(No Model.)

C. KOERNER.

CAR COUPLING.

No. 494,376. Patented Mar. 28, 1893.

Fig. 1.

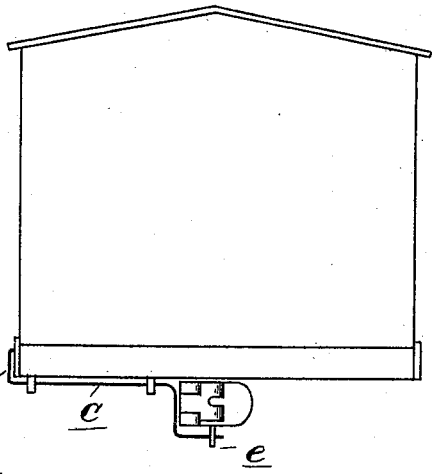


Fig. 2

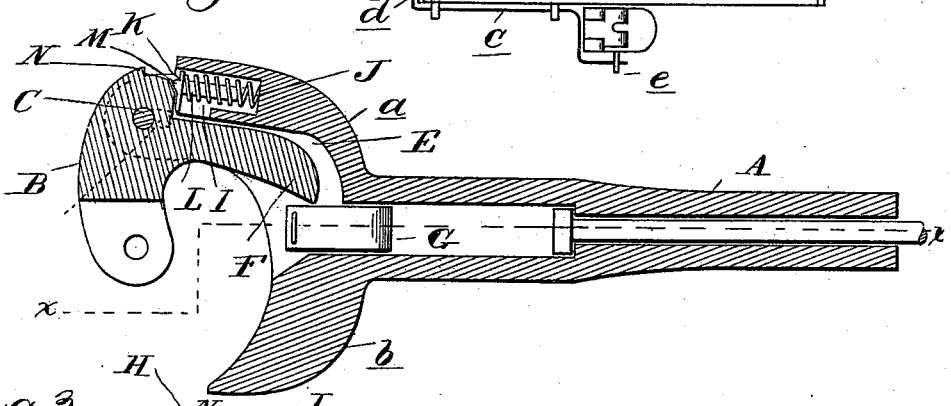


Fig. 3.

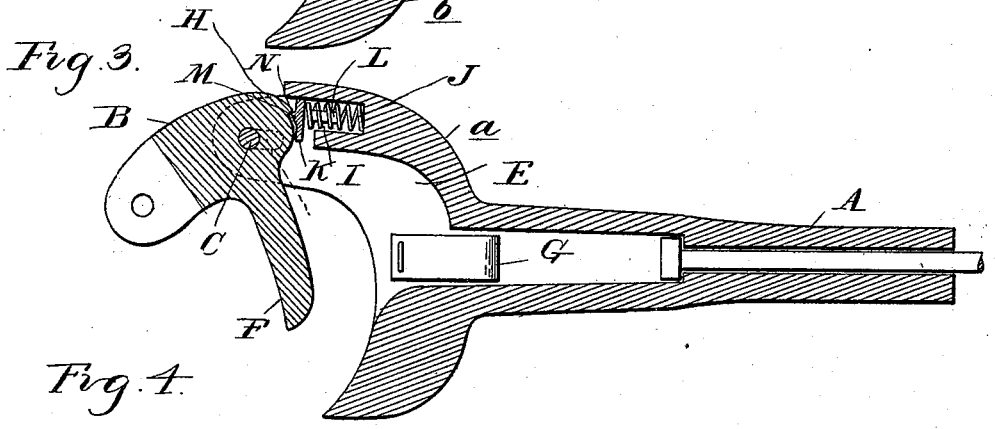
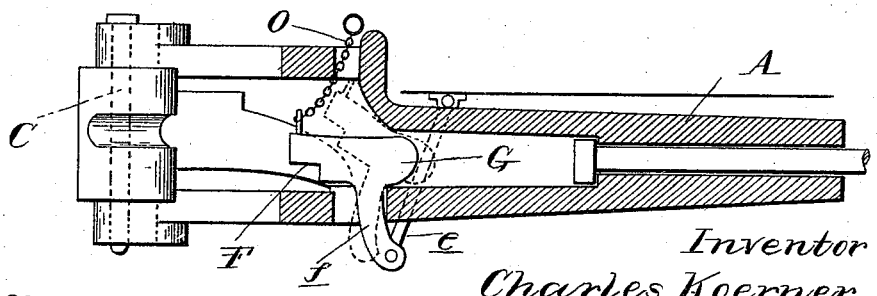


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES KOERNER, OF DETROIT, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 494,376, dated March 28, 1893.

