A. MEHTÄLA.

RAILWAY COUPLING.

APPLICATION FILED JULY 24, 1917.

1,263,584.

Patented Apr. 23, 1918.

2 SHEETS—SHEET 1.

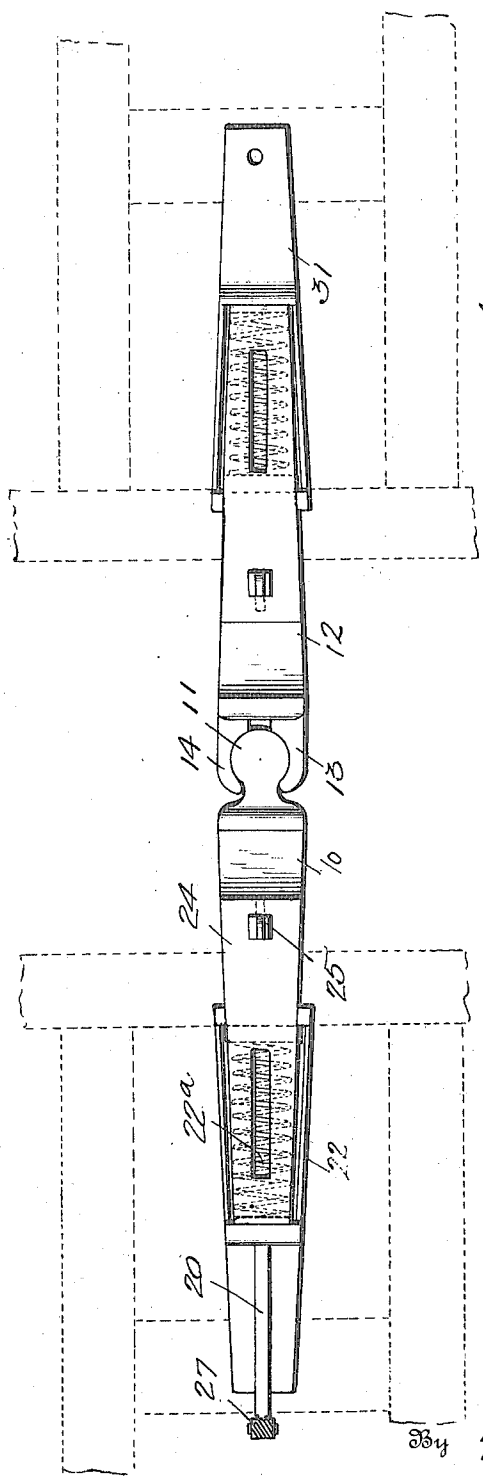


Fig. 1.

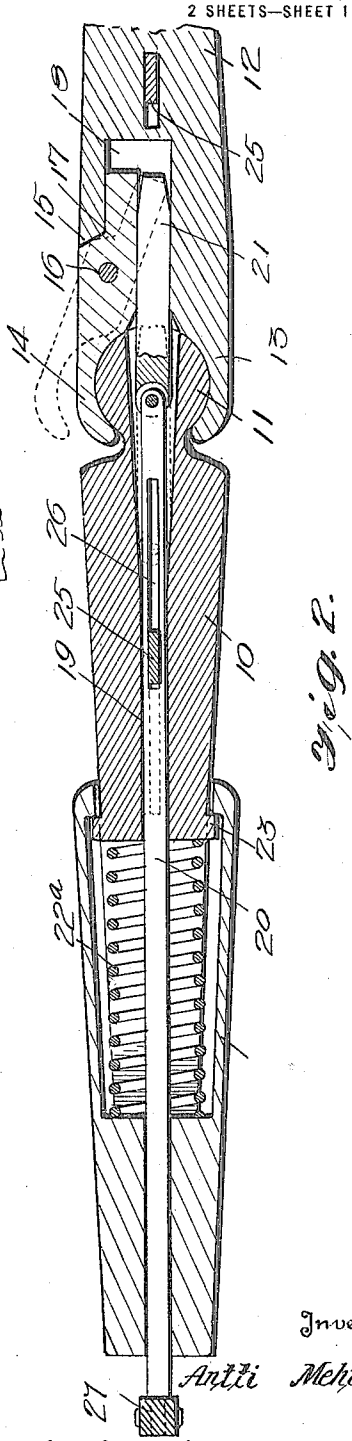


Fig. 2.

