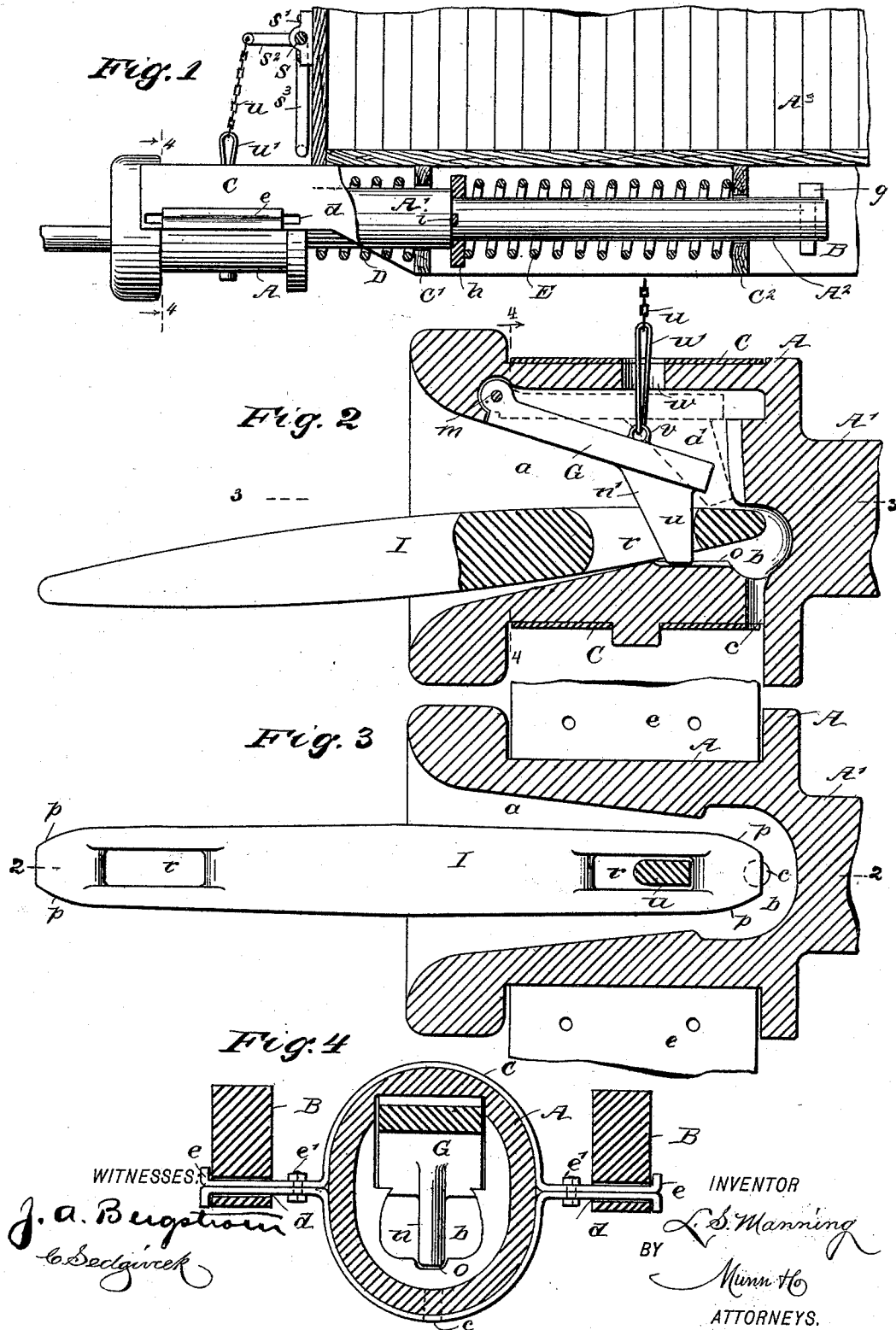


(No Model.)

L. S. MANNING.
CAR COUPLING.

No. 499,133.

Patented June 6, 1893.



UNITED STATES PATENT OFFICE.

LEMUEL S. MANNING, OF ALESSANDRO, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 499,133, dated June 6, 1893.

