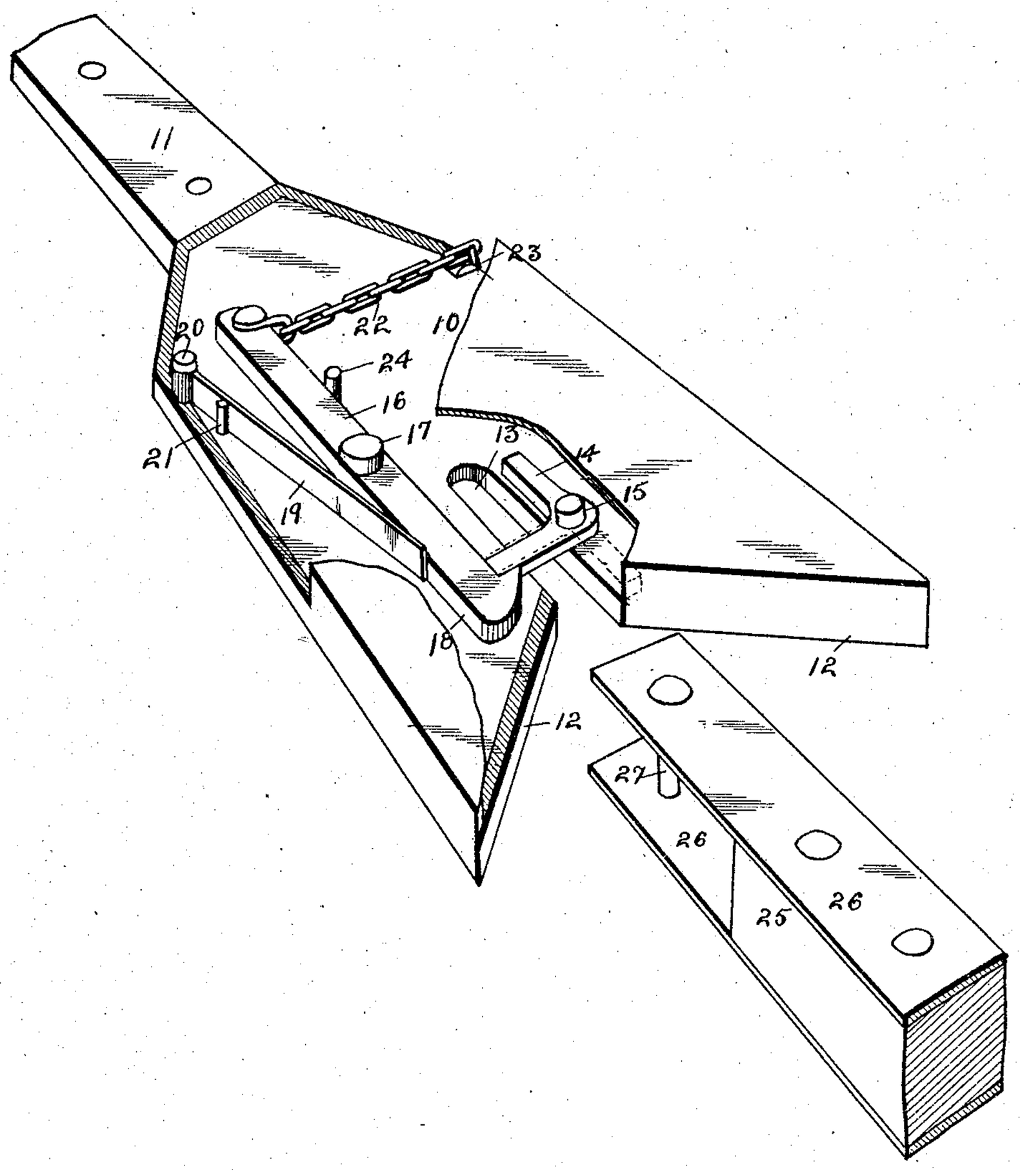
No. 790,221. PATENTED MAY 16, 1905.

C. A. McCUNE.

TRACTION ENGINE COUPLING.

APPLICATION FILED JUNE 30, 1904.



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No. 790,221. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

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TRACTION-ENGINE COUPLING.

SPECIFICATION forming part of Letters Patent No. 790,221, dated May 16, 1905.

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To all whom it may concern:

Be it known that I, CHARLES A. McCUNE, a citizen of the United States, residing at Menlo, in the county of Guthrie and State of Iowa, have invented certain new and useful Improvements in Traction-Engine Couplers, of which the following is a specification.