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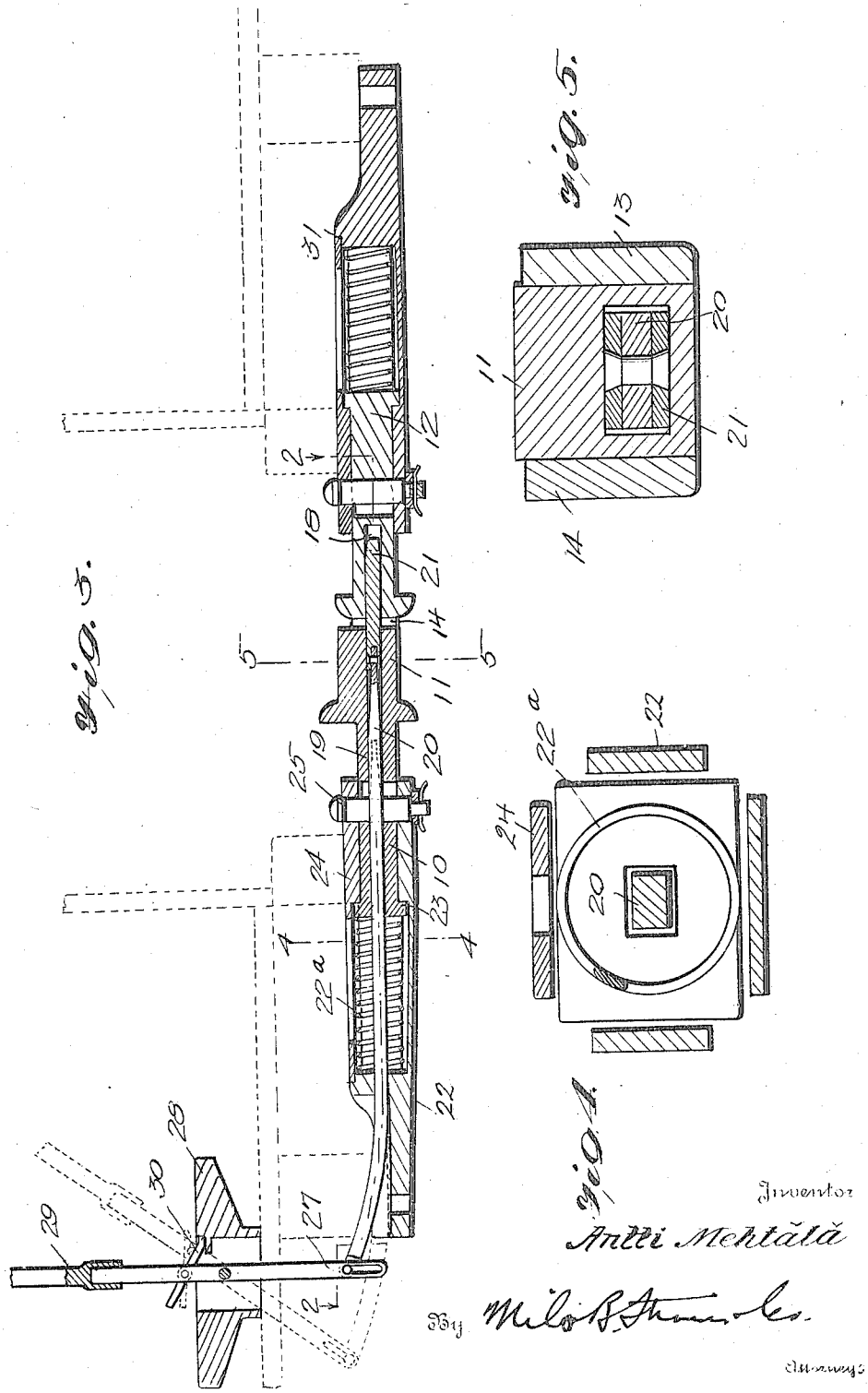
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UNITED STATES PATENT OFFICE.

