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(54) Titre : SYSTEME DE PLATEAU POUR SIEGE  
(54) Title: TRAY SYSTEM FOR A SEAT APPARATUS

(57) **Abrégé/Abstract:**

A tray system for a seat apparatus comprising a first body configured as a tray and coupled to the seat apparatus. A second body having a top side is movably coupled to the bottom side of the first body. The second body moves to a position under at least a portion of the first body. Another embodiment provides that the second body includes a plurality of guide tracks configured to engage a corresponding plurality of guide members coupled to the bottom side of the first body. The second body can translate along the tracks to a position under at least a portion of the first body.



**ABSTRACT**

A tray system for a seat apparatus comprising a first body configured as a tray and coupled to the seat apparatus. A second body having a top side is movably coupled to the bottom side of the first body. The second body moves to a position under at least a portion of the first body. Another embodiment provides that the second body includes a plurality of guide tracks configured to engage a corresponding plurality of guide members coupled to the bottom side of the first body. The second body can translate along the tracks to a position under at least a portion of the first body.

## **TRAY SYSTEM FOR A SEAT APPARATUS**

### **BACKGROUND OF THE INVENTION**

- [0001] This invention relates to a tray system for a seat apparatus and more particularly to an auxiliary tray for use with a high chair.
- [0002] Conventional high chairs typically have a tray mounted to the arms or similar structure of the high chair. At times, additional space on the tray is needed to accommodate the food stuff of a care giver of the person sitting in the high chair.
- [0003] To address the need for additional space secondary trays are used with the primary tray of the high chair. Such secondary trays typically are clamped onto an edge of the primary tray, or mounted on an arm or leg of the high chair. Such secondary trays are usually smaller than the primary tray. Other secondary trays are mounted over the primary tray. In such instance, the secondary tray can be larger than the primary tray. In any of the above described schemes, the secondary tray is not hidden from view when not in use and, in some instances, must be stored separate from the high chair.
- [0004] Thus there is a need for an auxiliary tray for use with a high chair that can be hidden from view when not in use. There is a further need for an auxiliary tray that can be stored with the high chair.

### **SUMMARY OF THE INVENTION**

- [0005] There is provided a tray system for a seat apparatus comprising a first body configured as a tray having a bottom side and coupled to the seat apparatus and a second body movably coupled to the bottom side of the first body. The second body moves under at least a portion of the first body. Another embodiment provides that the second body includes a

plurality of guide tracks configured to engage a corresponding plurality of guide members coupled to the bottom side of the first body. The second body can translate along the tracks under the first body.

[0006] There is also provided a high chair comprising a seat structure mounted on a plurality of legs with a first tray having a bottom side coupled to the seat structure and auxiliary tray. The auxiliary tray includes a body with a track coupled to the body. The first tray includes a guide member configured to engage with the track and coupled to the bottom side of the first tray. The body can translate along the track to a position under at least a portion of the first tray.

[0007] There is further provided an auxiliary tray for use with a high chair having a first tray. The first tray has a bottom side. The auxiliary tray comprises a body with a track coupled to the body. The track is configured to engage a guide member and coupled to the bottom side of the first tray. The body can translate along the track to a position under at least a portion of the first tray. An additional embodiment includes a second track coupled to the body a spaced distance from the other track and configured to engage a second guide member and coupled to the bottom side of the first tray. A further embodiment provides that the body is removably coupled to the first tray.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0008] Fig. 1 is a perspective view of a high chair type seat apparatus having an exemplary embodiment of a tray system in a closed position and a dotted line illustration of the tray system in an open position.

[0009] Fig. 2 is a partial exploded view of the tray system illustrated in Fig. 1.

[0010] Fig. 3 is a plan view of the bottom sides of a first body and a second body of an exemplary embodiment of a tray system.

- [0011] Fig. 4 is a plan view of the top sides of the first body and the second body of the tray system illustrated in Fig. 3.
- [0012] Fig. 5 is a partial cross sectional view of an exemplary embodiment of a lock for the second body of the tray system illustrated in Fig. 3 along the line 5-5.
- [0013] Fig. 6 is a perspective view of another seat apparatus having an exemplary embodiment of a tray system.

