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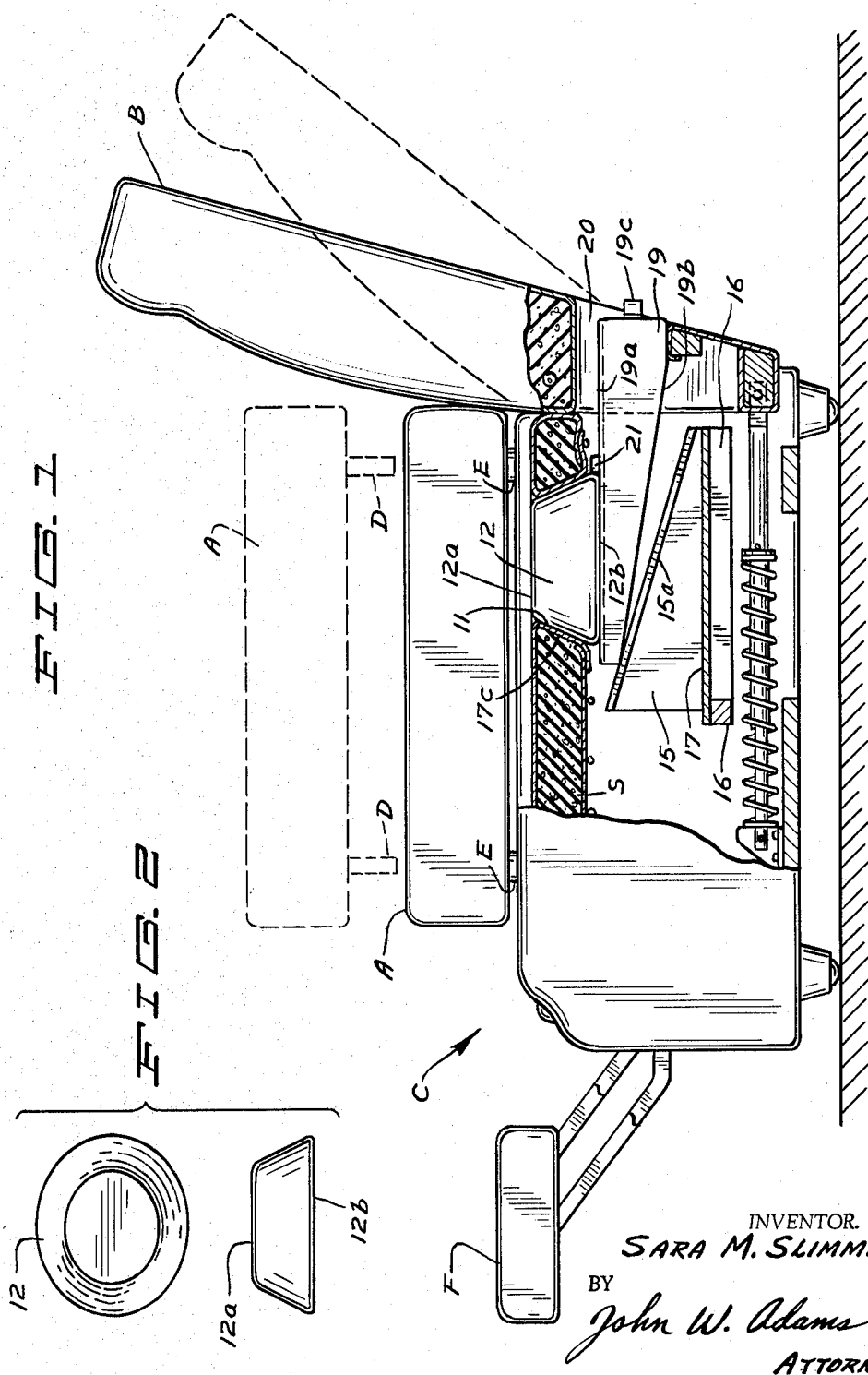
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3,245,090

INVALID SERVICE CHAIR

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2 Sheets-Sheet 1



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3,245,090

INVALID SERVICE CHAIR

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5 Claims. (Cl. 4-134)

This invention relates generally to invalid chairs and more particularly to an invalid chair which is specifically designed to allow all services to be made to the patient from the rear and bottom portions of the chair without disturbing or moving the patient in any manner.

In order to provide comfort and ease of service for a patient and an attendant caring for the patient several forms and types of invalid chairs have heretofore been designed. However, these chairs have not achieved any great degree of success or acceptability in that their operations have been complicated and have not afforded the patient any degree of increased comfort.

