

(No Model.)

M. HURLY.
HEATING RAILWAY CARS.

No. 289,265.

Patented Nov. 27, 1883.

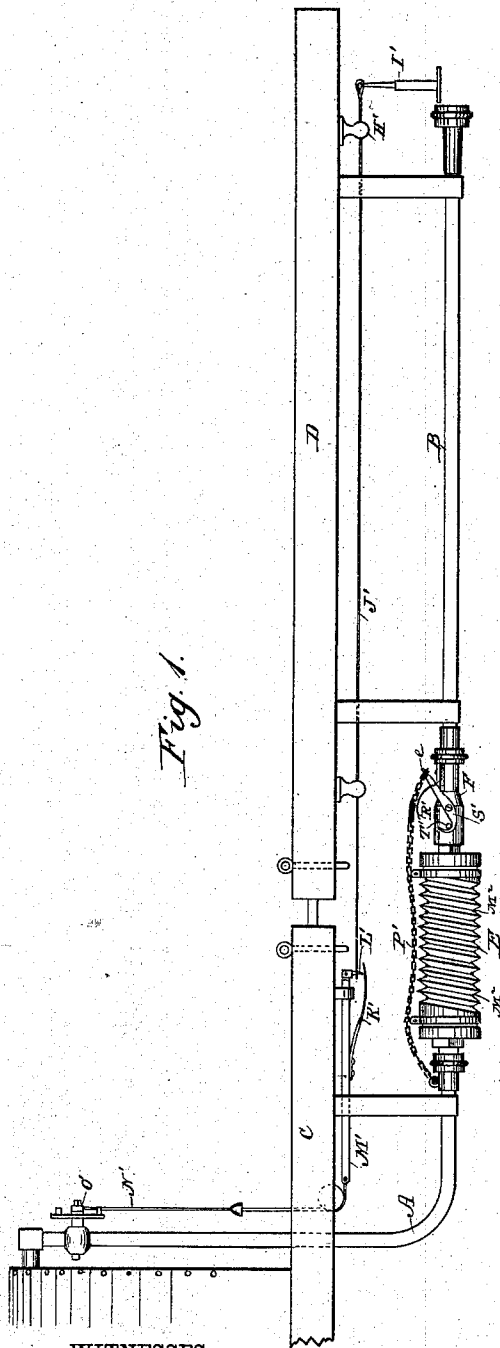


Fig. 1.

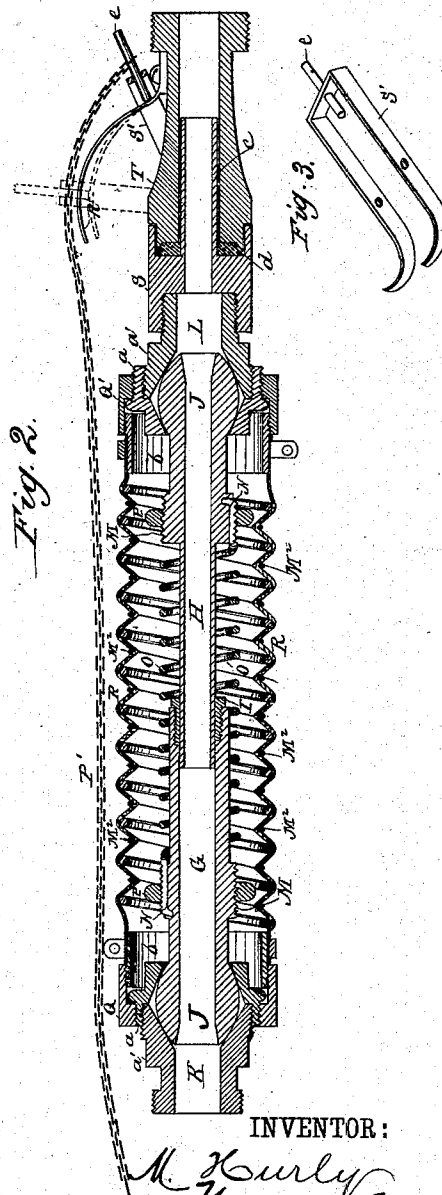


Fig. 2.

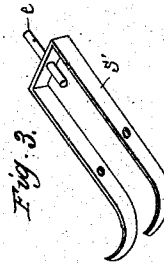


Fig. 3.

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HEATING RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 289,265, dated November 27, 1883.

Application filed February 26, 1883. (No model.) Patented in Canada May 4, 1882, No. 14,702.

To all whom it may concern:

Be it known that I, MICHAEL HURLY, a subject of the Queen of Great Britain, residing at Quebec, in the Dominion of Canada, have invented a new and useful Improvement in Safety-Couplings for Steam-Heating Pipes for Railway-Cars, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates more particularly to safety-couplings for connecting steam-conducting pipes between railway-cars; and the invention consists of the novel features of construction hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of two railway-trucks, showing my invention, and Fig. 2 is a longitudinal section of the coupling for the steam-pipes. Fig. 3 is a perspective view of the coupling-hook.

