This invention relates to support attachments for beds and more particularly to an attachment for beds for supporting various objects within easy reach of a person reposing on the bed.

This application is a continuation-in-part of an application filed by me on September 26, 1950, Serial Number 186,727, now abandoned.

Patients who are confined to bed often require tissues to receive sputum and must dispose of the used tissues themselves since an attendant cannot ordinarily be present at all times at the bedside. Conventionally, the tissues and a paper disposal bag, into which used tissues are inserted by the patient, are pinned to the sheets and mattress of the bed within reach of the patient. A signal button at the end of a cord connected to a signal system for advising attendants that the patient requires their services is also usually pinned to the sheets and mattress within reach of the patient. The pinning and unpinning of these items to the sheets and mattress each time the bed is made wastes considerable time, often results in tearing of sheets and excessive wear of the mattress, and requires the use of safety pins which may be come unfastened and inflict injury to the patient as the patient moves on the bed. The pinned sheets are often torn as the patient turns in the bed and the bed covering cannot be adjusted over or past the pinned articles satisfactorily. It is desirable, therefore, that an attachment for beds be provided which will support tissues, a disposal bag and the signal button within easy reach of the patient, which will eliminate the pinning of these items to the sheets and mattress and the use of safety pins, thus preventing tearing of sheets and excessive wear of the mattress; and which will not hamper or obstruct the making of the bed or the treatment or handling of the patient.

Accordingly, it is an object of the invention to provide a new and improved attachment for beds for supporting articles within easy reach of a person reposing on the bed.

It is another object of the invention to provide a new and improved support attachment for beds which may be detachably secured to a side rail or frame member of a bed and which extends vertically to support objects at the level of the mattress within easy reach of a patient lying thereon, said support attachment being movable with the frame member of the bed to which it is attached so that it remains readily accessible even though the position of the patient is changed by elevating or lowering the bed frame.

Still another object of the invention is to provide a new and improved attachment for beds having a standard pivotally secured at the side of a bed which may support objects adjacent the upper surface of the mattress and which may be pivoted downwardly to move below the mattress and out of the way of a person making the bed or treating the patient on said bed.

A further object of the invention is to provide an improved support attachment for beds, of the character described, having a standard provided with means for holding objects or accessories thereon at the side of a bed within easy reach of a person reposing on the bed, and wherein said holding means is adapted to retain such objects in place thereon when the standard is swung downwardly, whereby the objects or accessories are in position for use when the standard is returned to an upright position.

A still further object of the invention is to provide an improved support attachment of the character described wherein the standard, when in the upright supporting position, is spaced a short distance laterally from the mattress, whereby the bed coverings may be adjusted in position along the bed between the support and the mattress without substantial interference from the support.

In brief, the new and improved support attachment for beds includes a clamp which may be detachably but rigidly secured to a side rail or frame member of a bed, and a standard which is swingably mounted on the clamp for pivotal movement about a horizontal axis lying below the level of the mattress so that the standard may be swung downwardly below the level of the mattress when the patient on the bed is to be treated or handled or when the bed is to be made or the linens changed. The attachment is provided with a latch bar for holding the standard in an upright position. The standard is substantially T-shaped and has a cross bar provided with a pair of spaced hooks for holding objects and a disposal bag, or other objects, and a spring support disposed between the hooks for holding a signal button, or other objects, and is spaced laterally from the mattress to permit the bed linens and covers to be moved along the bed, as desired, between the mattress and the standard, without interference from said standard. In some embodiments of the invention, the hooks are provided with leaf pressure retainer springs for maintaining objects on the hooks even when the standard is swung from its upper to its lower position, and returned to the upright position.

In another embodiment of the attachment, the
hooks are provided with a snap retainer for maintaining objects on the hooks while the standard is moved pivotally from upright to lowered position and returned.