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To all whom it may concern:

Be it known that I, LEMUEL S. MANNING, of Alessandro, in the county of San Bernardino and State of California, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

The objects of my invention are to provide a simple and effective car-coupling, which will be adapted to cushion percussion and draft strains received in service, which will couple automatically with another coupling of its class, and will afford means for the safe detachment of two of the improved couplings on cars, from either side of said cars.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side view, partly broken away and in section, of the improvement in position on a car. Fig. 2 is an enlarged sectional side view of the front portion of the improved coupling, on the line 2—2 in Fig. 3. Fig. 3 is a plan view on the line 3—3 in Fig. 2; and Fig. 4 is a transverse sectional view of the improvement, on the line 4—4 in Figs. 1 and 2.

The body of the drawhead of the improved car coupling is entirely cylindrical, its front portion A that is designed to project in advance of the car body whereon it is placed, being conically apertured from its flared front edge as indicated at *a* in Figs. 2 and 3. The circular and inwardly-converged wall of the recess *a*, terminates in a spheroidal cavity *b*, which is perforated in its base as at *c*, to permit the escape of dust that enters said cavity from the front of the drawhead.

Beneath the car frame *A*³ that is in the main of ordinary construction, two nearly central and spaced longitudinal stringers B, are secured and which may be a part of the said frame, these stringers being parallel and suitably separated for the reception between them of the drawhead and the attachments thereto, it being understood that duplicate couplings of the improved construction are provided, which individually engage the stringers, as will be explained.

The stringers B, are projected beyond the car body at each end a proper degree, for the support of the coupling, and may be cut away on the lower edge to reduce their breadth where projected. Upon or near the lower edges of the projected ends of the stringers B, opposite longitudinal slots *d*, are cut or formed, of a sufficient length to receive and support laterally-extended flanges *e*, forming parts of an enveloping case C, constructed preferably of sheet metal, and secured on the front portion of the drawhead as represented in Figs. 2 and 4. Said case is composed of two half sections, each flanged at *e* and said flanges are secured together by bolts *e'*, so as to permit the easy attachment and removal of the case as required, and are bent oppositely at the edges that project through the slots *d*, to aid in holding the drawhead centrally between the stringers. From the chambered portion A of the drawhead a solid cylindrical body A', is rearwardly extended having its diameter suitably reduced, a proper length being afforded the said portion A', and from its rear end an integral cylindrical portion A² further reduced in diameter, is projected in axial alignment with the parts A, A', as indicated in Fig. 1.

The portions A', A², of the drawhead are loosely sustained in position on the stringers B, by the transverse wall plates C', C², which are formed of wood or metal, these plates having central orifices produced in them, for the loose embrace of the portions A', A² respectively, of the drawhead.

The cylindrical rearward portion A² of the drawhead body, is given a length greater than the part A', and is prevented from a complete removal through the wall plate C², by a transverse key *g* inserted in a cross slot formed in the part A² near its rear end.

On the portion A' of the drawhead a strong spiral spring D is mounted, which spring is of a suitable length and strength for effective service, and it loosely embraces the part A', having contact at its ends with a rear shoulder on the portion A of the drawhead and the transverse wall plate C' as shown in Fig. 1.

A collar *h*, is placed on the portion A² of the drawhead, in contact with the end of the portion A' of the drawhead, and is held in place by the key *i* which is inserted in a

transverse slot formed in the collar and drawhead. The space between the collar h and the transverse wall C^2 , is occupied by a strong spiral spring E , that bears with its ends upon the collar and wall respectively, as shown in Fig. 1.

As arranged, the springs D and E are adapted to absorb shocks received on the front end of the portion A of the drawhead, and also cushion the drawhead against jars it receives, due to fluctuation in draft force applied to the coupling.

Within the front portion A of the drawhead, a recess a' is formed, which is rectangular in cross section, and in the recess a' , a latch block G , is located, which consists essentially of a rectangular flat metal block, knuckle jointed at m upon the portion A of the drawhead at the front terminal of the recess it occupies when in elevated adjustment. On the lower side of the main portion of the latch a locking tongue n is formed or secured at the transverse center of the latch, said tongue consisting of a depending piece of metal having parallel sides and of a proper thickness and length for effective service, and straight on its rear edge, which is formed at such an angle to the lower surface of the latch that when the tongue is engaged with the bottom surface of a shallow groove o , that is cut in the base of the conical recess a , the rear edge of the tongue will be at a right angle with said surface, as indicated in Fig. 2. The front edge n' of the tongue n , is beveled downwardly and rearwardly from the under side of the latch G so as to facilitate the introduction of the coupling link I .

