

US Patent & Trademark Office

Patent Public Search | Text View

United States Patent Application Publication

20250256850

Kind Code

A1

Publication Date

August 14, 2025

Inventor(s)

Koustubhan; Arjun et al.

AIRCRAFT SEAT BASE TRACKING SYSTEM

Abstract

A base tracking system may include a platform couplable to a floor of an aircraft via a set of seat tracks, where the platform is fixed to one or more floor fittings coupled to the set of seat tracks when coupled to the floor of the aircraft. The base tracking system may include one or more frame members arranged proximate to the platform. The base tracking system may include one or more base tracking tubes coupled to the platform via one or more tube attachment members, where the one or more base tracking tubes are fixed to the platform. The base tracking system may include a translation assembly configured to translate the one or more frame members along a shaft of the one or more base tracking tubes to infinitely stop the base tracking system.

Inventors: Koustubhan; Arjun (Hyderabad, IN), Oleson; Michael L. (Parkland, FL)

Applicant: B/E Aerospace, Inc. (Winston-Salem, NC)

Family ID: 1000008036926

Appl. No.: 18/788856

Filed: July 30, 2024

Foreign Application Priority Data

IN 202411008602

Feb. 08, 2024

Publication Classification

Int. Cl.: B64D11/06 (20060101)

U.S. Cl.:

CPC B64D11/0696 (20130101); B64D11/064 (20141201);

Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the benefit of India Provisional Application No. 20/241,1008602, filed Feb. 8, 2024, which is incorporated herein by reference in the entirety.

TECHNICAL FIELD

[0002] The subject matter disclosed herein is related to the field of aircraft seats and, in particular, to an aircraft seat base with tracking.

BACKGROUND

[0003] Often it is desirable to have an aircraft seat configured with one or more comfort features for a passenger to adjust as necessary. One feature that is lacking in conventional aircraft seats is the ability to provide aircraft seat base tracking with infinite adjustment positions. Further, there is a need for seat tracks to be hidden for improved aesthetics while still providing the seat base tracking.

SUMMARY

[0004] A seat base tracking system for an aircraft seat is disclosed, in accordance with one or more embodiments of the present disclosure. In embodiments, the seat base tracking system includes a platform couplable to a floor of an aircraft via a set of seat tracks, where the platform is fixed to one or more floor fittings coupled to the set of seat tracks when coupled to the floor of the aircraft. In embodiments, the seat base tracking system includes one or more frame members arranged proximate to the platform. In embodiments, the seat base tracking system includes one or more base tracking tubes coupled to the platform via one or more tube attachment members, where the one or more base tracking tubes are fixed to the platform. In embodiments, the seat base tracking system includes a translation assembly configured to translate the one or more frame members along a shaft of the one or more base tracking tubes to provide seat base tracking with infinite adjustment positions, where the seat base tracking is independent from the set of seat tracks.

[0005] In some embodiments, the translation assembly may further include one or more pillow blocks, where the one or more pillow blocks may be coupled to the one or more frame members, where the shaft of the one or more base tracking tubes may be configured to translate through an opening in the one or more pillow blocks when translating along the one or more base tracking tubes.

[0006] In some embodiments, the translation assembly may further include one or more brake assemblies, where disengagement of the one or more brake assemblies may translate the one or more frame members along the shaft of the one or more base tracking tubes.

[0007] In some embodiments, the system may further include one or more rollers, where the one or more rollers may be coupled to the platform, where the one or more rollers may be configured to rotate about a cavity defined within the one or more frame members when the translation assembly translates the one or more frame members.

[0008] In some embodiments, the system may further include one or more dampers positioned proximate to the one or more rollers.

[0009] In some embodiments, the platform may be a one-piece plinth.

[0010] In some embodiments, the system may further include one or more cross-tubes coupled to the one or more frame members.

[0011] In some embodiments, the system may further include a telescoping shroud assembly, where the telescoping shroud assembly may include a fixed shroud coupled to a fixed portion of the seat base tracking system and a translating shroud coupled to the fixed shroud, where the translating shroud may be configured to translate via a shroud translation sub-assembly when the one or more frame members translate.

[0012] In some embodiments, the shroud translation sub-assembly may include a slide and carriage system.