Additional objects and advantages of the invention will readily be apparent from the reading of the following description of a device constructed in accordance with the invention, and reference to the accompanying drawings thereof, wherein:

Figure 1 is a perspective view showing a support attachment mounted on a side frame member of a bed;

Figure 2 is a similar view showing the standard of the support swung to lowered retracted position;

Figure 3 is a front elevation of the attachment shown in Figure 1;

Figure 4 is a vertical sectional view taken on the line 4—4 of Figure 3;

Figure 5 is a side elevation of the attachment;

Figure 6 is an enlarged fragmentary perspective view of one of the hooks and retainer assemblies shown in Figures 1 to 5;

Figure 7 is a similar fragmentary perspective view of a modified form of a hook and retainer assembly;

Figure 8 is a fragmentary side view showing a modified form of clamp for securing the support attachment to the bed frame members;

Figure 9 is a fragmentary perspective view showing a further modified form of the clamp and standard;

Figure 10 is a front elevation of a modified form of the support attachment; and

Figure 11 is a side elevation of the support attachment shown in Figure 10.

In the drawings, the numeral 20 designates a support attachment constructed in accordance with the invention and which may be rigidly secured to a side frame member or pipe 21 of a bed. The support attachment includes a clamp 23 having a substantially inverted L-shaped base member 24, which has the inner end 25 of its horizontal arm or portion 26 curved to extend about the upper portion of the side pipe. A complementary clamping member 27 is disposed below the base member and has its inner end 28 curved to extend about the lower portion of the side pipe and has an upturned toe piece 29 at its outer end abutting the lower surface of the horizontal portion 26 of the base member. The toe piece 28 provides a fulcrum about which the inner end of the clamping member may be swung toward and away from the inner end of the base member. The horizontal portion of the base member and the clamping member are provided with registering apertures through which a screw 30 extends. A wing nut 31 threaded on the screw is employed to bring the curved inner end 25 and 28 toward one another, thus securing the clamp 23 rigidly to the side pipe 21 or other delected bed frame members.

The downwardly extending end portion or arm 32 of the L-shaped base member 24 is reduced in width and has its lower end portion hinged or curved upwardly about the middle portion of a hinge pin 33 to hold the pin rigidly in a position disposed transversely of the longitudinal axis of said downwardly extending arm and parallel to the bed frame member to which the base member is clamped.

A supporting member or standard 34 has a bifurcated lower end formed by two parallel spaced legs 35 and 36 whose lower ends are hinged or curved upwardly around the outer end portion of the hinge pin 33 on either side of the downwardly extending arm 32 of the base member. The standard is pivotally movable about the hinge pin from an upright or supporting position, shown in Figure 1, to a lowered or retracted position indicated in Figure 2. In order to hold or latch the standard in its upright position, a latch bar 37 has one end pivotally secured to the leg 35 by a screw 38 and is pivotally movable into brackets 39 and 40 rigidly secured to the downwardly extending arm 32 of the L-shaped base member and legs 35 of the standard, respectively. Engagement of the latch bar in the brackets limits downward and outward movement of the standard, and holds the standard in its upright position with its legs 35 and 38 abutting the outer ends of the horizontal arm 26 of the base member on each side of the downturned arm 32 thereof. Obviously, when the latch bar 37 is pivoted upwardly out of engagement with the brackets 39 and 40, the standard may be swung downwardly from its upright or supporting position to its lowered or retracted position.

The standard 34 has a cross arm 41 at its upper end, and hooks 42 and 43 are mounted adjacent the opposite ends of the cross arm. The hooks are mounted on the outer side of the cross arm by means of screws 44 which extend through an eye formed at the upper end of each hook and suitable apertures in the cross arm. The pointed ends 45 of the hooks extend through notches 46 formed in the lower ends of flat retainer springs 47 and 48, respectively, whose upper ends are secured to the cross arm by the screws 44 which extend through suitable apertures therein. The retainer springs curve downwardly at 23 and are secured by their upper ends toward and beyond the pointed ends 45 of the hooks. Lateral movement of the lower ends of the retainer springs relative to the hooks is prevented by the engagement of the pointed ends of the hooks in the notches 48 of the springs.

Tissues or paper disposal bags or other accessories may be hung on the hooks by flexing the retainer springs inwardly to expose the pointed ends 45 of the hooks and then forcing the tissues or bags over the pointed ends, the pointed ends piercing the tissues or the bag. The retainer springs are then allowed to snap back into their original positions with the pointed ends of the hooks extending through the notches in said springs, and the bags, tissues or the like are thus positively retained on the hooks.

