

No. 755,850.

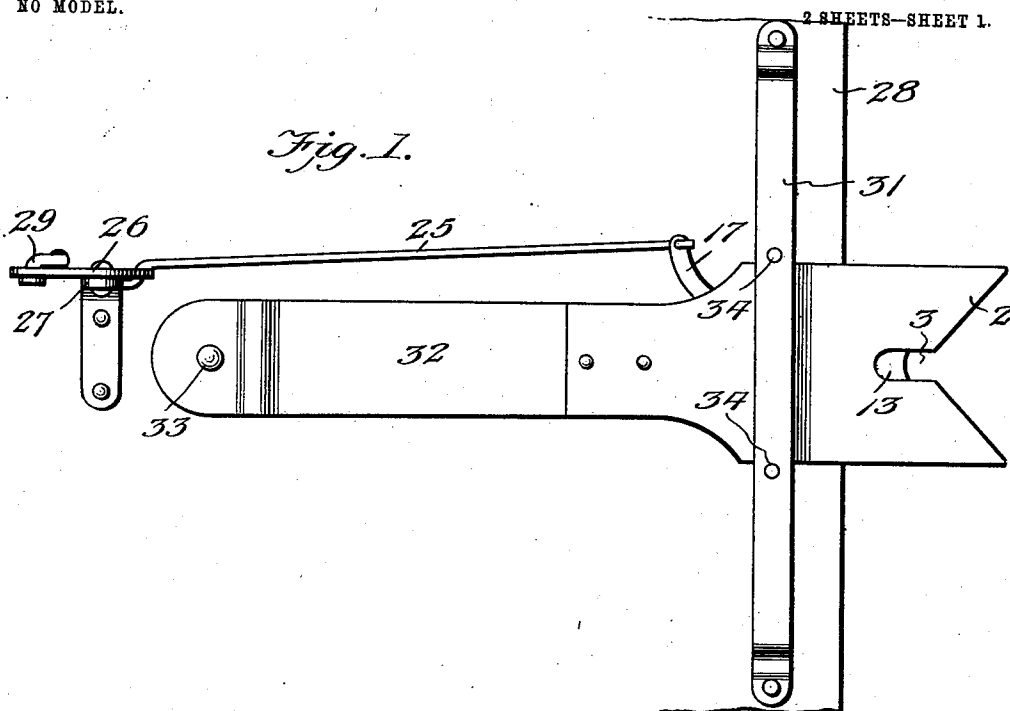
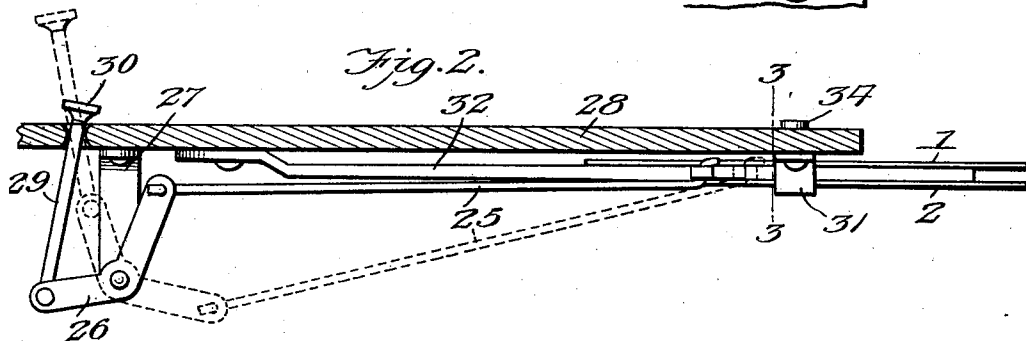
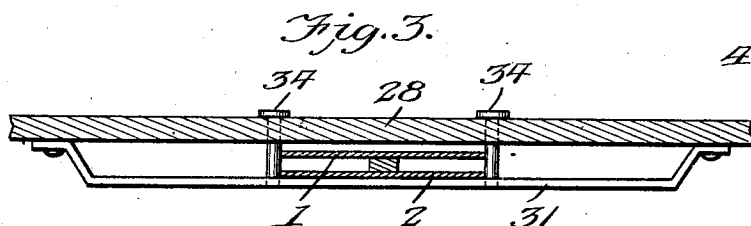
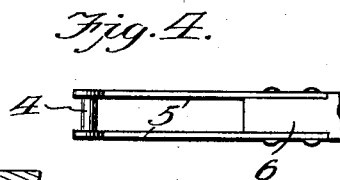
PATENTED MAR. 29, 1904.

