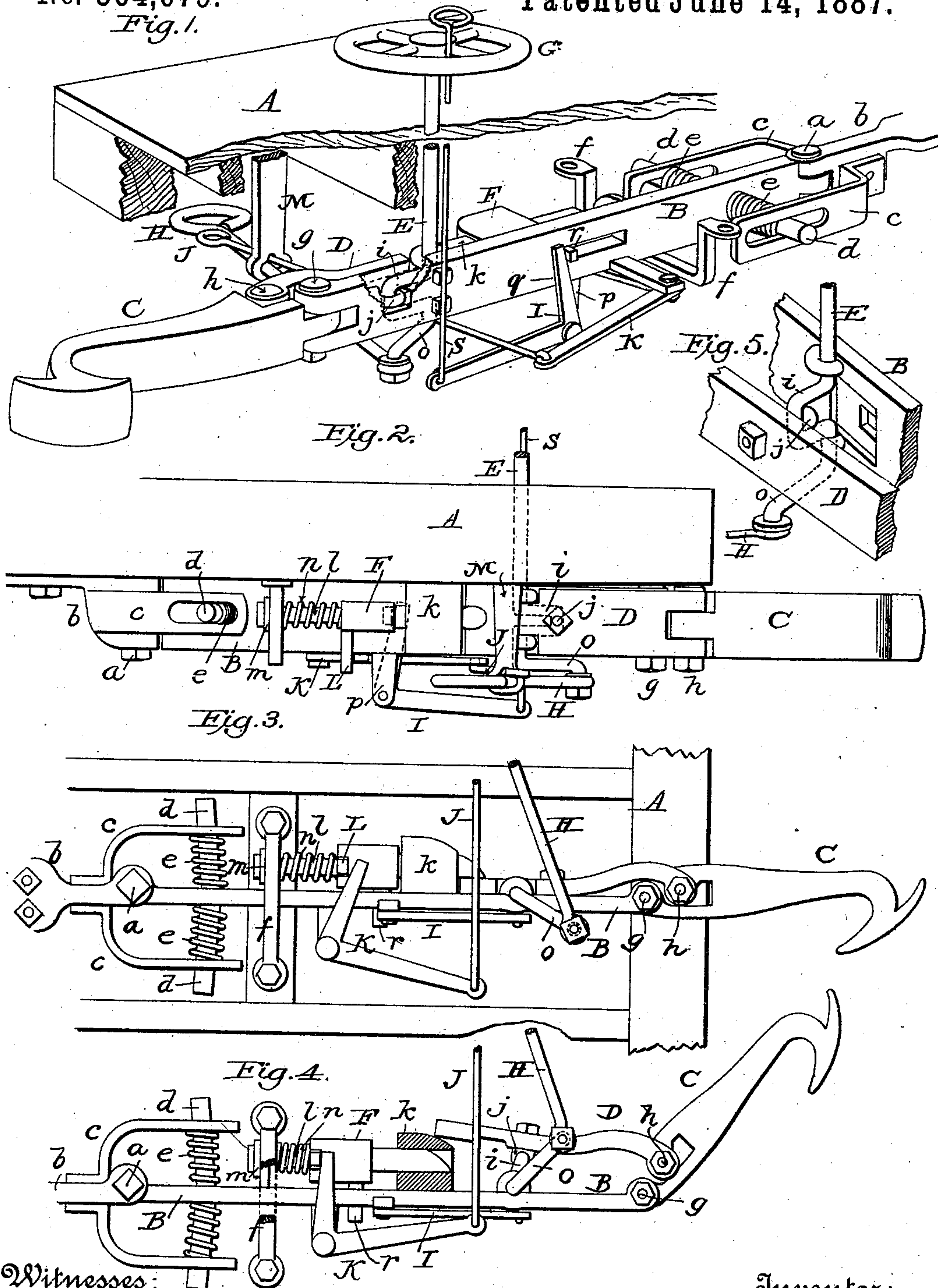


(No Model.)

T. SCHWEITZER.
CAR COUPLING.

No. 364,679.

Patented June 14, 1887.



Witnesses:
James F. Duffhamel
Walter D. Dodge,

Inventor:
Thomas Schweitzer,
By his Attorneys,
Dodge & Son

UNITED STATES PATENT OFFICE.

THOMAS SCHWEITZER, OF SPRING GROVE, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 364,679, dated June 14, 1887.

Application filed April 2, 1887. Serial No. 233,437. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SCHWEITZER, of Spring Grove, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to car-couplings; and it consists in a novel construction and arrangement of the coupling-hook and the devices for operating and locking the same.

In the drawings, Figure 1 is a perspective view of my improved coupler, the floor of the car being broken away; Fig. 2, a side view, but from the opposite side; Fig. 3, a bottom plan view, and Figs. 4 and 5 views illustrating certain details.

