

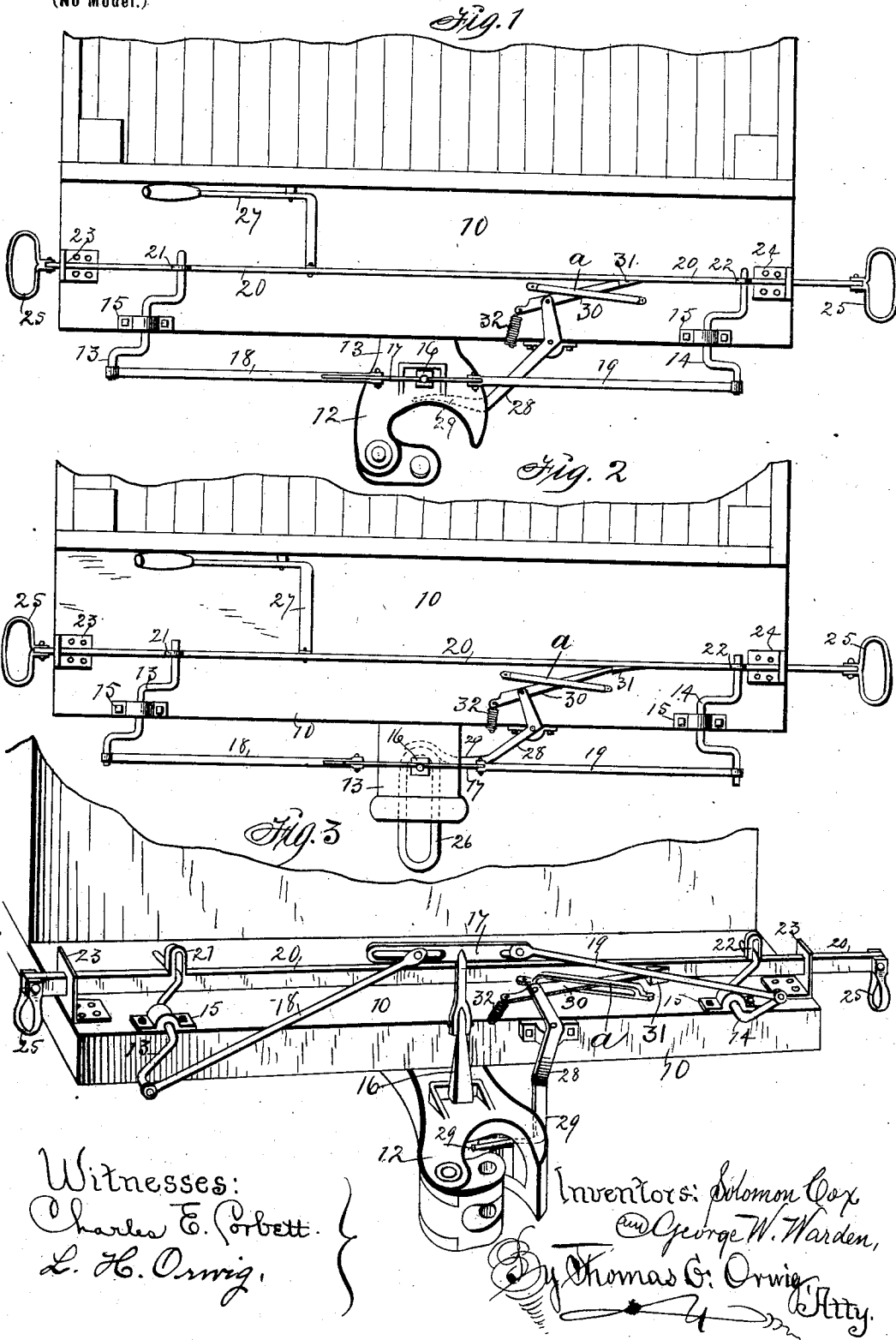
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Patented Sept. 2, 1902.

S. COX & G. W. WARDEN.
AUTOMATIC CAR COUPLING.

(Application filed Nov. 22, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

SOLOMON COX AND GEORGE W. WARDEN, OF GRANGER, IOWA.

AUTOMATIC CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 708,206, dated September 2, 1902.

Application filed November 22, 1901. Serial No. 83,249. (No model.)

To all whom it may concern:

Be it known that we, SOLOMON COX and GEORGE W. WARDEN, citizens of the United States, residing at Granger, in the county of Dallas and State of Iowa, have invented a new and useful Automatic Car-Coupling, of which the following is a specification.

Heretofore in automatic car-couplings of the pin-and-link species and also in the Janney or vertical-jaw type various forms of devices have been used for supporting pins elevated as required to admit links and jaws to enter cavities in draw-heads to drop the pins to engage links and lock-jaws to couple cars and to lift pins as required to uncouple cars.