#### **DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS**

- [0014] Before describing several exemplary embodiments of a tray system for a seat apparatus in accordance with the invention, there are several general comments. The tray system 20 can be utilized with any type of seat apparatus 10. The drawings illustrate two types of seat apparatus, namely a high chair 14 (see Fig. 1) and a more conventional chair (see Fig. 6). The high chair is typically used for an infant or toddler; however, it is contemplated that the scale of the chair would be appropriate for the size of person sitting in such seat apparatus. For instance, an adult would be seated in such a chair for use in a hospital or a nursing home or any other type of extended care facility, including a residence.
- [0015] The first and second trays 22, 32 typically are constructed from the same type of material. For example, the trays can be from steel or aluminum which is fabricated by stamping, or plastic which is fabricated by a molding process such as blow molding, injection molding, or vacuum molding or the like or wood. It is also contemplated that the first and second trays 22, 32 can be of dissimilar materials such as plastic with steel, plastic with wood, etc. The aesthetics of the tray system and the fabricating processes are determined by the manufacturer of such tray system.

[0016] Referring now to the Figures, Fig. 1 illustrates a perspective view of a high chair type 14 seat apparatus 10 having an exemplary embodiment of a tray system 20. The tray system comprises a first body 22 configured as a first tray and having a bottom side 24. The first body 22 is coupled to the seat apparatus 10 by any convenient and conventional coupling mechanism. The tray system 20 also includes a second body 32, or auxiliary tray, having a top side 34. The second body 32 is movably coupled to the bottom side 24 of the first body 22 so that the second body 32 can move under at least a portion 26 of the first body 22. Fig. 1 illustrates the second body 32 in a closed position (solid lines) and an open position (dotted lines). Fig. 1 also illustrates a high chair type 14 seat structure 12, mounted on a plurality of legs 16. The tray system 20 described above is coupled to the seat structure 12.

[0017] The second body 32 of the tray system 20 can include one or more guide tracks 38, 42 configured to engage corresponding one or more guide members 44 coupled to the bottom side 24 of the first body 22. The guide tracks 38, 42 can be formed in the sides of the second body 32, or the guide tracks can partially extend into the second body. The second body 32 can translate along the tracks 38, 42 under at least a portion 26 of the first body 22. The second track 42 is a spaced distance from the other track 38. Additional tracks and guide members can be provided to add additional stability to the tray system 20.

[0018] The guide tracks 38, 42 can be configured as elongated slots 40 or they can be molded in the second body 32. The guide tracks 38, 42 also can be separate members attached to the second body 32 with a fastener or an adhesive. The guide members 44, 46 can be molded on the first body 22, or they can be secured to the bottom side 24 of the first body 22. For example, the guide members 44, 46 can be screws turned into the bottom side 24 of the first body 22, or they can be bolts, pegs or such other devices that will engage a corresponding guide track 38, 42 to allow the

second body 32 to translate along the tracks under the first body 22. It should be appreciated that the guide tracks 38, 42 can be coupled to the bottom side 24 of the first body 22 and the guide member 44, 46 coupled to the second body 32 to effect a similar arrangement and function of the tray system 20. Such couplings can be by any of the methods described above.

[0019] The second body 32 of the tray system 20 can include a recess 36 for foodstuff, caregiver implements such as tissues, bandages, or other sundries, or the like, as best seen in Fig. 4. More than one recess 36 can be provided in the second body 32, with the recesses configured to different shapes to accommodate, for example, a dish, bowl, glass, or other utensil. In the embodiment of the tray system shown in the figures, the second body 32 is coupled to the first body 22 to translate forward of a front surface of the first body 22. Coupling the second body 32 to translate forward of the first body 22 provides the advantage that, while the second body 32 is in the open position, the second body 32 and associated recess or recesses 36 are out of reach of the person sitting in the seat apparatus 10. In this regard, objects that a child caregiver wants to keep out of reach of a child seated in a high chair 14 can be placed in the recesses 36 of the second body 32.

[0020] The second body 32 of the tray system 20 can be removably coupled to the first body 22. The guide track 38, 42 can be configured to allow the second body 32 to disengage from the guide member 44, 46 for cleaning or repair purposes. The second body 32 can be provided with a grip or handle 35 to facilitate its movement from one position to another. However, it should be understood that the typical arrangement of the tray system 20 is to provide for the second body 32 to be stored under the first body 22 when not in use. A seat apparatus 10 of the high chair type 14 with the second body 32 in a closed position is illustrated in Fig. 1.