J. L. CRISLER.
COUPLING.

APPLICATION FILED FEB. 1, 1904.

NO MODEL.

~~2 SHEETS--SHEET 1.~~



Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

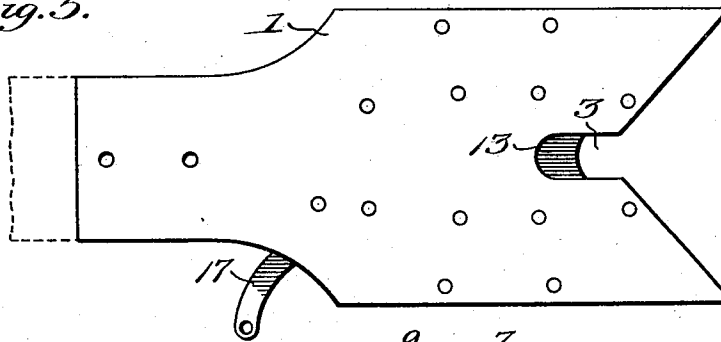


Fig. 6.

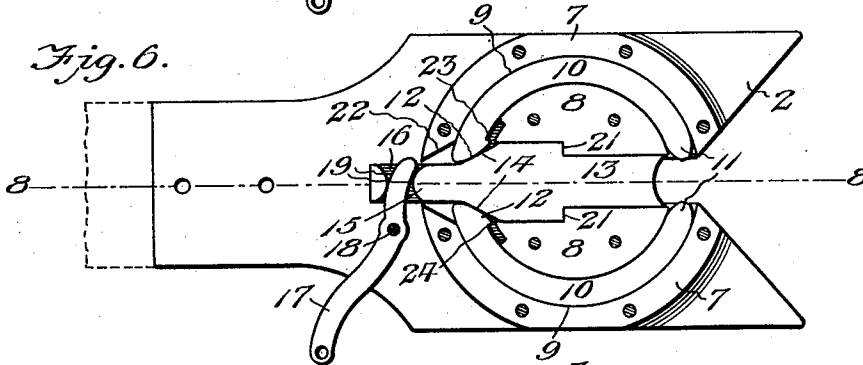


Fig. 7.

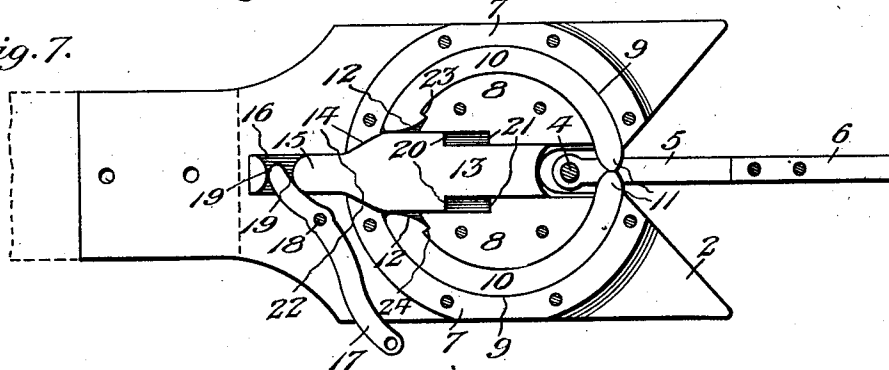
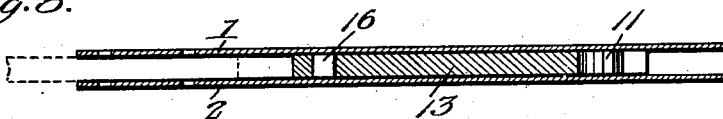


Fig. 8.



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JOSEPH L. CRISLER, OF PERTH, KANSAS.

COUPLING.

SPECIFICATION forming part of Letters Patent No. 755,850, dated March 29, 1904.

Application filed February 1, 1904. Serial No. 191,596. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. CRISLER, a citizen of the United States, residing at Perth, in the county of Sumner and State of Kansas, have invented a certain new and useful Coupler, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to couplers especially designed for use in connection with traction-engines, tenders, threshing-machines, and other agricultural machines for the purpose of coupling such machines together in connection with a traction-engine for the purpose of transporting the machines from place to place with the aid of the traction-engine.

