

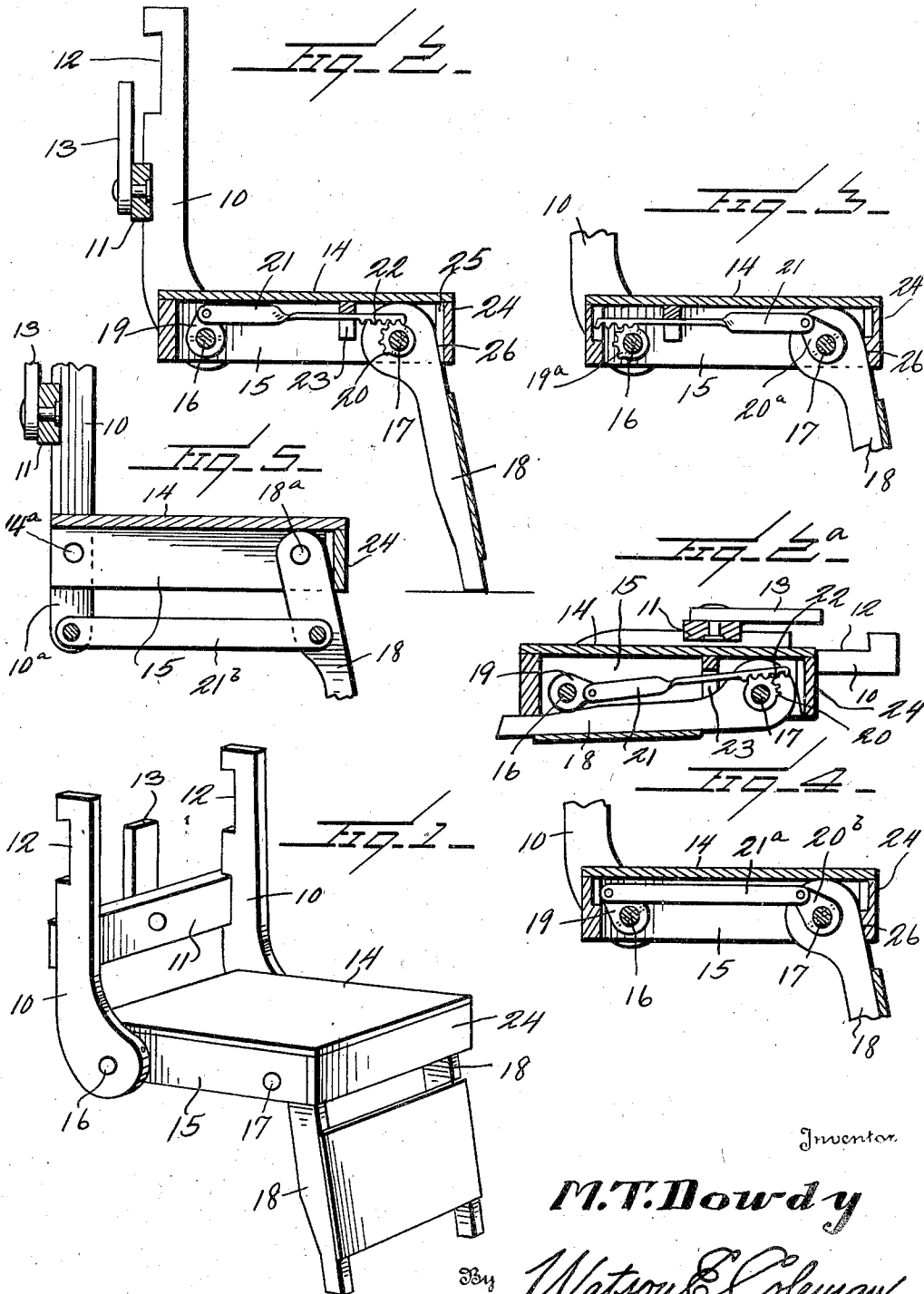
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M. T. DOWDY

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FOLDING HOSPITAL STOOL

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Inventor

M.T. Dowdy

By

Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE

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FOLDING HOSPITAL STOOL

Morton T. Dowdy, Bakersfield, Calif.

