C. E. AUSTIN.

Journal-Cooling Attachment for Railway-Cars.

No. 219,198. Patented Sept. 2, 1879.

Fig: 1.

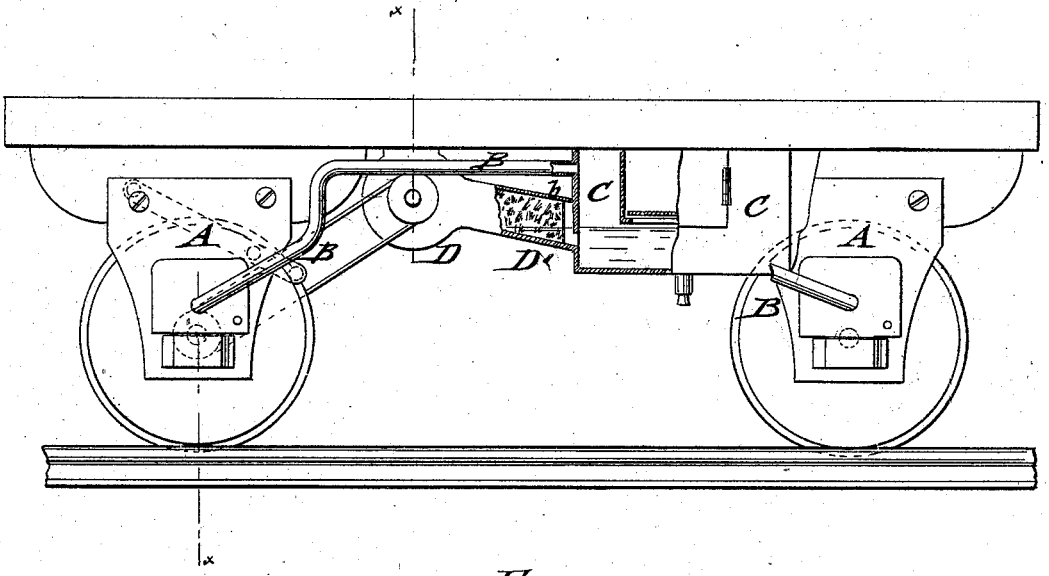
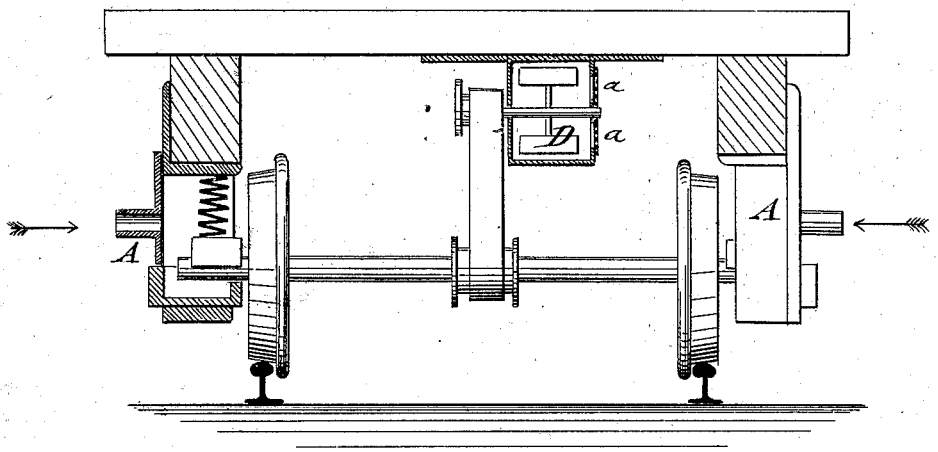


Fig: 2.



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CHARLES E. AUSTIN, OF BATH-ON-THE-HUDSON, NEW YORK.

IMPROVEMENT IN JOURNAL-COOLING ATTACHMENTS FOR RAILWAY-CARS.

Specification forming part of Letters Patent No. **219,198**, dated September 2, 1879; application filed July 30, 1879.

To all whom it may concern:

Be it known that I, CHARLES EDWARD AUSTIN, of Bath-on-the-Hudson, county of Rensselaer and State of New York, have invented certain new and useful Improvements in Journal-Cooling Attachments to Railroad-Cars, of which the following is a specification.

In the accompanying drawings, Figure 1 represents a sectional side elevation of a car-truck with my improved journal-cooling attachment to railroad-cars; and Fig. 2 is a vertical transverse section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide effective and reliable means by which the heating of car-axle journals is avoided, and a considerable saving in lubricating-oil obtained.

The heating and burning of car-axles are mainly due to the friction of the journals of the car-axle with the bearings in the presence of dust or other frictional matter, which enters between the brass bearing and the journals. The greater the friction between journal and bearing the greater the danger of heating, and consequently the consumption of lubricating material.

The means by which hitherto the heating of the journals was prevented consisted, essentially, in supplying a sufficient quantity of lubricating material to the journal, and in excluding the dust by means of dust-guards and similar devices. As these devices are not reliable in all cases, a large consumption of lubricants and the frequent burning of the journals are the result.

My invention is designed to obviate these defects; and it consists, mainly, in cooling the journals by a continuous current of air of low temperature, that is forced onto the journals by means of a fan revolved by belt-and-pulley connection with the car-axle. The air passes through screens and through a refrigerating water-box, being cleaned from all impurities in its passage through the same, and finally conducted through flexible connecting-tubes to the axle-boxes and journals.

Referring to the drawings, A represents a car-axle box of any approved construction, which is connected by a flexible pipe, B, with a cooling water-box, C, at the under side of the car or truck frame.

The pipe B is preferably partly of gas-pipe and partly of rubber hose, the flexible portion being applied to the lid of the car-axle box, as shown.

All the axle-boxes of the truck are connected with the cooling-box C, into which a current of air is forced by a fan, D, which is revolved by belt-and-pulley connection with one of the truck-axles. As soon as the cars are in motion the fan is thrown into operation, and the air is drawn in by the same and forced through a connecting trunk, D′, to the cooling-box C.

The air-entrance opening of the fan-casing is provided with a coarse wire screen, *a*, that prevents the entrance of larger impurities, while the air-trunk D is provided with one or more dust-screens, *b*, the air being finally passed through a body of water in the lower part of the cooling-box, and thereby not only freed of all dust, but also cooled to some extent by the passage through the water.

The water may be further cooled by means of ice, which is placed into a central ice-chamber of the cooling-box, the air being cooled by contact with the walls of the ice-chamber.

The continuous current of cool air which is thus thrown on the journal serves not only to keep the journals cool, but also to prevent, by the internal pressure of air, the passage of dust to the journals. The journals are thereby kept cool, which, in connection with the absence of dust, produces a considerable saving in lubricating material.

In place of the dust-screens *b*, a sponge filling may be used, which is kept moist by the water in the cooling-box. The water-box may be readily cleaned by making the bottom of the ice-chamber removable, and arranging a discharge pipe and cock in the bottom of the cooling-box.

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

1. The combination of a cooling water-box attached to the car or truck frame, a connecting trunk with a revolving air-fan and air-pipes, with the journal-boxes, substantially as and for the purpose set forth.

2. The combination of the car-axle boxes and connecting air-pipes with a cooling-box and revolving air-fan, the cooling-box and fan-casing being provided with screens or other devices for retaining the dust, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 26th day of July, 1879.

CHS. E. AUSTIN.

Witnesses:
PAUL GOEPEL,
CARL KARP.