One object of the invention is to provide a coupler which is automatic in action, enabling the machines to be coupled together expeditiously and uncoupled by an attendant standing or riding on one of the machines. The parts of the coupler and the operating mechanism therefor are so combined and arranged that when the coupling is effected the parts of the coupler lock themselves and the operating mechanism and the operating connections are also made self-locking, so that there is no danger of the machines becoming uncoupled, the uncoupling being effected by means within reach of the operator on the machine.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a bottom plan view of a coupler embodying the present invention. Fig. 2 is a vertical longitudinal section through the same, showing also the platform beneath which the coupler is mounted. Fig. 3 is a cross-section through the platform, showing the supporting-guide for the draw-head. Fig. 4 is a detail side elevation showing the coupling-pin and manner of attaching the same to a draft-pole, tongue, or other part of an agricultural machine. Fig. 5 is an enlarged plan view of the draw-head. Fig. 6 is a similar view with the upper plate removed to show the mechanism

of the coupler, the coupling-hooks being shown open. Fig. 7 is a similar view showing the coupling-hooks closed and locked. Fig. 8 is a longitudinal section on the line 8 8 of Fig. 6.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

The coupler contemplated in this invention comprises upper and lower plates 1 and 2, respectively, the said plates forming the draw-head and being provided at the front with an entrance-throat 3, which is adapted to receive the coupling-pin 4, connected at its opposite ends to straps 5, which lead to and connect rigidly with a draft-pole or tongue 6 or other part of the machine to be coupled to the traction-engine or other machine upon which the coupler is mounted.

Between the upper and lower plates 1 and 2 are arranged curved guides 7, and between said guides are arranged blocks 8, which form combined guides and stops, as will hereinafter appear. The guides 7 and blocks 8 may be formed separately from or integrally with the plates 1 and 2 and occupy the entire space between said plates while the blocks 8 are spaced sufficiently from the guides 7 to leave an intervening annular channel or groove 9, in which are mounted oppositely-arranged sliding segmental or curved hooks 10. The outer faces of the blocks 8 and the inner faces of the guides 7 are described on concentric curves, which enables the segmental or curved hooks 10 to slide freely between said guides and blocks back and forth in the act of coupling or uncoupling.

The sliding hooks 10 are provided at their forward or outer ends with reversely-beveled extremities 11, so that the coupling-pin 4 may force said extremities apart either in entering or leaving the entrance-throat 3, provided the sliding hooks are unlocked. The rear or inner ends of the hooks 10 are beveled, as shown at 12, so as to enable them to be acted upon by a wedge-shaped plunger 13, having oppositely-located inclined faces 14, which in the rearward or inward movement of the plunger act against the beveled portions 12 of the hooks

forcing the inner ends of the hooks apart and the outer ends of the hooks together, causing them to occupy the position shown in Fig. 7, and thereby enabling them to retain the coupling-pin 4 within the entrance-throat 3. When the plunger 13 is moved forward or outward, the inner ends of the hooks are released and space is allowed for them to move together, thus allowing the outer ends of the hooks to move apart under the influence of the coupling-pin 4 as the latter moves outward from the throat 3.

The inner portion of the plunger 13 is reduced in width to form a shank 15, and said shank is recessed, as shown at 16, to provide for the entrance of the inner arm of an uncoupling-lever 17, which is fulcrumed intermediate its ends, as at 18, within the draw-head. In forming the recess 16 oppositely-located rocker-faces 19 are provided, so as to relieve friction between the plunger and the uncoupling-lever. The forward or outer portion of the plunger 13 is also reduced in width to form limiting-shoulders 20, which in the outward movement of the plunger come in contact with corresponding shoulders 21, formed on the blocks 8. The outward movement of the plunger is thus limited, while the inner movement is limited by the inclined faces or shoulders 14 coming in contact with corresponding shoulders 22, provided by the beveled inner ends of the guides 7. The forward movement of the sliding hooks 10 is also limited by providing said hooks with shoulders 23, which come in contact with corresponding shoulders 24, formed on the blocks 8. It will thus be seen that the blocks 8 serve the double function of guides and stops for the sliding hooks and also stops for limiting the forward or outward movement of the plunger or operating-wedge 13.

