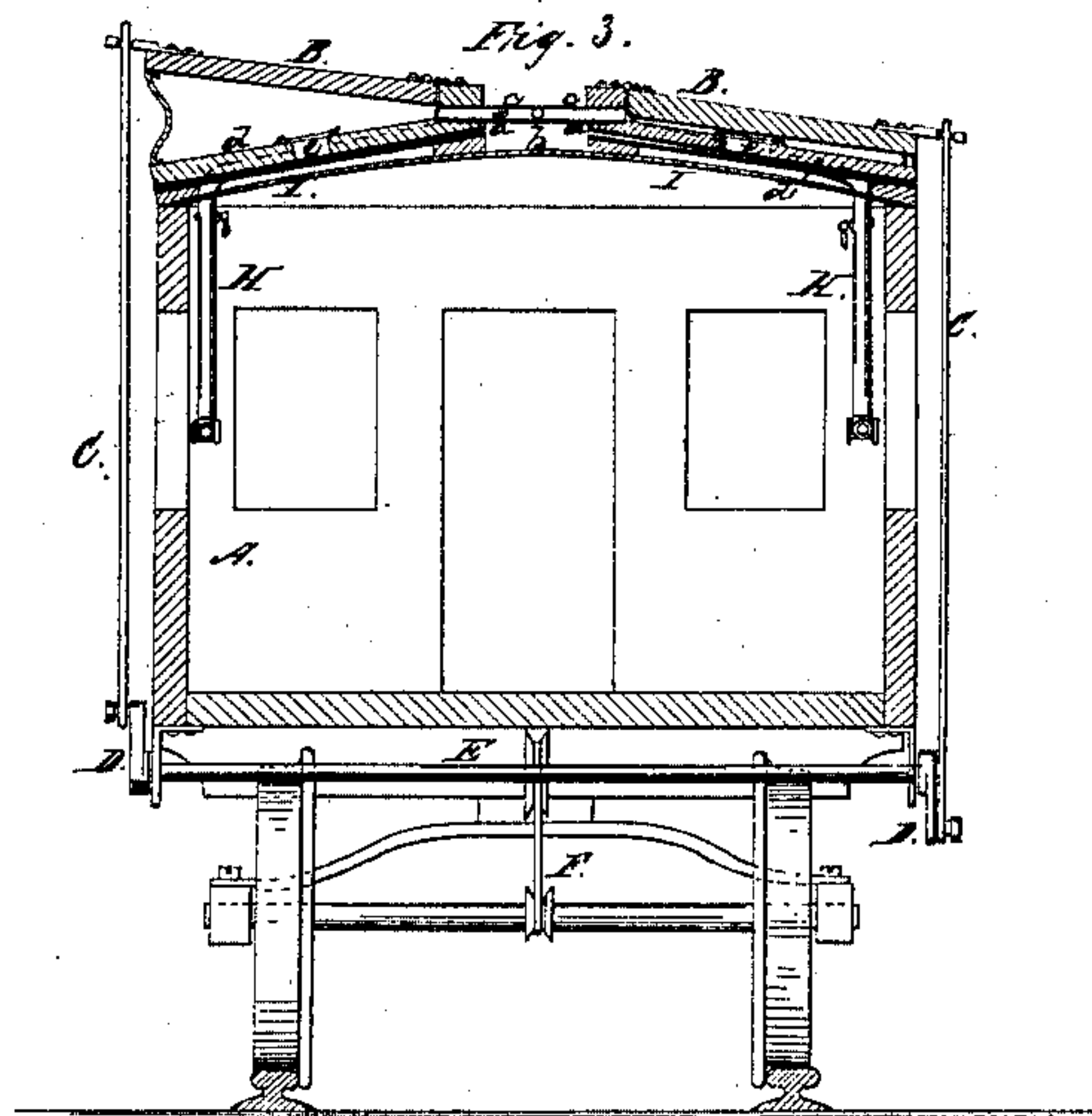
