M. C. NIXON.

BED OR ATTACHMENT THEREFOR.

APPLICATION FILED JULY 11, 1917.

1,398,271. **Patented Nov. 29, 1921.**

Fig. 1.

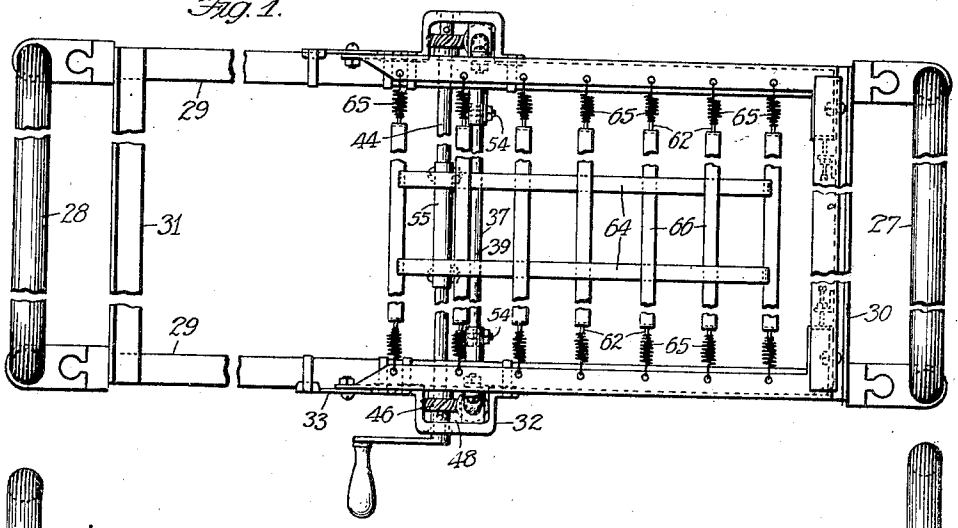


Fig. 2.

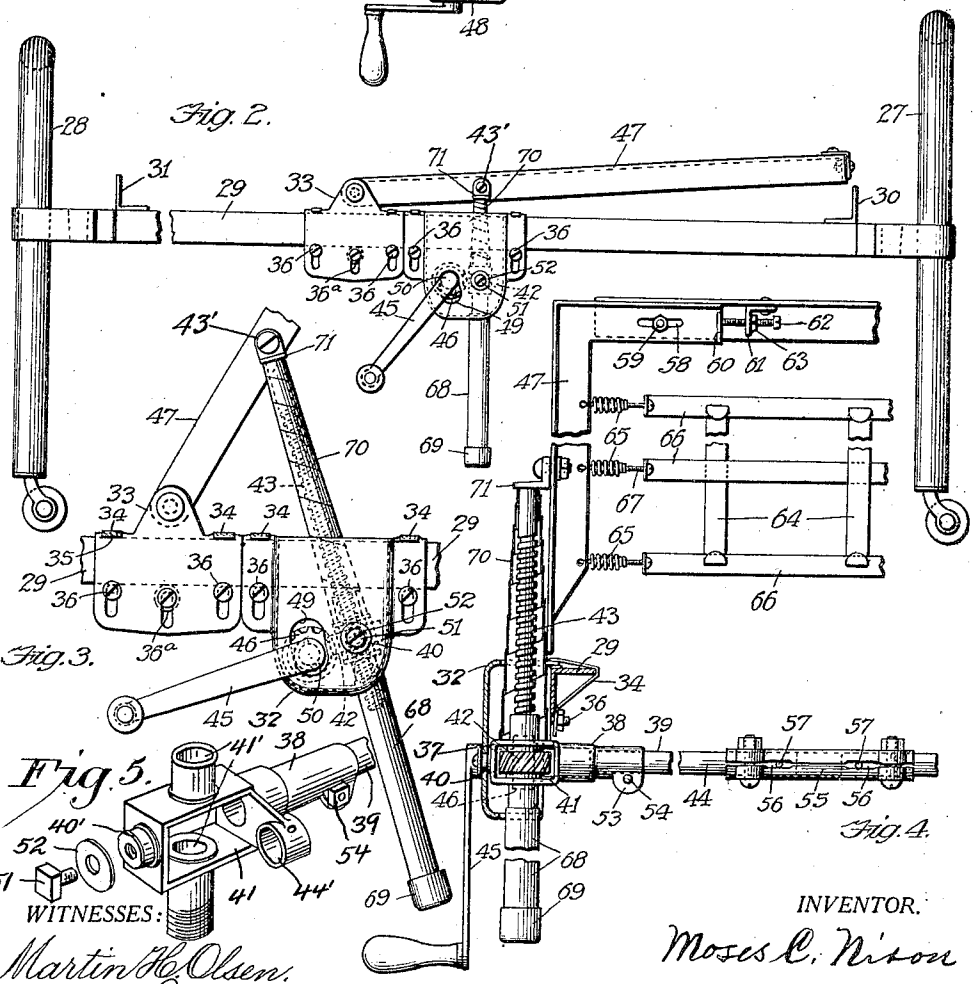


Fig. 3.