An elongate rod 49 of spring steel or similar resilient material has one end firmly secured to the cross arm adjacent the hook 42 by a clip or fastener 50. The clip 50 engages around the rod 49 near one end and has ends which are brought from the outer side of the cross arm to the inner side through a slot 51, and which are then bent outwardly to abut the inner side of the cross arm on opposite sides of the slot. The rod 49 is curved outwardly, as at 52, between its fixed end and its free end to receive and clamp the cord of the signal button against the cross arm.

In use, the support attachment is secured to a side member of the bed, such as the side pipe 21, by placing the curved ends 25 and 28 of the L-shaped base member 24 and the complementary clamping member 27 on opposite sides of the side pipe and then turning the wing nut 31 until the curved ends are firmly clamped to the side pipe. The standard 34 may then be pivoted
upwardly to the upright position shown in Figure 1 and the latch bar 37 dropped into the brackets 33 and 40 to hold the standard in this upward position. The length of the standard is such that the cross arm 41 is then disposed adjacent the plane of the upper surface of the mattress 53 on the bed, and the lateral portion of the base member is of such length that the standard is spaced outwardly a short distance from the surface of the mattress. The cord to which the signal button is attached is then inserted between the rod 49 and the cross arm to hold the signal button adjacent the cross arm in a position convenient for use. A box or number of free tissues are then hung on one hook and a disposal bag or receptacle is hung on the other hook. The patient or person reposing on the bed may thus easily tear a tissue any time he needs one, and may then insert the used tissue into the disposal bag: all without moving his body, since the attachment is easily accessible to one hand. If the person wishes to call an attendant, he may press the signal button held adjacent the cross arm by the resilient rod 49.

When the bed has to be made or the linen changed, the latch bar 37 is pivoted upwardly about the screw 38 out of engagement with the brackets 33 and 40. The standard 34 may then be pivoted about the hinge pin 33 to the lowered or retracted position shown in Figure 2. The tissues and disposal bag will be held on the hooks by the retainer springs during and after such downward pivotal movement of the standard. When the standard is in its lowered position, it hangs below the level of the side pipe 21 and of the mattress 53 so that sheets may be changed on the mattress or the mattress turned or removed from the bed without hindrance from the support attachment. After the bed is remade, the standard may again be pivoted to its upright supporting position and the latch bar 37 moved into engagement with the brackets 33 and 40 to hold the standard in such position.

It will be seen that an improved support attachment for beds has been disclosed which includes a pivotable support attachment on a side member of the bed, and which also includes a standard pivoted on the clamp base member for pivotal movement about an axis extending transversely of the downturned arm of the base member and parallel to the side member 21 of the bed to which it is attached. It will further be seen that the standard is provided with hooks and a resilient rod for holding tissues, a disposal bag and a signal button, or the like, in positions readily accessible to a person reposing on the bed. Moreover, it will be seen that the standard may be swung downwardly from the upright position in which it is normally held to a retracted or lowered position in which it is out of the way when the bed must be made, all the linens changed, or the patient handled; and, since the standard is spaced outwardly from the mattress, the bed coverings may be adjusted therebetween without substantial interference from the standard, even in the upright position. In addition, it will be apparent that the hooks and retaining springs will hold the tissues and disposal bag in an upright position, even when the underside of the mattress on the bed so that the patient may be handled or treated and the bed may be easily made once the standard is pivoted to its lowered or retracted position.

In Figure 7, a modified form of the hook and retainer spring assembly is shown. The hook 55 is similar to the hooks 42 and 43, and is secured to the cross arm 41 of a standard by a screw 54. A hinge member 55 is also secured to the cross arm by the screw 54, and a snap retainer 56 has one end pivotally secured to the cross arm by the hinge member. The free end of the retainer has a clip or snap 57 formed by bending two opposed lateral resilient extensions 58 toward one another. The elongate aperture or slot between the ends of the extensions is slightly narrower than the thickness of the hook 55, so that the extensions are first forced apart by the bend in the retainer 56 is pressed down on the hook and then again snap toward each other after the hook passes into the cylindrical interior of the snap. The snap retainer will then hold the tissues or disposal bag on the hook regardless of the position of the standard. A lift tab 57a extends downwardly and outwardly from the clip for facilitating disengagement of the clip from the hook.