[0013] An aircraft seat is disclosed, in accordance with one or more embodiments of the present disclosure. In embodiments, the aircraft seat includes a seat frame. In embodiments, the aircraft seat includes a two-stage tracking system including a first stage tracking system and a second stage tracking system, where the first stage tracking system is couplable to the seat frame, where the second stage tracking system is couplable to a floor of an aircraft. In embodiments, the second stage tracking system includes a platform couplable to a floor of an aircraft via a set of seat tracks, where the platform is fixed to one or more floor fittings coupled to the set of seat tracks when coupled to the floor of the aircraft. In embodiments, the second stage tracking system includes one or more frame members arranged proximate to the platform. In embodiments, the second stage tracking system includes one or more base tracking tubes coupled to the platform via one or more tube attachment members, where the one or more base tracking tubes are fixed to the platform. In embodiments, the second stage tracking system includes a translation assembly configured to translate the one or more frame members along a shaft of the one or more base tracking tubes to provide seat base tracking with infinite adjustment positions, where the seat base tracking is independent from the set of seat tracks. In embodiments, the second stage tracking system includes a telescoping shroud assembly. In embodiments, the telescoping shroud assembly includes a fixed shroud coupled to a fixed portion of the two-stage tracking system. In embodiments, the telescoping shroud assembly includes a translating shroud coupled to the fixed shroud, where the translating shroud is configured to translate via a shroud translation sub-assembly when the one or more frame members of the second stage tracking system translate.

[0014] In some embodiments, the translation assembly may further include one or more pillow blocks, where the one or more pillow blocks may be coupled to the one or more frame members, where the shaft of the one or more base tracking tubes may be configured to translate through an opening in the one or more pillow blocks when translating along the one or more base tracking tubes.

[0015] In some embodiments, the translation assembly may further include one or more brake assemblies, where disengagement of the one or more brake assemblies may translate the one or more frame members along the shaft of the one or more base tracking tubes.

[0016] In some embodiments, the second stage tracking system may further include one or more rollers, where the one or more rollers may be coupled to the platform, where the one or more rollers may be configured to rotate about a cavity defined within the one or more frame members when the translation assembly translates the one or more frame members.

[0017] In some embodiments, the system may further include one or more dampers positioned proximate to the one or more rollers.

[0018] In some embodiments, the platform may be a one-piece plinth.

[0019] In some embodiments, the system may further include one or more cross-tubes coupled to the one or more frame members and the first stage tracking system.

[0020] In some embodiments, the first stage tracking system may be configured to translate along a shaft of the one or more cross-tubes during installation to a position, where the first stage tracking system may be fixed in the position during operation.

[0021] In some embodiments, the shroud translation sub-assembly may include a slide and carriage system.

[0022] This Summary is provided solely as an introduction to subject matter that is fully described in the Detailed Description and Drawings. The Summary should not be considered to describe essential features nor be used to determine the scope of the Claims. Moreover, it is to be understood that both the foregoing Summary and the following Detailed Description are examples and explanatory only and are not necessarily restrictive of the subject matter claimed.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The detailed description is described with reference to the accompanying figures. The use of the same reference numbers in different instances in the description and the figures may indicate similar or identical items. Various embodiments or examples (“examples”) of the present disclosure are disclosed in the following detailed description and the accompanying drawings. The drawings are not necessarily to scale. In general, operations of disclosed processes may be performed in an arbitrary order, unless otherwise provided in the claims. In the drawings:

[0024] FIG. 1 illustrates an aircraft cabin with an aircraft seat including a plinth seat base, in accordance with one or more embodiments of the disclosure.

[0025] FIG. 2A illustrates a seat frame and a base assembly of the aircraft seat including a two-stage tracking system and a telescoping shroud assembly, in accordance with one or more embodiments of the disclosure.

[0026] FIG. 2B illustrates a seat frame and a base assembly of the aircraft seat including a two-stage tracking system and a telescoping shroud assembly, in accordance with one or more embodiments of the disclosure.

[0027] FIG. 2C illustrates a seat frame and a base assembly of the aircraft seat including a two-stage tracking system and a telescoping shroud assembly, in accordance with one or more embodiments of the disclosure.

[0028] FIG. 2D illustrates a telescopic shroud assembly, in accordance with one or more embodiments of the disclosure.