The mechanism for operating the coupler proper from a convenient portion of the machine at a distance from the coupler embodies a connecting-rod 25, one end of which is attached to the outer end of the lever 17, while the opposite end connects with the elbow-lever 26, fulcrumed on a bracket 27, extending downward from the platform 28 or other convenient portion of the machine-frame. Connected with the other arm of the elbow-lever 26 is a foot post or treadle 29, which passes up through an opening in the platform and is provided with a head 30, upon which the operator may place his foot for depressing the post, rocking the lever 26, and correspondingly vibrating the uncoupling-lever 17, the effect of which is to throw the plunger outward and release the sliding hooks, so that the coupling-pin may act on the beveled extremities of the hooks and free itself from the coupler. By reference to Fig. 2 it will be observed that when the foot post or treadle 29 is raised the pivotal connection between said

lever and the connecting-rod 25 passes below a line drawn through the fulcrum of the lever 26 and the point of attachment of the rod 25 to the lever 17. In this way the elbow-lever is held locked until the operator bears with sufficient pressure on the foot-post to vibrate the lever 26, and thus draw back the outer end of the lever 17, which serves to force the plunger outward and release the coupling-hooks.

31 designates a supporting-guide extending parallel to and beneath the platform 28, and upon which the draw-head rests and is adapted to move laterally, the draw-head being connected by means of a draw-bar or shank 32 to the machine-frame through the medium of a pivot bolt or pin 33 at the rear end thereof. This enables the draw-head to swing from side to side in order to enable machines to be coupled together when not exactly in alignment, as is sometimes the case. After the machines have been coupled and brought into alinement the draw-head is held centrally of the supporting-guide by means of detachable pins 34, which are dropped through corresponding and vertically-alined openings in the platform and supporting-guide 31, as shown in Figs. 1 and 3. The arrangement just described greatly facilitates and expedites the coupling operation and also provides for maintaining the draw-head centrally after the coupling operation has been effected.

Having thus described the invention, what is claimed as new is—

1. A coupler comprising sliding hooks, and a plunger movable between portions of the hooks and adapted to force the points of the hooks toward each other.

2. A coupler comprising sliding hooks, and a plunger arranged to be operated by a coupling-pin and interposed between portions of the hooks, said plunger being adapted to force the points of the hooks toward each other.

3. A coupler comprising oppositely-arranged sliding hooks, and a plunger operating between portions of the hooks, and adapted to force the points of the hooks toward each other and also to lock the hooks in such position.

4. A coupler comprising a draw-head, oppositely-arranged curved hooks slidably mounted therein, and a plunger operating between the hooks at one end and adapted to force the other ends toward each other and lock the hooks in such position.

5. A coupler comprising a draw-head provided with an annular groove, curved hooks arranged to slide in said groove, and a wedge-shaped plunger movable between the hooks at one end and adapted to force the opposite ends of the hooks toward each other and lock the same.

6. A coupler comprising a draw-head provided with an annular groove, and a throat in-

intersecting said groove, oppositely - arranged curved hooks slidingly mounted in said groove, and a wedge-shaped plunger operating on the hooks at one end and adapted to force the opposite ends of the hooks toward each other across the throat of the draw-head.

7. A coupler comprising a draw-head provided with an annular groove, and an entrance-throat intersecting said groove, segmental hooks slidingly mounted in said groove, a plunger operating between said hooks at one end and adapted to force the opposite ends thereof toward each other and across the entrance-throat, and means for limiting the sliding movement of said hooks.

8. A coupler comprising a draw-head provided with an annular groove, segmental hooks slidingly mounted in said groove, a wedge-shaped plunger operating between portions of the hooks and adapted to force the ends of the hooks toward each other, means for limiting

the movements of the plunger in opposite directions, and means for limiting the movements of the sliding hooks.

9. A coupler comprising a draw-head, segmental hooks slidingly mounted in the draw-head, a plunger operating between the hooks to force the extremities thereof toward each other, an uncoupling-lever operatively associated with said plunger, a foot-controlled elbow-lever arranged at a distance from the uncoupling-lever, and a connecting-rod interposed between said levers and arranged in such manner as to lock both of said levers when the coupling-hooks are closed or brought together.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH L. CRISLER.

Witnesses:

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E. M. CARR.