E. E. HARGREAVES.

REFRIGERATOR CAR.

No. 174,812. Patented March 14, 1876.

Fig. 1.

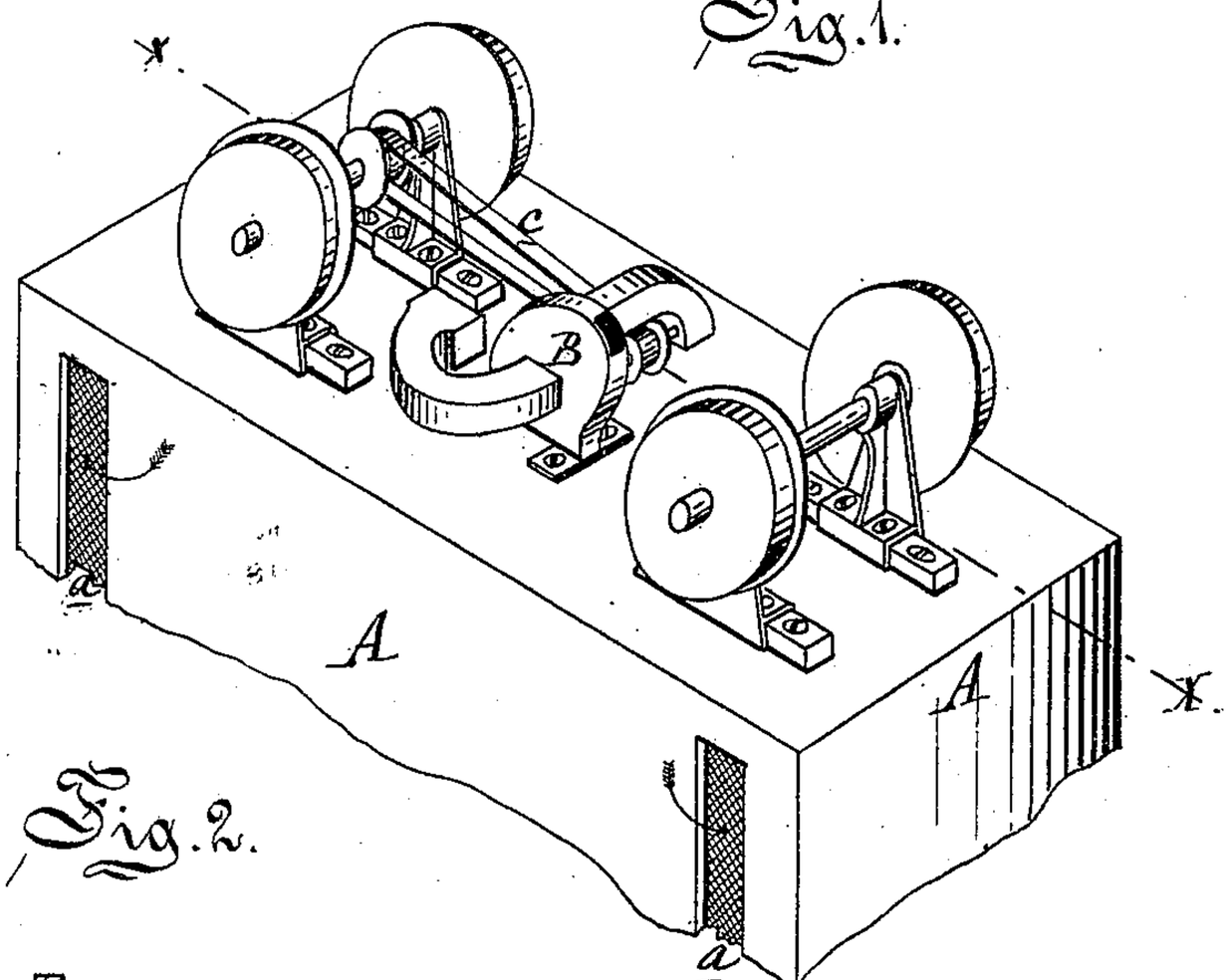

Fig. 2.

