

No. 613,071.

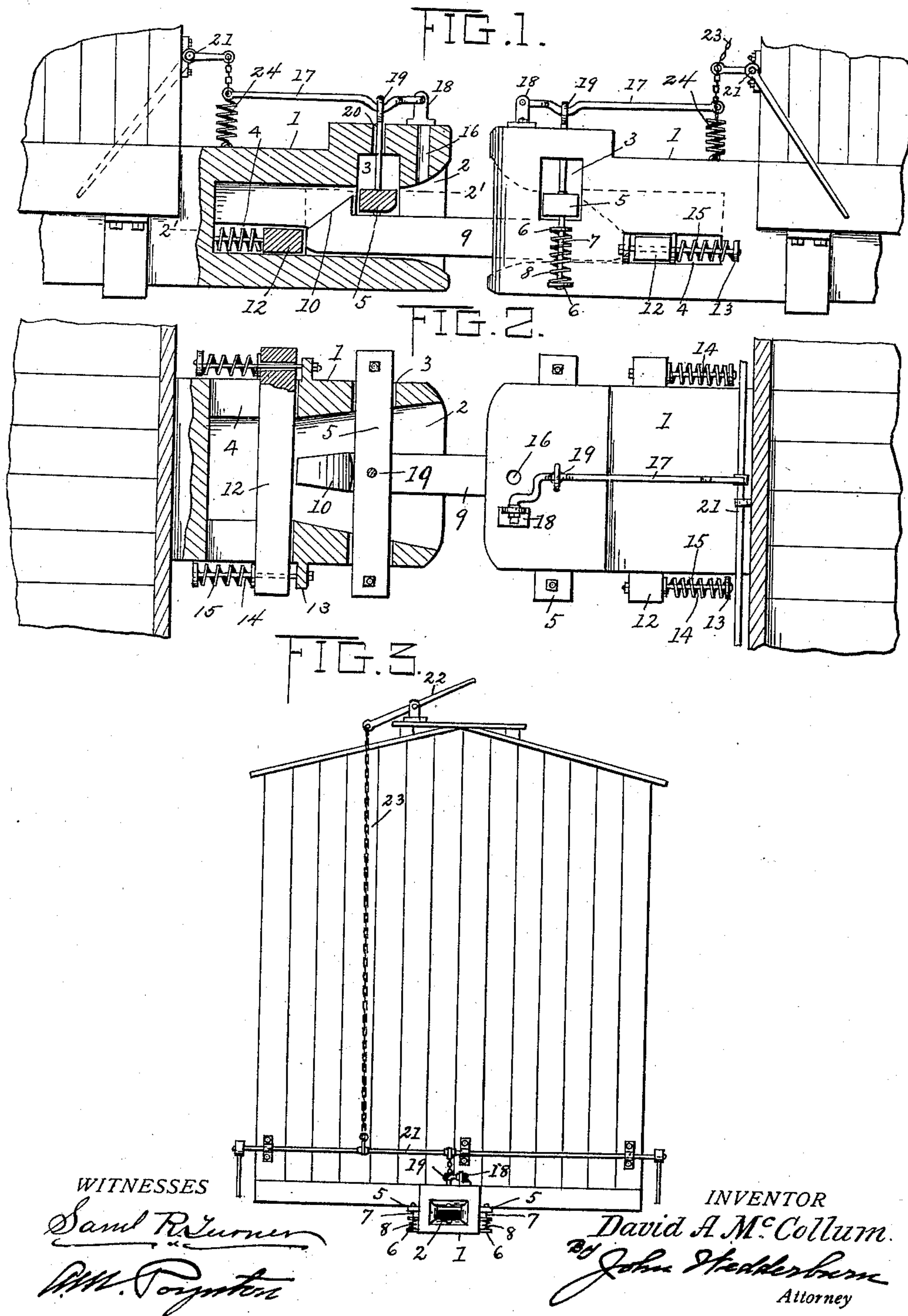
Patented Oct. 25, 1898.

D. A. McCOLLUM.

CAR COUPLING.

(Application filed Feb. 20, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

DAVID A. MCCOLLUM, OF EAGLEVILLE, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 613,071, dated October 25, 1898.

Application filed February 20, 1897. Serial No. 624,418. (No model.)

