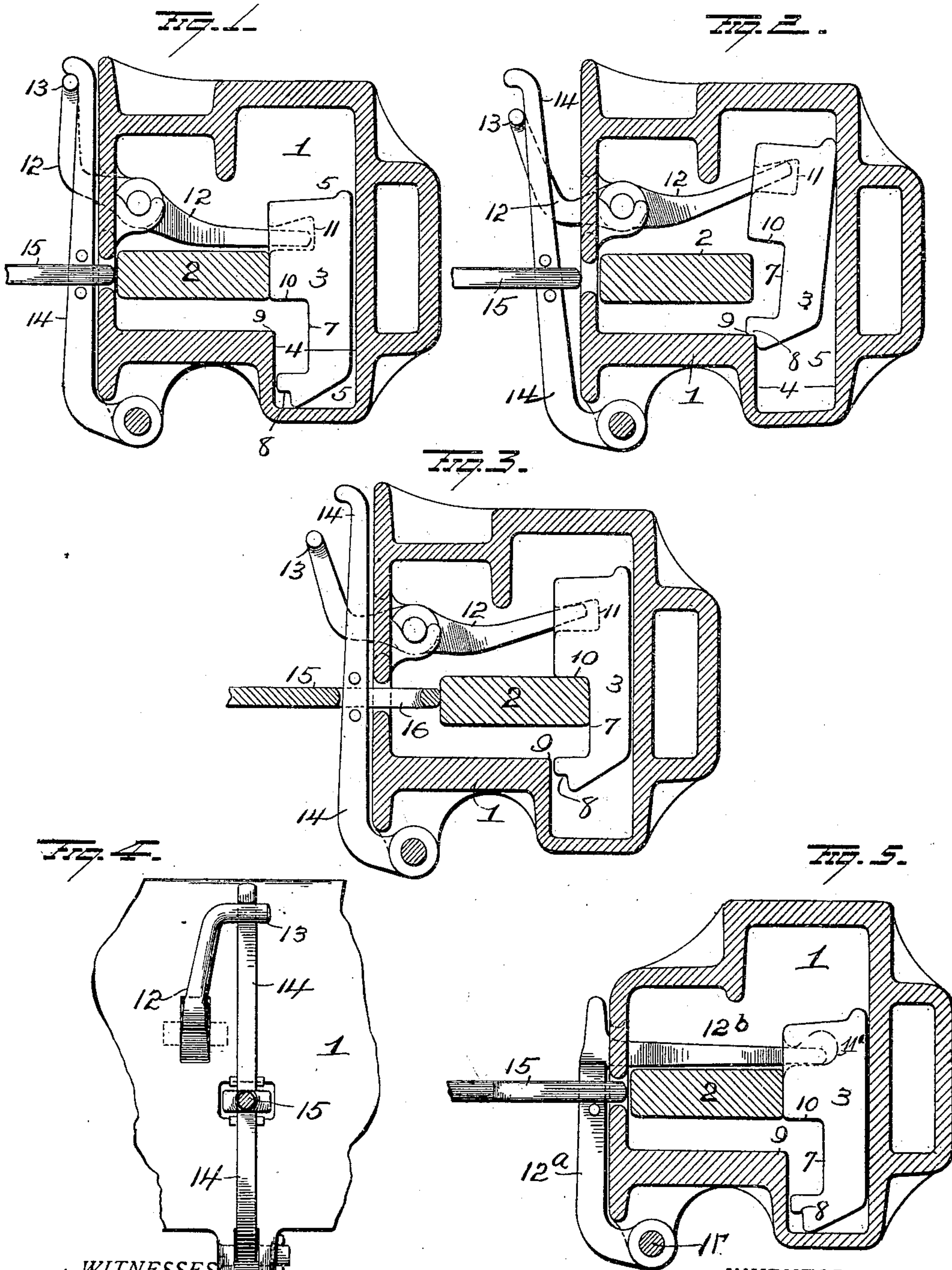


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CAR COUPLING.
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Patented May 17, 1910.



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CAR-COUPLING.

958,360.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SAMUEL P. BUSH, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; 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.

My invention relates to an improvement in car couplings the object being to provide improved means for elevating the locking block to a lock set position, and for subsequently throwing the knuckle to its open position, and it consists in the parts and combinations of parts and in the details of construction as will be more fully explained and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in vertical section through the draw head showing my improvement, the locking block being in its lowered position and locking the knuckle in place. Fig. 2 is a similar view showing the locking block in its lock set position and the knuckle free to open. Fig. 3 shows the knuckle open, Fig. 4 is a view in side elevation of the draw head looking toward the levers, and Fig. 5 is a view of a modified form.