[0029] FIG. 3A illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0030] FIG. 3B illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0031] FIG. 3C illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0032] FIG. 3D illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0033] FIG. 3E illustrates a plinth seat base tracking system of the two-stage tracking system in a deployed position, in accordance with one or more embodiments of the disclosure.

[0034] FIG. 3F illustrates a plinth seat base tracking system of the two-stage tracking system in a deployed position, in accordance with one or more embodiments of the disclosure.

[0035] FIG. 4A illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0036] FIG. 4B illustrates a plinth seat base tracking system of the two-stage tracking system in a deployed position, in accordance with one or more embodiments of the disclosure.

[0037] FIG. 5A illustrates a plinth seat base tracking system of the two-stage tracking system, in accordance with one or more embodiments of the disclosure.

[0038] FIG. 5B illustrates a plinth seat base tracking system of the two-stage tracking system in a deployed position, in accordance with one or more embodiments of the disclosure.

DETAILED DESCRIPTION OF THE INVENTION

[0039] Reference will now be made in detail to the subject matter disclosed, which is illustrated in the accompanying drawings.

[0040] Before explaining one or more embodiments of the disclosure in detail, it is to be understood the embodiments are not limited in their application to the details of construction and the arrangement of the components or steps or methodologies set forth in the following description or illustrated in the drawings. In the following detailed description of embodiments, numerous

specific details may be set forth in order to provide a more thorough understanding of the disclosure. However, it will be apparent to one of ordinary skill in the art having the benefit of the instant disclosure the embodiments disclosed herein may be practiced without some of these specific details. In other instances, well-known features may not be described in detail to avoid unnecessarily complicating the instant disclosure.

[0041] As used herein a letter following a reference numeral is intended to reference an embodiment of the feature or element that may be similar, but not necessarily identical, to a previously described element or feature bearing the same reference numeral (e.g., **1**, **1a**, **1b**). Such shorthand notations are used for purposes of convenience only and should not be construed to limit the disclosure in any way unless expressly stated to the contrary.

[0042] Further, unless expressly stated to the contrary, “or” refers to an inclusive or and not to an exclusive or. For example, a condition A or B is satisfied by any one of the following: A is true (or present) and B is false (or not present), A is false (or not present) and B is true (or present), and both A and B are true (or present).

[0043] In addition, use of “a” or “an” may be employed to describe elements and components of embodiments disclosed herein. This is done merely for convenience and “a” and “an” are intended to include “one,” “one or more,” or “at least one,” and the singular also includes the plural unless it is obvious that it is meant otherwise.

[0044] Finally, as used herein any reference to “one embodiment” or “some embodiments” means that a particular element, feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment disclosed herein. The appearances of the phrase “in some embodiments” in various places in the specification are not necessarily all referring to the same embodiment, and embodiments may include one or more of the features expressly described or inherently present herein, or any combination of or sub-combination of two or more such features, along with any other features which may not necessarily be expressly described or inherently present in the instant disclosure.

[0045] FIGS. **1-5B** in general illustrate an aircraft seat base tracking system for an aircraft seat, in accordance with one or more embodiments of the disclosure.

[0046] Often it is desirable to have an aircraft seat configured with one or more comfort features for a passenger to adjust as necessary. One feature that is lacking in conventional aircraft seats is the ability to provide aircraft seat base tracking with infinite adjustment positions. Currently, conventional aircraft seat bases provide only incremental tracking that is dependent on lobes within the seat track. This direct dependence on the seat track for base tracking limits the amount of base tracking that can occur. For example, the seat track length is directly proportional to the amount of base tracking that can occur. Additionally, conventional aircraft seats with base tracking expose the seat track. However, there is a need for seat tracks to be hidden for improved aesthetics while still providing the seat base tracking.

[0047] Accordingly, embodiments of the present disclosure are directed to curing one or more of the shortfalls of previous approaches identified above. Broadly, embodiments of the present disclosure are directed to aircraft seat base tracking system for an aircraft seat to adjust a position of the aircraft seat. More particularly, embodiments of the present disclosure are directed to an aircraft seat base tracking system for an aircraft seat that provides base tracking with infinite adjustment positions rather than incremental tracking that is dependent on the seat track. For example, the aircraft seat base tracking system may include a platform that is fixed to the seat tracks, where the aircraft seat is tracked by tracking one or more frame members along a shaft of one or more base tracking tubes via a translation assembly. In this regard, the platform remains in a fixed position, while the one or more framing members are able to track along the shaft of the one or more base tracking tubes and infinitely stop when a desired position is reached within a tracking range.