To all whom it may concern:

Be it known that I, DAVID A. MCCOLLUM, a citizen of the United States, residing at Eagleville, in the county of Harrison and State of Missouri, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to car-couplings and is in the nature of an improvement on the car-coupling described and claimed in a patent granted to me November 15, 1892, and numbered 486,291.

The invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully illustrated, described, and claimed.

In the accompanying drawings, Figure 1 is a broken side elevation, partly in section, of two cars having the herein-described couplings thereon and illustrated in coupled position. Fig. 2 is a broken plan view of the same with the improved couplings thereon in coupled position, one of the couplings being in section on the line 2 2, Fig. 1; and Fig. 3 is an end view of a car and the coupling applied thereto.

Similar numerals of reference designate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, 1 designates a draw-head, which is preferably cast, and said draw-head is secured to a car in any approved manner. The draw-head 1 is provided with a longitudinally-extending recess 2, which is arranged at the forward end of the draw-head 1 and adapted to receive a draw-bar, to be presently described. Formed in the draw-head 1, at the forward end thereof, is a vertically-elongated slot 3, and in rear of said slot 3 is a horizontally-elongated slot 4, said slots 3 and 4 extending transversely of the draw-head 1, as clearly shown in Fig. 2 of the drawings.

A vertically-moving latch-bar 5 is disposed in the slot 3, and formed on the exterior of the sides of the draw-head 1 and beneath the slot 3 are outwardly-extending ears 6, through which guide-rods 7, carried by the outer ends

of the latch-bar 5, are adapted to work, and it will be noted that the latch-bar 5 extends sufficiently on the outside of the draw-head 1, so that the guide-rods 7 may readily work within the cars 6. Coiled springs 8 encircle the guide-rods 7 between the heads of said guide-rods and the under sides of the ears 6, and by reason of the springs 8 the latch-bar 5 is forced normally downward.

9 designates a draw-bar, which consists of an elongated metal billet having a hook-like shoulder 10 formed at its upper side and at a proper distance from each end, and each end portion of the draw-bar 9 is sloped and the lower side slightly rounded to allow the hooked ends of the draw-bar being pushed below the latch-bars 5 and interlocked with their rear edges when a coupled connection of two similar draw-heads is effected.

A presser-bar 12 is arranged in the slot 4 and has its ends projecting beyond the sides of the draw-head 1, and formed on the exterior of the sides of the draw-head 1 are outwardly-projecting lugs 13, to which are secured rearwardly-extending guide-rods 14, which pass through openings in the ends of the presser-bar 12, and mounted upon the guide-rods 14 are coiled springs 15, having their ends pressing against the heads of the rods 14 and the presser-bar 12. By reason of the coiled springs 15 it will be seen that the presser-bar 12 is normally forced outwardly, the purpose of the presser-bar 12 being to retain the draw-bar 9 in substantially a horizontal position when coupling cars, this being effected by the hooks 10 of the draw-bar 9 being pressed against the latch-bar 5, the latter being forced normally downward by the coiled springs.

The features of construction thus far described are shown in my former patent and it is unnecessary to go into a further detail description thereof; but in order that the improvement contemplated by the present invention may be clearly understood description thereof will now be made.

By reference to Figs. 1 and 2 of the drawings it will be noted that the side walls of the recess 2 in the draw-head 1 are flaring from the front edge of the rear slot 4, and the top and bottom walls of said recess are flaring from the front edge of the forward slot 3, and

by reason of the recess 2 being elongated and the walls thereof being flaring, as described, it will be seen that ready insertion of the draw-bar 9 may be had, so that a sufficient lateral movement may be imparted to the same to facilitate coupling of the cars on a curved track. The draw-head 1 is also provided with a vertical opening 16, which opening is arranged close to and in front of the latch-bar 5, and this opening provides means for the passage of an ordinary coupling-pin when it is desired to employ the common link-coupling for connecting the cars.

To further facilitate coupling upon the curve of a track, the sides of each end of the draw-bar 9 converge, and it will thus be seen that said draw-bar 9 is more readily adapted to enter an opposing draw-head than in the construction shown in my former patent and when the opposing draw-heads are at angles to each other.

