T. H. MOTT.

Apparatus for Heating and Ventilating Railroad Cars.

No. 141,372. Patented July 29, 1873.

Fig. 1.

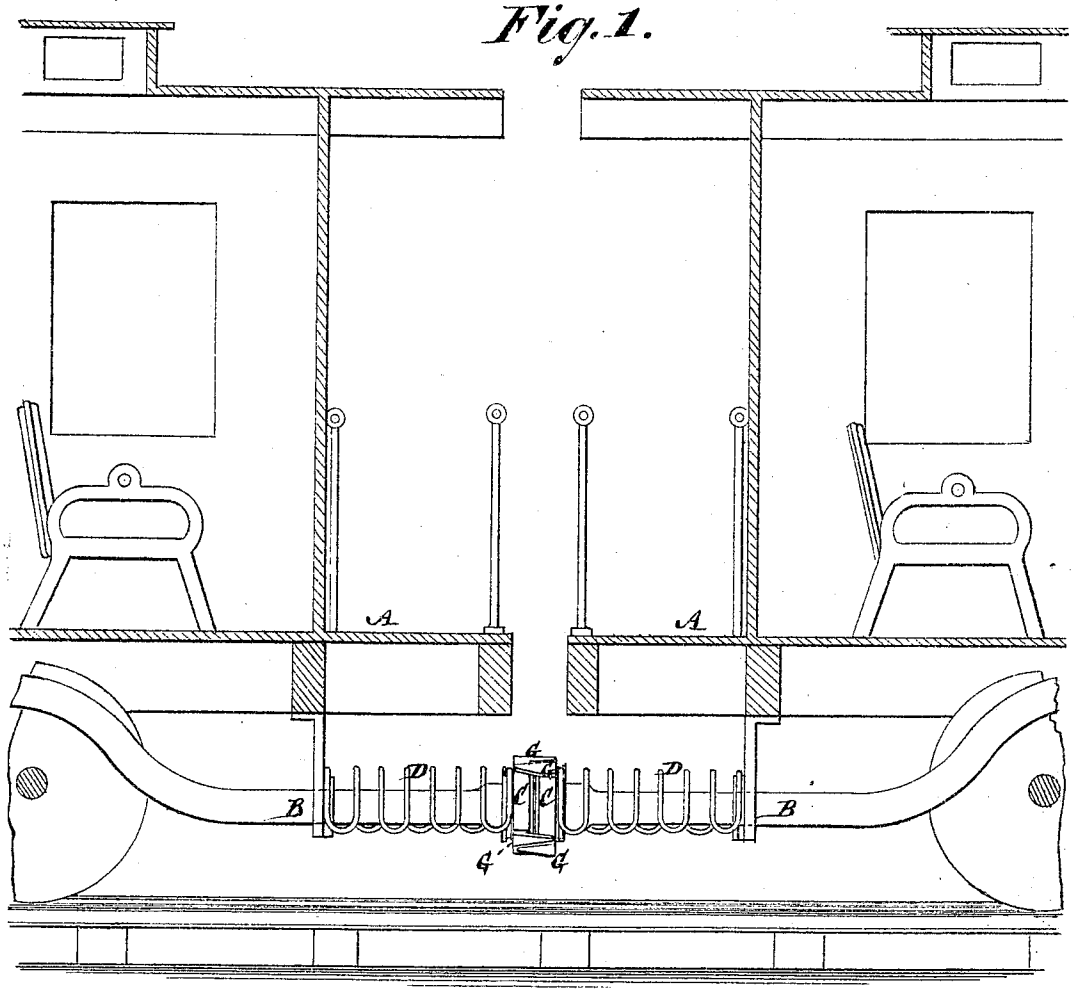
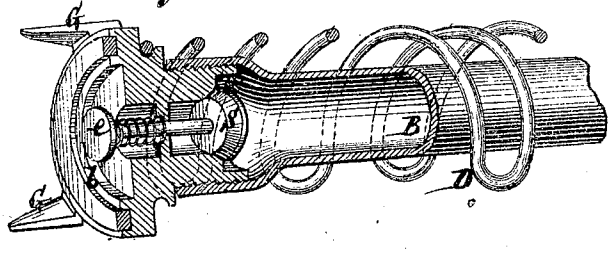


Fig. 2.