ANTTI MEHTÄLÄ, OF DETROIT, MICHIGAN.

RAILWAY-COUPLING.

1,263,584. Specification of Letters Patent. Patented Apr. 23, 1918.

Application filed July 24, 1917. Serial No. 182,493.

To all whom it may concern:

Be it known that I, ANTTI MEHTÄLÄ, citizen of Russia, declared intention to become citizen of United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Railway-Couplings, of which the following is a specification.

This invention relates to devices for coupling railway cars together, and its object is to provide a novel and improved coupler which can be operated only from the inside of the car, thus precluding the possibility of one or more cars being uncoupled from a train by robbers.

The invention also has for its object to provide a coupler which is simple and which will securely hold and readily respond to side movements of the car when going around curves.

Other objects and advantages of the invention will be pointed out in the detailed description appearing hereinafter and in order that the same may be better understood, reference is had to the accompanying drawings forming a part of the specification.

In the drawings

Figure 1 is a plan view of the coupling;

Fig. 2 an enlarged horizontal section on the line 2—2 of Fig. 3;

Fig. 3 is a central longitudinal section; and

Figs. 4 and 5 are enlarged cross-sections on the line 4—4 and 5—5, respectively of Fig. 3.

Referring specifically to the drawings, the coupling is composed of two coacting members, one of which is carried at one end of the car and the other one being carried by the opposite end of the other car.

One of the coupling members is composed of a draw bar or shank 10 having at its outer end a head 11 which is substantially circular in horizontal section.

The other coupling member is composed of a shank or draw bar 12 having at its outer end a socket in which the head 11 is adapted to seat and be held therein. The socket is formed by two opposite jaws 13 and 14 shaped to fit around the side of the head 11. The jaw 13 is fixed, it being formed integral with the draw bar 12. The jaw 14 is pivoted to the draw bar 12 so that it may swing outward of the fixed jaw, to release the head 11. In the side of the draw bar 12 is a slot 15 in which seats and is pivoted by a pin 16, a shank 17 extending rearward from the jaw 14. Back of the two jaws, the draw bar 12 has a recess 18. The rear end of the jaw shank 17 has a reduced portion extending from the slot 15 into the recess 18 and fitting up against one of the side walls of the latter and spaced from the opposite side wall when the jaw is closed, as shown in Fig. 2.

The draw bar 10 has a longitudinal recess 19 which is continued through the head 11. In this recess is slidably mounted a rod 20 having pivotally connected to its outer end a pin 21 adapted to be projected forwardly from the head 11 to seat in the recess 18 alongside the shank 17, in which position of the pin, the jaw 14 is locked on the head 11 as it cannot swing away from the latter, the pin preventing the shank 17 from swinging in a direction to carry the jaw away from the head. Upon withdrawing the pin 21 so that it is no longer in the recess 18 alongside the shank 17, the latter can swing in a direction to take the jaw off the head as shown dotted in Fig. 2, whereupon the two coupling members are free to separate.

The coupling action is automatic. When the head 11, with the pin 21 projecting forwardly therefrom approaches the jaws 13 and 14, the head, upon striking the jaw 14, forces the same open, and when the pin strikes the shank 17, the jaw swings closed and is held closed by the pin. Upon withdrawing the pin, the jaw is released, and the two members are free to separate when either one moves away from the other. The engagement of the shank 17 with the adjacent side wall of the recess 18 prevents the jaw 14 from swinging far enough toward the jaw 13 to prevent the former from swinging open when struck by the head 11. The circular shape of the head 11 and the engaging faces of the jaws 13 and 14 form a flexible connection similar to a ball-and-socket joint between the coupling members, and they are therefore free to swing laterally when the cars are going around a curve. It will be noted that the forward end of the opening 19 is flared and the rear end of the pin 20 seats therein so as not to interfere with the free lateral movement of the two coupling members relative to each other.

