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AUTOMATIC COUPLING FOR RAILWAY CARS
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2 SHEETS-SHEET 2.

FIG. 2

FIG. 3

WITNESSES
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This invention relates to an improvement in automatic couplings. This invention has for its object the providing of a means for automatically connecting the coupling heads of the adjacent cars relative to the mating of the cars. The coupe may be brought into effective coupling engagement at the time when the ears are coupled; and further, the provision of locking means for securing the respective coupling heads of the adjacent cars.

Another object of this invention is to provide an automatic coupling head with means to permit its yielding under pressure from the opposite coupling head independent of the car head, and in connection with such movable parts whereby the coupling sections of the respective coupling heads are interlocked to provide an uninterrupted communication between the said couplings.

Another object of this invention is to provide a coupling head of this type having a means for holding the coupling heads together with a substantially constant pressure regardless of the motion of the cars caused by the running in and out of the drawbar slack, and regardless of any other normal motion of the cars.

With these and other objects in view, my invention consists of the following novel construction and arrangement of parts, to be hereinafter described and claimed.

Reference being had to the annexed drawings forming part of this case and to the figures of reference marked thereon.

Figure 1 is a side view of the mating head of my invention, showing their application to adjacent cars. Fig. 2 is an enlarged side elevation of the coupling head. Fig. 3 is a front or end view of Fig. 2.

Similar reference symbols indicate corresponding parts throughout the several views.

My invention comprises mating members, each of which includes a head C. Said head may be provided with one or more pipe connections.

Secured to the bottom of the car A is a hanger 90 upon which rests the base 16; said hanger has a hole at 91 through which passes the round end of the base 16; said round end has two springs encircling it. Spring 4 is located between the head C and the hanger 90. One end of said spring rests against the collar 92 and the other end rests against the hanger 90; said spring is for receiving all shocks when the ears are being coupled together. The spring 5 is located between the hanger 90 and the end of the base 16; one end of said spring rests against the hanger 90 and the other end rests against a collar 93 on the end of the base 16. The said spring 5 is for receiving all strain when the heads are being pulled apart.

Located near the top and on one side of the head C is one finger 14, said finger being pointed at 15, and a notch 43 is located in the inner side of said finger 14, near the guide 10. Said finger 14 enters the groove 23 between the fingers 13, on the mating head, when the heads are pushed together. Located near the top and on one side of the head C are two fingers 13, said fingers being pointed at 17, for the purpose of guiding the finger 14, on the mating head into the groove 23 between the fingers 13, when the heads are pushed together. Located near the bottom and on one side of the head C is one finger 14', said finger being pointed at 15', and having a guide 10' near the point 15', and a notch 43' located on the inner side of said finger near the guide 10', said finger 14' enters the groove 23 between the fingers 13' on the mating head, and when the heads are coupled together. Located near the bottom and on one side of the head C are two fingers 18', said fingers being pointed at 17' for the purpose of guiding the fingers 14' on the mating head into the groove 23 between the fingers 18' when the heads are pushed together.

Two grooves 40 and 40' are cut into the side of the head C into which are placed plates 9 and 9'; said plates move freely within said grooves. Located on the plate 9, near the upper end is a lug 9, and located near the lower end of the plate 9' is a lug 9'; said lugs are tapered at their lower ends so the points 15 and 15' on the fingers 14 and 14' respectively, will slip under and lift up said lugs 9 and 9' when the two heads are pushed together. As the heads are pushed together, the said lugs 9 and 9' drop down into the notches 43 and 43' on the fingers 14.
and 14', thus preventing any leakage through the joints when the heads are coupled together. Each of the fingers 14 and 14' carry near their ends guide members such as 49 which consist of flat rectangular pieces of material fastened to the outside of the fingers 14 and 14' and extending somewhat on each side of these fingers so as to engage with the outer faces of the fingers 13' when the heads are pushed together.

The plates 8 and 8' are held within the grooves 40 and 40' by the fingers 13, 13', 14 and 14', On the upper end of the plates 8 and 8' is pivoted a bell crank lever 7, said bell crank lever being fulcrumed at 87 to the head C, and pivotally connected to the rod 12. The opposite end of said rod 12, is loosely secured to a bracket 98, said bracket being firmly secured to the bottom of the car A. A spring 6 is located on the rod 12, one end of said spring resting against the bracket 98, and the other end resting against the collar 99, which is secured to the rod 12, said spring is for the purpose of keeping said rod 12 in a forward position, thus keeping the plates 8 and 8' in a downward position and thus holding the lugs 9 and 9' into the notches 40 and 40' of the fingers 14 and 14' when the heads are together, thus holding the heads firmly coupled.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An automatic coupler of the character described, comprising mating members each of which includes a head, a said head comprising a base, fingers projecting from the sides of said heads, grooves cut in the sides of said heads, a plate within each of said grooves, lugs secured to said plates for locking the said heads together, bell crank levers pivotally secured to the upper ends of said plates, said bell crank levers being fulcrumed to the heads, rods pivotally connected to said bell crank levers, and springs carried on said rods.

2. An automatic coupling of the character described comprising in combination, mating members, each of which includes a head, said head being provided with conduits therethrough, a pair of fingers mounted on one of said heads and arranged parallel, said fingers extending toward the other head and having their ends formed so as to flare outwardly, a finger mounted on the other of said head and arranged to enter between said first mentioned fingers, said last mentioned finger having a recess therein, and a catch member mounted on said first mentioned head so as to move in a line transverse to the movement of said last mentioned finger and arranged to engage said recess when the heads are together.

3. An automatic coupling of the character described comprising in combination, mating members, each of which includes a head, said head being provided with conduits therethrough, a pair of fingers mounted on one of said heads and arranged parallel, said fingers extending toward the other head and having their ends formed so as to flare outwardly, a finger mounted on the other of said heads and arranged to enter between said first mentioned fingers, said last mentioned finger having a recess therein, a catch member mounted on said first mentioned head so as to move in a line transverse to the movement of said last mentioned finger and arranged to engage said recess when the heads are together, and means for operating said latch member from a point remote from said heads.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents, Washington, D. C.”