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3 Claims. (Cl. 155—78)

This invention relates to bed attachments, such as are used in hospitals and particularly to a folding stool adapted to be detachably engaged with the bed rail of a hospital bed, which stool is normally in a folded-up position, but is so constructed that it may be readily lowered so as to provide a stool supported firmly upon the ground and at a convenient height from the top of the bed.

Another object is to provide a supporting frame attachable to the side of a bed and which has a stool or seat portion pivoted thereto so that it may be turned from a vertical to a horizontal position, provide legs for the outer end of this seat or stool, and provide means which will positively shift these legs into a vertical supporting position as the seat is turned downward to its horizontal position and will positively swing these legs back into the seat or parallel thereto when the stool is turned upward against the bed and into a vertical position.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawing wherein:

Figure 1 is a perspective view of one embodiment of my invention.

Figure 2 is a vertical sectional view through the chair constructed as in Figure 1.

Figure 2^a is a fragmentary section on the same line as Figure 2 but showing the legs folded up.

Figure 3 is a fragmentary vertical section through the seat of the chair showing a modification of the structure shown in Figure 2.

Figure 4 is a fragmentary section through the seat of the chair showing another modification of the structure.

Figure 5 is a fragmentary section on the same lines as Figure 2, but showing a still further modification of my invention.

Referring to the drawing, it will be seen that I have provided a frame consisting of the vertical members 10 and the cross-brace 11, which is adapted to be engaged detachably with the side of a bed, as for instance, with one of the side rails of the bed. The members 10 are cut away, as at 12, so as to receive the side rail of the bed, and a latch 13 is pivoted upon the cross-brace 11, so that it may be turned up on the inside of the bed rail to thus detachably lock the members 10 in engagement with the bed rail. These members 10 with the cross-brace 11 and the latch 13 constitute in effect the back of a chair and a supporting frame. Disposed between the lower ends of the members 11 is a seat 14 which includes the side bars 15 or equivalent elements. Passing

through the lower ends of the members 10, through the side bars and beneath the seat 14, is a shaft 16, which shaft is fast in the members 10 and does not rotate. The side bars are, however, rotatable upon the shaft. Disposed at the free end of the seat is a second shaft 17 which is free to rotate in these side members 15 and rigidly connected to this shaft for oscillation therewith are the forward legs 18.

Secured rigidly to the shaft 16 is an arm 19 and secured rigidly to the shaft 17 is a toothed sector or segment 20. Pivotaly connected to the arm 19 is a rod 21 which at its forward end is formed with rack teeth 22. These teeth engage with the teeth of the segment 20. As illustrated, the rod 21 is formed of a flat piece of metal, the rear portion of which is vertical, and is then twisted about its middle so as to provide a horizontal portion which carries the rack teeth 22. Beneath the seat 14 is a transverse brace 23 which is cut away to permit the reciprocation of the rod 21. The forward end of the seat 14 is formed with a transverse brace or frame member 24 and this is cut away at its middle, as at 25, to permit the reciprocation of the rod 23. This transversely extending frame member 24 is beveled at 26 and constitutes a stop against which the legs 18 bear when the legs are forced downward to an approximately vertical position. It will be noted that the legs are not truly vertical but that they extend downward and forward so that the upper edges of the legs bear against these inclined faces 26 and thus the seat is fully supported upon the forward legs and at the same time these forward legs cannot move inward.

The frame formed of members 10 and 11 constitutes the back of the seat. This frame might be padded upon its forward face or otherwise formed. Obviously the seat 14 might be cushioned or padded and some other means of attachment might be used whereby the back frame of the seat may be attached to the bed and held detachably engaged therewith.

The primary object of my invention is to provide a seat or stool of this character which is normally supported in a vertical position but which when the seat is given a slight shove, will fall downward to carry the seat to a horizontal position and in doing so, the legs 18 will be positively forced to a position, as shown in Figure 2, to thus positively and solidly support the seat.

When the patient wishes to get out of bed, he, or an attendant, simply pushes the top of the folded seat forward and downward and upon the downward movement of the seat, the folded legs

18 are positively forced to their vertical supporting position by means of the rod 21. This makes it certain that the front legs will drop so as to stand vertically and makes it certain that the legs 18 cannot be moved rearward, and thus the patient, when he gets out of bed is sure to have an absolutely firm stool upon which he may step in getting out upon the floor, or upon which he may sit. It is very essential to the patient, particularly if he is weak and nervous, that he shall be certain of the strength and solidity of what he is to stand on. The seat of an ordinary chair is too high and besides that, the chair may tip. My device cannot tip in any direction because it is rigidly held to the bed and this the patient knows. The legs cannot fold back because they are positively held in their vertical position so long as the seat is in a horizontal position. The chair is also extremely convenient for doctors, nurses or visitors and may also be used for resting articles on.