[0021] Figs. 3 and 4 depict the second body 32 in an open position 50. The second body 32 can include a lock 48 configured to secure the first body 22 and the second body 32 in a pre-selected position 50. It is contemplated that, in alternative embodiments, the lock 48 can be configured on the first body 22. Fig. 5 illustrates an exemplary embodiment of the lock 48. The lock 48 is shown engaging a portion of the first body 22 to lock the second body 32 in the open position 50. The lock 48 can be a cantilevered, flexible tab 49, as illustrated in Fig. 5, or, alternatively, it can be a biased pin configured to engage a hole or a bore, or it can be a pivoted biased lever or any other convenient and conventional locking mechanism. The lock 48 can be disengaged by pushing downward on the tab 49 to move the tab 49 below the front surface of the first body 22. The second body 32 then can be pushed to a new position, such as the closed position shown in solid lines in Fig. 1. When the second body 32 is moved back to the open position 50, the tab 49 can automatically move upward once past the front surface of the first body 22 to engage the front surface, as shown in Fig. 5. In alternative embodiments, a plurality of pre-selected lock positions can be provided by providing a series of slots or notches in one of the first and second bodies 22, 32 and providing a lock on the other of the first and second bodies 22, 32 to engage or contact the slots or notches.

[0022] Thus, there is provided a tray system for a seat apparatus that includes a first body configured as a tray and a second body coupled to the first body, wherein the second body moves under at least a portion of the first body. While the embodiments illustrated in the figures and described above are presently preferred, it should be understood that these embodiments are offered by way of example only. The invention is not intended to be limited to any particular embodiment but is intended to extend to various modifications that nevertheless fall within the scope of the appended claims. For example, in one embodiment, the tray system can be removed completely from the seat structure of the seat apparatus. It is also

contemplated, in another embodiment, that the tray system can be pivotally coupled to the seat structure of the seat apparatus so that the tray system can be swung up and over the seat structure or swung around in front of the seat structure. Additional modifications such as those described at the beginning of the description above will be evident to those with ordinary skill in the art.

**WHAT IS CLAIMED IS:**

1. A tray system for a seat apparatus, comprising:  
a first body configured as a tray having a bottom side and coupled to the seat apparatus; and,  
a second body movably coupled to the bottom side of the first body,  
wherein the second body moves under at least a portion of the first body.
2. The tray system of claim 1, wherein the second body includes a plurality of guide tracks configured to engage a corresponding plurality of guide members coupled to the bottom side of the first body, wherein the second body can translate along the tracks under the first body.
3. The tray system of claim 2, wherein the guide tracks are elongated slots.
4. The tray system of claim 2, wherein the guide tracks are molded in the second body and the guide members are molded on the first body.
5. The tray system of claim 1, wherein the second body defines at least one recess.
6. The tray system of claim 1, wherein the second body is removably coupled to the first body.
7. The tray system of claim 1, wherein the seat apparatus is a high chair.
8. The tray system of claim 1, further comprising a lock configured to secure the second body in a pre-selected position relative to the first body.
9. A high chair comprising:  
a seat structure mounted on a plurality of legs;  
a first tray having a bottom side coupled to the seat structure; and,  
an auxiliary tray, the auxiliary tray including:  
a body; and  
a track coupled to the body; and

the first tray including a guide member configured to engage with the track and coupled to the bottom side of the first tray,

wherein the body can translate along the track to a position under at least a portion of the first tray.

10. The high chair of claim 9, wherein the body includes a second track at a spaced distance from the other track, and wherein the first tray includes a second guide member configured to engage with the second track and coupled to the bottom side of the first tray.

11. The high chair of claim 10, wherein the tracks are molded with the body.

12. The high chair of claim 10, wherein the guide members are molded on the first tray.

13. The high chair of claim 9, wherein the track is an elongated slot.

14. The high chair of claim 9, wherein the body defines at least one recess.

15. The high chair of claim 9, wherein the body is removably coupled to the first tray.

16. The high chair of claim 9, wherein the body includes a lock configured to secure the body in a pre-selected position relative to the first tray.

17. An auxiliary tray for use with a high chair having a first tray, the first tray having a bottom side, the auxiliary tray comprising:

a body;

a track coupled to the body and configured to engage a guide member coupled to the bottom side of the first tray,

wherein the body can translate along the track to a position under at least a portion of the first tray.

18. The auxiliary tray of claim 17, further comprising a second track coupled to the body a spaced distance from the other track, and the second track configured to engage a second guide member coupled to the bottom side of the first tray.
19. The auxiliary tray of claim 18, wherein the tracks are molded with the body.
20. The auxiliary tray of claim 18, wherein the guide members are molded on the first tray.
21. The auxiliary tray of claim 17, wherein the track is an elongated slot.
22. The auxiliary tray of claim 17, wherein the body defines at least one recess.
23. The auxiliary tray of claim 17, wherein the body is removably coupled to the first tray.
24. The auxiliary tray of claim 17, wherein the body includes a lock configured to secure the body in a pre-selected position relative to the first tray.

