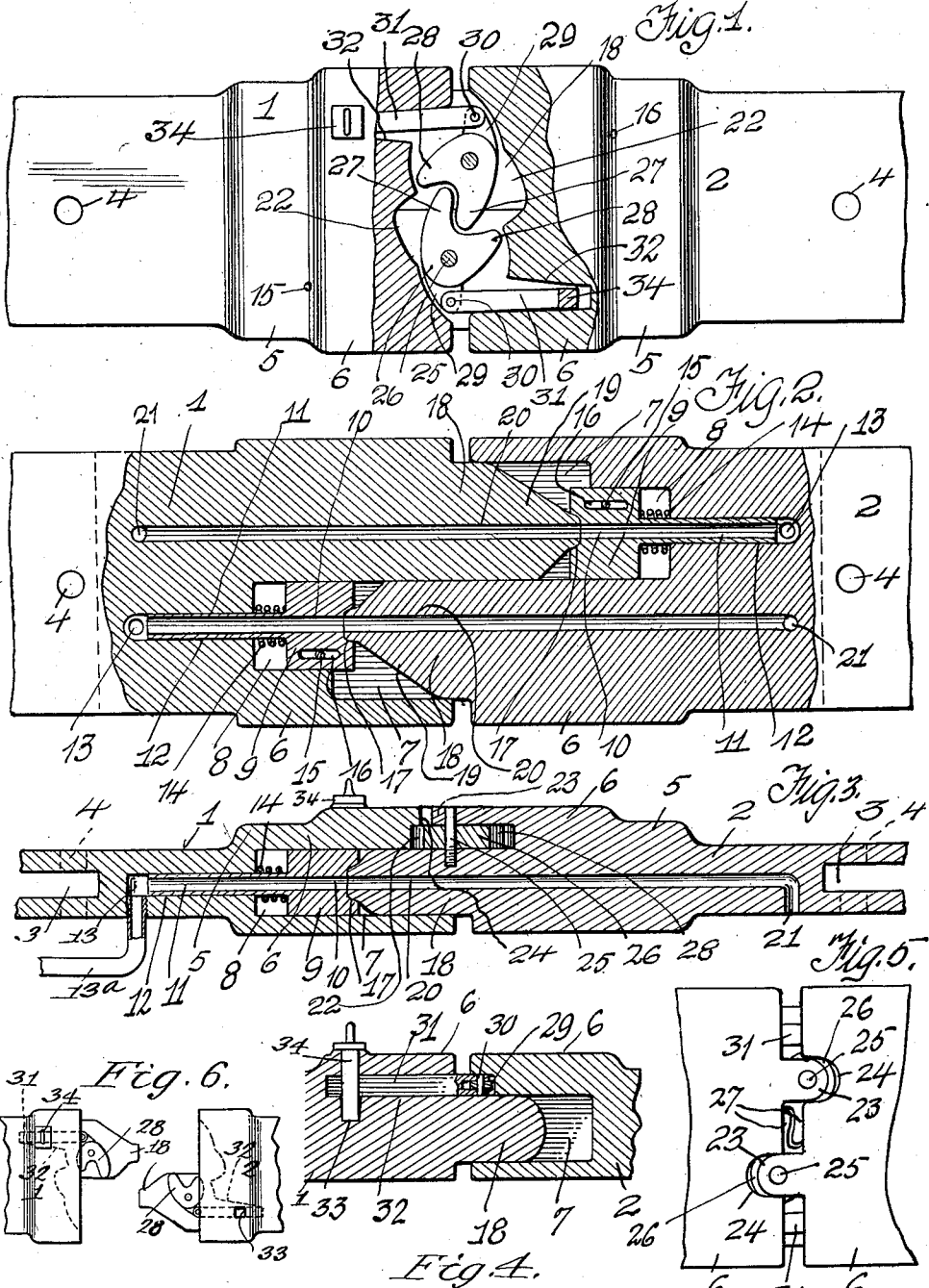


J. A. STERNER.
CAR COUPLING.

APPLICATION FILED MAY 5, 1910.

1,008,872.

Patented Nov. 14, 1911.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN A. STERNER, OF BRADDOCK, PENNSYLVANIA.

CAR-COUPLING.

1,008,872.

Specification of Letters Patent. Patented Nov. 14, 1911.

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To all whom it may concern:

Be it known that I, JOHN A. STERNER, a citizen of the United States of America, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to car couplers particularly designed for street railway cars, although applicable to other types of cars, for instance steam railway cars.

15 The object of my invention is to provide a coupler for detachably connecting the confronting ends of two cars and at the same time establish a connection between the pipes of an air brake system or other air conveying pipes used in connection with the cars for controlling the brakes or other devices about the cars.

20 I attain the above object by coupler heads in connection with which knuckles are employed for locking the heads together and beneath the knuckles provision is made for forming an air-tight connection between said heads, whereby air or steam can be transferred from one car to another, thus dispensing with the use of flexible connections, as hose as used at present in connection with various types of cars.

25 The invention will be hereinafter specifically described and then claimed, and reference will now be had to the drawing forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, shape and manner of assemblage within the scope of the appended claim without departing from the spirit of the invention.