The draw bar 10 is carried by a draft gear suitably mounted on the car sills or bottom. This draft gear is a longitudinal housing 22 in which the draw bar is slidably supported and from which its forward end

carrying the head 11 projecting with a spring 22ª interposed between the rear end of the draw bar and the rear end wall of the housing to receive and dissipate the shocks received by the coupling, and thus prevent the same from damaging the car. The draw bar is prevented from being withdrawn from the housing by a shoulder 23 on its rear end opposite the forward end of the housing wall.

The top of the housing 21 is closed by a plate 24, through which and the bottom of the housing, passes a pin 25, said pin also passing through a longitudinal slot 26 in the rod 19.

The rod 19 projects from the rear end of the housing 21ª, and to its rear end is connected an actuating lever 27 fulcrumed to support 28 inside the car. The lever is operated by connecting a suitable handle 29 to its upper end inside the car. A latch 30 is also provided for locking the lever. It will therefore be seen that the cars cannot be uncoupled from the outside, and only an authorized person, familiar with the location and operation of the parts can effect the uncoupling of the car.

The draw bar 12 is carried by a draft gear 31 constructed in substantially the same manner as the draft gear 22.

I claim:—

1. A car coupling comprising a pair of coacting members, one of which has a head, and the other member having a socket to receive the head, said socket being formed by a fixed and a movable jaw, said movable jaw having a shank, and the member carrying said jaw having a recess into which the shank extends in spaced relation with one of the side walls thereof, a slidable pin carried by the head and movable to project therefrom and enter the recess to seat alongside the aforesaid jaw shank to lock the jaw, and actuating means for the slidable pin.

2. A car coupling comprising a pair of coacting members, one of which has a head, and the other member having a socket to receive the head, the head and the socket being shaped to produce a ball-and-socket joint between the members, said socket being formed by a fixed and a movable jaw, said movable jaw having a shank, and the member carrying said jaw having a recess into which the shank extends in spaced relation with one of the side walls thereof, a slidable pin carried by the head and movable to project therefrom and enter the recess to seat alongside the aforesaid jaw shank to lock the jaw, and actuating means for the slidable pin.

3. A car coupling comprising a pair of coacting members, one of which has a head, and the other member having a socket to receive the head, said socket being formed by a fixed and a movable jaw, said movable jaw having a shank, and the member carrying said jaw having a recess into which the shank extends in spaced relation with one of the side walls thereof, a slidable pin carried by the head and movable to project therefrom and enter the recess to seat alongside the aforesaid jaw shank to lock the jaw, actuating means for the slidable pin, and a controller for said actuating means located in the car carrying the first mentioned coupling member.

4. A car coupling comprising a pair of coacting members, one of which has a head, and the other member having a socket to receive the head, said socket being formed by a fixed and a movable jaw, said movable jaw having a shank, and the member carrying said jaw having a recess into which the shank extends into spaced relation with one of the side walls thereof, a slidable pin carried by the head and movable to project therefrom and enter the recess to seat alongside the aforesaid jaw shank to lock the jaw, the member which carries the head having a longitudinal opening which is continued through the head, to receive the aforesaid pin, an actuating rod slidably mounted in said opening, and connected to the pin, and means for operating the rod.

5. A car coupling comprising a pair of coacting members, one of which has a head, and the other member having a socket to receive the head, the head and the socket being shaped to produce a ball-and-socket joint between the members, said socket being formed by a fixed and a movable jaw, said movable jaw having a shank, and the member carrying said jaw having a recess into which the shank extends in spaced relation with one of the side walls thereof, a slidable pin carried by the head and movable to project therefrom and enter the recess to seat alongside the aforesaid jaw shank to lock the jaw, the member which carries the head having a longitudinal opening which is continued through the head to receive the aforesaid pin, an actuating rod slidably mounted in said opening, and pivotally connected to the pin, and means for operating the rod.

In testimony whereof I affix my signature.

ANTTI MEHTÄLÄ.

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