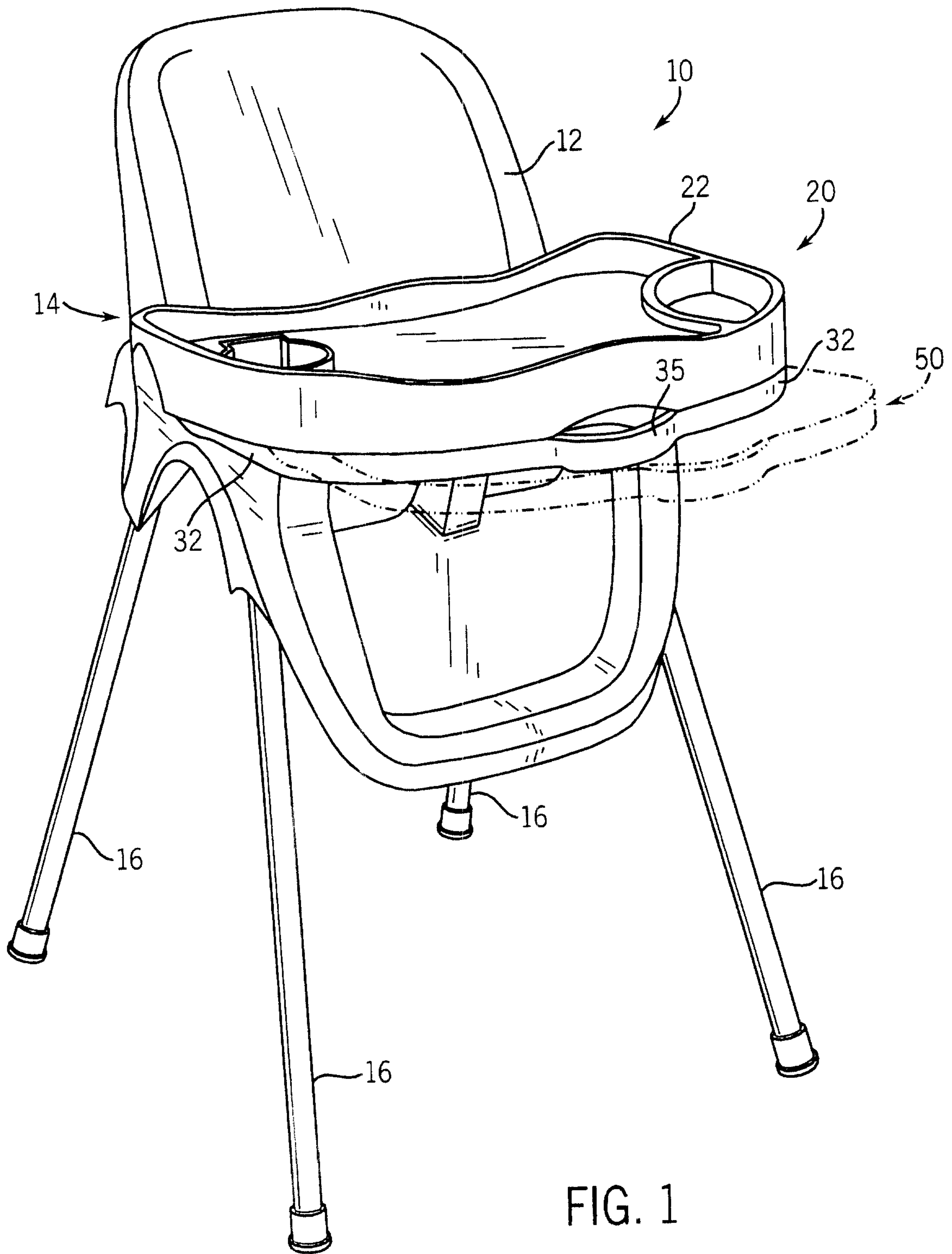
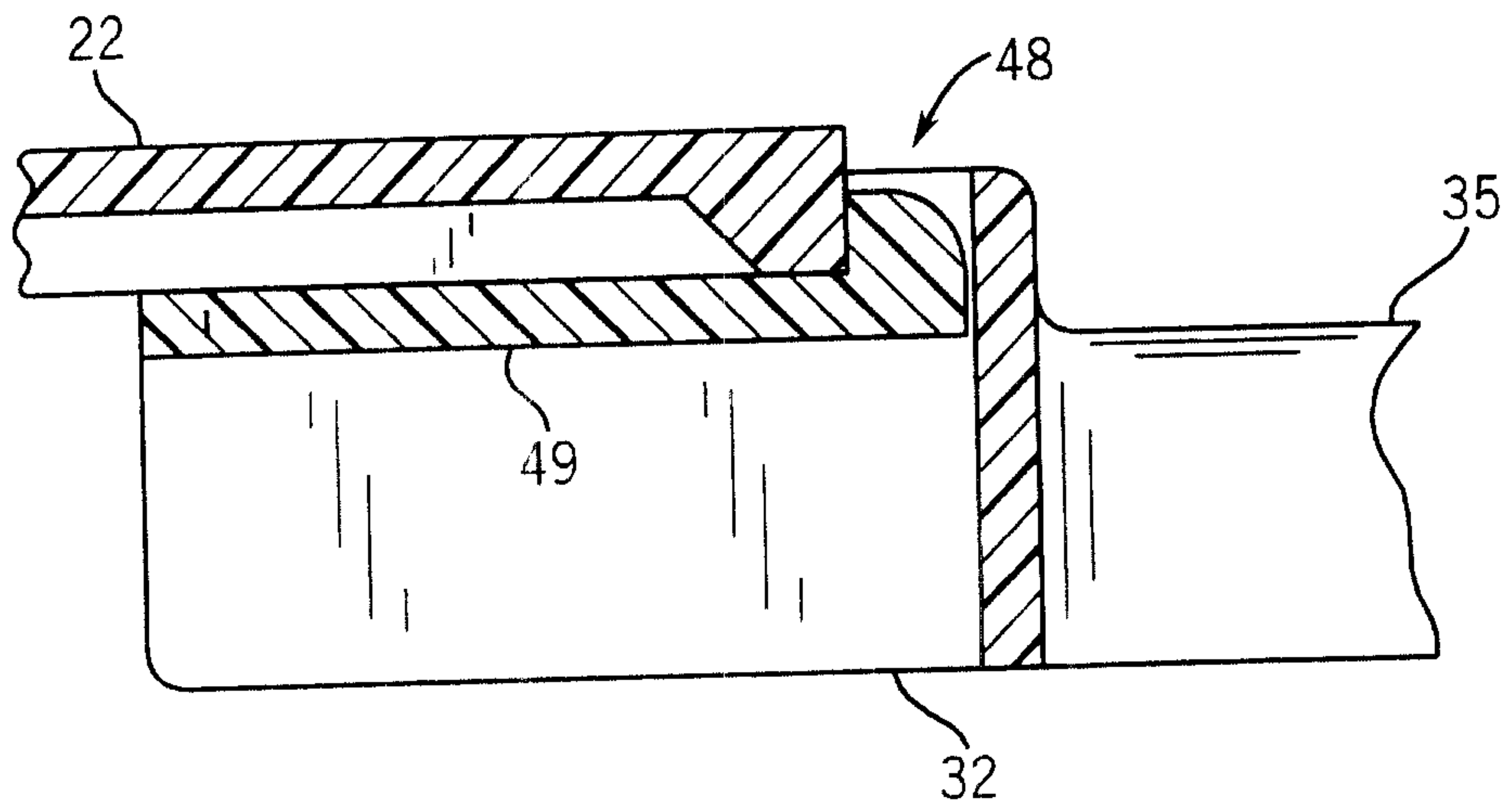
