

No. 624,116.

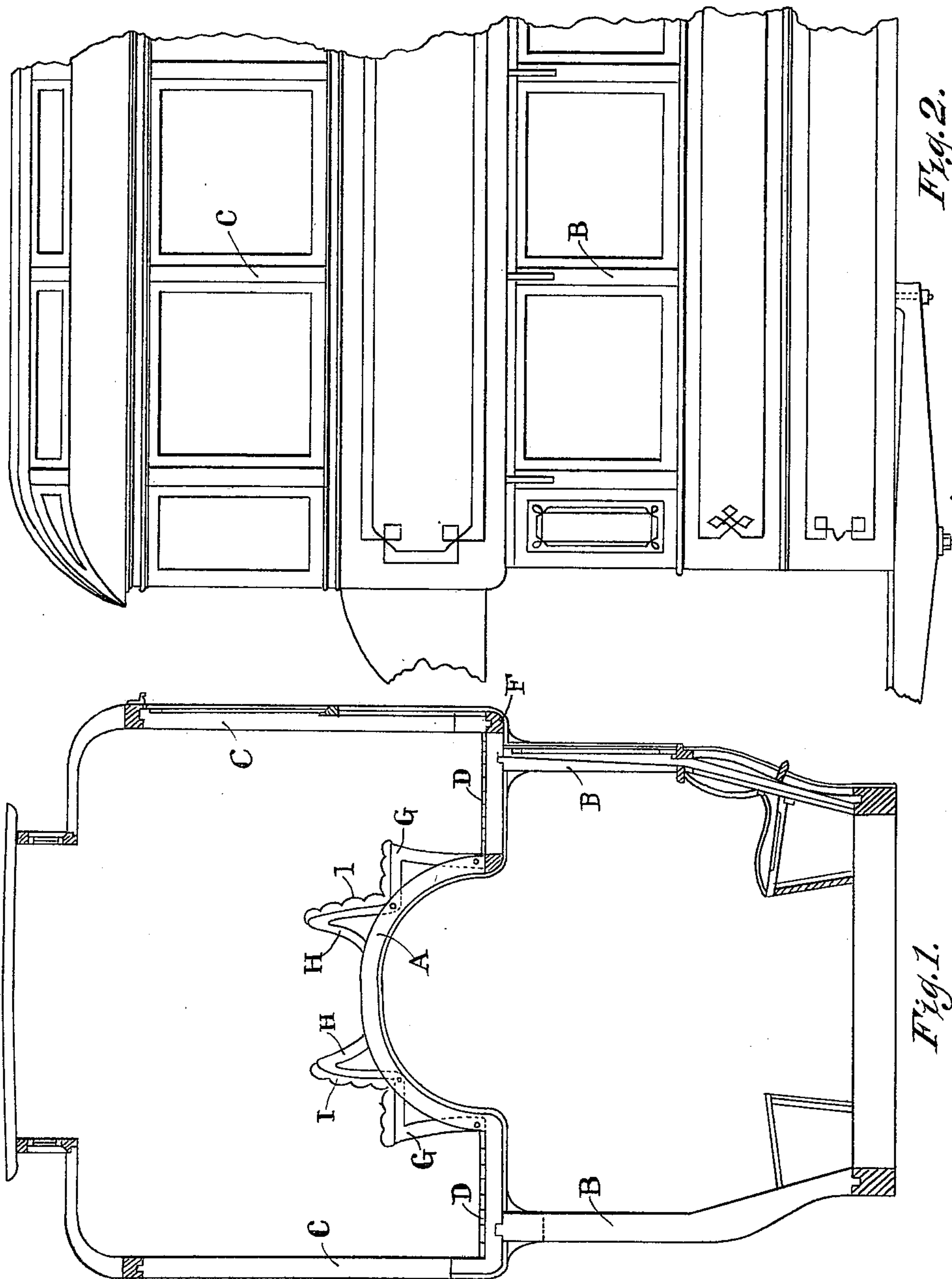
Patented May 2, 1899.

