

No. 652,717.

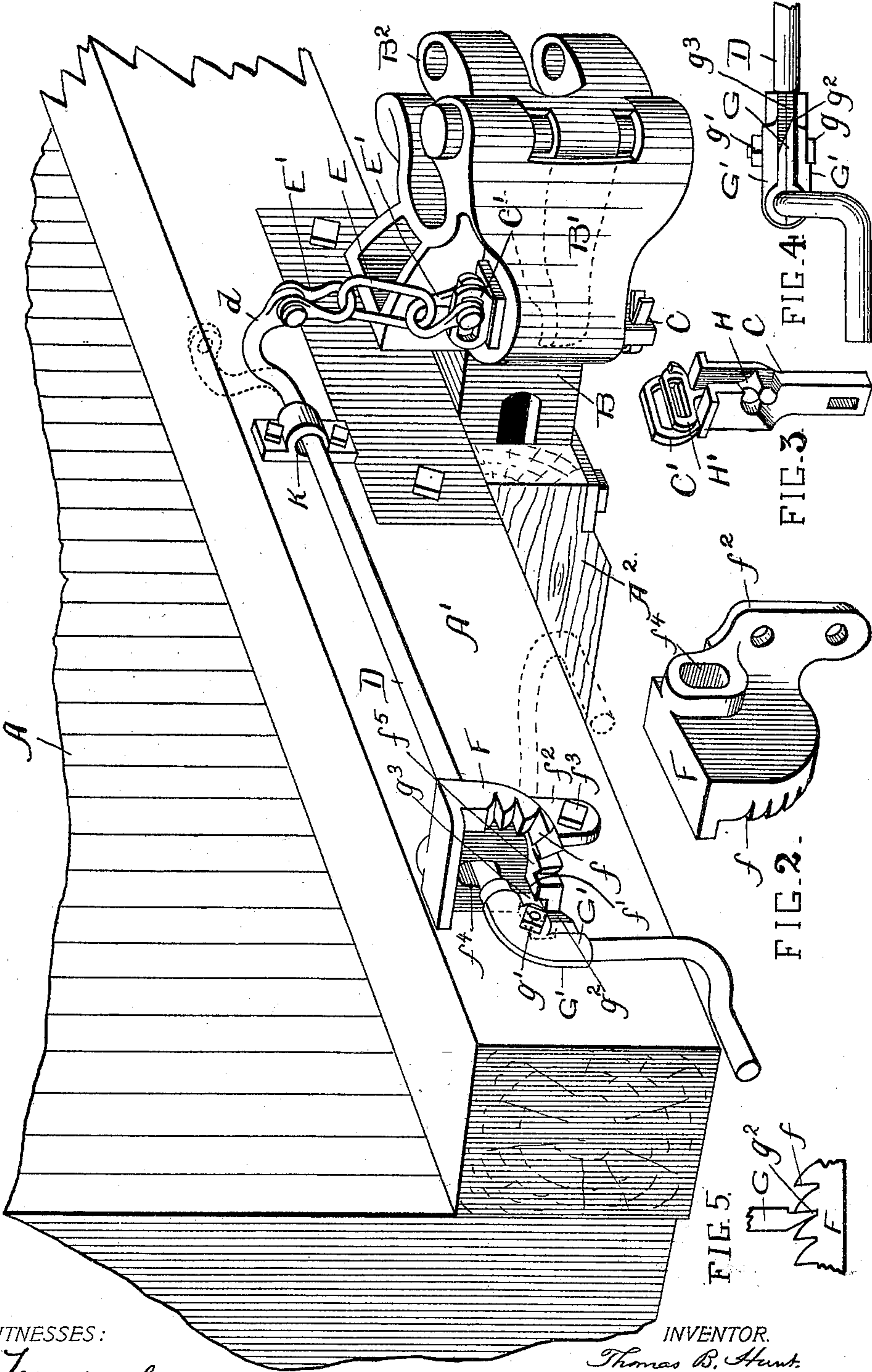
Patented June 26, 1900.

T. B. HUNT.
CAR COUPLING.

(Application filed Feb. 26, 1900.)

(No Model.)

FIG. 1.



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 652,717, dated June 26, 1900.

Application filed February 26, 1900. Serial No. 6,489. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. HUNT, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

My invention relates to improvements in car-couplers, and more particularly to mechanism for lifting the lock and retaining it in its elevated position until the knuckle opens by the separation of the cars.