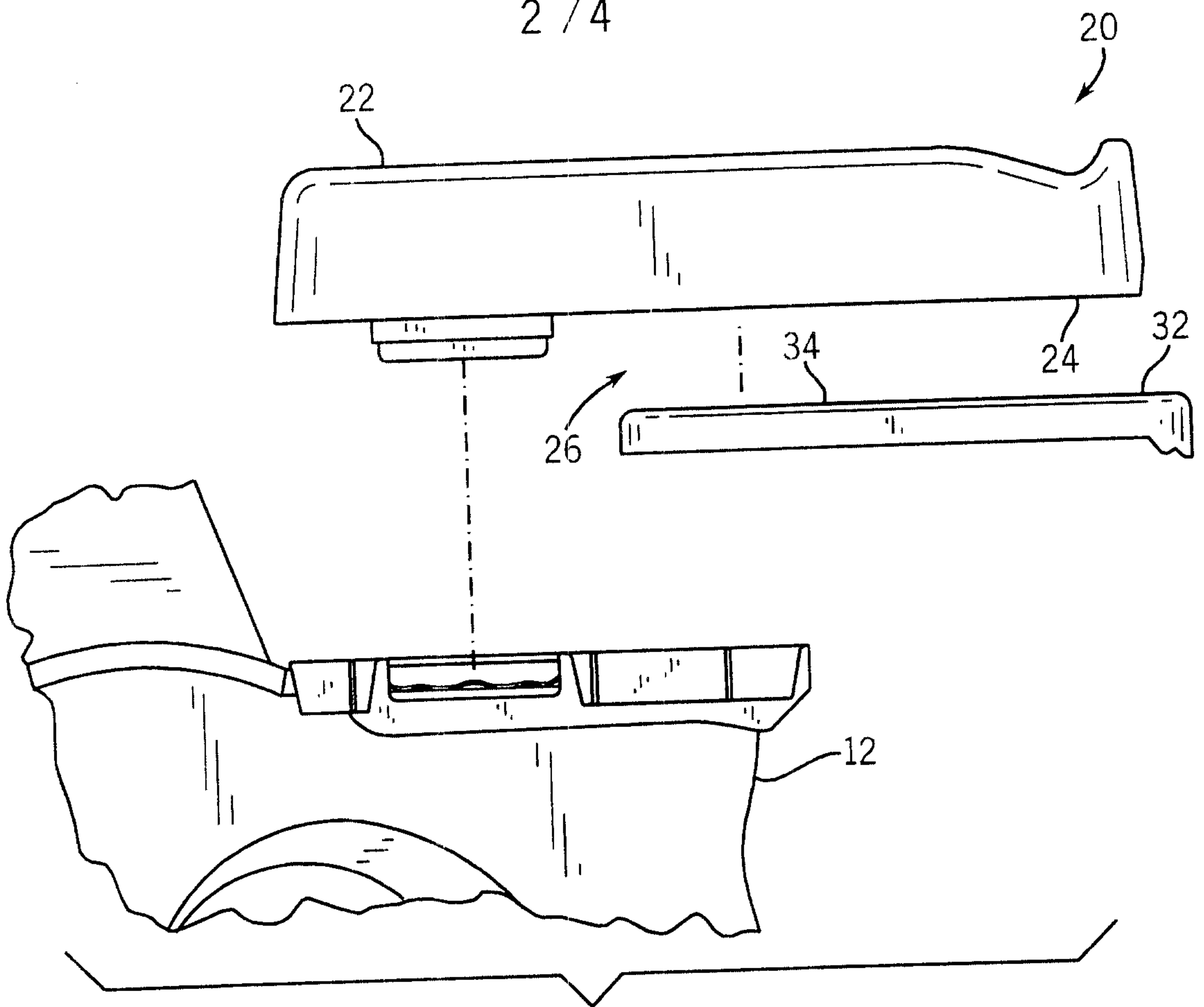