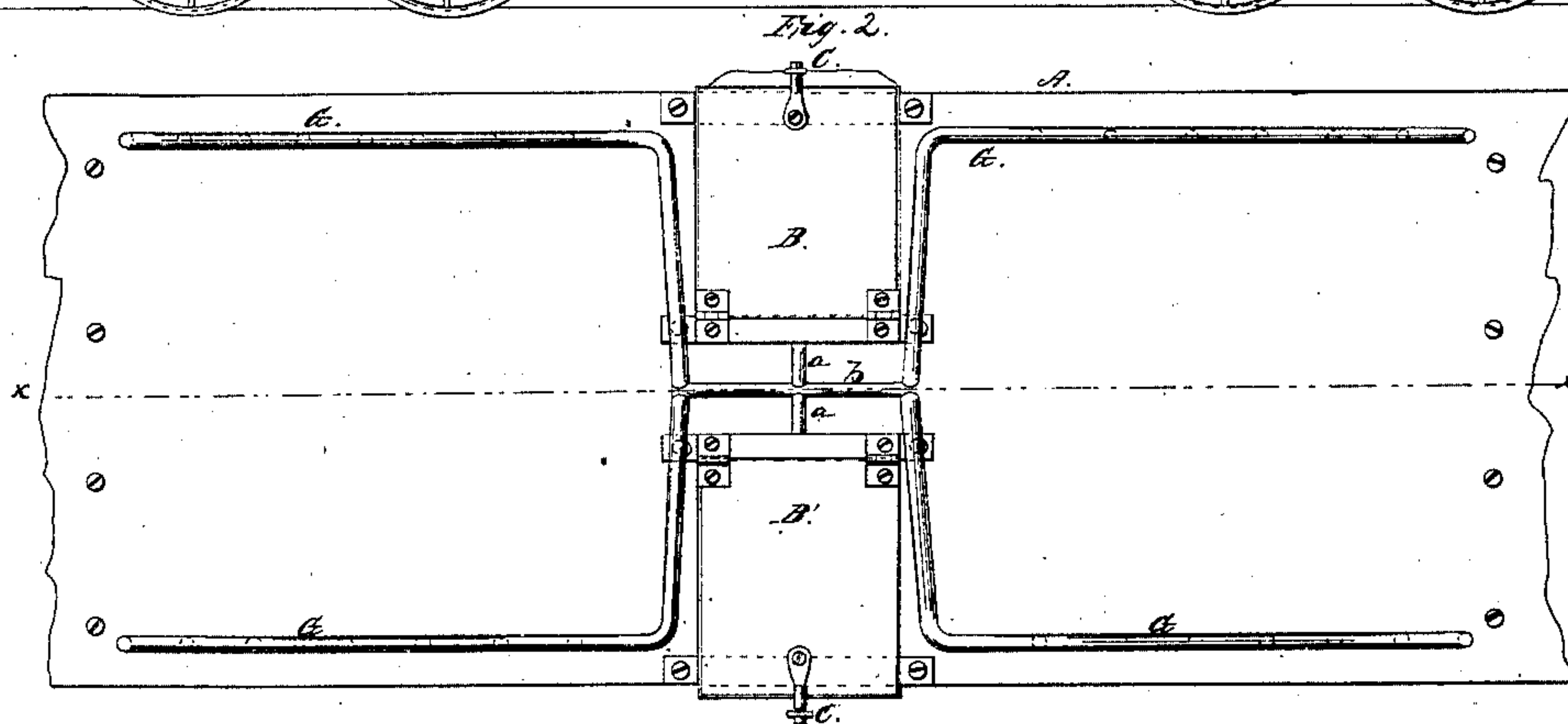