[0048] Embodiments of the present disclosure are further directed to a telescopic shroud system.

For example, the telescopic shroud system may track along with the aircraft seat base tracking system to hide unwanted areas of the aircraft floor (e.g., seat tracks, or the like).

[0049] It is noted herein that the aircraft seat base tracking system may be implemented in any environment or number of environments. For example, the environment may include any type of vehicle known in the art. For instance, the vehicle may be any air, land, or water-based personal equipment or vehicle; any air, land, or water-based commercial equipment or vehicle; any air, land, or water-based military equipment or vehicle known in the art. By way of another example, the environment may include a commercial or industrial establishment (e.g., a home or a business).

[0050] Where the environment may be an aviation environment, the aircraft cabin designs need to be certified in accordance with aviation guidelines and standards, while being designed so as not to lose the intended functionality of the structures and/or monuments in the aircraft cabin. For example, the structures and/or monuments in the aircraft cabin may need to be configured in accordance with aviation guidelines and/or standards put forth by, but not limited to, the Federal Aviation Administration (FAA), the European Aviation Safety Agency (EASA) or any other flight certification agency or organization; any other guidelines agency or organization; or the like.

[0051] FIG. 1 illustrates an aircraft cabin **100** including an aircraft seat **102**, in accordance with one or more embodiments of the disclosure.

[0052] The aircraft seat **102** may include a seatback **104**. The aircraft seat **102** may include a seat pan **106**. The aircraft seat **102** may include one or more arms **108**. The aircraft seat **102** may be coupled to a base **110**. The base **110** may be covered by a shroud **112**. For example, the shroud **112** may include one or more sections configured to cover at least a portion of the aircraft seat **102**. The shroud **112** may be configured to translate with respect to a translation of the base **110**, as will be discussed further herein.

[0053] Referring to FIG. 2A, the aircraft seat **102** may include a seatback frame **202**. The aircraft seat **102** may include a seat frame **204**. The aircraft seat **102** may include a seat pan frame **206**. One or more of the seatback frame **202** and/or the seat pan frame **206** may be directly coupled, or indirectly coupled via one or more interconnecting components, to one or more of the components of the seat frame **204**.

[0054] For purpose of the present disclosure, the “upper seat” may include, but is not limited to, the seatback frame **202**, the seat frame **204**, the seat pan frame **206**, or the like, unless otherwise noted herein.

[0055] The base **110** may include two-stage tracking system **208**. For example, the two-stage tracking system **208** may include a first stage tracking system **210** (or an upper tracking system) and a second stage tracking system **212** (or a lower tracking system). It is noted that the two-stage tracking system **208** may be adapted and mounted in any orientation to cater to various aircraft seat base designs and requirements. For example, the first stage tracking system **210** (or upper tracking system) may be coupled to an upper portion of the aircraft seat **102** and the second stage tracking system **212** (or lower tracking system) may be coupled to the floor of the aircraft cabin **100**, as discussed further herein.

[0056] The first stage tracking system **210** may include a vertical adjustment system. The vertical adjustment system may include a track and swivel mechanism, as generally discussed in U.S. Pat. No. 11,613,361, issued on Mar. 28, 2023, which is herein incorporated by reference in the entirety.

[0057] The second stage tracking system **212** may include a plinth seat base tracking system **212**, as will be discussed further herein.

[0058] Referring to FIGS. 2A-2D, the plinth seat base tracking system **212** may be at least partially covered using a telescopic shroud assembly **214**. The telescopic shroud assembly **214** may include an inner shroud portion **216** and an outer shroud portion **218**. For example, the inner shroud portion **216** may include a fixed shroud portion **216** and the outer shroud portion **218** may include a translating (or tracking) shroud portion **218**. For instance, as shown in FIG. 2B, the fixed shroud portion **216** may be coupled to a fixed portion of the seat base tracking system (i.e., seat base), such

that the fixed shroud portion **216** is fixed (i.e., does not move) to the set of seat tracks **114** and does not expose the set of seat tracks **114**. Further, as shown in FIG. 2B, the translating (or tracking) shroud portion **218** may be coupled to the fixed shroud portion **216** and configured to translate via a shroud translation sub-assembly. For example, the translating (or tracking) shroud portion **218** may track with the plinth seat base tracking system **212**. In this regard, the seat back tracking may be independent from the set of seat tracks **114**.