FIG. 1

2 / 4



3 / 4

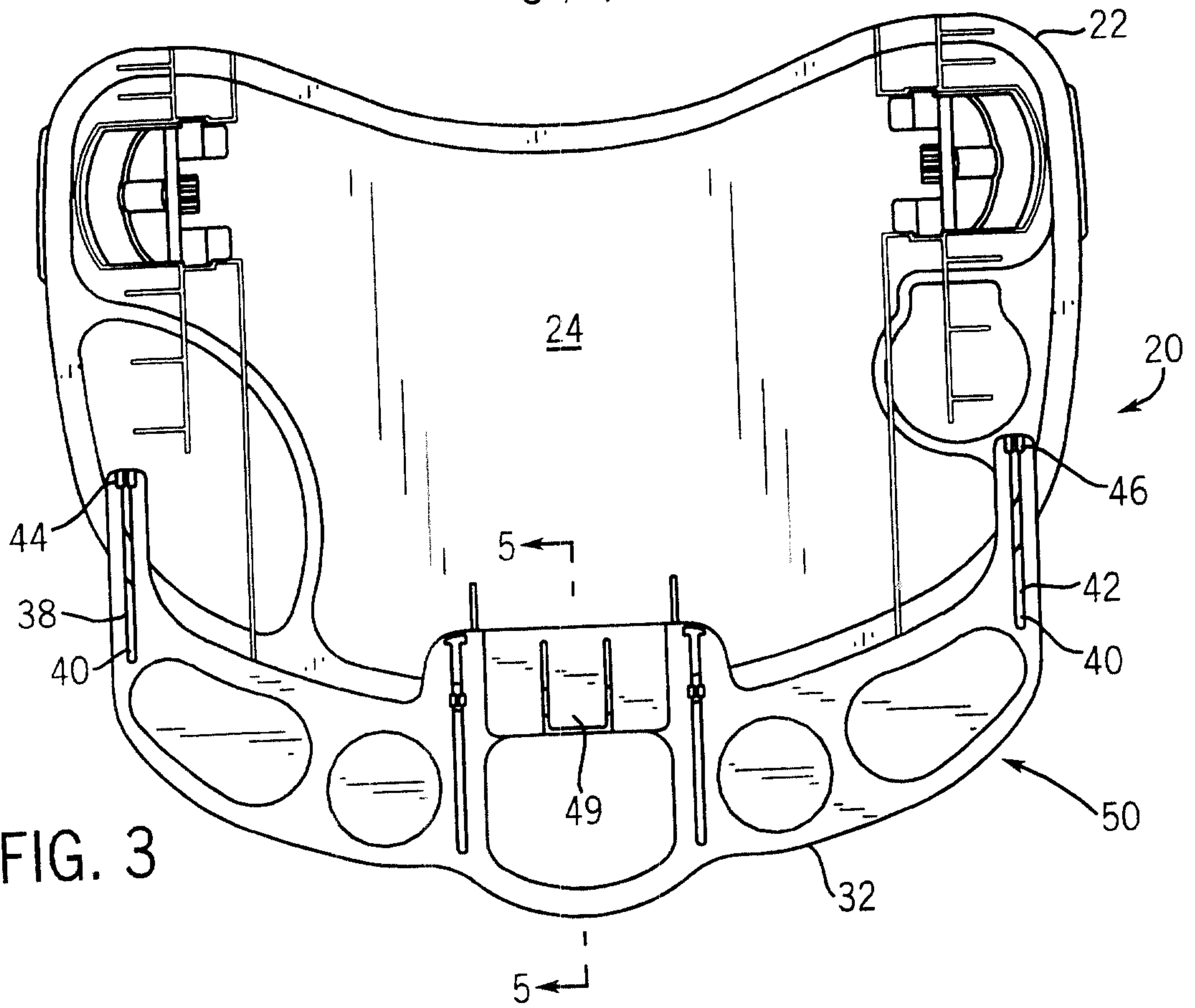