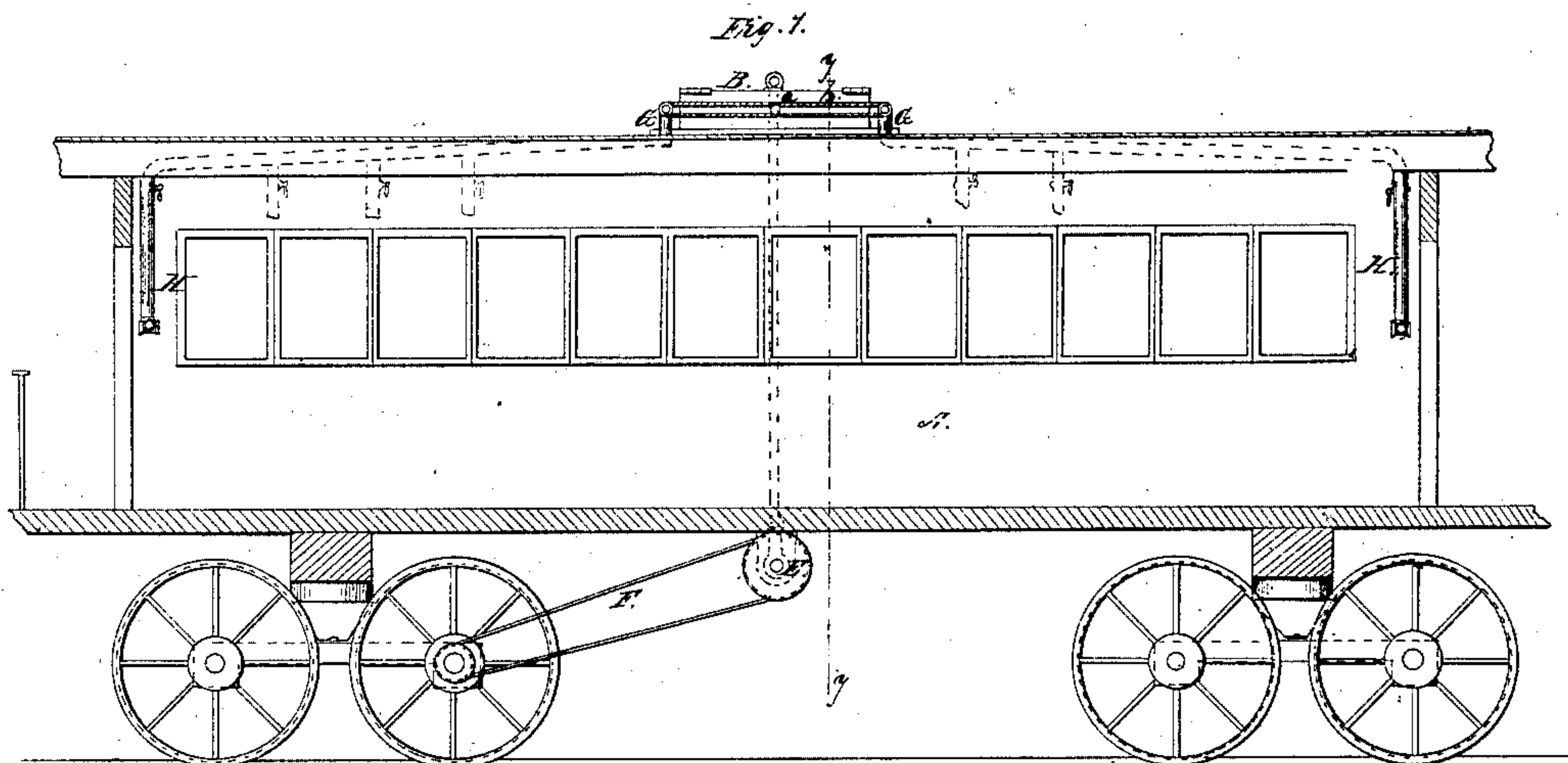