The link I is made of suitable metal, and has an elongated body that is nearly parallel on its sides, its upper and lower faces being sloped from the longitudinal center of the link toward each end, so as to taper it a proper degree.

The ends of the link I are curve-sloped on the side edges, as at p , in Fig. 3, to render the link more convenient for a free introduction of either end into the converging cavity in the front portion A of the drawhead. At a suitable distance from each end of the link a slot r is formed which slots are of a like shape, each being located on the median line of the link, and sufficiently elongated to receive freely the body of the depending tongue n of the latch G , when the link is thrust into the front of the drawhead, as shown in Figs. 2 and 3, the rearwardly inclined front edge n' of the tongue n facilitating such an introduction, which is also assisted by rounding the front edge of the ends of the link, as represented in Fig. 2. The end walls of each slot r , are rounded from the top and bottom of the link body, to aid the introduction of the tongue n therein, and also to permit the link to be swung from a horizontal position, the inserted end of the link engaging its upper surface with the upper wall of the spherical cavity b , and maintaining the link in

position for an entrance of its outer end within another drawhead of a like construction.

On the vertical end wall of the car body A^3 a transverse horizontal rock shaft s , is supported by a suitable number of boxes s' , as shown in Fig. 1, said shaft having an arm s^2 projected outwardly from it of a proper length; and from its outer end a chain u is downwardly extended, the lower terminal of the chain being connected to a ring eye v secured or formed on the upper face of the latch block G , at its transverse center and near its rear end, as shown in Fig. 2, the chain u or long link u' thereof, extending loosely through a slot w , formed in the top of the portion A of the drawhead to permit its connection with the latch block as stated. On the ends of the rock shaft s , that project beyond each side of the car body, similar crank arms s^3 are affixed and hang pendent when the arm s^2 is horizontally projected as shown in Fig. 1, and the latch block is in its normal position indicated in Fig. 2.

To couple the improvement to another device of its class on an approaching car, the link I is entered within the conical recess of the front portion A of the drawhead, and is held projected by the contact of its inserted end with the upper wall of the chamber b , as before explained; this will permit the other end to enter the approaching drawhead and lift its latch block, the tongue n thereon engaging with the slot r in the link, and as the tongue n on the latch block from which the link was projected was already coupled thereto by the act of inserting the link, it will be evident that a complete connection of two of the improved couplings will be produced automatically by the mere movement of the two cars toward each other on the railroad track.

When the coupled cars having the improvement are to be detached, this can be readily effected by swinging up one of the crank arms s^3 , at the side of the car, so as to raise the arm s^2 , on the shaft s , which has been thus rotatably moved, and which will then elevate the latch block G and release the link I in an obvious manner.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a car coupling, a cylindrical drawhead spring cushioned against percussion and draft strain, conically recessed at its front, and provided with a pivoted latch block adapted to interlock with an elongated slotted link, substantially as described.

2. In a car coupling, a cylindrical drawhead loosely engaging perforated wall plates forming a portion of a car frame, and coiled springs enveloping the drawhead body and pressing against said plates, substantially as shown and described.

3. In a car coupling, a cylindrical drawhead body comprising two integral axially aligned portions of different diameters, the forward

portion of the drawhead being conically recessed, and furnished with a latching device adapted to automatically interlock with a slotted link, substantially as described.

5 4. A coupling link for a drawhead having a conical recess at its front end, comprising a link body having nearly parallel side walls, top and bottom walls tapered toward each end from the center of length, and similarly slot-
10 ted near each end to receive the tongue of a latch block in the conically recessed drawhead, substantially as described.

5 5. In a car coupling, the combination with a cylindrical drawhead comprising a front
15 portion A of large diameter, conically recessed at its front end and rectangularly recessed above the conical recess, the latter terminating at the rear in a globular chamber, which

chamber is apertured in its base, a solid body
portion A' of less diameter than the portion 20
A, a solid body portion A² of less diameter than the portion A', the part A² having a collar secured thereon, spiral springs on the portions A', A², of the drawhead, a clamping
25 case on the front portion A, guide plates projecting oppositely at the sides of said case, a latch block hinged within the front portion of the drawhead, a depending tongue thereon adapted to seat in a groove in the conical recess, and a device on the front of the car
30 adapted when manipulated, to raise the latch block, substantially as described.

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Witnesses:

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