FIG. 3

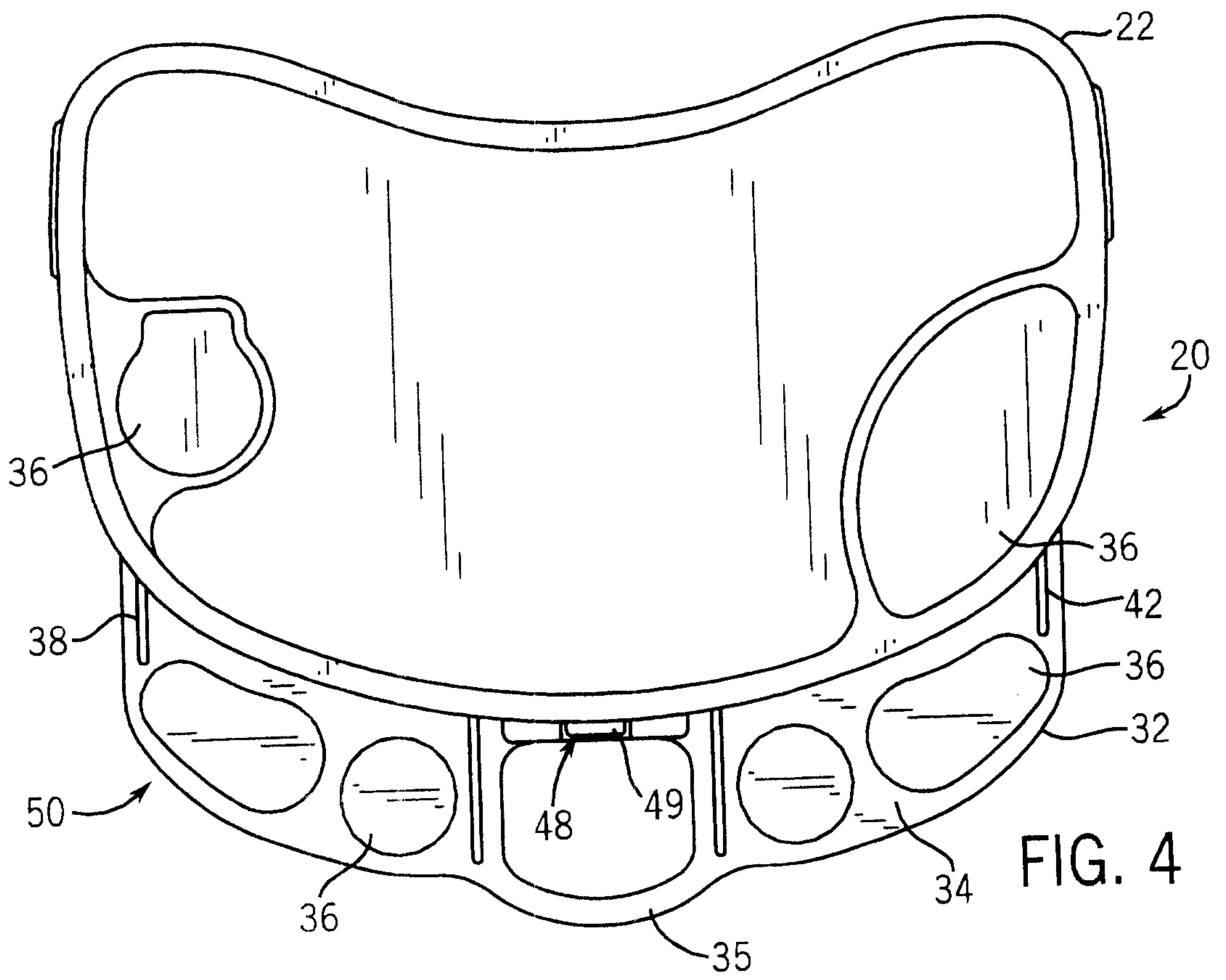