It is common to arrange steam-pipes underneath railway-cars and couple them together by means of couplings having a sliding joint at the center, and adapted to form ball-and-socket joints with the pipes. While I employ such a coupling in my invention, I connect the two sliding parts of the coupling together by a spiral spring, in order that said parts shall not be separated, to the end of securing a more perfect steam-tight joint, and provide an independent safety-coupling at a point beyond the main coupling.

A B indicate two sections of steam-pipe secured underneath the trucks C D, respectively, and connected by the couplings E F. The coupling E consists of the sections G and H, one of which is adapted to slide in the other, with a packing, I, between them, and which form ball-and-socket joints J J with the sections K L. The sections G H are provided with external threads, M, and transverse recesses N, in which recesses the ends of a spiral spring, O, inclosing said sections, are secured by annular nuts P, screwing over the same. The sections K L are formed of two parts, *a a'*, one screwing into the other, and over the parts *a*, which are externally threaded, are screwed collars Q Q', which also screw over the metallic ends *b* of the bellows-like casing R. Over one of the parts, *a'*, is screwed a section, S, having a reduced portion, *c*, and packing *d*, to form a

steam-tight joint with a section, T, which is held in engagement with the section S by the double hook S' and the pins or lugs T' on said sections, respectively. The section T screws into the pipe B, and the part *a'* of the section K screws into the pipe A. The pivoted hooks S' are provided with a retaining-spring, R', and by means of a projection, *e*, on the hooks a chain, P', which is hooked to the pipe A, is to be attached to said hooks when the train is made up. When the cars are separated, either by accident or design, the tension thrown upon the chain will oscillate the double hook against the tension of its retaining-spring, as shown in dotted lines, and uncouple the sections S T without interfering with the coupling E.

To prevent danger from the escape of steam when the pipes become accidentally uncoupled, I provide the valve-lever O' with a cord or wire, N', which passes down through the truck C and connects to a sliding rod, M', which is provided with a pivoted catch, L', at its rear end, and a curved retaining-spring, K', for holding the point of the catch. The truck D is provided with a cord or wire, J', having a loop which is to be placed in engagement with the catch L', and having at its rear end a stop, I', adapted to be drawn against the support H' when the truck D becomes accidentally detached from the truck C. The tension thus put upon the wire J' will draw the rod M' rearward, and thus depress the valve-lever O' to the position for shutting off steam. As soon as the said lever is thus operated the rod M' will cease to yield to the tension exerted by wire J', owing to the shortness of the wire N', and the increased tension exerted upon the catch L' and on the point of the spring K' will cause the catch to be released from the spring, when the wire J' will be detached from the rod M'. In this manner the steam is automatically shut off quite or nearly simultaneously with the uncoupling of the cars, and all danger from accidental escape of steam is thereby avoided.

The bellows-like casing R is formed of a coil-spring having a suitable fabric wrapped around the same and drawn inward by a continuous cord, M², to form creases between the folds of the wire.

The main leading heating-pipe may be either

of iron or vulcanized india-rubber or similar materials. Should the former be used, by firmly securing it underneath the cars at a point in their center, sufficient spring will be had to allow of the ends having any requisite direction, for the purpose of connection by link, and would be a matter of convenience. The ends are to be secured by clips to the wood-work of the cars.

It is intended to distribute the heat through the several cars by means of pipe tapping the main leader, the direction or position of which must be determined or controlled by convenience. The requisite valves, stop-cocks, &c., must also be regulated by the construction of different railway-cars. Under each main leader it is intended to place two condensers to receive and discharge the water, which would otherwise obstruct the passage of the steam through the main leader. The main leader is to be incased with two coverings of vulcanized india-rubber, to prevent contact with the cold air, thereby avoiding the rapid condensation of steam.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the sections G and H, forming a sliding joint with each other, of the spiral spring O, having its ends secured to said sections, respectively, substantially as shown and described, whereby said sections shall accommodate themselves to the move-

ments of the cars, but shall not be uncoupled from each other.

2. The combination, with the pipes A B, of the coupling E, having the sections G and H, formed with a sliding joint at their juncture and ball-and-socket joints at the ends, and the spiral spring O, connecting the sections G and H, to prevent separation thereof, and the coupling F, adapted for uncoupling the pipes, substantially as shown and described.

3. The combination, with the pipes A B and the sliding coupling E, of the coupling F, the spring-retained hook S', and the chain P', connected to said hook and adapted to uncouple the latter coupling automatically, substantially as shown and described.

4. The combination, with the pipes A B and means for uncoupling them automatically, of the wires J' and N' and the rod M', constructed and arranged as described, and adapted to operate the valve-lever O', to shut off steam simultaneously with the accidental uncoupling of the cars, as specified.

5. The bellows-like casing R, formed of a coil-spring having a fabric wrapped around the same and drawn inward between the folds of the wire by a continuous cord, substantially as shown and described.

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Witnesses:

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