[0059] Referring to FIGS. 2B-2D, the translation sub-assembly of the translating (or tracking) shroud portion **218** may include a slide and carriage system **220**. For example, a carriage of the slide and carriage system **220** may be coupled to the fixed shroud portion **216** and a slide of the slide and carriage system **220** may be coupled to translating (or tracking) shroud portion **218**, or vice versa. In this regard, as shown in FIG. 2B, the slide on the translating (or tracking) shroud portion **218** may translate along the fixed carriage of the fixed shroud portion **216** along with the plinth seat base tracking system **212**. Although FIGS. 2B-2D depict the translation sub-assembly including the slide and carriage system **220**, it is contemplated herein that the translation sub-assembly may include any suitable sub-assembly for translating the translating (or tracking) shroud portion **218**. As such, FIGS. 2B-2D are provided merely for illustrative purposes and shall not be construed as limiting the scope of the present disclosure.

[0060] Referring to FIGS. 3A-5, the plinth seat base tracking system **212** may include a platform **300** (or plinth **300**). The platform **300** may be fixed to the seat tracks **114**. For example, the platform **300** may be coupled to floor fittings **301** of the seat tracks **114**. In this regard, the platform **300** may be fixed to the seat tracks **114** via the fixed floor fittings **301**. It is contemplated that the fixed platform **300** may provide a number of advantages. For example, the plinth seat base tracking system **212** may be used with any number of seat tracks **114**, without the need for a customized seat track. By way of another example, the fixed platform **300** of the plinth seat base tracking system **212** may be fixed at a wide (or large stance). In this regard, instabilities are reduced, routing is improved, and stability is improved.

[0061] The platform **300** (or plinth **300**) may be formed of one-piece or two or more individual components. For example, as shown in FIGS. 3A-3F, the platform **300** may include a one-piece plinth **300**. Further, it is contemplated that the platform **300** (or plinth **300**) may be formed of any suitable material such as, but not limited to, one or more metals, one or more thermoplastics, one or more composites, or the like.

[0062] The plinth seat base tracking system **212** may include one or more frame members **302**. For example, the one or more frame members **302** may be arranged proximate to the platform **300**. The one or more frame members **302** may be configured to translate via a translation assembly to infinitely adjust the plinth seat base tracking system **212**, as will be discussed further herein.

[0063] The one or more frame members **302** may be configured to receive one or more portions of one or more cross-tubes **304**. For example, the one or more frame members **302** may be configured to receive at least a front cross-tube **304** and a rear cross-tube **304**. The respective cross-tubes **304** may be configured to couple to the first stage tracking system **210**, as discussed previously herein.

[0064] The first stage tracking system **212** may be able to translate along the shaft of the respective cross-tubes **304** during installation and then fixed at a specified position. In this regard, the first stage tracking system **212** may be fixed at the specified position during operation.

[0065] The plinth seat base tracking system **212** may include one or more base tracking tubes **306**. For example, the plinth seat base tracking system **212** may include a left base tracking tube **306** and a right base tracking tube **306**. Referring to FIG. 3E, the one or more base tracking tubes **306** may be fixed to the fixed platform **300**, such that translation of the plinth seat base tracking system **212** is achieved by translating the one or more frame members **302** along a shaft of the one or more base tracking tubes **306**, as discussed further herein.

[0066] The one or more base tracking tubes **306** may be coupled to the one or more frame members **302** via one or more tube attachment members **308**. For example, the one or more one or more base

tracking tubes **306** may be coupled to the one or more frame members **302** at one or more rear positions via the one or more tube attachment members **308** and one or more front positions via the one or more tube attachment members **308**.

[0067] The plinth seat base tracking system **212** may include one or more pillow blocks **310** and one or more brake assemblies **312**. For example, the plinth seat base tracking system **212** may include a forward pillow block **310** and a rear pillow block **310**. In this regard, the shaft of a respective base tracking tube **306** may translate (or rotate) through the respective pillow blocks **310** to translate the plinth seat base tracking system **212**.