FIG. 4

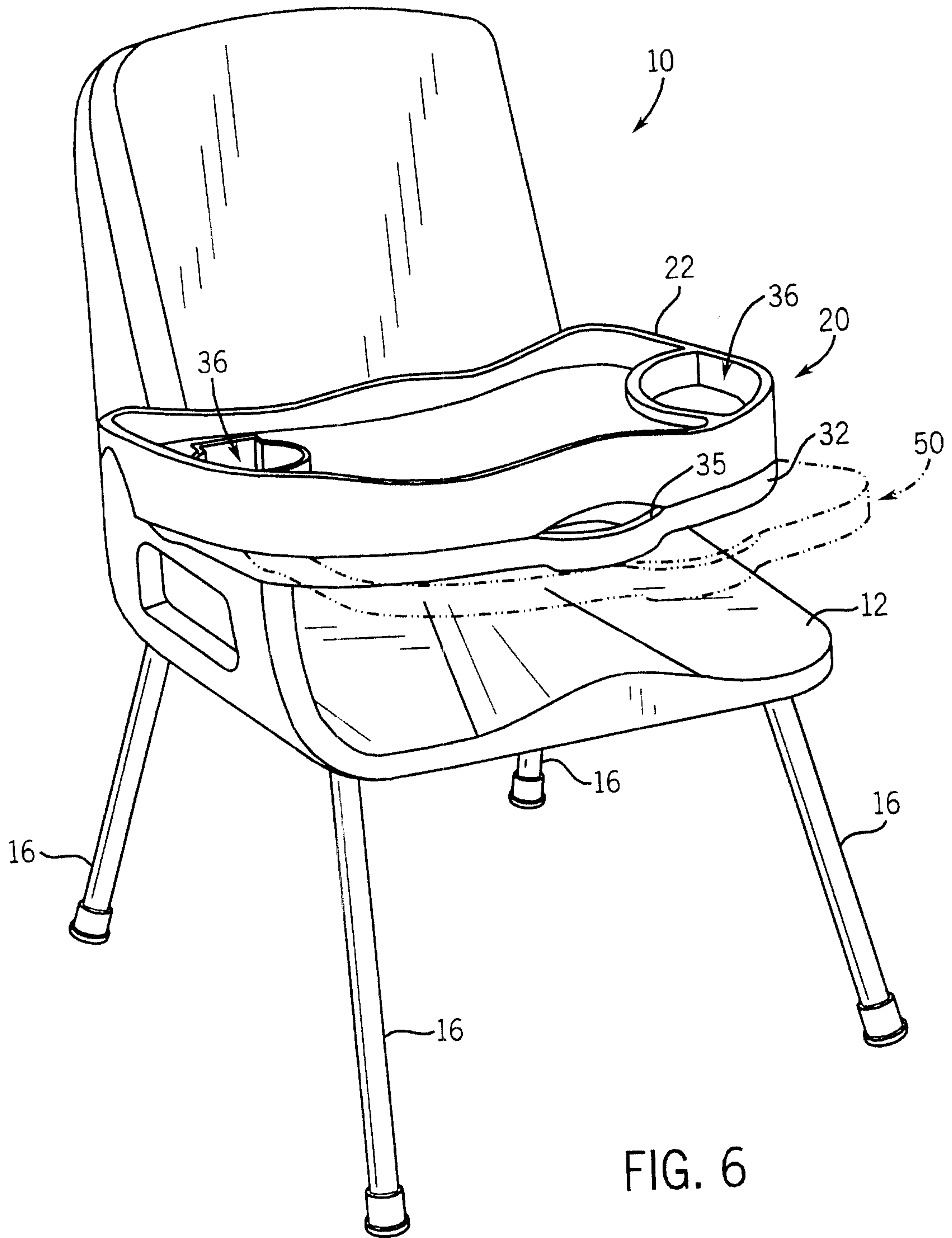


FIG. 6