The objects of my invention are to provide a coupler of this class of simple, durable, and inexpensive construction, and, further, to provide a coupler that will automatically couple and will be locked in its coupled position in such a way that it cannot readily be uncoupled by any ordinary amount of strain that may be placed upon it, or by shaking, or when the traction-engine passes over rough and uneven surfaces, and, further, to provide a coupler of this class that may be readily and quickly uncoupled by pulling upon a chain or rope connected therewith, so that the operator need not go between the engine and tender for the purpose of uncoupling.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which the entire device is illustrated in perspective, showing the coupler members in position adjacent to each other and also showing by dotted lines the position the coupler-bar assumes when in its uncoupled position, part of the draw-head being broken away.

Referring to the accompanying drawing, I have used the reference-numeral 10 to indicate the draw-head, which is preferably composed of metal, having an extension 11 at its rear end, that may be attached to an engine, and also having the inclined surfaces 12 at its front edge inclined from the outer edge inwardly and toward the center of the draw-head, and between these inclined faces 12 is a recess 13 to receive the coupler-pin of the coacting coupler member. Pivoted to one face of the draw-bar 10 is a right-angled coupler-bar 14, pivotally supported by the pin 15, the arms thereof being long enough to project over the recess 13. Pivoted to the same face of the draw-bar 10, on the opposite side of the recess 13, is a hooked lever 16, held in place and pivotally connected by the pin 17 and having a hook 18 formed on its front end, said hook being designed to engage the ends of the bar 14.

The numeral 19 indicates a flat leaf-spring fixed, by means of the pin 20, to the draw-bar, the other end of the spring engaging the forward end of the lever 16. A pin 21 engages the outer face of the spring 19 near its attached end to firmly hold its free end in engagement with the lever 16. Attached to the rear end of the lever 16 is a chain 22, passed over a roller 23, which roller is mounted in the draw-head 10, and said chain is extended to a point where it may be conveniently grasped by an operator, so that the operator need not enter between the engine and tender.

The reference-numeral 24 indicates a pin detachably connected with the draw-head and designed to limit the movement of the rear end of the lever 16 in a direction which would tend to draw the front end of the said lever away from the recess 13.

The reference-numeral 25 indicates a portion of the tongue of an engine-tender. On the upper and lower surfaces of the tongue are the flat plates 26, firmly secured to the tongue and projecting some distance beyond its end, and a coupler-pin 27 is placed in the said projecting ends of the plates 26 and firmly fixed in position therein. These plates 26 are wide enough so that when the pin 27 is placed in the recess 13 the said plates 26 will overlap the surfaces of the draw-head 10 adjacent to the recess 13, and thereby the up and down movements of the said plates relative to the draw-head will be limited.

In practical use and assuming the part 11 to be attached to an engine and the plates 26 to be attached to the tongue of an engine-tender and assuming, further, that the pin 24 is detached when the pin 27 is placed in the recess 13, one of the ends of the bar 14 will project through between the plates 26 and between the pin 27 and the end of the tongue 25. Then when the tender is moved relative to the engine one of the ends of the arm 14 will be brought into engagement with the hook 18,

and its further movement will be limited by said hook, the spring 19 firmly holding the lever 16 against the end of the bar 14, which is in engagement with the pin 27. By this means the engine and the tender are coupled together in such a way that they cannot be separated except upon a movement of the lever 16 in a direction tending to move its hook 18 out of engagement with the bar 14. This movement can be accomplished by pulling upon the chain 22, and when this is done the engine and tender will readily separate, because the bar 14 is pivoted to swing freely.

Under some conditions it is desirable to absolutely lock the coupler in a coupled position, and in such instances I place the pin 24 in the draw-head 10 and in engagement with the rear end of the lever 16, so that said lever is absolutely locked against movement away from the recess 13.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. An improved traction-engine coupler, comprising a draw-head 10, having inclined faces at its front end extending inwardly and rearwardly and also having a recess 13 adjacent to the rear ends of the faces 12, a right-angled bar 14 pivoted to the draw-head, its ends designed to project across said recess 13, a hooked lever pivoted to the draw-head, its hooked end being designed to engage the ends of said right-angled bar, a flat leaf-spring fixed to the draw-head and yieldingly held against the hooked end of the said lever, a chain fixed to the opposite end of the hooked lever, a detachable pin 24 to engage the hooked lever and limit its movement in a direction tending to move the hooked end thereof away from the recess, and two parallel plates, a pin between the plates, said pin designed to enter said recess and said plates to stand on opposite faces of the draw-head, overlapping the said recess, substantially as and for the purposes stated.

2. An improved coupler comprising a draw-head formed with a recess open at the front of the draw-head, a spring-actuated hook mounted in the draw-head with its hooked end yieldingly held toward the said recess, means for moving the said hook to uncouple and the bar pivoted in the draw-head on the side opposite from the hook designed to project across the recess and be engaged by the hook, said bar formed with an extension substantially at right angles and also designed to project across the recess to receive the impact of a coupling-pin and to be moved rearwardly by a coupling-pin to position where the bar proper will engage the hook and thus lock the coupling-pin in the recess.

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Witnesses:
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