July 28, 1942. E. N. BENGTSON 2,291,444

ATTACHMENT FOR BEDS

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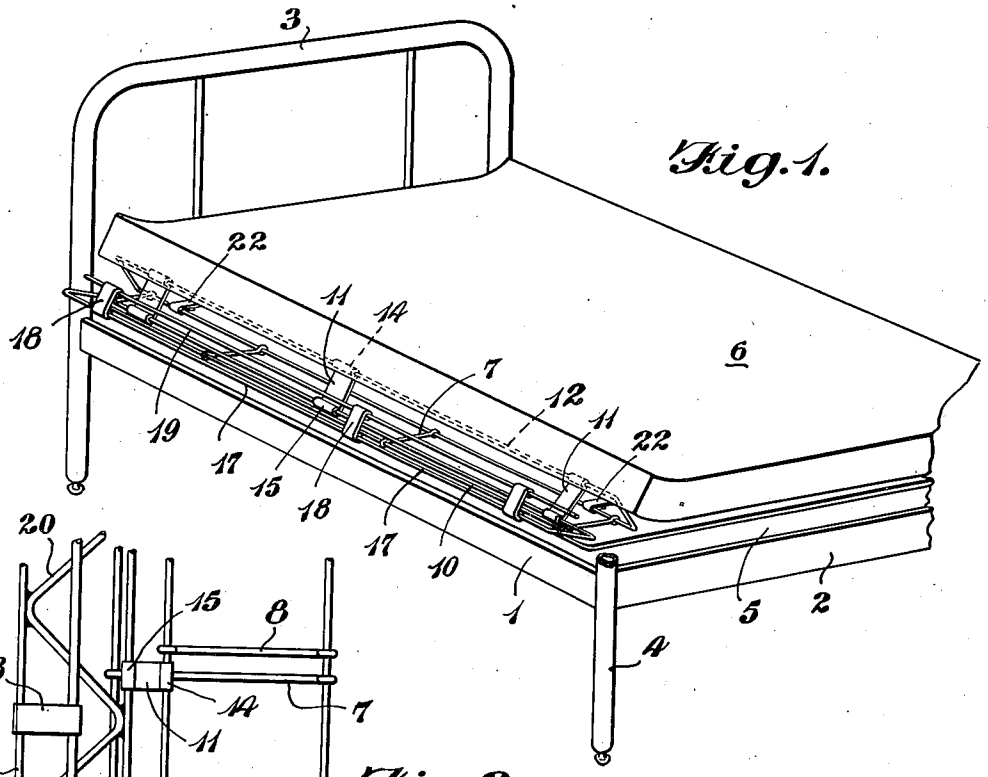


Fig. 1.

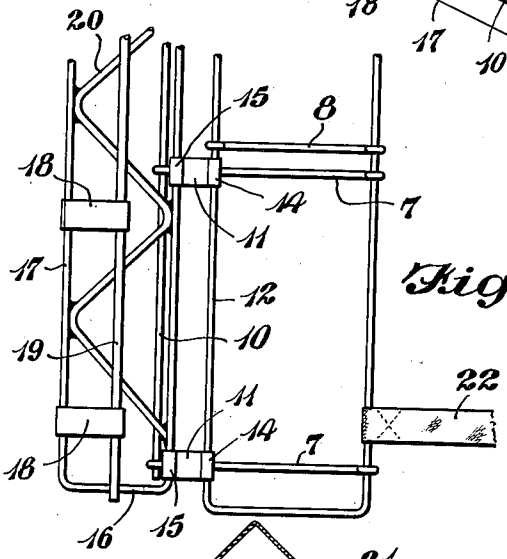


Fig. 2.

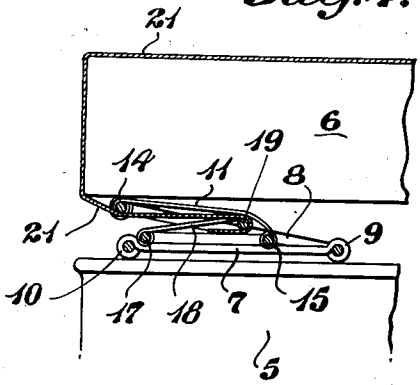


Fig. 4.

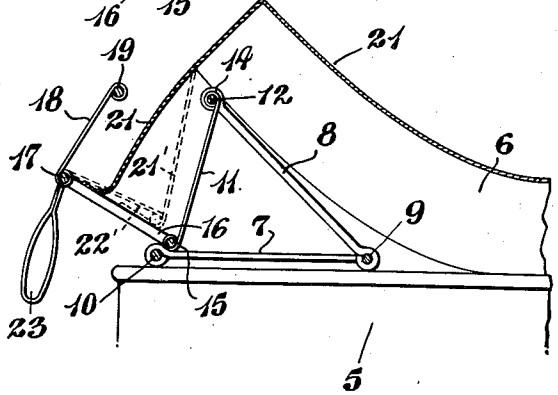


Fig. 3.