Application filed June 13, 1892. Serial No. 436,545. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KOERNER, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in car couplers of that class known as the vertical plane coupler, and it consists in the peculiar construction of the coupler hook, which hook has a longitudinal sliding movement upon its pivot pin, which movement is resisted by a spring.

The invention further consists in the peculiar construction of a lock holding the coupler in its open position, and further in the construction, arrangement and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is an end elevation of a car showing my improved coupler applied thereto. Fig. 2 is a horizontal section through the coupler. Fig. 3 is a similar section showing the hook in its uncoupled position. Fig. 4 is a central section on line *x x* in Fig. 2.

A is the draw-bar of the general description of the well known vertical plane coupler having at its forward end an open jaw, consisting of the arms *a* and *b* upon opposite sides of the center, with a coupling hook B, pivoted in the end of one of the arms upon the pivot pin C, the pin being secured to the coupling hook and engaging in slots D in the arm *a*, the end of the arm being suitably bifurcated, and the coupling hook being pivoted between the bifurcations in the usual manner in such constructions. The arm *a* is provided with a recess E to receive the lock arm F of the coupling hook.

G is a gravity dog arranged in the front end of the draw-bar and adapted to drop in front of the locking arm F when that arm is turned into the recess E. This dog may be lifted to enable the coupler to be unlocked in any suitable manner, the means which I have shown consist of a shaft *c* having an operating crank *d* at the side of the car and a crank *e* centrally engaging the arm *f* of the dog, which extends beneath the draw-bar. Rocking the arm will lift the dog free from the locking arm F and allow the coupler hook to turn upon its pivot to its open position, as plainly shown in the drawings (Fig. 3).

The coupler hook is provided in rear of its pivotal point with the extension H having a curved face.

I is a socket or recess formed in the outer end of the arm *a* of the jaw in which is a spring, preferably a coiled spring J which bears against the washer or head K which is secured at the forward end of a stem or shaft L, all so arranged that the tension of the spring will continually act against the coupler hook and keep its pivot pin C compressed firmly to the front end of the slot D, as plainly shown in Figs. 2 and 3.

In coupling, the blow upon the coupler hook is more or less cushioned by the spring J which will resist the inward movement of the coupler hook due to the impact in uncoupling the cars and thereby greatly reduces the possibilities of breakage.

In order to keep the coupler hook normally in an open position after it has once been opened, I employ this spring for that purpose to act as a spring latch. To this end I form a lug or tooth M, upon the outer face of the head K, which is adapted to engage into a notch N formed in the face of the extension H, so arranged that when the coupler hook is open to its open position, the hook will engage said notch and hold it open to its full extent and also lock it in its open position. I thus get a double benefit by locking the hook with the coupling jaw N in the inclined position, as shown in Fig. 3, the possibility of the two couplers meeting "head on" in coupling is greatly lessened and the coupling is much more sure with the hook stopping short of a wide open position as described.

Instead of applying the crank *e* to the bottom of the latch G it may be applied to the top by connecting it to a chain O, or that chain may be extended to the roof of the car so that the brakeman on top of the car may operate it.

What I claim as my invention is—

1. In a car coupler, the combination with a draw bar, a jaw at its forward end having elongated slots therein, a spring in one member of said jaw, a coupler hook pivoted in said

slots and a head actuated by said spring against the rear of the coupler hook, substantially as described.

2. In a car coupler, the combination of the draw-bar having a jaw at its forward end and having a longitudinal slot in one member of the jaw, of a pivoted swinging coupling hook arranged in a plane parallel with the slot having its pivot pin engaging in said slot and a spring applied in the rear of said hook, substantially as described.

3. In a car coupler, the combination with the draw bar, having a jaw at its forward end, said jaw being provided with a longitudinal slot in one member, of a coupler hook having its pivot pin engaged in said slot, a spring in said jaw in rear of the end of the slot, an extension of the coupling hook beyond its pivotal point, having a curved bearing on and over which the end of the spring rides, substantially as described.

4. In a car coupler, the combination with a draw-bar having a jaw at its forward end, a spring in one member of said jaw, the coupler hook pivoted in said member, the head K actuated by said spring against the rear end of the coupler hook, the tooth M on said head and the catch N in the coupling hook, the parts arranged to operate, substantially as described.

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

CHARLES KOERNER.

Witnesses:
M. B. O'DOGHERTY,
N. L. LINDOP.