In Figure 2^a I have shown the stool of Figure 2 in a folded position detached from the bed.

In Figure 3, I have illustrated a modified form of the arm 19. This modified form is designated 19^a. This arm is not pivoted to the connecting rod but is formed as a toothed segment and the rod 21 is shown as having teeth engaging the segment. This form of arm 19^a may be used in place of the arm 19. Vice versa, the segment gear 20 may be replaced by an arm 20^a mounted upon the shaft 17 and to which the forward end of the rod 21 is pivoted.

In Figure 4, I have illustrated another modification in which both of the shafts 16 and 17 are provided with outwardly extending arms, the arm of the shaft 16 being designated 19, the arm of the shaft 17 being designated 20^b. A connecting rod 21^a connects these arms. Otherwise than this, the construction is the same as that shown in Figure 2, but here too, it will be seen that when the seat is turned upward to its vertical position, the legs 18 will swing to a folded position and when the seat is turned down to its horizontal position, the legs 18 will swing outward, then downward to the position shown in Figure 4.

In Figure 5, I have illustrated still another modification in which the back 10 is extended downward below the seat, as at 10^a. The legs 18 are pivoted upon the sides 15 of the seat, as at 18^a, and a connecting rod 21^b is used between the back of the seat and each of the legs. With this construction also, as the seat is turned upward upon its pivot 14^a, the legs will be drawn inward into folded position, and as the seat is swung downward, the legs will swing outward and downward, bearing against the cross-bar 24 and supporting the stool firmly in its unfolded position.

While I have illustrated certain details of construction and arrangement of parts, I do not wish to be limited thereto, as many changes in these details might be made without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:—

1. A stool attachment for beds, including vertically disposed connected supporting members constituting the back of the stool and having means whereby they may be clamped upon a bed rail, a seat, a shaft extending loosely through and rotatable in the rear end of the seat and at its ends rigidly engaged with the vertical supporting members, a rotatable second shaft rotatably mounted in the forward end of the seat, a pair of legs rigidly engaged with the second shaft, a connecting rod disposed beneath the seat and extending over the two shafts, means on the first named shaft engaging the connecting rod to shift it rearward as the seat is turned from a vertical into a horizontal position, and means operatively connecting the connecting rod with the second named shaft to cause the rotation of the second named shaft as the seat is turned to a horizontal position in such direction as to carry the legs into an approximately vertical position.

2. A stool attachment for beds, including vertically disposed connected supporting members constituting the back of the stool and having means whereby they may be clamped upon a bed rail, a seat, a shaft extending loosely through and rotatable in the rear end of the seat and at its ends rigidly engaged with the supporting members, a second shaft rotatably mounted in the forward end of the seat, a pair of legs rigidly engaged with the second shaft, a connecting rod disposed beneath the seat and extending over the two shafts, means on the first named shaft engaging the connecting rod to shift it rearward as the seat is turned into a horizontal position, and means operatively connecting the connecting rod with the second named shaft to cause the rotation of the second named shaft as the seat is turned to a horizontal position in such direction as to carry the legs into a position where the legs are extended downward and forward, the seat having a cross-bar constituting a stop against which the forward edges of the legs bear when the legs are in a downward and forward position.

3. A stool attachment for beds, including vertical connected supporting members constituting a back and having means whereby they may be detachably engaged with the rail of a bed, a seat, a shaft mounted loosely in and rotatable with relation to the rear end of the seat and having its extremities rigidly engaged with the supporting members, a second shaft mounted for rotation in the forward end of the seat, a pair of front legs rigidly engaged with the second named shaft, the first named shaft having an arm engaged with and extending vertically from the shaft, a rod pivoted to said arm and extending forward toward the forward end of the seat and having rack teeth and a toothed segment mounted upon the second named shaft and with which said rack teeth engage whereby as the seat is turned downward the second shaft will be rotated in a direction to swing the legs downward and toward the forward end of the seat.

MORTON T. DOWDY.