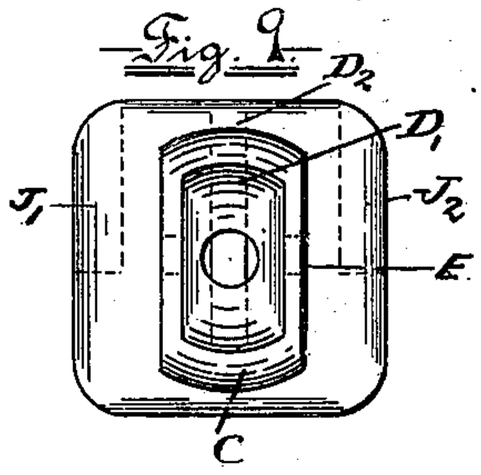


Fig. 9.



Witnesses—

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Inventor

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by his attorney—

August M. Fries & Son.

UNITED STATES PATENT OFFICE.

THOMAS FILDES, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 619,881, dated February 21, 1899.

Application filed January 19, 1898. Serial No. 667,139. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FILDES, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to furnishing improved means for locking a car-coupler.

One objection to the existing automatic-car-coupling devices is that there is no assurance that the coupler is locked until a strain is put upon it inasmuch as the locking means are on the inside of the coupler-head and consequently out of sight. It has therefore been one of the objects of my invention to construct a knuckle that would give external evidence that it was locked, and in addition thereto I have improved the knuckle-pin so that it, jointly with the knuckle, forms a double locking system.

In describing my invention I refer to the accompanying drawings, wherein like letters of reference indicate corresponding parts in the different views.

Figure 1 shows a side view of my improved coupler with parts broken off and shown in section to illustrate my idea more clearly; Fig. 2, a detail view of the knuckle-elevating pin, shown in a side view at an angle of ninety degrees to the view in Fig. 1, showing the internal locking-pin; Fig. 3, the knuckle-elevating pin; Fig. 4, the same view of the knuckle-elevating pin as in Fig. 3, with the upper part shown in section; Fig. 5, a side view shown at an angle of ninety degrees to the views in Figs. 3 and 4; Fig. 6, the double-locking pin; Fig. 7, a detail view of the internal locking-rod; Fig. 8, a side view of Fig. 7 at an angle of ninety degrees; Fig. 9, a top view of Fig. 4. Fig. 10 is a detail view of the knuckle, showing an indent cut out in the tongue thereof. Fig. 11 is a bottom view of the knuckle, and Fig. 12 is a front view of the coupler and knuckle in the locked position.

In Fig. 1, A indicates the main body of the coupler, B the knuckle, and C the knuckle-pin. This knuckle-pin, which hereinafter will be called the "external" knuckle-pin, is best seen in Figs. 3, 4, and 5, and is, as a matter of fact, the real knuckle-pin on which the knuckle B hinges and around which it pivots and is furnished with an internal core D throughout its entire length, broadening at D′ and narrowing down at D^2. It is constructed in two parts, the upper part E internally screw cut to fit around the externally-screw-cut part of the lower part F, as seen in the sectional cut in Fig. 4. The upper part E has two holes G and G′, whose function will appear later on in the description. An oblong slot H is cut crosswise through the lower part F, which slot of course will intersect the central core D, and an aperture I (see Fig. 4) is furnished in one side of said knuckle-pin, which is continued through the lower part F. (Indicated by the dotted lines I′, I^2, and I^3, as seen in Fig. 5.) Two recesses J′ and J^2 are furnished in the lower part F, having a hole O piercing the knuckle-pin in the same direction as the slot H.

The middle and narrowest part of the lower part F of the knuckle-pin lies in the knuckle, and the knuckle is furnished with a bushing B′ to take up the wear and strain in the hinge relation which exists between the knuckle and the pin. Passing through the central core D is the rod K, (shown in detail in Figs. 8 and 9,) which rod has two prongs K′ and K^2 at the bottom and at the top a head L, said head L resting when in position in the recess D′ in the top part E of the knuckle-pin.

Pivoted in the hole O of the bottom part F of the knuckle-pin is what I call the "double-locking" pin M, (illustrated in Fig. 6,) said pin having a hole M′, through which the pivot passes, and is furnished with an oblong slot M^2, through which slot passes a pin M^3, said pin M^3 being secured in the two arms K′ and K^2 of the rod K.