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ATTACHMENT FOR BEDS

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10 Claims. (Cl. 5—320)

This invention relates to an attachment for beds and comprehends a structure which will facilitate the positioning and securing of bed clothing in a manner which will eliminate much of the burden normally present in accomplishing this purpose, and particularly lifting of the mattress.

One object of this invention is to provide light wire frame structures adapted to be inserted between a mattress and a bed spring at their longitudinal marginal edges for the purpose of positioning and clamping bed clothing, such as the bed sheet, in position and in a manner which will present a desirable dressed appearance to the bed and which will normally prevent displacement of such bed clothing while the bed is occupied.

Another object of the invention is to provide a structure along the line above mentioned which will not interfere with the normal resiliency of the bed spring.

Another object of the invention is to provide a structure which will aid in the elevation of the marginal edges of the mattress, subsequently clamp the marginal edges of the bed clothing and subsequently simultaneously move the clamped edge of the bed clothing beneath the mattress and lower the same.

A still further object is to provide a structure which will function in a manner set forth without injury to the bed clothing, the mattress or other bed parts and which will materially facilitate the making up of beds, in hospitals, hotels, dormitories and other places where uniformity in appearance of a number of beds is essential. This and other objects will more clearly hereinafter appear by reference to the accompanying drawing forming a part of the specification and wherein like characters of reference designate corresponding parts throughout the several views in which:

Fig. 1 is a perspective view of a bed showing the device in position, with the mattress edge elevated and the device in position for clamping a sheet.

Fig. 2 is a fragmentary top plan view of the device in open position.

Fig. 3 is an end elevational view showing the device in open position, and

Fig. 4 is an end view showing the device in closed position.

In the present disclosure a bed frame is illustrated as comprising side frame members 1, end frame members 2, head frame 3 and foot frame 4, the head and foot frames embodying the supporting legs. A bed spring of conventional design is illustrated at 5 and a mattress at 6, the latter being in elevated position in Figs. 1 and 3.

It is proposed that the structure forming the present invention be arranged at each longitudinal edge of a bed, between the mattress and the bed springs, although similar use could be made at the head and foot of the bed if occasion should require. The device embodies two elongated flat frame members 7 and 8, formed of wire or other light material. The structure of each of these frames can be varied according to the desired use of the apparatus. In the present illustration the frames each include longitudinal and transverse wire members hooked about their points of intersection and then secured in any suitable manner as by pressing, welding or the like. The two frame members 7 and 8 are hinged together at their inner marginal edges 9 while the outer marginal edges 10 are to be positioned inward of the mattress structure. A plurality of elongated straps 11 are hingedly connected to the outer longitudinal frame member 12 of the upper frame 8 by wrapping the upper portion of the straps thereabout as at 14. The lower free ends 15 of the straps 11 are in the same manner secured to an inner frame 16, which latter is of wire formation and of a width to snugly seat upon the lower frame 7 in a compact manner when the device is in closed position as shown in Fig. 4. The straps 11 and the longitudinal element of frame 16 form a spreader for the main frame elements 7 and 8 to cause them to swing on their hinges to free the clamp and raise the mattress edge as will more clearly hereinafter appear. The frame 16 includes longitudinal and transverse elements of suitable design and arrangement, it being desirable, however, that such frame extend the full length of the frame elements 7 and 8 whereby a full clamping of the bed clothing is obtained. To the outer longitudinal frame element 17 of the frame 16 is hinged the bed clothes clamp, formed by spaced hinged straps 18 and clamp bar 19, the straps 18 being interposed between the cross wires 20 of the frame 16 to enable the clamp bar 19 to directly abut the cross wires 20 and thus provide a desirable gripping action of bed clothing throughout the entire length of the assembly.

It will be noted from the foregoing that the straps 11 hinged to the outer frame element 12 of frame member 8 swingingly support the frame 16 to which the clamp rod 19 is hinged and that this rod 19 folds upon the frame 16 to clamp therebetween the edge of the bed clothing. This clamped edge of the bed clothing is then shifted

inward between the frame elements 7 and 8 by virtue of the strap hangers 11 heretofore described, and then is secured in place by these frame members 7 and 8. The frame members 7 and 8 are retained by the weight of the mattress 6.

Referring to Fig. 3 it will be noted that the frame members 7 and 8 are in separated position, with the separating straps 11 supporting the upper frame 8 by engaging the marginal rod 10, which latter acts as a stop to limit the outer movement of strap 11. When the parts are being so positioned the inner frame 16 is simultaneously swung outwardly permitting the clamp bar 19 to be raised to insert or remove the sheet or other bed clothing. The clamp bar 19 is shown in folded position against the inner frame 16 by reference character 22' and the sheet is similarly indicated at 21'. From this position of Fig. 3, i. e., the sheet engaging position, the parts are further moved by sliding the inner frame 16 at its lower edge on the main lower frame member 7, which movement folds the straps 11 against the under surface of the upper frame 8 thereby completing the clamping action of the clamp bar 19, by binding it tightly between the associated parts, drawing the sheet or other bed covering into neatly dressed position, concealing the parts of the apparatus, and permitting the return of the mattress edge as shown in Fig. 4.