A modified form of the clamp for attachment to the angle bar side rail 99 of a bed is illustrated in Figure 8, wherein the horizontal portion or arm 60 of the L-shaped clamp base member 61 ends in a depending flange 62 at its inner end, while the complementary clamping member 53 is provided with an upstanding flange 64 at its inner end and an elongate upstanding arm 65 at its outer end which abuts the under side of the outer portion of the horizontal arm 60 of the base member. The flanges 62 and 64 are disposed inwardly of the horizontal and vertical legs of the side rail 93, and a bolt 67 extends through registering apertures in the L-shaped clamp base member 50 and the complementary clamping member 63 and is provided with a wing nut 68 for drawing the clamp members toward one another to firmly secure the support attachment to the side rail. The bolt 67 may be provided with an angular boss 69 which fits into an aperture of similar angular configuration to prevent rotation of the bolt.

Figure 9 illustrates still another modified form of the clamp, in which the clamp base member 70 has at its outer end a central upwardly projecting end portion or support attachment on a side member of the bed and which also projects a pair of spaced extensions or ears 72 and 73 which extend between the legs 35 and 36 of the standard 34. A pair of spaced extensions or ears 72 and 73 are turned back on the clamp base member to hold the hinge pin 74 on which the standard is pivoted. A bolt 76 and wing nut 77 extend through registering apertures in the clamp base member and the lower complementary clamping member 78 for clamping the support to a bed. The inner ends 79 and 80 of the clamp members 70 and 78, respectively, are bent outwardly and then inwardly to form an elongate pocket in which a side member of a bed may be disposed and be clamped thereto. A bracket 81 is mounted on the central leg 71 to engage the latch bar 37 and hold the standard in upright supporting position. It will be apparent that in this modified form of the support attachment, the standard about which the standard pivots is relatively at a higher level with respect to the mattress than in the previously described forms of the support attachment. However, even in this modified form, the standard is swingable about an axis at the same level as the level of the underside of the mattress on the bed so that the patient may be handled or treated and the bed may be easily made once the standard is pivoted to its lowered or retracted position.

A preferred embodiment of the invention is illustrated in Figures 10 and 11, wherein the
support attachment includes a clamp 82 having a clamp base member 83 which has the inner end 84 of its horizontal arm 85 bent upwardly and then downwardly to extend about the upper surface of a side member 86 of a bed. A complementary clamping member 87 has its inner edge downwardly to extend about the lower surface of the side member. The outer end of the clamping member is bent upwardly to form a toe piece 89 which abuts the lower surface of the horizontal arm 85 and thus provides a fulcrum about which the clamping member may pivot with respect to the horizontal arm of the base member. The horizontal arm and the clamping member are provided with two pairs of registering apertures through which bolts 90 and 91 extend. Wing nuts 92 and 93 threaded on the bolts 90 and 91, respectively, are employed to bring the inner ends 84 and 86 of the two clamp members toward one another, thus securing the clamp rigidly to the side member of the bed.

The clamp base member 83 is formed with a deflected end portion having two spacedlegs 94 and 95 whose lower ends are hinged or curved upwardly around the upper ends of a hinge pin 120. A substantially T-shaped standard or supporting member 96 has the lower portion of its upright body 97 disposed between the legs of the clamp base member and its lower end hinged or curved about the hinge pin 120, the standard thus being pivotally or swingably mounted on the hinge pin.

A latch bar 98 has one end pivotally mounted on the leg 94 or 95 by means of a pivot pin 99 which extends through registering apertures in the latch bar and the leg, and is provided with a slot 100 adjacent the opposite end which is adapted to receive or engage over the Shank of a pin or catch member 101 fixed on the other leg 95 of the base member. It will be apparent that the latch bar 98, like the latch bar 97 of the form previously described, will hold the standard 96 in its upright or supporting position, and will permit the standard to swing or pivot downwardly about the hinge pin 120 when the latch bar is disengaged from the catch pin and swung upwardly about the pivot pin 99 out of engagement with the upright body portion of the standard.