Applicant however has provided a new and unique invalid service chair which provides means for performing all necessary patient service operations from the rear and bottom of the chair so as to eliminate moving and thus disturbing the patient in any manner.

Applicant's invalid service principles, although directed to a chair in this application are as will be seen easily adaptable for use with beds or any other type of chairs including wheel chairs.

The main object in applicant's conception of this chair is to provide for complete invalid comfort and service. To accomplish this the chair illustrated is a reclining type chair having a removable seat cushion cutout which is constructed so as to be removable through the bottom of the cushion and out of the rear of the chair by removal of the cushion support. Another feature corresponding to the service for the patient is that the cushion support also serves as a bed pan support system which is receivable into the chair to place a bed pan into the opening defined in the cushion such that it may be properly placed and positioned for use without disturbing or moving the patient. Another feature of this chair which adds to its usability is the fact that its arms are easily removable which will permit transfer of the patient to the chair without lifting the patient.

It is therefore an object of applicant's invention to provide an invalid's service chair wherein all necessary services may be provided for the patient without requiring him to move from the chair and which will afford the patient maximum comfort.

It is a further object of applicant's invention to provide an invalid service chair having section of the seat removable through an opening defined in the bottom of the seat such that the removable section will ordinarily aid in supporting the patient but which is removable in such a way so as not to disturb the patient or require him to move.

It is a further object of applicant's invention to provide a removable support system arranged for supporting either seat portions of a chair or elements insertable into an opening defined in the seat portion of a chair to positively position the same with respect to the seat without disturbing a person sitting thereon.

It is a specific object of applicant's invention to provide means for inserting and positioning removable portions into the seat section of a chair and positively locking the same into proper position but providing ease of access and removal to these insertable elements to provide a simple method of servicing a person confined to the chair such that it may be operated and used by untrained attendants.

These and other objects and advantages of my invention will more fully appear from the following description

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made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the several views, and in which:

FIG. 1 is a partial side elevation end section view showing a reclining chair adapted with the invalid service apparatus embodying the concepts of applicant's invention;

FIG. 2 is a plan and side elevation showing the removable cushion section receivable into the seat portion of the chair;

FIG. 3 is a rear elevation of the chair with the service apparatus positioned therein;

FIG. 4 is a view showing a portion of FIG. 1 with a bed pan positioned in the seat opening;

FIG. 5 is a plan view of the supporting tray.

In accordance with the accompanying drawings and to illustrate the adaptability of the invalid service apparatus applicant has shown the apparatus installed in a standard recliner chair C having a padded seat section S. The chair C shown being a recliner naturally has a tilting back portion B and a tilting foot rest F. The important modifications which must be made to this chair would include removable arm sections A such that a patient may be slid on to the chair rather than being lifted into the chair. A simple arm connection could include pin members D—D which are receivable into collars E—E provided on the side frame element of the chair C.

To adapt such a chair C for use with the apparatus of applicant's invention it is necessary to provide an opening 11 in the seat S and in the form shown this opening is provided with downwardly diverging sides 11a. A plan view of the opening 11 would show the opening as an oval shaped tapered section such that a cushion 12 would be receivable therein only upwardly through the bottom of the seat S. As shown in FIG. 2 the cushion 12 is frustum shaped having an oval cross section to serve as a plug member to close the opening 11. In this manner the top portion 12a will slip upwardly into the opening 11 to be in planar relation with the top of the seat S and the bottom 12b will extend slightly below the seat S such that pressure may be exerted upwardly thereon to hold the same in proper position.

The apparatus for positioning and holding the cushioning plug 12 in position in seat S includes a support camming ramp 15 in vertically spaced relation below the opening 11 and fixedly attached and mounted upon the chair frame 16 by providing a support member 17 attached to the frame 16. The upper surface 15a of the ramp 15 provides a camming and elevating surface upon which a cushion support tray 19 may ride.

In the form shown the tray 19 is provided with an upper support surface 19a and a lower camming or wedging surface 19b which will abut with the upper ramp surface 15a to urge the cushion 12 upwardly to position within the opening 11.

A tray receiving opening 20 is provided on the rear portion of the chair C such that the tray 19 may be inserted therein and likewise the cushion 12 may be inserted therethrough. A positioning and locking bar 21 is provided with locating means thereon to be received into any of the sets of holes 22 provided in the upper surface 19a of the tray 19 to position and lock the cushion 12 thereon. Handle means 19c may be provided to facilitate removal of the tray 19. The action of the tray 19 against the ramp 15 provides a wedging effect while effectively forcing the cushion 12 upwardly into the opening 11. Travel of tray 19 being inwardly from the rear of the chair C allows removal and insertion of the cushion 12 from below and through the rear of the chair such that a patient sitting in the chair C need not be disturbed when the cushion 12 is re-

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moved or inserted. The opening 11 in the seat S requires shifting of the usual seat supports but does not in any way affect the overall strength of the chair C.

