

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KAWASAKI RAIL CAR, INC.,

Petitioner,

v.

SCOTT BLAIR,

Patent Owner

Case IPR2017-01036

Patent 6,700,602

EXHIBIT 2007- DECLARATION OF JOSEPH B, ZICHERMAN,
Ph.D., SFPE

I, Joseph B. Zicherman, hereby declare the following:

I. BACKGROUND AND QUALIFICATIONS

1. I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others.

2. I have been retained as an expert in this matter by Counsel for Patent Owner Scott Blair to provide my independent opinions on certain issues requested by Counsel for Patent Owner relating to the accompanying petition for *Inter Partes* Review of U.S. Patent No. 6,700,602 ("the '602 Patent"). My compensation in this matter is not based on the substance of the opinions rendered here.

3. I am a Fire Safety Engineer, with extensive experience in Fire Safety in direct relation to design and operation of rail passenger transportation vehicles. A copy of my CV is attached hereto as Exhibit A.

4. I have been working actively in the Fire Science Field for more than 35 years.

5. As part of my work in connection with this proceeding, I have reviewed the following materials:

- Patent 6,700,602 (the '602 Patent) including the claims thereof;
- Petition for *Inter Partes* Review of U.S. Patent No. 6,700,602, No. IPR2017-01036 including Exhibits;
- The translation of Japanese Publication No. 04-085379 (Ex. 1005, "Namikawa");
- The translation of Japanese Publication No. 07-181900 (Ex. 1007, "Miyajima");
- The translation of Japanese Publication No. 04-322579 (Ex. 1011, "Sasao");

- The translation of Japanese Publication No. 04-160991 (Ex. 1009, "Maekawa");
- U.S. Patent No. 5,293,244 to Kawaguchi (Ex. 1022, "Kawaguchi");
- The translation of Japanese Publication No. 02-23985 (Ex. 1021, "Amano");
- U.S. Patent 5,148,282 to Sedighzadeh (Ex. 1025, "Sedighzadeh")
- U.S. Patent 3,211,904 to Schwenkler (Ex. 1026, "Schwenkler")
- The translation of Japanese Publication No. 05-042853 (Ex. 1028, "Yamada")
- The file history of the '602 patent provided in Exhibit 1012;
- The reexamination file history of the '602 patent provided in Exhibit 1013; and
- Decision Instituting *Inter Partes* Review (Paper 10) ("Decision").
- A complete copy of the Proposed FRA rules (Ex. 2004)
- Consumer Product Safety Division Guidelines for Television Receiver Safety (Ex. 2005)

II. OVERVIEW OF THE '602 PATENT AND THE PRIOR ART

The '602 Patent

6. The '602 Patent is directed to a video display monitor system that is mounted at fixed intervals at the junction of the sidewall and the ceiling of a subway car. According to certain embodiments, the video monitor system includes an enclosure for the video monitor that is designed to be mounted at the junction of the sidewall and the ceiling in such a manner that the screen of the video display monitor (or an enclosure or a transparent cover unit for the video display monitor) is substantially flush (or substantially contiguous or flush) with the adjacent surface structure of the wall and oriented obliquely downward towards the subway

car's seats. See Ex. 1001, p. 12 at 1:23-44, 1:63-67-2:17, 2:33-46. According to other embodiments, the video display monitors are each enclosed within an enclosure which may be secured to a structural member between an inner wall and an outer structural shell of the subway car. See Ex. 1001, p. 12 at 1:55-1:59, 2:56-60. According to still other embodiments, there may be a back lit panel disposed on the adjacent wall surface structure of the car. See Ex. 1001, p. 12 at 1:51-54, 2:29-31 and 2:53-55. The system also comprises a "video signal source unit" connected to the monitors. The "video signal source unit" consists of pre-recorded material for broadcasting on the screens such as news, advertisements, etc. It can be in the form of video disk players, CD-ROM players, and video tape players (Ex. 1001 at 2:15-42).

III. UNDERLYING FINDINGS

7. Based on my education, training, and professional experience in the field of the claimed invention, I am familiar with the level and abilities of a person of ordinary skill in the art at the time of the claimed invention. I have the qualifications that a person of ordinary skill in the art of the '602 Patent at the time of the claimed invention ("POSITA") would have in order to be capable of understanding the '602 Patent and the prior art references discussed herein. I meet at least the minimum qualifications to be a person having ordinary skill in the art as of the time of the claimed invention of the '602 Patent. I also offer significant experience in the field of Fire Science as it relates to rail design, manufacture and operation of passenger rail vehicles and locomotives

8. Prior to the current invention, the problem was how achieve a television in a subway car that was smooth and aesthetically pleasing, similar to a television in a wall, but also directed obliquely downwards for ease of viewing and located at the junction of the sidewall

and the ceiling so as not to take up car space or injure passengers. The problem, posed to the inventor at the time of the invention, was particularly challenging as subway cars face fire safety challenges that do not exist in residential environments or intercity buses or rail passenger cars operating tracks on the ground (such as Amtrak trains).

9. The risk of fire in a rail rapid transit (RRT) car, such as a subway car, is of great concern, given that passengers are exposed to the risk of fire and smoke when operating in tunnels. Great care is taken when designing RRT cars to be used in underground operating environments to avoid potential fires and fire hazards. The confined space inside a subway tunnel poses a unique operating environment with a distinct set of fire risks and hazards to riders and system operating personnel, due to high passenger loads, and flows of large numbers of passengers at rapid intervals. Likewise, limitations on capacity and placement of emergency egress facilities for riders. In addition restricted opportunities for ingress for first responders exist in such RRT facilities and operating environments. There are also foreseeable occasions when emergency ventilation facilities are needed to assist emergency evacuations in underground operating environments when fires have occurred. These can be expected to re-occur. Subway cars operating in tunnels underground present unique challenges to providing fire suppression personnel and equipment to affected locations. This renders such locations more hazardous than those where rail passenger vehicles operate in above ground environments such as commuter trains or those serving intercity passengers (such as an Amtrak train) or buses. Additional effort is expended to avoid ignition and propagation of fires since it is difficult to position or include fire extinguishing equipment in tunnels. In addition smoke and hazards from hot gases will impact subway passengers attempting to evacuate in a fire or smoke emergency.

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