

UNITED STATES PATENT OFFICE.

ALLEN HARDEN, OF ANNISTON, ALABAMA.

BED-BRACE.

SPECIFICATION forming part of Letters Patent No. 467,456, dated January 19, 1892.

Application filed November 3, 1890. Renewed November 9, 1891. Serial No. 411,329. (No model.)

To all whom it may concern:

Be it known that I, ALLEN HARDEN, of Anniston, in the county of Calhoun and State of Alabama, have invented certain new and useful Improvements in Bed-Braces; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a top plan view of a bedstead, to which my improved bracing devices are applied. Fig. 2 is a detail sectional view of the center brace or tightener. Figs. 3, 4, 5, and 6 are details. Fig. 7 is a detail enlarged view of the tightening-disk.

This invention is an improvement in devices for bracing or staying bedsteads, and its object is to provide devices for binding the side rails and end pieces securely together and for relieving strain on the fastenings of the side rails to the end pieces or head and foot boards; and it consists in the novel construction and combination of parts herein-after clearly described and claimed.

Referring to the drawings by letters, A represents the head-board of a bedstead, having posts *a a* at its ends, as usual. B B are the opposite side rails, and C the foot-board, having posts *c c* at its ends, the rails B being connected to the legs in any suitable manner.

D designates a slat secured to rails B B about centrally between the head and foot boards, and *d* is a bushing-plate secured centrally to said slat and perforated for the passage of a short vertical stub-shaft *e*, on the upper end of which is secured a tightener-disk F, which has a series of radial convolutely-curved teeth *f*, as shown, the points of which are farther from the axis of the disk than their bases. This disk rests on plate *d*. On the lower end of shaft *e*, beneath the slat, is fixed a short horizontal lever G, by which the shaft and disk F can be turned, and in the free extremity of this lever is a pin or screw *g*, which will bite into the slat and prevent the lever being casually turned, thus locking the shaft and disk F.

H H designate metal corner-plates or castings bent at right angles and having vertical slots or notches *h h* in their lower edges, and

at the bend of the plate the lower edge thereof is cut away and an inwardly-projecting hook T formed thereon, as shown. The plates H are placed in the foot corners of the bed and their slots *h h* are engaged over the headed pins or screws J *j*, secured to the side rails and foot-board, respectively, as shown.

K K designate metal plates or castings fitted in the head corners of the bed and having slots *k* and hook *i* similar to plates H, but the portion of the plates K adjoining the head-boards are extended forward at right angles and outward at right angles so as to partly inclose the posts *a a*, as shown. The plates K are removably secured to the rails B and head-board by engagement of their slot with headed screws or pins M *m*, as shown.

N represents a bent wire, the ends of which are caught on hooks T T of the foot-plates H, and its center or bend is caught over one tooth *f* of disk F. *n* is a similar wire caught over one tooth *f* of the disk and having its ends fastened to the hooks *i* of the opposite plates K. O o are opposite wires having their centers or bends caught over opposite teeth *f* of disk F and their ends secured to eyes P *p*, fastened to the side rails B B at opposite sides of the slat D. There are thus four wire braces and eight points of connection thereof to the bed-frame. By turning disk F the convolute teeth thereof draw the wires toward the center of the disk, making them taut, and thus brace the bed, as is evident. The plates H and K being drawn inward will, through their connections with the side rails and foot and head pieces, relieve strain on the connections between said parts. If the wires be too slack, sliding loops Q Q may be slipped thereon and tightened previous to straining the braces by the disk, as indicated by dotted lines.

From the foregoing it will be seen that the foot and head board and side rails are all bound to a central connection, making the frame stiff and strong. The peculiar form of disk F causes its fingers to draw the brace-wires taut as the disk is revolved without moving the wires laterally, so that the wires are always radial to the disk.

Having described my invention, what I claim as new is—

1. The combination, in a bed-brace, of a revolvable disk formed with convolutely-curved

teeth mounted centrally of the bed-frame and devices for locking said disk with the brace-wires connected to the corners and sides of the bed and hooked to the teeth on said disk, 5 whereby they are tensioned when the disk is turned, substantially as described.

2. The combination, in a bed-brace, of a rev-
oluble disk formed with convolutely-curved
teeth mounted centrally of the bed-frame and
10 devices for locking said disk with the brace-
wires connected to the corners and sides of
the bed and hooked to the teeth on said disk,

whereby they are tensioned when the disk is turned, and the removable corner castings K and H, connected to the end brace-wires, sub- 15
stantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALLEN HARDEN.

Witnesses:

L. H. KAPSAR,

J. F. POWER.