30 In the drawing:—Figure 1 is a plan of the coupler partly broken away and partly in horizontal section, Fig. 2 is a horizontal sectional view of a portion of the coupler, Fig. 3 is a vertical longitudinal sectional view of the coupler, Fig. 4 is a vertical longitudinal sectional view of a portion of the same, and Fig. 5 is a plan of a portion of the coupler.

35 In the accompanying drawing the reference numerals 1 and 2 denote coupler heads adapted to confront each other and be connected together, said heads having the outer ends thereof bifurcated, as at 3 and provided

with vertical openings 4 whereby they can be connected to draw bars of cars (not shown).

40 The heads 1 and 2 are identical in construction, therefore for the detail construction of each head, I deem it only necessary to describe one of said heads. The head 1 is provided with an enlargement 5 and an enlargement 6, the enlargement 5 being intermediate the ends of the coupler head and of a less length than the enlargement 6. The enlargements 5 and 6 adjacent to one side of the coupler head are provided with guide sockets 7 opening into recesses 8, said recess being in communication with the socket 7 and both said socket and recess are rectangular in cross section, with the socket 7 of a greater length than the recess 8. Movable mounted in the recess 8 is a spring pressed head 9 provided with a longitudinal bore 10 in communication with a rearwardly extending pipe 11 carried by the head 9, said pipe extending into a longitudinal bore 12 formed in the head 1 and communicating with a downwardly extending outlet port 13. It is to this port 13 that an air pipe 13^a is connected. Encircling the pipe 11 between the rear end of the recess 8 and the rear side of the head 9 is a coiled compression spring 14 adapted to normally retain the head 9 at the forward side of the recess 8, said head being limited in its movement by a vertical pin 15 extending downwardly through the enlargement 6 and through a longitudinal slot 16 provided therefor in the head 9 to one side of the bore 10. The forward end of the head 9 is cut away to provide an annular seat 17 surrounding the forward end of the bore 10, the purpose of which will presently appear.

45 The enlargement 6 of the head 1 contiguous to the opposite side of said head from the socket 7 is provided with a projection 18 having the forward end thereof pointed or tapered, as at 19. This projection in connection with the enlargements 5 and 6 is provided with a longitudinal bore 20 extending from the forward end of the projection 18 rearwardly into the head 1 where it communicates with a vertical port 21 extending to the bottom of the coupler head 1. The base of the projection in cross section corresponds to the cross sectional area of the socket 7, while the bore 20 is of the same diameter as that of the bore 10 of the head 9.

50 The enlargement 6 of the head 1 above

the projection 18 and the socket 7 is cut away to provide a knuckle compartment 22 and the end of said enlargement is provided with a lug 23, serving functionally as an extension whereby the upper wall of the enlargement 6 can be provided with an opening 24 to accommodate a vertical pivot pin 25 having the lower end thereof mounted in the projection 18 of said head. Upon this pin is pivotally mounted a knuckle 26 having a locking jaw 27, a contact jaw 28 and an apertured lug 29. Pivotally connected to the lug 29 by a pin 30 is a bar 31 extending into an opening 32 provided therefor in the enlargement 6, said opening being in communication with a vertical pin socket 33 adapted to accommodate a pin 34.

With the pins 34 withdrawn or in a raised position and the jaws 27 in an open position and the coupler heads separated, I will assume that the heads are brought together to be coupled. As these heads are moved together the locking jaws 27 of the knuckles 26 impinge the contact jaws 28 and swing the knuckles upon the pivot pins 25 until the locking jaws 27 have become interlocked with the bars 31 sufficiently moved in the openings 32 to allow the pins 34 to drop into the sockets 33 and prevent a rearward movement of the bars 31, the pins 34 engaging behind the rear ends of the bars 31, thus holding the knuckles in a locked position until the pins are withdrawn. The projection 18 of the head 1 is adapted to enter the socket 7 of the head 2, the end of said projection engaging in the seat 17 of the head 9 of the draw head 2, while the projection of the head 2 enters the socket 7 and engages the head 9 of the coupler head 1. The tension of the springs 14 is sufficient to normally retain the heads 9 in engagement with the ends of the projections 18, whereby an air-tight connection will be established be-

tween the bores 10 and 20 of the coupler heads.

The coupler in its entirety is made of strong and durable metal and through the medium of the projections 18 is adapted to form a rigid connection between the coupler heads.

Having now described my invention what I claim as new, is:—

In a car coupler a pair of heads having the opposing faces thereof each provided with a tapering projection, each of said heads further having an inlet port, an outlet port, and a pair of longitudinal bores 12—20, the bores 20 of a length to extend through said projections and open into the inlet ports, the bores 12 opening into the outlet ports, each of said heads further provided with a guide socket and a recess, said sockets opening into said recesses and said recesses opening into the ports 12, spring-controlled movable heads arranged in said recesses and extending into said sockets and each provided with a bore 10, each of said movable heads having its outer face cut-away to provide an annular seat opening into the bore 10, a pipe projecting from the inner face of each of said movable heads and forming a continuation of the bore 10 and extending into the bore 12, said projections adapted to extend into said sockets and engage said seats whereby communication is established between the bores 10 and 20, of engaging couplers and pivoted knuckles carried by said coupler heads and adapted to couple them together and maintain the ends of the projections against said seats.

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

JOHN A. STERNER.

Witnesses:

K. H. BUTLER,

JOHN L. STEPHANY.