Heretofore the long bent lifting-lever or rock-shaft has had its inner arm connected with the lock by a loose link or short length of chain to permit the draw-bar of the coupler to move in and out, as required, as the springs of the draft-rigging compress or expand, and after the lifting-lever is turned to raise the lock to its elevated position necessary to uncouple the cars it is given a longitudinal movement to cause it to engage a fixed stop, which prevents its turning back, and thus holds the lock in its elevated position; but frequently the long bent lever or rock-shaft becomes bent or twisted or the chain worn or stretched or the parts otherwise got out of adjustment by reason of some violent strain upon the draw-bar or lifting-lever, so that the lifting-lever will not raise or hold the locking pin or block high enough to permit the knuckle of the coupler to open, and thus occasioning great difficulty and annoyance.

The object of my invention is to provide a device of a simple, efficient, and durable construction by means of which this and other difficulties heretofore experienced in the practical operation of car-couplers in coupling and uncoupling the cars of a train, in switching cars, or making up trains may be entirely avoided.

With this object in view my invention consists, in combination with a car-coupler of any ordinary Master Car-Builders' type and having a locking pin or block, of a bent lifting-lever or rock-shaft having a lifting-arm connected with the locking pin or block and an operating arm or handle, of a curved bracket or segment furnished with a series of notches or teeth and secured to the end sill of the car, and a latch secured to the lifting-lever or

rock-shaft at the bend therein and adapted to engage the teeth of the bracket or quadrant when the bent lifting-lever or rock-shaft is slipped longitudinally or reciprocated. The toothed bracket or segment is also provided with a shoulder on its inner face for holding the bent lifting-lever or rock-shaft in its normal position.

My improvement further consists in providing the locking pin or block with a slotted head, the slot extending in the direction of the length of the car to give greater play or freedom of movement in the loose link or chain connection between the lifting-arm and the locking pin or block, and thus diminish the danger of extreme movement of the coupler in or out from putting strain upon the lifting-lever or its connections. This additional play also tends to prevent all liability of the lifting-lever getting out of adjustment or failing to operate. In my invention, by reason of the series of teeth on the notched segment or bracket, I secure a great margin of movement to the lifting-arm, and can thus turn the lifting-lever to any extent required to suit varying conditions.

In the accompanying drawings, which form a part of this specification and in which similar letters of reference indicate like parts throughout all the views, Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is a perspective view of the notched segment or quadrant. Fig. 3 is perspective view of the locking pin or block. Fig. 4 is a bottom view of a portion of the bent lifting-lever or rock-shaft, showing the latch secured thereto; and Fig. 5 is a detail view showing the preferred shape of the teeth of the segment.

In the drawings, A represents a car, or one end thereof; A', the end sill; A², the draft-timber; B, the draw-bar; B', the coupler-head; B², the knuckle, and C the locking pin or block of the coupler.

D is the long bent lifting-lever or rock-shaft, having a lifting-arm *d*, connected by the loose link E and clevises E' E' with the slotted head C' of the locking pin or block.

F is a bracket or segment furnished with a series of teeth *f* on its outer or notched face and with a shoulder *f'* on its inner or smooth curved face.

G is a latch or pawl having a two-part clamp or socket $G' G'$, embracing and secured to the bent lifting-lever D, at the bend therein, forming the handle-arm, the two parts of the clamp being secured together and to the lifting-lever by a threaded bolt and nut $g g'$. The pawl or latch G has two operative edges at right angles to each other—one, g^2 , to engage the series of teeth f , and the other, g^3 , to engage the shoulder f' on the inner face of the curved segment or quadrant F. The curved bracket or quadrant F is provided with a flange f^2 , which fits against the end sill of the car and through which pass the bolts f^3 , which secure it to the car. The notched segment F is further provided with an oblong opening or slot f^4 to serve as a bearing for the long bent lifting-lever or rock-shaft D.

The lifting pin or block C is preferably furnished with the customary movable trigger or catch H, which by engaging the shoulder in the draw-head prevents the locking-pin from jumping or moving upward except when raised through the lifting-lever. The pin of the clevis passes through this trigger H and withdraws it from its engagement with the shoulder in the coupler-head before it begins to raise the locking-pin, and I therefore provide the trigger with a slotted head H' , corresponding to the slotted head of the locking pin or block itself and for the same purpose.

K is the bearing or bracket for the inner end of the lever.