Fig. 5.

Fig. 4.

WITNESSES:

Martin H. Olsen.

Leo. P. Dattoris.

INVENTOR.

Moses C. Nixon

UNITED STATES PATENT OFFICE.

MOSES C. NIXON, OF CHICAGO, ILLINOIS.

BED OR ATTACHMENT THEREFOR.

1,398,271. Specification of Letters Patent. Patented Nov. 29, 1921.

Application filed July 11, 1917. Serial No. 179,986.

To all whom it may concern:

Be it known that I, MOSES C. NIXON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Beds or Attachments Therefor, of which the following is a specification.

The invention relates to beds, the object being to provide an attachment whereby the posture of the occupant of the bed may be readily changed without undue strain or annoyance; and consists, preferably, in the construction hereinafter described.

In the drawings, Figure 1 is a plan view of a bed, with parts broken out to reduce the size, and my improvements attached; Fig. 2 is a side elevational view of the device as shown in Fig. 1, also with parts broken out; Fig. 3 is detail view on a larger scale, showing the pivoted frame in raised position, Fig. 4 is an end view, partly in section showing a part of the pivoted frame from the underside and other parts of the attachment, and Fig. 5 is a perspective view of an end casting of the pivot frame 32, showing means to prevent the pivots from slipping from bearings, and section of the coupling rod attached.

Referring to the drawings, similar numerals of reference indicate corresponding parts in the different views, and, referring to the same, 27 and 28 denotes the head and foot respectively and 29 the side-rails of a bed. Firmly secured to and near the ends of the side rails are bars 30 and 31, thus forming a supporting frame for the fabric, which fabric is not shown as it is no part of the present invention. The rails and bars being preferably of angle bars.

The housing 32 and brackets 33 are secured to the side-rails by clamp-straps 34, which straps are of flat steel, formed with a hook at one end and a hole at the other, and in securing the housings and brackets to the side-rails they are hooked into slots 35, bent over the side rails and the free end secured, as by bolts 36, thereby firmly securing the housings and brackets without boring or marring the side-rails. The oblong holes through which bolts 36 pass are intended for adjustment to compensate for variation in size of the side-rails. As these oblong holes might permit an upward strain to raise the housings and brackets, a washer 36^a is provided and securely clamped to them, rests against the side-rails, and acts as a stop.

The housings support frame 37 which carries the operating mechanism, said frame being pivotally supported and composed of castings 38 secured to connecting rod 39. The length of said rod and that of the frame would depend upon the width of the bed, on which they are used, so that the pivot ends will rest in bearings 40 of the housings. The said castings are formed with an opening 41, into which are placed gears 42, the hubs of which are bored and threaded. Said castings are also provided with transverse round holes, through which threaded rods 43 pass and around said rods gears 42 revolve.

Castings 38 also furnish support and bearings for shaft 44 which is journaled therein and is operated by crank 45, which crank is detachable and may be applied to either end of said shaft, thereby making it operative from either side of the bed. To shaft 44 are secured gears 46, which gears mate with and drive gears 42, causing the latter to revolve around the threaded rods, which are pivotally secured to pivoted frame or member 47, as by screw 43′, thereby raising and lowering said pivoted frame and adjusting it to desired position, said frame being pivotally secured to brackets 33.

As the pivoted frame 47 is raised and lowered the threaded rods continually change position relative to the vertical. It is important that provision be made to meet such changes, which is done by pivoting the supporting frame 37 in bearings 40, so that said frame will readily adjust itself to meet the changing position of said rods. Also to meet this changing position the housings are provided at their top with an elongated slot 48 to accommodate the shifting position of the threaded rods, and at the sides another opening 49 is provided to permit the shifting movement of shaft 44 and crank stem 50 as frame 47 is raised and lowered.

To prevent frame 37 slipping from its bearings screws 51 are tapped into the pivot ends and on said screws are washers 52 with larger diameter than that of the opening of the bearings, which will prevent said pivot ends from slipping therefrom.

As the attachment is applicable to old, as well as new beds, which may vary in width it is desirable that its width be adjustable

to meet said variation. To provide for such adjustment, castings 38 are provided with a socket and are slotted between ears 53 to permit contraction. Into this socket the end of connecting rod 39 is placed and when properly adjusted may be firmly clamped, as by bolts 54. The length of driving shaft 44 is adjusted by making it in two pieces and coupling together, as by coupling 55, and to guard against the possibility of either piece of the shaft turning in the coupling, the latter is provided with slots 56 and pins 57 are driven into holes in the shaft. The pivoted frame 47 is made adjustable in width by slots 58 and bolts 59. To guard against this adjustment slipping and the sides of the frame being drawn toward each other a safety device is provided, which is made in this case by turning down ends 60 of one angle of the side pieces of the frame, and brackets 61 which are secured to the end or cross piece of said frame. Brackets 61 are bored and threaded and provided with bolts 62, which may be adjusted to suit the width of the frame necessary to conform with the width of the bed. After adjustment is made it may be permanently secured, as by lock-nut 63.