Our object is to provide improved, simple, strong, and durable devices specially adapted to accomplish such results advantageously in the use of links and pins and also in the use of vertical jaws and pins; and our invention consists in the construction, arrangement, and combination of parts, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view showing our invention applied to the end of a car and a draw-head having a vertical jaw pivoted thereto and the operative mechanism in position and readiness for automatically coupling cars when they come together on a track. Fig. 2 shows a draw-head adapted for the use of a coupling-link in place of vertical jaws. Fig. 3 is a perspective view showing the coupling-pin elevated as required to admit a vertical jaw or a link to enter the cavity in the draw-head and to be engaged and secured by the dropping of the pin to automatically couple cars together.

The numeral 10 designates the platform at the end of a car, and 11 a draw-head having a vertical jaw 12 pivoted thereto. Crankshafts 13 and 14 are mounted in bearings 15, fixed to the platform 10. A pin 16 is connected with the outer arms of the crankshafts by means of a cross-head 17, attached to the top of the pin, and straight bars 18 and 19, pivotally connected with the ends of the cross-head at their inner ends and with the arms of the rock-shaft, as shown in Fig. 3, or in any suitable way, so that the pin can be

lifted by the joint operations of the rockshafts, as required in uncoupling cars. A straight bar 20, that has bridles 21 and 22 projecting vertically therefrom, is slidably mounted in bearings 23 and 24, fixed to the side portions of the platform, as shown in Fig. 1, or in any suitable way in such a manner that the inner ends of the crankshafts 13 and 14 will enter and traverse the bridles 21 and 22 when the bar 20 is moved longitudinally or reciprocated as required to drop the pin 16 in the act of coupling and to lift it to uncouple. The ends of the sliding bar 20 are provided with handles 25 at their ends that are within reach of a person at the side of a car, so that the bar can be manually operated by pushing or pulling as required for actuating the crankshafts, and thereby the straight bars 18 and 19, to lift the pin 16 to unlock a vertical jaw 12 or free link 26 as required in uncoupling cars. For operating the sliding bar 20 advantageously by a person on a car or the platform of a car a hand-lever 27 is fulcrumed to the car and pivotally connected with the sliding bar. For automatically operating the sliding bar and dropping the pin 20, as required in coupling, an elbow-shaped lever 28 is pivoted to the platform 10 and one arm provided with an extension 29, that passes through a slot in the draw-bar or draw-head in such a manner that it will be engaged by a jaw or link carried on another car, and thereby vibrated, and a pawl 30, pivoted to the other end of the lever, will be in engagement with a shoulder 31 on the sliding bar 20 and transmit power and motion to the bar 20, so as to allow the crankshafts 13 and 14 to rock and the bars 18 and 19 and the pin 20 to descend. A bridle *a*, fixed on the platform, raises and lowers the pawl 30 as required to engage and disengage the pawl from the shoulder 31 on the sliding bar 20. A spring 32, connected with the platform and the lever 28, normally retains the extension of its arm in the draw-head as required to be engaged by a jaw or link in the act of coupling two cars together.

Having thus described the purpose of our invention and the construction, arrangement, and combination of all its parts, its practical operation and utility will be readily under-

stood by persons familiar with the art to which it pertains, and what we claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, two crank-shafts in 5 bearings fixed to the side portions of a car-platform, a pin, two bars pivotally connected with the top of the pin and means for jointly actuating the crank-shafts for lifting the pin, arranged and combined to operate in the man- 10 ner set forth for the purposes stated.

2. In a car-coupling, a pin, bars pivotally connected with the top of the pin, crank-shafts mounted on the platform and connect- 15 ed with the ends of said bars, a straight bar slidably mounted on the platform, bridles projecting vertically from the sliding bar to admit the inner ends of the crank-shafts and means for moving the slidable bar, arranged 20 and combined to operate in the manner set forth, for the purposes stated.

3. In a car-coupling, a draw-head connected with the platform at the end of a car, a spring-actuated elbow-shaped lever pivoted to the platform and one end of the lever ex- 25 tended through a slot in the draw-head, a bar slidably mounted on the platform to extend from one side to the other, bridles projecting upward from the slidable bar, crank-shafts mounted on the platform and their inner arms

extended through said bridles, a bar pivotally 30 connected with each outer arm of the crank-shafts and a pin pivotally connected with the ends of said bars, arranged and combined to operate in the manner set forth for the pur- 35 poses stated.

4. In a car-coupling, a pin-operating mech- 35 anism comprising a pin, two bars pivotally connected with the top of the pin to extend laterally in reverse ways, crank-shafts mount- 40 ed on the car-platform and their outer ends pivotally connected with the ends of said bars, a bar mounted on the platform to slide in reverse ways and provided with bridles 45 projecting upward therefrom to be traversed by the inner ends of the crank-shafts, a shoulder on the slidable bar, a spring-actuated el- 50 bow-shaped lever fulcrumed to the platform and one end extended through a slot in the draw-head and a pawl pivoted to its other end to engage the shoulder on the slidable bar, all arranged and combined to operate in the man- 50 ner set forth for the purposes stated.

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