[0068] It is contemplated herein that the brake assembly **312** may be arranged in any position relative to a respective pillow block **310** (e.g., in between pillow blocks, in front of the forward pillow block, aft of the aft pillow block, or the like) to facilitate stopping at any desired position. Further, as shown in FIG. **4B**, the brake assembly **312** may be located on a separate tube.

[0069] The brake assembly **312** may be controlled by a user (e.g., passenger, crew member, or the like) via one or more cables/wires. For example, the cables/wires may be routed to the armrest **108** or any easily accessible area to the user.

[0070] Upon disengaging the brake assembly **312** via the cables/wires, the one or more frame members **302** may translate along the shaft of the respective pillow blocks **310** until in the desired position. As such, the plinth seat base tracking system **212** may achieve infinite adjustment positioning along the shaft of the respective base tracking tube **306** via the respective pillow blocks **310** and the brake assembly **312**.

[0071] The plinth seat base tracking system **212** may include one or more rollers **314**. For example, the one or more rollers **314** may be coupled to the platform **300** and rotate about a cavity **315** defined by one or more surfaces of the one or more frame members **302**. In this regard, the one or more rollers **314** may provide vertical support and further act as a load-reacting member.

[0072] In some embodiments, as shown in FIGS. **4A-4B**, the one or more rollers **314** are coupled to the platform **300** and rotate about a cavity **401** defined by one or more surface of one or more roller members **400**. The one or more roller members **400** may be coupled to a surface of the platform **300**, such that as the shaft of the one or more base tracking tubes **306** translate through an opening in the respective pillow blocks **310**, the one or more rollers **314** rotate about the cavity **401** of the one or more roller members **400**, as shown in FIG. **4B**.

[0073] In some embodiments, although not shown, the plinth seat base tracking system **212** may further include one or more horse-shoes. For example, the one or more horse-shoes may be configured to contain the one or more rollers **314** to limit lateral deformations.

[0074] The plinth seat base tracking system **212** may include one or more dampers **316** positioned proximate to the one or more rollers **314**. For example, the one or more dampers **316** may be positioned proximate to the one or more rollers **314** to prevent an abrupt stop when reaching a predetermined end position.

[0075] Referring to FIGS. **5A-5B**, the plinth seat base tracking system **212** may further include one or more additional rollers **500** and one or more containment members **502**. For example, the one or more containment members **502** may be coupled to the platform **300**, where a cavity **503** defined by one or more surfaces of the one or more containment members **502** receives the one or more additional rollers **500**. In this regard, the one or more additional rollers **500** are configured to rotate about the cavity **503** of the one or more containment members **502** and provide additional containment measures when the plinth seat base tracking system **212** is translating along the shaft of the one or more base tracking tubes **306**, as discussed previously herein.

[0076] The aircraft seat **102** may be adjusted electrically. For example, the aircraft seat **102** may include a control panel for adjusting the aircraft seat **102**. The control panel may be coupled to an aircraft controller. For example, the conduit may directly run into a control panel coupled to the arms **108** of the aircraft seat **102**. In this regard, a passenger may electrically adjust one of swivel, tracking, or vertical height via the control panel.

[0077] It is noted herein “vertical” may be understood as being defined with respect to a z-axis as illustrated in the Figures. In addition, it is noted herein “horizontal” may be understood as being defined with respect to an x-axis or a y-axis as illustrated in the Figures.

[0078] Although the disclosure has been described with reference to the embodiments illustrated in the attached drawing figures, equivalents may be employed and substitutions made herein without departing from the scope of the claims. Components illustrated and described herein are merely examples of a system/device and components that may be used to implement embodiments of the disclosure and may be replaced with other devices and components without departing from the scope of the claims. Furthermore, any dimensions, degrees, and/or numerical ranges provided herein are to be understood as non-limiting examples unless otherwise specified in the claims.