In use two of these devices are preferred, one at each side of the mattress, and each is secured at its proper location in any suitable manner as by hooks or straps, such as straps 22. Where only straps are used to space and position the assemblies in use, they may be connected between the ends.

Hand straps 23 are provided to facilitate the movement of the inner frame 16 and it will be readily seen that when used an attendant can by pulling on the straps move the assembly from the position of Fig. 4 to the position of Fig. 3, in which position the sheet or the like can be quickly clamped and moved snugly and neatly into position. The return of the frame carrying the clamp is accomplished by pushing on the same in a direction transverse to the bed structure.

In addition to functioning to clamp the sides of the sheets or other forms of bed clothing the device when applied in the manner set forth, can also be used for holding the sheet or sheets snugly in place at the foot of the bed. It will be apparent to one skilled in the art that the device eliminates the necessity of raising and holding a mattress by hand while reaching between the mattress and the spring to smooth the sheet. For this reason alone the structure will be extremely desirable where a large number of beds are in use and as heretofore pointed out the use of the device will not only be labor saving but will result in uniformity of appearance and comfort to those who may occupy the beds to which the device is applied. In order that there may be no unnecessary wear on the bed clothing it is proposed that certain points of contact between this structure and the bed clothing will be protected by the use of rubber or analogous material on the structure or on the parts of the wire structure where the wear may be particularly damaging.

What I claim and desire to secure by Letters Patent of the United States is:

1. A bed attachment for binding the edge of bed clothing including a pair of superimposed elongated frame members, adapted to be positioned between the edges of a mattress and spring, the longitudinal edge portion of one of said frame members being hinged to the adjacent longitudinal edge portion of the other frame member to permit relative movement between said frames, separating means for said frame members, said separating means being hinged to the free edge portion of one of said frame members, and means including the separating means for clamping said bed clothing.

2. An attachment for binding the edge of bed clothing including superimposed frame members adapted to be positioned between a mattress and spring, said frame members being hinged at their inner edges, hinged means connected to one of said superimposed members for separating said frame members and elevating a portion of said mattress, means carried by said separating means for clamping the marginal edge of said bed clothing while the clamping frames are separated, and means for positioning the clamped portion of said bed clothing between said frame members and simultaneously lowering the elevated frame member.

3. An attachment for securing the edge of bed clothing including superimposed frame members adapted to be positioned between a mattress and spring, the inner edges of said frame members being hinged together, means hingedly connected to one of said frame members for separating same by swinging the upper frame member on its hinges, said last named means including a clamp for securing the edge of said bed clothing, said clamp being operable to engage said clothing only when said frame is in its open position, and means for simultaneously positioning said clamp between said frame members and returning same to closed position.

4. A bed attachment including hinged frame members, adapted to be positioned under the marginal edge of a mattress, means for separating said frame members hingedly secured to the outer edge portion of one of said frame members, a bed clothing clamp carried by said separating means, said clamp being operable to engage said bed clothing only when said frame is separated, and being shiftable to a position between said frame members when the latter are moved to closed position.

5. A bed clothes clamp including a pair of frame members hingedly connected at their inner marginal edges and adapted to be positioned beneath the edge of a mattress, a spreading frame, straps connecting the outer marginal edge of one of said frame members and the inner marginal edge of said frame, and a clamp hinged to the outer marginal edge of said spreader frame including gripping portions inwardly folding against said frame, said clamp and said spreading frame being movable to a position between the pair of frame members when the device is in folded position.

6. A bed clothes clamp including a pair of elongated frames hingedly connected at their inner edges and adapted to be positioned beneath the edge of a mattress, spaced swinging elements hinged to the outer free edge of one of said frame members, a clamp carried by said swinging elements, said clamp being foldable against said swinging elements and being movable with same to a position between said frames.

7. The substance of claim 6 characterized in

that the clamp is formed of a pair of elongated frames.

8. A bed attachment for binding the edge of bed clothing including a frame formed of elongated hinged elements adapted to be positioned between the edges of a mattress and a spring, means hinged to the free edge portion of one of said hinged elements and normally positioned between the same for engaging the other hinged element for separating said frame and means carried by said separating means and movable therewith for clamping said bed clothing.

9. A bed clamp including a pair of elongated wire frames hingedly connected at their inner longitudinal edges and adapted to be positioned beneath the edge of a mattress, a plurality of links hingedly connected to the outer longitudinal marginal edge of one of said frame members, and a folding clamp hingedly connected to the free ends of said link members.

10. A bed clothes clamp including a pair of elongated superimposed frames hingedly connected at their inner edges and adapted to be positioned beneath the edge of a mattress, a plurality of links hingedly connected to the outer marginal edge of the upper frame member, said links being of less length than the width of said frame member, an elongated bar carried by the free ends of said links, and a clothes clamp carried by said bar, said bar being adapted to travel transversely across the upper face of the lower frame member and to cooperate with the lower frame member in separating the upper frame from the lower frame, and means for limiting the outward travel of said bar member.

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