Fabric 64 is secured to the pivoted frame, as by helicals 65, and as the width of said frame is adjustable it is necessary that the fabric also be adjustable, otherwise its width may not conform to that of the frame. The helicals would compensate for a certain amount of variation, but not sufficient, they being intended, under proper tension, to give resiliency to the fabric. If spread beyong a certain width the tension on the helicals would be too great, if too narrow it would not be enough. To meet this requirement an adjustment has been devised, which, in the present case is made through the connection between helicals 65 and the cross slats 66 of the fabric. In construction shown, the slats are made of flat steel, being bent near the ends to right angles and with holes therein. The helicals are reduced at one end and screws 67 of the proper size and threaded to fit the small end of the helicals are passed through the holes in the slats and screwed into the reduced end of the helicals.

As the threaded rods should be oiled occasionally they should be covered to protect the bedding, and a covering has been devised by securing tubing 68 to the lower part of casting 38 and in line with the threaded rods. To the lower end of this tubing is secured cap 69, which closes it and prevents any surplus oil from dripping. As the threaded rods have a reciprocating movement and the covering cannot pass casting 38 a flexible covering is necessary and to meet the requirement a volute spring 70, made of flat spring steel has been devised, the lower end of which rests upon said casting and the upper end against rim 71 on the threaded rod. In operation, as the threaded rod is lowered it passes down into the tubing and contracts the volute spring, and when being raised is withdrawn from the tubing and the spring covering expands thereby continually furnishing covering for the threaded rod, and the bedding and clothing is prevented from contact therewith.

While I have herein shown and described the preferred construction of my invention I do not wish to be limited to the precise details shown as changes may readily be made without departing from the spirit of my invention.

What I claim is:

1. A bed having an attachment comprising a pivoted member, a pivoted support with an opening therein and a transverse hole therethrough, a gear adapted to be rotated in said opening, means connecting the pivoted member and the gear adapted to be reciprocated in said hole and prevent displacement of the gear, and means to rotate the gear around said means whereby the position of the pivoted member may be adjusted.

2. A bed having an attachment comprising a pivoted member, a pivoted support with an opening therein and extending approximately the width of the bed, a gear adapted to rotate in said opening, means connected with the pivoted member and having an internal connection with said gear, and means to rotate the gear whereby the position of the pivoted member may be adjusted.

3. A bed having an attachment comprising a pivoted member, an operating mechanism, pivoted support for said mechanism and located below the bed fabric, and means pivotally secured to the pivoted member and having an operative connection with the operating mechanism whereby the position of the pivoted member may be adjusted.

4. A bed having an attachment comprising a pivoted member, a pivoted support with an opening therein and located below the bed fabric, a rotatable gear in said opening, means forming an operative connection between said gear and pivoted member, and means to rotate the gear around said connection whereby the position of the pivoted member may be adjusted.

5. A bed having an attachment comprising a pivoted member, said member having a plurality of parts and adjustable in width, means for securing said parts together, an operating mechanism, operative connection between said mechanism and pivoted member, an independent means adapted to prevent the sides of the pivoted member being drawn toward each other.

6. A bed having an attachment compris-

ing a pivoted member, a bracket to which said member may be secured, said bracket having an opening therein, a flexible clamp-strap having a hook on one end for engaging in said opening and adapted to be bent over the bedrail, and means connecting the other end of the clamp-strap with the bracket whereby the latter may be clamped to the bedrail.

7. A bed having an attachment comprising a pivoted member, a bracket secured to said member, a clamp-strap with one end connected with the bracket and adapted to be bent into place in fixed form, and means connecting the other end of the clamp-strap and the bracket whereby the former may be drawn to secure the latter to the bedrail.

8. A bed having an attachment comprising a pivoted member, said member being adjustable in width, operating mechanism, operative connection between said mechanism and the pivoted member, means extending across said member and attached to the sides thereof, and means whereby a fixed adjustment may be made in the width of the said extending means.

9. A bed having an attachment comprising a pivoted member, an operating mechanism, an operative connection between said mechanism and pivoted member, and an elastic metal covering for said operative connection whereby the bedding may be prevented from contacting therewith.

10. A bed having an attachment comprising a pivoted member, an operating mechanism, a threaded rod forming an operative connection between the operating mechanism and pivoted member, and a volute spring forming a shield for said rod.

11. A bed having an attachment comprising a pivoted member, an operating mechanism, means forming an operative connection between said mechanism and pivoted member, and a movable metal shield adapted to prevent the bedding from contacting with said connection.

12. A bed having an attachment comprising a pivoted member, said member being adjustable in width, operating mechanism, operative connection between said mechanism and the pivoted member, means extending across said member and attached to the sides thereof, and means whereby a fixed adjustment may be made in the width of said extending means, said adjustment being between the points of attachment of the extending means to the pivoted member.

MOSES C. NIXON.

Witnesses:
ALBERT M. CLAMPET,
W. H. CLAY.