The knuckle-locking means mentioned in my preamble as appertaining to the knuckle

itself I shall now describe. The lower lug A′ of the couple A is furnished with two or, if necessary, more what might be termed "cam-teeth" P′ and P², resembling the teeth in an ordinary friction-clutch. Corresponding to these teeth in the lower lug of the coupler are recesses in the knuckle. It will now be understood that if an attempt were made to unlock the coupler—that is, to swing the knuckle outward—this would be impossible, as the teeth P′ and P² rest in their corresponding recesses; but if the knuckle be elevated sufficiently for the recesses in the knuckle to clear the teeth then the knuckle will swing outward. This elevating of the knuckle is performed by the knuckle-pin C proper by reason of the lower part F having the enlarged part F′ inserted in a cavity in the knuckle. The direct agent of the elevating of both knuckle B and knuckle-pin C is the internal rod K. This rod K has at the top, as seen in Fig. 1, pivoted to it a handle Q by a pin Q′ and has secured between its two prongs K′ and K², by means of pin M³, the double-locking pin M. This pin M is, as above described, stationarily pivoted in the hole O in the lower part F of the knuckle-pin by a pivot. If now the handle Q be grasped and elevated, the pin M³ will slide upward in the slot M², thus bringing the locking-pin M in an approximately vertical position, enough to make it clear the bottom surface of the coupler and disappear inside of the contour line of the knuckle-pin, so that when the pin M³ has reached the top of the slot M² it will commence to elevate the knuckle-pin C until the knuckle bottom is lifted above teeth P′ and P², when it can be swung outward.

When the knuckle is to be closed, it is simply swung back again, and as the lower edges of the knuckle will be sliding on the inclined surfaces of the teeth on the lower lug the double-locking pin M will, on account of the obliqueness of its position, incline outward and appear underneath the bottom lug, as in Fig. 1, and will thus, if any upward movement on the part of the knuckle-pin caused by a jerk should occur, prevent said pin from being thrown upward, which pin, with its shoulder resting on the top of the knuckle, will in turn prevent the knuckle from rising enough to clear the cam-teeth on the lower lug of the coupler and permitting the coupler to open.

In addition to the cam-teeth and recesses already shown at the knuckle-pin the knuckle-tongue T can also be furnished with a recess T′, into which recess a corresponding cam-tooth T² is fitted, said tooth T² being cast on or otherwise attached to the coupler at the point in the coupler where the tongue of the coupler passes in being closed. This tooth and recess will of course act precisely as the other cam device, so that as soon as the knuckle is lifted and swung outward the recess will be elevated above the tooth and permit the act of unlocking. This latter device will naturally prove itself an additional security in the locking means and can of course be placed at the most convenient point between the knuckle and the coupler.

The following results will then be seen to have been gained by my invention: First, by the tooth-and-recess construction between the lower lug of the coupler and the knuckle and the knuckle-tongue and inside of coupler the knuckle becomes self-locking, and, secondly, the knuckle-pin has by my improved means become double security against the risk of the knuckle by a jolt or jerk of the train springing out of its locking means by my improved double-locking pin locking the knuckle-pin to the under side of the coupler.

What I in accordance with the above description consequently claim, and desire to protect by Letters Patent of the United States, is—

1. The combination in a car-coupler of a self-locking knuckle, vertically-faced teeth and corresponding recesses furnished between the lower surface of the knuckle and the lower lug of the main body of the coupler, a circular recess formed in the knuckle coöperating with an offset on the hollow locking-pin, with means for preventing accidental unlocking of said coupler substantially as described.

2. The combination in a car-coupler of a self-locking knuckle, the main body of said coupler having a lower lug fitted with locking means and coöperating with the knuckle a hollow knuckle-pin consisting of two parts screwed together resting on the knuckle, a locking-rod passing through the hollow knuckle-pin and supported therein and being bifurcated at its lower extremity, with a locking-pin slidingly attached thereto for the purposes as set forth substantially as described.

3. In the combination in a car-coupler between the self-locking knuckle furnished with one or more recesses, and the lower lug of the main body of the coupler having teeth fitting into said knuckle-recesses, a knuckle-pin secured in the upper and lower lugs of the main body, resting on the knuckle and having said knuckle pivotally attached to it, an elevating-rod passing through the knuckle-pin and supported therein, an obliquely-pivoted locking-pin slidingly secured to the end of said elevating-rod for the purposes as set forth, substantially as illustrated and described.

4. In the combination in a car-coupler between a self-locking knuckle furnished with one or more recesses, having a bushing fitted in the knuckle-pin hole, and the lower lug of the main body of the coupler having teeth fitting into said knuckle-recesses; a knuckle-pin constructed of two parts, an upper, hollow, screw-cut head supporting a locking-pin-ele-

vating rod, a lower hollow part, screw-cut to fit the upper part, a locking-pin pivoted obliquely in the end of said lower part furnished with an oblong slot, an elevating-rod bifurcated at the lower end and supporting a pin in said bifurcated end which moves in an oblong slot of the locking-pin, substantially as illustrated and described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of January, A. D. 1898.

THOS. FILDES.

Witnesses:
F. P. COLLIER,
SOL ROSENBLATT.