C. Wadsworth,

Car Ventilator,

N^o 35,190.

Patented May 6, 1862.



Witnesses:
Edw. H. Holcomb
Alfred

Inventor:
Chas Wadsworth

UNITED STATES PATENT OFFICE.

CHARLES WADSWORTH, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-VENTILATORS.

Specification forming part of Letters Patent No. 35,190, dated May 6, 1862.

To all whom it may concern:

Be it known that I, CHARLES WADSWORTH, of the city, county, and State of New York, have invented a new and Improved Mode of Ventilating Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

Figure 1 is a longitudinal vertical section of a railroad-car with my invention applied to it. *xx*, Fig. 2, indicate the plane of section. Fig. 2 is a plan or top view of the same; Fig. 3, a transverse vertical section of the same, taken in the line *yy*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a railroad-car, which may be constructed in the ordinary way, and *B B'* are two bellows, which are placed transversely on the top of the car at its center. These bellows may be ordinary single-acting ones, and they are operated by connecting-rods *C C*, which extend down one at each side of the car, and are connected to reverse cranks *D D* at the end of a shaft, *E*, underneath the car, said shaft being rotated by a band, *F*, from one of the axles of the running-gear.

The rods *C C* may be at the outer side of the car, within it, or in the sides of the car between its inner and outer siding. In the latter case said rods would not be exposed. The shaft *E*, also, may, if desired, be rotated by gearing from the axle, instead of a band.

The nozzles *aa* of the bellows are connected with a pipe, *b*, which communicates at both ends with branch pipes *G G*, so formed as to extend along at each side of the top of the car its whole length. These branch pipes *G G* communicate with vertical pipes *H*, which pass down through the top of the car. Any number of these pipes *H* may be used, one extending down by each seat, if desired. The pipes *H* are each provided with a faucet or cock near their upper ends, and they may have a revolving nozzle at their lower ends. Each nozzle *a* of the bellows *B B'* is provided with a valve, *c*, opening outward, or toward the pipe *b*, (see Fig. 3,) and underneath each

bellows there is placed a screen, *I*, which may be constructed of cloth, fine wire-cloth, or any suitable material which will admit of the air passing through it and exclude the dust. These screens are placed at a short distance from the bottoms of the bellows and closed all around at their sides, so as to form a box or chamber, *d*, between them and the bellows. The object of this is to obtain a large screening-surface for the air prior to its advent into the bellows and prevent the rupture of the screens by an undue atmospheric pressure against them—a contingency which might possibly occur were the valve-orifices *e* in the bottoms of the bellows only covered by a screen.

The operation will be readily understood. As the car moves along, the two bellows *B B'* are operated from one of the axles of the car through the medium of the crank-shaft *E* and connecting-rods *C C*, the two bellows forcing air alternately into the car through the pipes previously described, the air being deprived of dust in consequence of passing through the screens *I I*, the bellows being sufficiently elevated to admit of the air passing freely underneath them. The valves *cc* in the nozzles *aa* of the bellows prevent the air being forced from one bellows into the other, said valves serving as cut-offs between the bellows and pipe *b* when the bellows are being inflated.

The passengers in the cars, by means of the cocks in the upper parts of the vertical pipes *H*, may regulate the discharge of air from said pipes as desired, and by means of the revolving nozzles at their lower ends may change its direction, as desired. The car may be provided at its upper part, at each side, with education-openings to admit of the escape of foul air. The windows of the car are designed to be tight and fixed, so that they cannot be opened by the passengers to admit dust.

I do not confine myself to placing the bellows on the top of the car, for they may be placed underneath it and operate equally as well as on the top. Nor do I confine myself to the particular arrangements of the pipes as herein shown for conveying the air from the bellows to the inside of the car.

By means of the bellows operated from the running-gear of the car the latter may be sup-

plied with a requisite quantity of pure air and at a very moderate expense.

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

The combination of the air-filtering screen I and air-chamber *d*, with the air-forcing bel-

lows, substantially as and for the purpose herein shown and described.

CHAS. WADSWORTH.

Witnesses:

O. D. MUNN,
E. W. HODGSON.