1 represents a coupling head, 2 the tail of the knuckle and 3 the locking block, which, when in its locking position, rests in front of the knuckle and holds the latter in its closed or locked position. This locking block is mounted to slide vertically within the coupling head, and is supported and guided in its movement by the walls 4 and 5 shown in Fig. 1. It is provided in one face with the cut away portion 7 which, when elevated to the plane of the tail of the knuckle, permits the knuckle to move to its open position, and is provided at its lower end, which normally rests within a recess in the bottom of the coupling head, with a shoulder 8 adapted when the block is elevated, to engage and rest upon the seat 9 and thus support the locking block in its lock set position, or in a position where it releases the knuckle and permits the latter to turn to its open position. As the knuckle moves to its open position it engages the locking block 3 and moves the latter outwardly thus releasing it from seat 9 and permitting its shoulder 10 to drop

onto the tail of the knuckle and remain there until the latter has been again closed. When the latter position has been reached, the block 3 falls to its locking position, thus securing the knuckle against opening movement. The knuckle is provided above the shoulder 10, with a recess or socket 11, the upper wall of which is preferably inclined as shown. Projecting into this recess 11 in the locking block, is one end of the bell crank lever 12. This bell crank lever is shown as pivotally supported on bearings located on a wall of the coupling head. The outer end of the bell crank lifting lever 12 passes through the side wall of the coupling head, and then extends forwardly and upwardly as shown in Fig. 4, its front or free end being horizontal as shown at 13.

14 is an actuating lever pivoted to the coupling head at a point below the pivotal point of bell crank lever 12, and extending upwardly to a point above the end 13, of the bell crank lever and resting between the coupling head and the latter. This lever 14 is actuated by the rod 15, which is supported at the end of the car in the usual manner. This rod 15 is slotted as at 16, near its inner end, so as to embrace the lever 14 for moving the latter outwardly. The outward movement of the lever 14 on its fulcrum elevates the locking block 3, and as it engages the block near its inner side, the lower end of the block is caused to tilt inwardly, thus carrying the shoulder 8 over the seat 9. This inward tilting movement of block 3, is assisted by the inclination of the top wall of the socket 11 in which the end of the lever 12 rests. After the locking block has been elevated, as above described, it will remain so until dislodged by the movement of the knuckle, and when the block is thus elevated the knuckle may be thrown to its open position by pushing inwardly on the rod 15, the slot 16 in the latter permitting of sufficient lengthwise movement of the rod to throw the knuckle to its open position.

While I have shown the rod 15 slotted for the passage of the lever 14, this is not necessary, as other constructions may be used which will enable the rod to move lever 14 outwardly or in a direction to elevate the locking block, and then permit the rod to be moved in the opposite direction to force the knuckle to its open position.

In the construction shown in Fig. 5, the lever 12^a is pivoted at one end as at 17 adjacent to the lower face of the coupling head and projects upwardly outside of said head.

5 The locking block lifting member 12^b is integral with the lever 12^a and projects through an opening in the coupling head and terminates within a recess 11^a in the locking block. The actuating rod 15 embraces or straddles
10 the lever 12^a below the member 12^b, and when pulled outwardly operates to elevate the locking block as previously explained and when pushed inwardly engages the tail of the knuckle and forces the latter to its
15 open position.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my
20 invention hence I would have it understood that I do not wish to confine myself to the exact construction shown and described, but,

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. In a car coupling, the combination with a coupling head having a seat, a locking block having a recess and also having a shoulder to engage the seat in the coupling
30 head, and a knuckle, of a lever pivoted to the coupling head and having an approximately horizontal member within the coupling head projecting into the recess in the locking block and also having an arm outside the coupling head, and a member located
35 outside the coupling head and cooperating with the outside arm of said lever to tilt the latter.

2. In a car coupling, the combination with
40 a coupling head having a seat, a locking block having a shoulder near its lower end to engage said seat, said locking block also having a recess near its upper end, and a knuckle, of a pivoted lever, one member of
45 which is within the coupling head with its free end permanently within the recess near the upper end of the locking block and its other member located adjacent to one side of the coupling head, and means on the
50 coupling head and cooperating with said lever to tilt the same.

3. In a car coupling, the combination with

a coupling head having a seat, a locking block having a shoulder to engage said seat and a knuckle, of a pivoted bell crank lever
55 partly within and partly outside the coupling head, the said lever engaging the locking block for lifting same, a lever pivoted at one end to the coupling head and engaging the outer member of the bell crank
60 and means for actuating said pivoted lever.

4. In a car coupling, the combination with a coupling head having a seat, a locking block having a shoulder to engage said seat, and also provided with a recess, and a
65 knuckle carried by the coupling head, of a pivoted bell crank lever, one member of which is within the coupling head with its free end resting in the recess in the block, a lever pivoted to the coupling and engaging
70 the outer member of the bell crank and means for actuating said pivoted lever and for throwing the knuckle to its open position.

5. In a car coupling, the combination with
75 a coupling head having a seat, a locking block having a shoulder to engage said seat, and also provided with a recess, and a knuckle, of a bell crank lever one member of which is within the coupling head with its
80 free end resting in the recess in the locking block, a pivoted lever engaging the outer end of the bell crank lever and a rod for actuating the pivoted lever when moved in one direction, and for throwing the knuckle to
85 open position when moved in the opposite direction.

6. In a car coupling, the combination with a coupling head having a seat, a locking block having a shoulder to engage said seat,
90 and a knuckle, of a bell-crank lever, one member of which is within the coupling head and engages the locking block, and cooperating devices for tilting the lever to raise the locking block, a portion of said de-
95 vices being operable to throw the knuckle open.

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

SAMUEL P. BUSH.

Witnesses:

FRED G. BENNETT,
A. L. BRUEGGEMAN.