In order that the cars which have been coupled together may be uncoupled, an operating-lever 17 is employed, which lever extends longitudinally of the draw-head, and the forward end of said lever is bent at substantially right angles to its body portion and pivoted in an eye or ring 18, secured to the draw-head 1 in front of the slot 3. A hook 19 is secured to the latch-bar 5 at substantially its center, said hook 19 passing through an opening 20 in the draw-head 1, which opening is located in rear of the pin-opening 16. With the eye 18 as a fulcrum the lever 17 may be swung upwardly, carrying therewith the hook 19 and releasing the latch-bar 5 from engagement with the draw-bar 9, when the latter may be withdrawn from the draw-head, if so desired. The free end of the operating-lever 17 is suitably connected by means of a chain or its equivalent with a rotatable crank-shaft 21, which extends horizontally across the end of the car above the draw-head 1, and in order that the coupling may be operated from the roof of the car a lever 22 is pivotally fastened to said roof and connected by a chain 23 or its equivalent with the crank-shaft 21. The free end of the operating-lever 17 is further connected by means of a coil-spring 24 with the upper side of the draw-head 1, the said spring serving to return the operating-lever, the rock-shaft 21, and the parts connected thereto to their normal positions after having been operated.

From the foregoing description the operation of the herein-described coupling will be at once apparent to those familiar in the art, and when coupling a series of cars the draw-bar 9 is first positioned in one of the draw-heads by sliding said bar beneath the latch-bar 5 thereof, and by means of the presser-bar 12 said draw-bar is held in substantially a horizontal position for entering an opposing draw-head, and after this has been effected it will be seen that the couplings are securely held together. When desired to uncouple, it is simply necessary to rotate the shaft 21 so

that the same may lift the operating-lever 17, and through the medium of the hook 19 the latch-bar 5 is released from engagement with the draw-bar 9, so that the latter may be withdrawn from the draw-head 1 and thus release the opposing coupling.

If it is desired to operate the coupling from the roof of a car, it is only necessary to depress one end of the lever 22, and by means of the chain or equivalent connection 23 the shaft 21 is operated, which releases the latch-bar of the draw-head in the manner just described.

The herein-described improvements provide a car-coupling which is simple in its construction and yet very efficient in operation, and by reason of the same and the improvement over the construction formerly patented by me it will be observed that from the fact that the side walls of the recess 2 in the draw-head 1 and the top and bottom walls of said recess are flaring the draw-bar 9 may be freely inserted into said recess, and this flaring of the walls of the latter will permit the draw-bar having sufficient lateral play as to readily facilitate the coupling of a series of cars upon the curve of a track. It will also be seen that since the sides of each end of the draw-bar 9 converge the same will further facilitate the coupling of the cars upon a curve, and from the fact that the draw-head 1 is provided with the vertical opening 16 at its forward end a pin may be inserted therein and thus render the coupling exceedingly useful for the employment of an ordinary link. When the link is not employed, the coupling is entirely automatic in operation. In practice it is also desirable that the springs in rear of the presser-bar 12 shall be of greater strength than those employed upon the latch-bar 5, as it is obvious that a greater force must be exerted upon the presser-bar than upon the latch-bar.

I do not wish to restrict myself to employing the improvement set forth over my patented construction in connection therewith, as it is apparent that the same may be embodied in the construction of other couplings.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a car-coupling, the combination with a draw-head having transverse slots therein, the forward one of which is vertically elongated and the rear one of which is horizontally elongated, a latch-bar in the forward of said slots, projecting beyond the sides of the draw-head, lugs upon the sides of the draw-head beneath the latch-bar, headed guide-rods secured to the projecting ends of said latch-bar and extending through said lugs, coil-springs surrounding said guide-rods and engaging the heads thereon and said lugs for urging said latch-bar downwardly, and a spring-actuated presser-bar in the rear one of said slots, of an operating-lever located upon the upper side of said draw-head extend-

ing longitudinally thereof, and fulcrumed at
its forward end to an upright on said head,
a hook connecting said latch-bar with said
operating-lever, a rock-shaft having a crank
5 thereon, mounted upon the end of the car,
and extending transversely thereof, means
for operating said rock-shaft, a flexible con-
nection between said crank and the rear free
end of said operating-lever, and a spring con-
10 necting the free end of said lever with the

draw-head for returning said lever, said rock-
shaft and the parts connected thereto to their
normal positions after being operated.

In testimony whereof I have signed this
specification in the presence of two subscrib- 15
ing witnesses.

DAVID A. McCOLLUM.

Witnesses:

B. A. BROCK,

A. L. LOTZ.