F. STEFFENS & O. F. KOSS.
GALLERY CAR.

(Application filed Apr. 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

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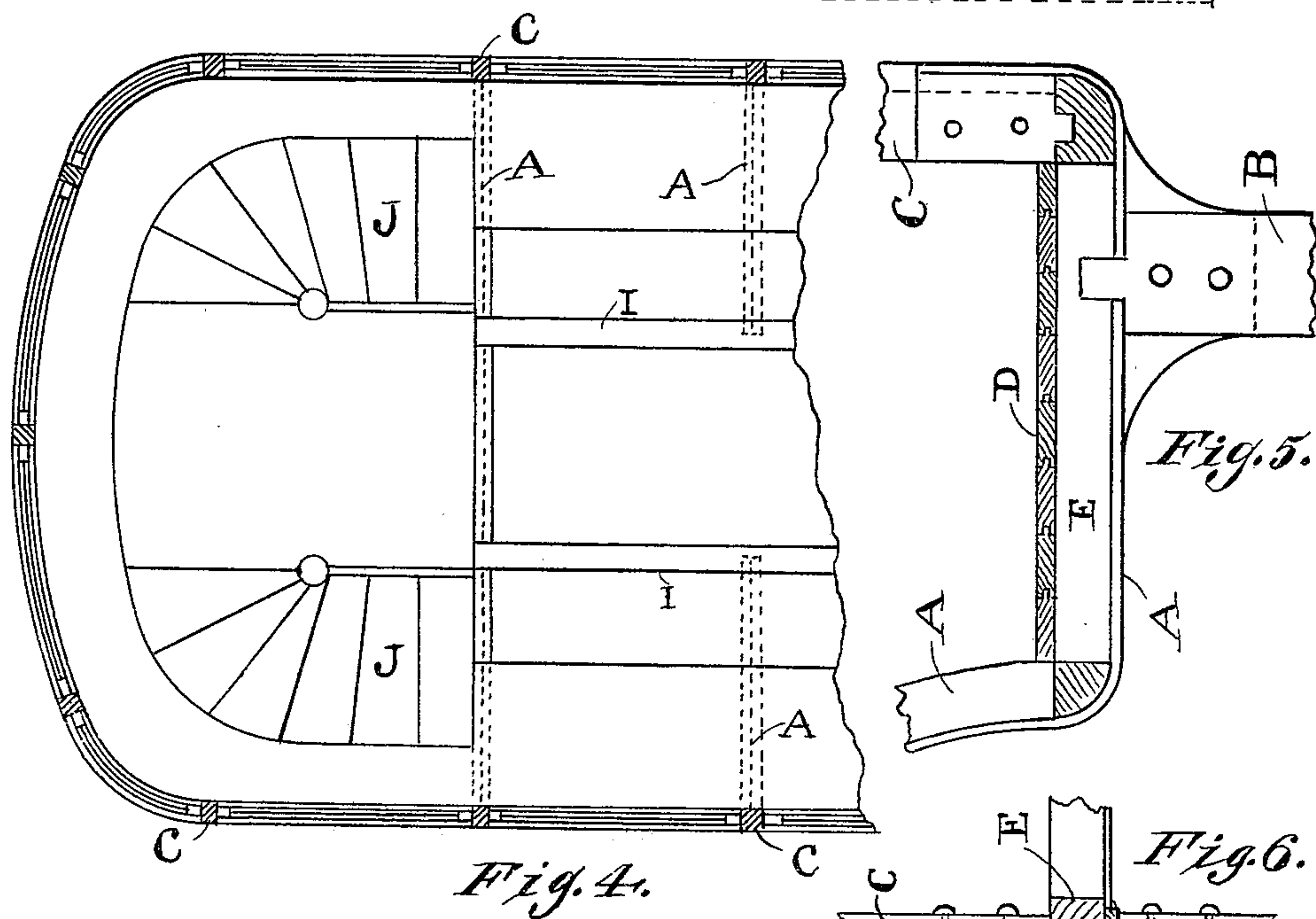
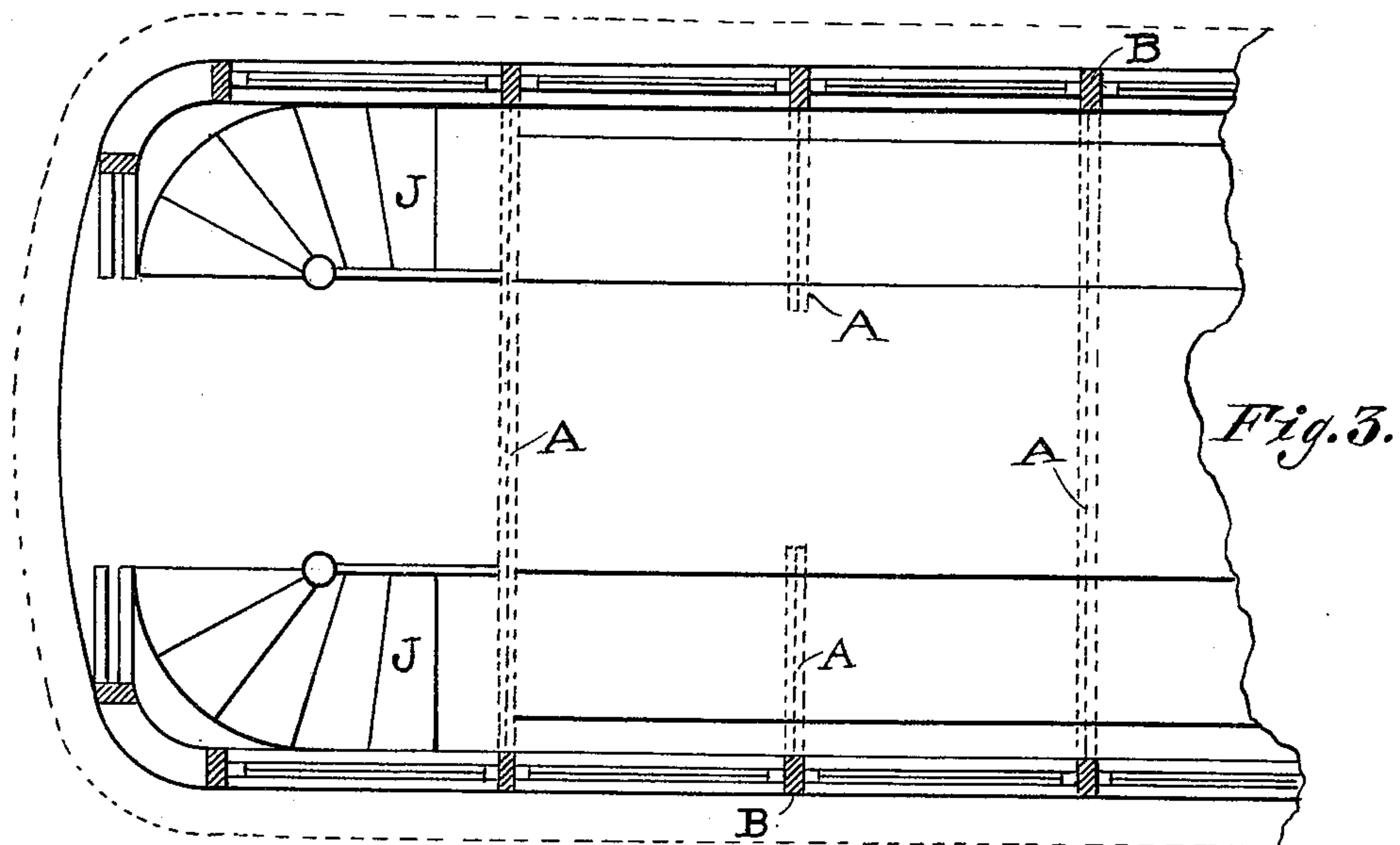
F. STEFFENS & O. F. KOSS.