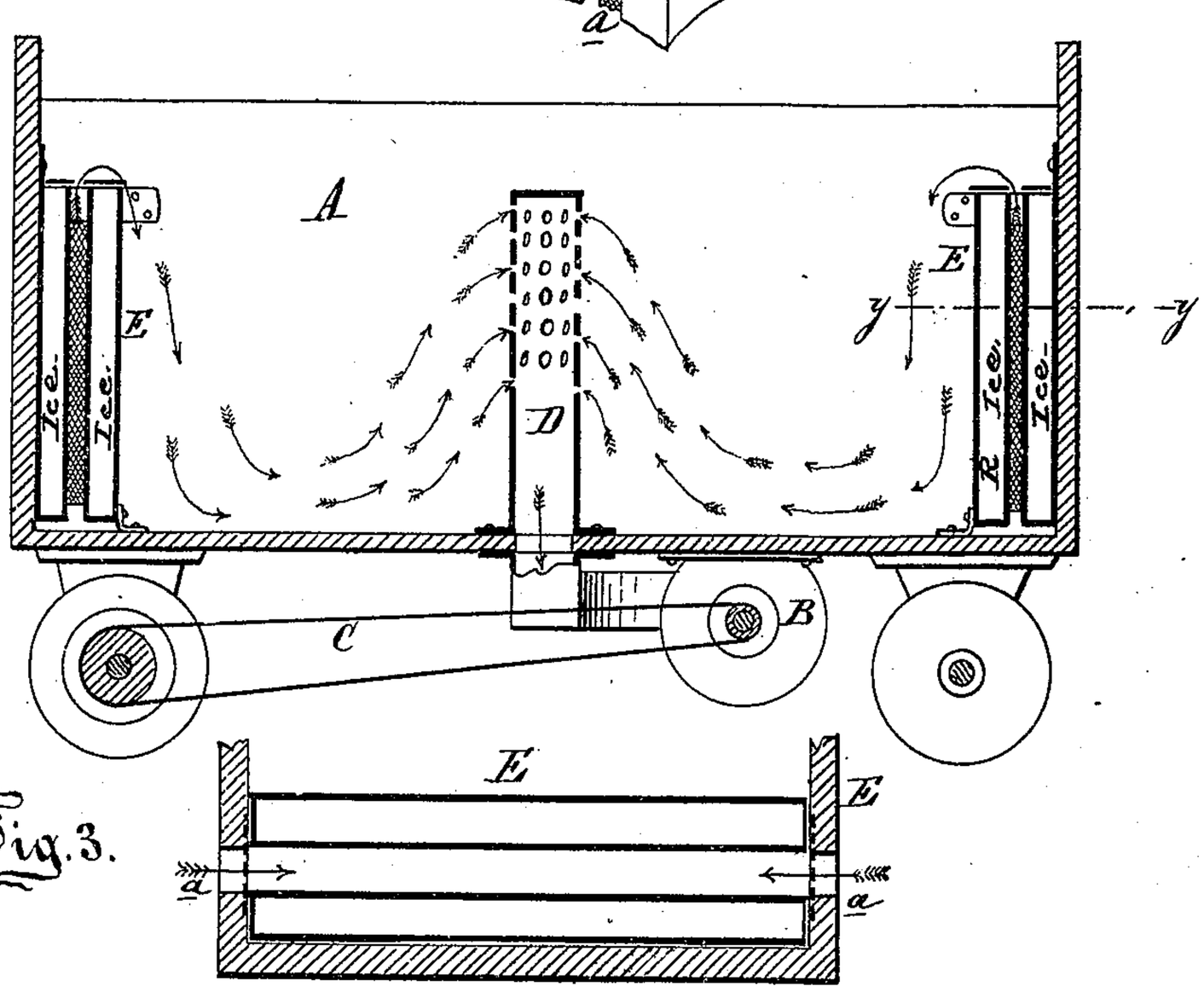

Fig. 3.

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EDWARD E. HARGREAVES, OF SARNIA, CANADA.

IMPROVEMENT IN REFRIGERATOR-CARS.

Specification forming part of Letters Patent No. **174,812**, dated March 14, 1876; application filed February 21, 1876.

To all whom it may concern:

Be it known that I, EDWARD E. HARGREAVES, of Sarnia, in the county of Lambton and Province of Ontario, Canada, have invented an Improvement in Refrigerator-Cars, of which the following is a specification:

The nature of my invention relates to an improvement in cars designed for the transportation of meats, fresh fruits, and other perishable articles; and its object is to preserve in a fresh state the contents of such a car in transit, by removing the warm and vitiated air in the car through the instrumentality of an exhaust-fan, to make room for an equal volume of fresh air flowing between refrigerating partitions at each end of the car, which reduce the temperature of the influent currents.

To this end the invention consists in a pair of narrow sheet-metal receptacles for ice or other refrigerating material, built or placed across each end of the car, parallel with each other and close together, with an opening cut in each side of the car to admit a current of air which must pass between the receptacles, to be thereby lowered in temperature before passing out at the top into the body of the car, and, in combination therewith, an exhaust-fan located underneath the car, driven by a single belt from a pulley on one of the adjacent axles, which fan is arranged to operate equally well when rotated in either direction, for exhausting the air from the interior of the car through a tube rising into the upper part thereof.

Figure 1 is a bottom perspective view of my car. Fig. 2 is a longitudinal vertical section of the same at *x x* in Fig. 1. Fig. 3 is a horizontal section at *y y* of Fig. 2.

In the drawing, A represents the body of the car, under which is located an exhaust-fan, B, adapted to operate equally well when driven in either direction, and is driven by a single belt, C, from a pulley on one of the adjacent axles. The fan withdraws the air from the car through a pipe, D, rising through the center of the car nearly to the roof. The upper part of the pipe is perforated with apertures for the exit of air, the intention being to take out of the car the warm and vitiated atmosphere charged with gases emanating from the contents of the car. At each end of the car, and across the same, two deep but narrow receptacles, E, of sheet metal are erected, and placed quite close to each other, so as to leave a contracted space between them for the passage of air-currents, which enter through a narrow vertical slot, *a*, cut in each side of the car opposite said air-space. These slots should be provided with screens of fine mesh to exclude the dust.

The influent air-currents, as they rise between the receptacles, which should be filled with refrigerating material, enter the body of the car much reduced in temperature, and naturally settle in the lower part of said car, displacing an equal volume of air, which rises to the upper part, where it is drawn down and out through the pipe D by the exhaust-fan. The displaced air carries with it the gaseous emanations from the articles stored in the car, which emanations, if kept in contact therewith, would soon produce decomposition and putrefactive decay. The articles in the car being also kept at a low temperature, the evolution of gases will be much retarded, and the progress of decay arrested.

The pipe D is made removable at the level of the floor, so as not to be in the way when the car is used for the transportation of ordinary or non-perishable goods.

What I claim as my invention is—

The car A, having the receptacles E E built in pairs across each end, and with a slot, *a*, in each side, for admitting a current of air between each pair of said receptacles, in combination with an exhaust-fan for withdrawing air from the interior of the car through the pipe D, substantially as described.

EDWARD E. HARGREAVES.

Witnesses:

H. F. EBERTS,

H. S. SPRAGUE.