Claims

1. A seat base tracking system for an aircraft seat comprising: a platform couplable to a floor of an aircraft via a set of seat tracks, the platform being fixed to one or more floor fittings coupled to the set of seat tracks when coupled to the floor of the aircraft; one or more frame members arranged proximate to the platform; one or more base tracking tubes coupled to the platform via one or more tube attachment members, wherein the one or more base tracking tubes are fixed to the platform; and a translation assembly configured to translate the one or more frame members along a shaft of the one or more base tracking tubes to provide seat base tracking with infinite adjustment positions, wherein the seat base tracking is independent from the set of seat tracks.
2. The seat base tracking system of claim 1, wherein the translation assembly further comprises: one or more pillow blocks, wherein the one or more pillow blocks are coupled to the one or more frame members, wherein the shaft of the one or more base tracking tubes is configured to translate through an opening in the one or more pillow blocks when translating along the one or more base tracking tubes.
3. The seat base tracking system of claim 2, wherein the translation assembly further comprises: one or more brake assemblies, wherein disengagement of the one or more brake assemblies translates the one or more frame members along the shaft of the one or more base tracking tubes.
4. The seat base tracking system of claim 1, further comprising: one or more rollers, wherein the one or more rollers are coupled to the platform, wherein the one or more rollers are configured to rotate about a cavity defined within the one or more frame members when the translation assembly translates the one or more frame members.
5. The seat base tracking system of claim 4, further comprising: one or more dampers positioned proximate to the one or more rollers.
6. The seat base tracking system of claim 1, wherein the platform is a one-piece plinth.
7. The seat base tracking system of claim 1, further comprising: one or more cross-tubes coupled to the one or more frame members.
8. The seat base tracking system of claim 1, further comprising: a telescoping shroud assembly, wherein the telescoping shroud assembly comprises: a fixed shroud coupled to a fixed portion of the seat base tracking system; and a translating shroud coupled to the fixed shroud, wherein the translating shroud is configured to translate via a shroud translation sub-assembly when the one or more frame members translate.
9. The seat base tracking system of claim 8, wherein the shroud translation sub-assembly comprises a slide and carriage system.
10. An aircraft seat comprising: a seat frame; and a two-stage tracking system including a first stage tracking system and a second stage tracking system, the first stage tracking system couplable to the seat frame, the second stage tracking system couplable to a floor of an aircraft, the second stage tracking system comprising: a platform couplable to the floor of the aircraft via a set of seat tracks, the platform being fixed to one or more floor fittings coupled to the set of seat tracks when

coupled to the floor of the aircraft; one or more frame members arranged proximate to the platform; one or more base tracking tubes coupled to the platform via one or more tube attachment members, wherein the one or more base tracking tubes are fixed to the platform; and a translation assembly configured to translate the one or more frame members along a shaft of the one or more base tracking tubes to provide seat base tracking with infinite adjustment positions, wherein the seat base tracking is independent from the set of seat tracks; and a telescoping shroud assembly, the telescoping shroud assembly comprising: and a fixed shroud coupled to a fixed portion of the two-stage tracking system; a translating shroud coupled to the fixed shroud, wherein the translating shroud is configured to translate via a shroud translation sub-assembly when the one or more frame members of the second stage tracking system translate.

11. The aircraft seat of claim 10, wherein the translation assembly further comprises: one or more pillow blocks, wherein the one or more pillow blocks are coupled to the one or more frame members, wherein the shaft of the one or more base tracking tubes is configured to translate through an opening in the one or more pillow blocks when translating along the one or more base tracking tubes.

12. The aircraft seat of claim 11, wherein the translation assembly further comprises: one or more brake assemblies, wherein disengagement of the one or more brake assemblies translates the one or more frame members along the shaft of the one or more base tracking tubes.

13. The aircraft seat of claim 10, wherein the second stage tracking system further comprises: one or more rollers, wherein the one or more rollers are coupled to the platform, wherein the one or more rollers are configured to rotate about a cavity defined within the one or more frame members when the translation assembly translates the one or more frame members.

14. The aircraft seat of claim 13, further comprising: one or more dampers positioned proximate to the one or more rollers.

15. The aircraft seat of claim 10, wherein the platform is a one-piece plinth.

16. The aircraft seat of claim 10, further comprising: one or more cross-tubes coupled to the one or more frame members and the first stage tracking system.

17. The aircraft seat of claim 16, wherein the first stage tracking system is configured to translate along a shaft of the one or more cross-tubes during installation to a position, wherein the first stage tracking system is fixed in the position during operation.

18. The aircraft seat of claim 10, wherein the shroud translation sub-assembly comprises a slide and carriage system.