The lifting-lever is adapted to slide in its bearings sufficiently to engage and disengage the latch or pawl from the teeth f of the notched segment or quadrant, and the slotted opening f^4 in the segment or bracket F for the lifting-lever to pass through enables the handle end of the lifting-lever to be raised sufficiently to cause the latch or pawl to clear the shoulder f' of the segment or quadrant, and thus permit the lifting-lever to be turned or rotated, so as to raise the lifting pin or block. The double or two-edged latch G, cooperating with the double or two-faced segment F, by the longitudinal or reciprocating movement of the lifting-lever or rock-shaft D, is thrown in or out of engagement with the series of teeth f of the segment, and by the up-and-down movement of the handle end of said rock-shaft D (which is permitted by the slot f^4 in segment F) said latch G is thrown in or out of engagement with the shoulder f' on the other or inner face of the segment F. When the handle-arm of the lifting-lever D is raised sufficiently to cause the pawl edge g^3 to clear the shoulder f' , it may then be rotated to raise the locking-pin C, and during this rotary movement the pawl g^3 rides on the inner curved smooth face f^5 of the segment F.

The latch G is preferably secured to the lifting-lever or rock-shaft D at or near the handle or bend therein; but my invention is of course not confined to this particular construction; nor is it essential that the two op-

erative edges of the pawl should be made in a single piece, although this is the preferable construction, and the same also applies to the two operative faces of the segment F.

The meeting faces of the teeth f and latch g^3 are preferably slightly undercut or inclined to give somewhat of a hook action thereto, and thus prevent accidental disengagement of the same.

I claim—

1. In a car-coupler, the combination with a locking pin or block of a rotating and reciprocating bent lifting-lever or rock-shaft, having a lifting-arm connected with the locking-pin and a handle-arm and provided with a double or two-edged latch or pawl, and a curved bracket or segment having a series of teeth on one face to engage one edge of said latch to hold the lever in different elevated positions, and a shoulder on its inner face engaging the other edge of said latch to hold the lifting-lever in its normal position when the cars are coupled, substantially as specified.

2. In a car-coupler, the combination with a locking pin or block of a rotating and reciprocating bent lifting-lever or rock-shaft, having a lifting-arm connected with the locking-pin and a handle-arm, and provided with a double or two-edged latch or pawl, and a curved bracket or segment having a series of teeth on one face to engage one edge of said latch to hold the lever in different elevated positions, and a shoulder on its inner face engaging the other edge of said latch to hold the lifting-lever in its normal position when the cars are coupled, said lifting pin or block having a slotted head, substantially as specified.

3. In a car-coupler, the combination with a locking pin or block of a rotating and reciprocating bent lifting-lever or rock-shaft, having a lifting-arm connected with the locking-pin and a handle-arm and provided with a double or two-edged latch or pawl, and a curved bracket or segment having a series of teeth on one face to engage one edge of said latch to hold the lever in different elevated positions, and a shoulder on its inner face engaging the other edge of said latch to hold the lifting-lever in its normal position when the cars are coupled, said lifting pin or block having a slotted head, and being provided with a movable trigger having also a slotted head, substantially as specified.

4. In a car-coupler, the combination with a locking pin or block of a rotating and reciprocating bent lifting-lever or rock-shaft, having a lifting-arm connected with the locking-pin, and a handle-arm provided at its bend with a double or two-edged latch or pawl, and a curved bracket or segment having a series of teeth on one face to engage one edge of said latch to hold the lever in different elevated positions, and a shoulder on its inner face engaging the other edge of said latch to hold the lifting-lever in its normal position when the cars are coupled, said

segment or quadrant having an oblong opening or slot for the lifting-lever to pass through to enable the handle end of the lifting-lever to be raised sufficiently to cause the horizontal edge of said pawl to clear the shoulder on the inner face of said segment, substantially as specified.

5. In a car-coupler, the combination with a locking pin or block of a rotating and reciprocating bent lifting-lever or rock-shaft, having a lifting-arm connected with the locking-pin, and a handle-arm provided at its bend with a double or two-edged latch or pawl, and a curved bracket or segment having a series of teeth on one face to engage one edge of said latch to hold the lever in different elevated positions, and a shoulder on its inner face engaging the other edge of said latch to hold the lifting-lever in its normal position when the cars are coupled, said latch

or pawl having a two-part socket or clamp embracing the bend in said lifting-lever, substantially as specified.

6. In a car-coupler, the combination with a locking pin or block of a bent lifting-lever or rock-shaft having a lifting-arm loosely connected with said locking pin or block, a pawl or latch secured to said rock-shaft, and a bracket or segment provided with a series of teeth adapted to be engaged by said pawl or latch to hold said rock-shaft with its lifting-arm in different elevated positions, and a shoulder and pawl edge for holding said rock-shaft in its normal position when the locking pin or block is down, substantially as specified.

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Witnesses:

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