A indicates a car, or the portion thereof to which the coupler is secured; and B, the draw-bar. This draw-bar is pivoted at its rear or inner end upon a vertical pin or bolt, *a*, which passes through said draw-bar, and through a bracket, *b*, bolted to the under face of the car. Projecting from each side of bracket *b* forwardly is an arm, *c*, through which pins or stems *d*, secured upon opposite sides of the draw-bar, pass, as shown in Fig. 3, the said stems *d* being encircled by spiral springs *e*, bearing at opposite ends against the draw-bar and the arms. This construction permits the draw-bar to swing laterally or horizontally upon the pivot-bolt *a* in going around curves or when the coupling-hooks of two cars meet. These springs *e* should be stiff enough to keep the draw-bar straight until deflected laterally, for purposes just described. A loop or guide, *f*, passes about the draw-bar, and is bolted or otherwise affixed to the car, as shown in Fig. 3.

C indicates the coupling-hook, pivoted by means of a bolt, *g*, to the forward end of the draw-bar, said hook being provided with a plate or tail, D, which is pivoted to the hook by means of a bolt, *h*, in advance of the bolt *g*, as shown in Figs. 1 and 3, and which, when the cars are coupled, lies flat against the side of the draw-bar. It is by means of this plate or tail D and a cranked shaft, E, journaled in the draw-bar and connected with the plate, that the hook is swung laterally upon its pivot *g*. Upon reference to Figs. 3 and 4 it will be

seen that the vertical shaft E is provided with a cranked portion, *i*, which is passed through an eye, *j*, upon the inner face of the plate or tail, and it is apparent that as said shaft is rotated in one or the other direction the plate will move toward or from the draw-bar, and at the same time will have a slight longitudinal movement relative to the latter.

As the hook C is incapable of moving lengthwise or longitudinally, the plate D, pivotally connected therewith by means of the bolt *h*, will cause the hook C to swing laterally with relation to the draw-bar upon the pivot-bolt *g*, in order that the hook may engage the hook of another car.

After the cars are coupled and the shaft E turned or rotated to bring the plate up close to the draw-bar, the pivotal points *h*, *g*, and E will be found to be approximately in the same straight line, and while the hook will be held rigidly against lateral movement in one direction, it might swing to the other side and uncouple. In order to obviate this I provide a locking device, which will be seen to comprise a sliding latch or bolt, F, which passes through a lug, *k*, projecting from the side of the draw-bar, and engages the inner end of the plate or tail, as shown in Fig. 4. This sliding latch or bolt has one end beveled, while its other end is socketed to receive and slide upon an arm, *l*, projecting forwardly from a lug, *m*, on the side of the draw-bar, a spiral spring, *n*, encircling the arm *l*, and bearing at opposite ends against the lug *m* and the inner end of the latch. In lieu of this arrangement, however, the arm *l* may be formed upon the latch F and slide through the lug *m*.

When the plate or tail D is moved up toward the side of the draw-bar, the inner end strikes the beveled nose of the latch and moves the latter inward or back, compressing the spring, and as soon as the latch has been pressed backward far enough to permit the plate to pass it and to lie close up to the draw-bar the spring will force the latch outward again, and thereby lock the plate, and consequently the hook, in position.

The shaft E, hereinbefore referred to, is extended upward above the platform of the car and furnished with a hand-wheel, G, and at its lower end it is formed with a lateral hori-

zontal arm, *o*, to which is connected a rod, *H*, extending out beyond the side of the car. From this construction it will be seen that the hook *C* may be operated both from above and at the side, and of course it is necessary that the latch-releasing mechanism may also be operated from both points.

Upon the under face of the draw-bar is an arm or bracket, *p*, to which is pivoted an elbow-lever, *I*. (Shown in Figs. 1, 2, and 3.) The vertical arm *q* of the lever engages with the front face of a lug, *r*, projecting from the side of the latch *F* through the draw-bar, while the horizontal arm is provided with a cord or connection, *S*, which extends upward in reach of the operator, as shown in Fig. 1. By pulling upward upon the cord or connection *S* the lever *I* will be rocked, and the arm *q* thereof, engaging with lug *r*, will push the bolt *F* backward and disengage it from the plate *D*, so that the latter may be swung outward, and as soon as thus released the shaft *E* should be rotated, so as to swing said plate away from the draw-bar. The connection *S* may be a chain or band, and arranged in any suitable manner to prevent it from falling.

In order to operate the latch from the side, I employ a rod, *J*, connected at its inner end to one arm of an elbow-lever, *K*, pivoted to the draw-bar *B*, or to an arm or bracket thereof, the other arm of the lever engaging with a depending lug, *L*, projecting from the under side of the latch, as shown in Fig. 3. As the rod *J* is pulled outward the short arm of the lever *K* is swung backward and moves or retracts the bolt *F*, and allows the plate *D* to be swung out by either of the means described.

Rods *H* and *J* will be provided with hand-holds, and will be supported at their outer ends in a bracket, *M*, secured to the under side of the car.