GALLERY CAR.

(Application filed Apr. 18, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRED STEFFENS AND OTTO F. KOSS, OF ST. JOSEPH, MISSOURI.

GALLERY-CAR.

SPECIFICATION forming part of Letters Patent No. 624,116, dated May 2, 1899.

Application filed April 18, 1898. Serial No. 677,978. (No model.)

To all whom it may concern:

Be it known that we, FRED STEFFENS and OTTO F. KOSS, citizens of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Gallery-Cars; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in passenger-cars; and the objects of our improvements are, first, to provide a car having greater seating capacity than any one compartment-car now in use; second, that will be better ventilated and cooler in summer and warmer in winter; third, that will be more accessible to the conductor than a double-deck car, and, fourth, that will economize in height over any double-deck car.

We attain our objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a transverse section of the car; Fig. 2, a side elevation; Fig. 3, a plan of the floor; Fig. 4, a plan of the gallery; Fig. 5, a side view of a horizontal end of an arch-bar for supporting gallery and gallery-seats, shown in connection with a section of gallery timber and flooring and lower and upper posts; and Fig. 6 is also a section view of posts, timber, and bar in T shape.

Similar letters refer to similar parts throughout the several views.

As illustrated by the drawings, the lower part of our car is built and seated in the ordinary manner, except that in each of the four corners of the car there is a stairway J, connecting with the gallery-flooring D, which flooring extends along the side of the car on each side from stairway to stairway, easy ingress and egress being thus secured to and from the gallery. Floorings D D rest on and are supported by timbers E E. These timbers are bolted or otherwise rigidly attached to arch-bars A A, which bars are preferably made in T shape of malleable, cast, or wrought iron, as shown in Fig. 6, and may each be

cast in one piece or in two pieces riveted or bolted together at the crown of the arch and ordinarily correspond in number with the number of upper and lower posts on either side of the car. Each of these bars is supported by opposite posts B B. The gallery of the car is built somewhat wider than the lower part, as shown in Fig. 1, thus securing increase of space without material obstruction to traffic on thoroughfares. Upper posts C C are also fastened to arch-bars A A in similar way to that in which posts B B are attached, as shown in Figs. 5 and 6. Between posts C C there are windows. There are also windows K K in the sides of the clearstory of the car for ventilation. Attached to or cast as a part of arch-bars A A are seat-brackets G G and seat-back brackets H H, which, together with cushions I I, form the gallery-seats. These seats extend the entire length of flooring D. Arch-bars A A may each extend across the entire width of the car, or that part of every other bar which reaches across from bracket H to the opposite bracket H may be omitted, as shown in Fig. 3, this being regulated by the strength required or by convenience. Nor in the construction of the arch-bars and the seats and backs thereon do we confine ourselves to the exact shape shown in the drawings, but to the arrangement substantially as described. This gallery being provided with windows similar to those below and having ventilating-windows above and the entire space between the backs of the seats being open and unobstructed except by said arch-bars the most perfect draft and ventilation can be secured from floor to roof of car. In summer this will materially aid in rendering the gallery the more desirable part of the car, while in winter it can be heated more readily than the lower part.

As the middle of the car is unobstructed from floor to roof the conductor is not obliged to go into the gallery, but can see and collect fare from the gallery-passengers while standing in the aisle below.

By arranging the seats in the gallery in the manner shown weight on either side with top-heaviness is obviated and the pleasure of passengers is enhanced by facing outward instead of within.

It will be readily seen that this is not a

double-deck car and that by our construction we overcome one of the greatest objections to double-deck cars—to wit, too great height. This economy in height is secured by the use
 5 of the arched bars, the height necessary for a standing posture not being necessary above the seats in the lower part of the car, but is secured for standing posture in the middle of the car when it is necessary by the arch, and
 10 height for standing posture in the gallery is not required anywhere over the arch, thus permitting a low deck, but is secured in the aisles, where it is alone needed. The entire perpendicular from the middle of the arch-
 15 bar on a horizontal line with flooring D to the vertex of the arch is thus economized by our construction.

What we claim, and desire to secure by Letters Patent, is—

20 1. The combination in a single-compartment passenger-car of lower longitudinally-arranged seats facing toward each other and upper longitudinally-arranged seats facing away from each other, a gallery whose trans-
 25 verse space is greater than the lower part of compartment, bars whose horizontal ends carry the timbers and flooring of two aisles, lower side posts of car supporting said bars, and upper posts supported by said bars car-
 30 rying deck, the centers of said bars having sufficient arch to permit standing posture of

passengers below and carrying upon the upper surface of arch the seats in gallery, a stairway at each end of each aisle connecting with lower part of compartment, open spaces
 35 between each arch through length of compartment, and upper and lower windows with ventilating-windows in the sides of clearstory of car permitting free ventilation from floor to
 40 deck, substantially as described and for the purpose specified.

2. In a passenger-car, in combination with lower seats and floor, stairways J J leading to a gallery extending on each side of car from stairways at one end of car to stairways
 45 at other end, longitudinally-arranged seats facing outward, upper and lower windows and ventilating-windows in the vertical sides of the clearstory of car, the space between backs of gallery-seats being open, permitting
 50 a view of the entire car and free ventilation between lower windows and doors and upper and ventilating windows, substantially as described, and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses. 55

FRED STEFFENS.
 OTTO F. KOSS.

Witnesses:

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