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THOMAS H. MOTT, OF NEW YORK, N. Y.

IMPROVEMENT IN APPARATUS FOR HEATING AND VENTILATING RAILROAD CARS.

Specification forming part of Letters Patent No. **141,372**, dated July 29, 1873; application filed May 2, 1873.

To all whom it may concern:

Be it known that I, THOMAS H. MOTT, of the city, county, and State of New York, have invented Improvements in Apparatus for Heating and Ventilating Railroad Cars, also applicable to other purposes, of which the following is a specification:

This invention relates to means for automatically establishing or breaking tubular connection between the cars or engine and cars of a train for warming and ventilating purposes, or for transmitting power from the engine applicable to working the brakes, the tubular communication between the cars when established serving either to convey steam, air, or water, as circumstances may direct and according to the purpose required, and being provided with suitable attachments or outlets to suit any particular purpose, also being arranged either below the cars or above and within them, as occasion may require. The invention will here, however, be described as arranged below the floors of the cars, and as being used to convey steam from the engine or its boiler. The invention consists, first, in a novel construction of the automatic coupling-joint at the ends of the length of tube pertaining to each car or vehicle in the train, by the combination, with a rubber or equivalent flexible tube through which the steam or other vapor or fluid is passed, of an outside spring made or left open below, and arranged so that it is compressed in bringing the two sections or halves of the automatic joint together, by which construction of spring the rubber tube in sagging is free from abrasion by the spring, and facility is afforded for attaching or detaching the tube as required. The invention also consists in providing the two coupling-heads of the automatic coupling with tooth-shaped guides projecting beyond the faces or ends of said heads, at suitable distances apart around their peripheries, whereby the two half-couplings are automatically guided, when brought together, to their requisite relative positions, and the faces of the coupling are kept in contact against disturbance by irregular or oscillating motion of the cars without, however, restraining the independent motion of the latter, and providing for either end of the car to be coupled foremost.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a vertical longitudinal section of two cars, in part, with my invention applied thereto; Fig. 2, a view in perspective, upon a larger scale, of the one-half coupling with rubber tube attached.

Similar letters of reference indicate corresponding parts.

A A represent the two cars of a train, and B B sections or lengths of rubber tube through which the steam, air, or fluid is conveyed from car to car. C C are the half-couplings or heads, one of which is fitted to each end of the flexible tube B carried by the car, and which are of similar construction at both ends throughout the whole series of coupling-heads in the train, so that it is immaterial which end of any car be foremost. Each coupling-head C is carried by an arched, spiral, or other spring, D, arranged outside of its tube B, and free from contact therewith, and which spring, being open below, does away with any possibility of abrasion of the rubber tube by the spring incidental to the sagging of the tube; hence, this construction of automatic coupling which, although it closes by compression of the springs on the two half-couplings or heads being brought together, essentially differs from a continuous circular spiral spring arranged on the inside of a mere flexible clothing in contact with the spring. Each coupling-head C is fitted on its face with a rubber or other flexible packing-ring, *b*, to make close the joint when the two half-couplings are brought together, and each coupling-head is furnished on its periphery with any number of wedge or tooth-shaped guides, G, arranged to project beyond the faces or ends of said heads, and so that on bringing the two half-couplings or heads C C together the latter are automatically guided by the projections or guides G of the two heads to their required relative positions, and the faces of the coupling are kept in contact against disturbance by vibratory motion of the cars, without restricting, however, the independent motion of each car. Furthermore, each half-coupling C is provided with a check-valve, S, closing outward, either by pressure of the steam or fluid from within the tube B or by a spring, or both, and the

stem of which valve is extended outward, and fitted with a button or projection, *e*, which, when the valve is closed, projects beyond the face of the half-coupling or head carrying said valve, so that on the two half-couplings or heads C C being brought in contact the valves of the contiguous heads are automatically opened by the meeting of the buttons *e* of said valves, whereby communication is established between the tubes B B; but when the cars are disconnected the valves S close and prevent escape of the steam or fluid from the tubes.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the springs D of a spiral-arched construction, or made open below, with the rubber or flexible tubes B, arranged to pass within said springs, and the half-couplings or heads C carried by said springs, substantially as specified.

2. The coupling-heads C provided on their peripheries with wedge or tooth-shaped guides G, arranged to project in front of the faces of said heads, essentially as described.

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