It is obvious that the hand-wheel *G* may be omitted and only the rod *H* used, or vice versa. In order that the plate or tail *E* may lie close against the draw-bar, the latter is slotted or recessed to receive the eye *j* on the plate, as shown in Fig. 1.

Having thus described my invention, what I claim is—

1. In combination with a car, a bracket, *b*, secured thereto and provided with forwardly-extending arms *c*, perforated and separated a distance, as shown, a draw-bar, *B*, pivoted at its rear end to the bracket and provided with lateral stems *d*, and springs *e*, interposed between the draw-bar and arms *c* and encircling the stems.

2. In combination with a car, *A*, a draw-bar, *B*, secured thereto, a laterally-swinging hook, *C*, secured to said draw-bar, a plate or tail, *D*, connected with the hook, and a crank-shaft, *E*, or its equivalent, journaled in the draw-bar and connected with the plate.

3. In combination with a car, a draw-bar, *B*, a hook, *C*, provided with a plate or tail, *D*,

a crank-shaft, *E*, journaled in the draw-bar and connected with the plate, and a locking device for said plate, all substantially as shown and described.

4. In combination with a car, a draw-bar, *B*, a hook, *C*, pivoted thereto by means of a bolt, *g*, a plate, *D*, pivoted to said hook by means of a bolt, *h*, in advance of bolt *g*, and a shaft, *E*, journaled in the draw-bar and connected with the plate.

5. In combination with draw-bar *B* and pivoted hook *C*, tail or plate *D*, a crank-shaft, *E*, journaled in the draw-bar, connected with the plate *D*, and extended upward and provided with a hand-wheel, *G*.

6. In combination with draw-bar *B*, hook *C*, plate *D*, and shaft *E*, constructed and arranged substantially as shown, a sliding latch or bolt, *F*, an elbow-lever, *I*, for operating the latch, and a connection, *S*, extending from lever *I* upward to the platform of the car, all substantially as shown.

7. In combination with draw-bar *B*, hook *C*, plate *D*, and crank-shaft *E*, a sliding latch or bolt, *F*, provided with a lug, *r*, an elbow-lever, *I*, pivoted to the draw-bar and engaging the lug *r*, and a cord or connection, *S*, secured to the free end of lever *I* and extending upward within reach of the operator.

8. In combination with draw-bar *B*, hook *C*, and plate *D*, a cranked shaft, *E*, connecting the plate and the draw-bar and provided with an arm, *o*, and a rod, *H*, connected to the arm *o* and extending out beyond the side of the car, all substantially as shown.

9. In combination with draw-bar *B*, hook *C*, and plate *D*, cranked shaft *E*, connecting the plate and draw-bar and provided with an arm, *o*, a rod, *H*, connected to the latter and extending out beyond the side of the car, and a locking device applied to the draw-bar to lock the plate in position.

10. In combination with draw-bar *B*, hook *C*, and plate *D*, cranked shaft *E*, a rod, *H*, for operating the same, a sliding latch, *F*, provided with a lug, *L*, an elbow-lever, *K*, engaging therewith, and a rod, *J*, connected with the elbow-lever and extending outward by the rod *H*, all substantially as shown.

11. In combination with draw-bar *B*, hook *C*, and plate *D*, a crank-shaft, *E*, journaled in the draw-bar and connected with the plate, a hand-wheel, *G*, secured to an upward extension of the shaft, a rod, *H*, connected to the shaft and extending outward toward the side of the car, a latch, *F*, mounted in the draw-bar and adapted to lock the plate to the latter, and latch-releasing mechanisms in proximity to the hand-wheel *G* and to the rod *H*.

12. In combination with draw-bar *B*, pivoted hook *C*, and plate *D*, a cranked shaft, *E*, journaled in the draw-bar and connected to the plate, and provided with operating devices *G* and *H*, a sliding latch, *F*, provided with lugs *r* and *L*, elbow-levers *I* and *K*, and operating devices *S* and *J*, connected with the

levers I K, and extending, respectively, upward and outward in proximity to the shaft-operating devices G and H.

13. In combination with draw-bar B, piv-
5 oted hook C, and plate D, a cranked shaft, E, journaled in the draw-bar and connected with the plate, a locking device for securing the plate to the draw-bar, comprising a sliding latch, F, having a beveled nose, a fixed lug,
10 m, a stem, l, and a spring, n, encircling the stem and bearing at opposite ends against the lug and the latch.

14. In combination with draw-bar B, hook

C, pivoted to the draw-bar and provided with a plate, as D, a cranked shaft, E, connected 15 with plate D, a locking device for said plate, and means for operating the shaft and releasing the locking device from the platform, and also from the side of the car.

In witness whereof I hereunto set my hand 20 in the presence of two witnesses.

THOMAS SCHWEITZER.

Witnesses:

JOHN H. STAUFFER,
H. B. BECKER.