The removal of the cushion 12 becomes of primary importance when it is necessary to allow the patient to use a bed pan 25. As shown in FIG. 4 the oval opening 11 is designed to receive a bed pan 25 into the lower portion of the opening 11 to engage the sides 11a and be positioned thereby. In order to place a bed pan within the seat opening 11 the support tray 19 is pulled outwardly through the rear opening 20 in the chair and the cushion 12 drops downwardly from the opening 11 and is removed through the chair opening 20. The bed pan 25 is then placed on the support tray 19 to engage the locking block 21 and is inserted into the rear opening 20 of the chair C. When the forward end of the tray 19 abuts with the ramping surface 15a it will be forced upwardly, positioning the bed pan 25 within the seat opening 11. After use the pan 25 is removed in the reverse manner and the cushion 12 is reinserted.

Many forms and variations may be made to the ramp 15 and tray 19 assembly without departing from the principle of rearward and downward service. The principle of the reverse taper on the cushion 12 provides a tight fitting relation for both the cushion 12 and the bed pan 25. The ramp 15 and tray 19 system allows positive wedging positioning while permitting easy withdrawal of the apparatus. A modification which should be obvious is that the oval shaped cushion 12 could be designed to be received into any opening which would also conform to the shape of a standard bed pan and therefore many different types of openings could be shown but for simplicity and clearness of understanding a common shape has here been shown.

The chair shown in this application of course provides for complete patient comfort in that it is provided with an extendable foot rest and positionable back rest. However, the adaptation of applicant's principles of both service and comfort are obviously adaptable to not only other forms of chairs but also to bed structures.

In order to incorporate this idea into either existing chairs or chairs which will be manufactured it is only necessary to permanently install wedging ramp similar to the ramp 15 and to form the opening in the seat portion of the chair. Applicant's idea and concept therefore is simple to apply but will result in obvious benefits to people who care for invalids and for invalids themselves. The ease and comfort afforded the user of the chair should be obvious from the simplicity of service he may receive without being moved and with the ease of entrance to the chair provided by the removable arm portions.

It should be obvious that the cushion support section provided by the applicant does not of necessity have to be provided with tapering sides and likewise the cushion receiving aperture of the chair does not have to be provided with diverging sides. It is only necessary in the broadest concept to provide a cushion plug member which is easily receivable and removable from the cushion aperture. Likewise the supporting ramp system is adaptable for use with any type or shape of cushion plug section. The main principle of these cooperating members of course is to provide a closable passage through a seat cushion.

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It should therefore be obvious that applicant has provided a new and unique invalid service apparatus easily adapted to chairs and other surfaces upon which invalids are required to recline and which will provide a means for servicing the patients requirements without disturbing the patient.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportion of parts without departing from the scope of my invention, which generally stated consists in the matter set forth in the appended claims.

What I claim is:

1. A chair device for servicing invalids including:

(a) a frame;

(b) a seating surface on the frame defining a passage downwardly therethrough;

(c) a first ramp supported on said frame in vertical spaced relation below said seating surface, the ramp being inclined upwardly toward said passage;

(d) a ramp engaging member providing a support surface thereon, said member being arranged for sliding engagement on said ramp and arranged for positioning therealong whereby selected invalid servicing devices may be moved into a first position to enter and close said passage and a second position in aligned position below said passage.

2. The structure set forth in claim 1 wherein the support surface of said engaging ramp member is provided with means for positioning invalid serving devices thereon for movement with said ramp.

3. The structure set forth in claim 2 wherein said passage is provided with downwardly diverging sides and a plug member is provided cooperatively, receivable into said passage permitting insertion of the plug only upwardly into the passage whereby the upward movement of the plug is limited by the convergence of the passage.

4. The structure set forth in claim 1 wherein said ramp engaging member includes an angularly arranged ramp portion adjacent said support surface which ramp portion is arranged for engagement with said first ramp to provide an upward wedging effect to servicing devices placed on the support surface.

5. The structure set forth in claim 1 wherein said seating surface defines a front and rear portion and said first ramp is arranged with its lowermost portion rearwardly and is inclined upwardly and forwardly therefrom to permit the ramp engaging member to be placed thereon from the rear of the chair.

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