The standard has a cross arm 102 which may be secured to the upper end of the vertical leg 97 by welding or in any other conventional manner. A pair of hooks 103 and 104 are secured to the cross arm adjacent its opposite ends by means of screws or rivets 105 which extend through eyes formed in the upper ends of the hooks and into suitable threaded holes in the cross arm. Retaining springs 106 and 107 are also secured to the cross arm by the screws 105 which extend through suitable apertures in the inner ends of the retaining springs. The retaining springs curve upwardly from the inner side of the cross arm, then outwardly and downwardly toward the pointed ends 108 of the hooks. The lower ends of the springs are curved inwardly toward the hooks and are provided with elongate longitudinally extending slots 109 through which the points of the hooks extend inwardly of the curve of the springs, so that the points of the hooks are covered or protected, as clearly drawn in Figure 11. It will be noted that the free ends of the retaining springs may be flexed inwardly and upwardly about the cross arm to expose the pointed ends of the hooks, so that tissues or disposal bags or the like may be hung on the hooks, whereupon the retaining springs are released and the pointed ends again extend through the slots in the retaining springs. The retaining springs will prevent objects hung on the hooks from slipping off the hooks even when the standard is pivoted from its upright or supporting position to its lowered or retracted position. The outward movement of the springs is limited by the engagement of the hooks with the ends of the slots.

A resilient rod 110 has one end bent into an eye through which a screw 111 extends into a suitable threaded bore in the cross arm 102 of the standard. A similar eye loop formed in the rod adjacent the screw 111 receives a screw 112 also extending into a threaded bore in the cross arm to prevent pivotal movement of the rod about the screws. A spring loop 113 near the eye and an end loop 114 at the free end of the rod are formed substantially perpendicular to the face of the cross arm and add to the resilience of the rod and facilitate entry of signal cords and the like between the rear sides of the cross arm. The rod 110, like the rod 49, is employed to hold the cord of the signal button or the like in a position convenient for use by the occupant of the bed to which the support device is attached.

This form of the support attachment operates in the same manner as the support attachment shown in Figures 1 to 5, so that its mode of operation will not be further described.

Obviously, several different forms of the support attachment for beds have been illustrated and described, each comprising a vertical standard which may be secured in spaced relation to the side of a mattress by a clamp secured to a side member, such as a side pipe or side rail, of a bed. Furthermore, it will be seen that the standard carries means on its cross arm for holding tissues, disposal bags and a signal button, and the like, adjacent the side of the bed and at substantially the level of the upper surface of the mattress; and that the standard is spaced laterally outwardly from the side of the mattress when in an upright supporting position, thereby permitting movement of the bed coverings between said mattress and the upright standard. Moreover, it will be apparent the standard is pivotally or swingably mounted on the clamp base member so that it may be swung downwardly below the mattress to provide ready access to the mattress when the bed is to be made, the occupant treated, or the linen changed, or the like. In addition, it will be seen that the hooks have been provided with retainers means to prevent objects hung on the hooks from slipping off when the standard is swung from one position to another, and to cover the points of the hooks.

The foregoing description of the invention is explanatory only, and changes in the details of the construction illustrated may be made by one skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A support attachment for a bed having a side member including: a clamp attachable to said side member and having a base member extending laterally outwardly from said side member and an end portion at the outer end of said laterally extending portion extending at substantially a right angle with respect to said laterally
extending portion; a standard pivotally secured at one end to said clamp member for pivotal movement about an axis lying parallel to and spaced from said side member into an upright supporting position parallel to said end portion of the base member; a latch pivotally secured to said end portion; and means on said standard engageable by said latch to limit pivotal movement of said standard.

2. A support attachment for a bed having a side member including: a clamp attachable to said side member and having a base member extending laterally outwardly from said side member and an end portion at the outer end of said laterally extending portion extending downwardly from the outer end of said horizontal portion; a standard pivotally secured to said end portion adjacent the lower end thereof for pivotal movement about an axis lying parallel to said side member into upright supporting position parallel to said end portion; a latch pivotally secured to said end portion; and means secured on said standard engageable by said latch to limit pivotal movement of said standard.

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