S. R. & O. V. WALLACE.

RAILWAY-CAR.

No. 186,387. Patented Jan. 16, 1877.

Fig. 1.

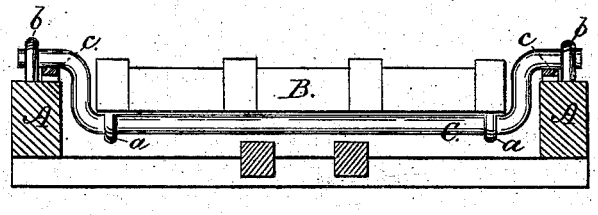
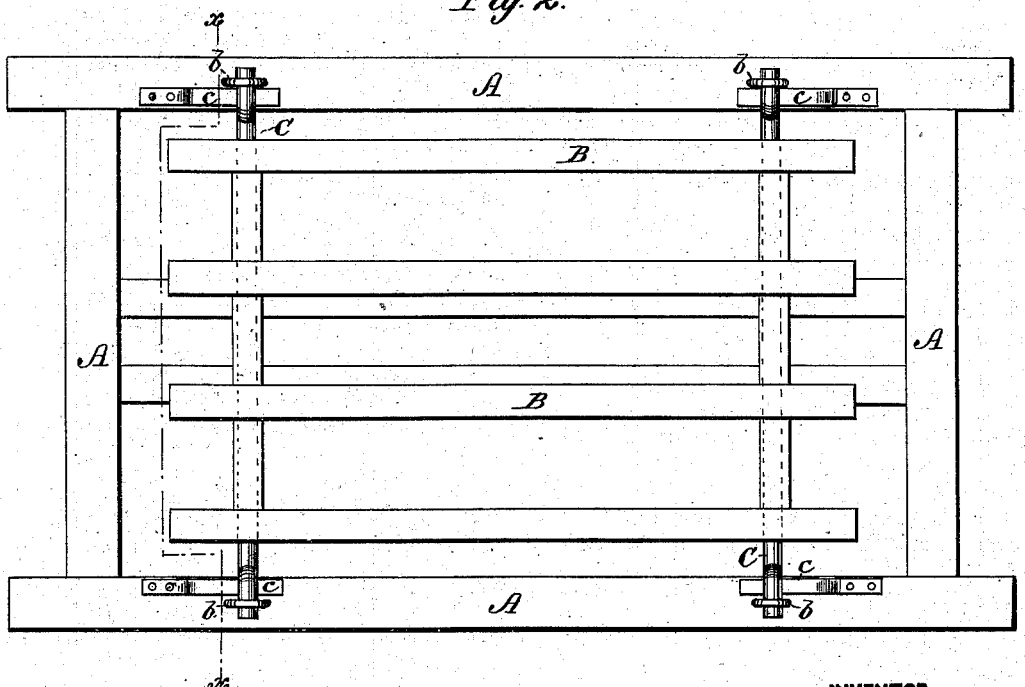


Fig. 2.



WITNESSES:

W. W. Hollingsworth

Solon C. Kemon

INVENTOR:

S. R. Wallace

O. V. Wallace

BY

Munn & Co

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL R. WALLACE AND OLIVER V. WALLACE, OF SAN FRANCISCO, CAL.

IMPROVEMENT IN RAILWAY-CARS.

Specification forming part of Letters Patent No. **186,387**, dated January 16, 1877; application filed November 2, 1876.

To all whom it may concern:

Be it known that we, SAMUEL R. WALLACE and OLIVER V. WALLACE, of the city and county of San Francisco, and State of California, have invented a new and Improved Railway-Car; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a vertical transverse section through line *x x* of Fig. 2. Fig. 2 is a plan view.

The object of our invention is to obviate the sudden jolt and jar incident to railway-cars in stopping and starting, which is equally objectionable in both passenger and freight cars, producing in the former much discomfort and annoyance to the occupants, while in the latter the cargo is so shaken up and bruised as to greatly depreciate the value of perishable goods, such as fruits, eggs, glass, China-ware, &c.

In attaining the end of our invention, we locate the body of the car upon pendent crank-shafts, forming swinging supports, which have spring-seated bearings in the car-frame, as hereinafter more fully described, whereby the longitudinal jolt of the car is converted into a swinging upward movement of the body of the car and its contents, instead of having the effect of the impact and start imparted directly to the car and its contents.

In the drawing, A represents the car-frame, which is made with heavy sills of a rectangular shape, and adapted to be supported upon the car-trucks. B represents the frame-work constituting the bottom of the car, upon which the floor and body of the car are constructed, the said frame-work consisting of a series of parallel joists connected by end bars. This frame-work, with the floor and the body of the car, is supported in a swinging position inside the sills of the car-frame A upon two or more pendent crank-shafts, C C, to which they are held by means of eyes or bearings *a*, to prevent displacement. Said crank-shafts are suspended at their upper bent ends in bearings *b* in the side sills of the car-frame A, and are supported upon springs *c*, in a position adapted to yield slightly in vertical direction. As shown, the ends or journals of the crank-shaft are supported directly upon the springs themselves; but in practice they will be journaled in suitable bearings, which bearings will be supported by springs of any approved form.

The car, as thus described, is intended to be used both as a passenger-car, for the benefit of travel, and also as a freight-car. When used as a passenger-car, the jolt of the cars produced by their impact or concussion in stopping, and also the jostle incident to the start, instead of being transferred directly to the occupant, will be modified and converted into a swinging lift or upheaval of the car and its load, thus breaking the suddenness of the start or stop without the use of end or buffer springs. This swinging movement also, in connection with the springs of the supporting-bearings, tends greatly to lessen the vibration of the car while in motion, rendering the travel easier and pleasanter, and in the event of a collision serves to mitigate the disastrous effects of the same.

When the car is used for freight, equally important advantages arise out of the arrangement described. Especially is this the case in large fruit-growing districts, when the fruit has either to be shipped green to stand the jostle of transportation, or else subjected to the risk of being mashed and bruised by the jostle, and a consequent depreciation in value.

These advantages do not apply to the shipment of fruits alone, but to all kinds of perishable freight, as eggs, glass, China-ware, chemicals, &c.

We are aware of the fact that it is not broadly new to suspend car-bodies upon springs, and also to place springs at the ends of the same, to produce the same general result, but with our pendent crank-axles arranged to swing freely, so as to allow the car to have a circular oscillating movement with a lift or rise incident to the motion of the crank-axles upon its pivots, both the lateral and vertical jolts are so modified and neutral-

ized that we may entirely dispense with springs, while the location of the car-bottom frame in the lower part of the crank-axles, and below the supporting-bearing, holds the car-body in place in a simple and practical manner against accidental displacement.

Having thus described our invention, what we claim as new is—

The combination, with the car-body and its supporting-frame, of pendent freely-swinging crank-shafts C, which permit the car to oscillate freely in the arc of a circle, substantially as and for the purpose described.

The above specification of our invention signed by us.

S. R. WALLACE.
OLIVER V. WALLACE.

Witnesses to the signature of S. R. WALLACE:

SOLON C. KEMON,
CHAS. A. PETTIT.

Witnesses to the signature of O. V. WALLACE:

T. B. DE WITT, M. D.,
W. H. JUDSON.