Aug. 12, 1952 R. H. CONNALLY 2,606,329

SUSPENSION DEVICE FOR BEDS

Filed Feb. 11, 1949

FIG. 1

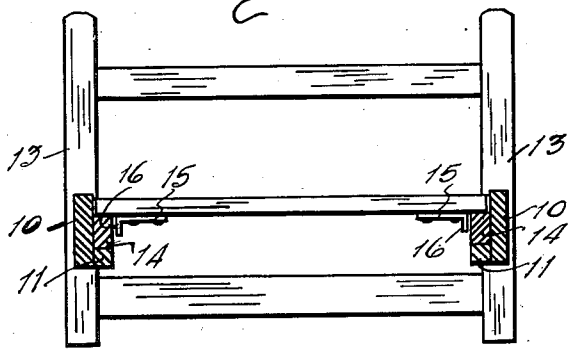


FIG. 4

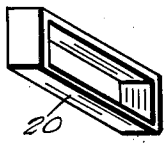


FIG. 2

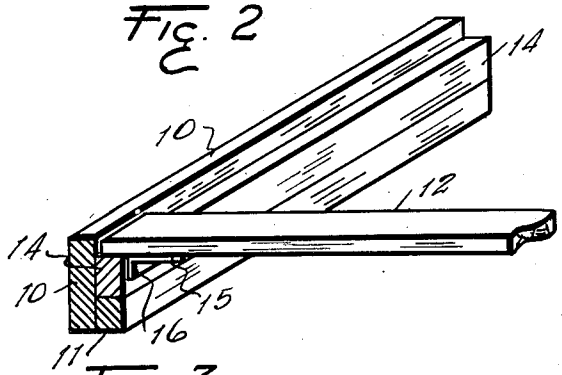


FIG. 5

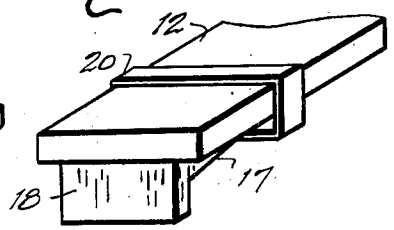


FIG. 3

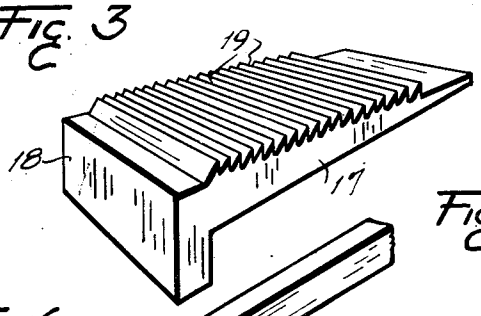


FIG. 7

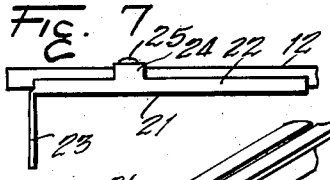


FIG. 8

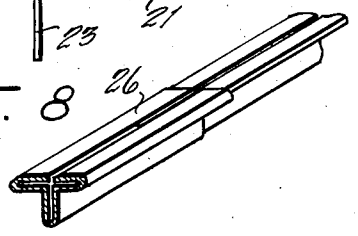
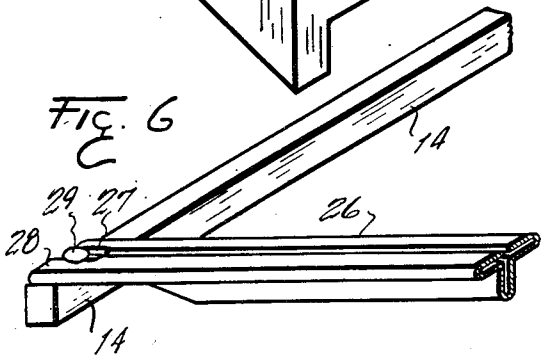


FIG. 6



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SUSPENSION DEVICE FOR BEDS

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Application February 11, 1949, Serial No. 75,854

5 Claims. (Cl. 5—238)

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This invention relates to suspension devices for bedsteads having end frames and connecting side rails on each side for supporting springs and mattresses, and it has particular reference to a device for preventing a displacement of conventional bed slats employed for supporting the springs and mattress, and a person occupying the said bed, and its principal object resides in the provision of an arrangement of a pair of supporting strips along each connecting side rail for supporting the slats, and a plurality of especially designed and transverse members supported on said supporting strip and having means attached thereto for limiting the inward movement of the said strips under unusual stresses, such as the weight applied thereto by heavy individuals whose ordinarily excessive weight tends to spread the side rails causing the supporting slots to be dislocated from the rails and allow the springs and mattress to drop.

An object of the invention is that of providing an economical and simple arrangement for supporting the springs and mattress, with the occupants of a bed, by arranging flexible strips along the side rails ordinarily supporting the slats of the bed so that the weight of the occupants thereof will bear upon these supporting strips, which are supported by the side rails, but which will yield or flex under the weight of the occupants of the bed without spreading the side rails outwardly to release the ends of the slats supported thereby.

Broadly, the invention contemplates the provision of an arrangement of a plurality of slats having appurtenances attached to each end and depending downwardly therebeneath to engage the supporting strips and limit their inward flexing under a load and prevent the displacement of the slats, and to provide, if desirable, adjustability for the appurtenances and the slats for beds of different widths, and adapting the devices to be attached to conventional slats with a minimum of difficulty.

While the foregoing objects are paramount, other and lesser objects will become manifest as the description proceeds, taken in connection with the appended drawings wherein:

Figure 1 is a transverse cross-sectional view of a bed, showing one end frame in elevation, the side rails supporting a pair of supporting strips, and illustrating a slat arranged transversely thereof and supported at each end by said strips.

Figure 2 is a perspective fragmentary view of one of the side rails having the supporting strips

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arranged thereon and illustrating, fragmentarily, a transverse slat having a limiting stop attached thereto adjacent to the said strip.

Figure 3 is a perspective view of one form of adjustable stop employed in the invention.

Figure 4 is a perspective view of the rectangular collar employed in securing the adjustable stop illustrated in Figure 3.

Figure 5 is a perspective fragmentary view of one end of a conventional slat on which the adjustable and detachable stop is shown attached.

Figure 6 is a perspective fragmentary view of one of the supporting strips and a special steel transverse slat connected thereto.

Figure 7 is a fragmentary side elevational view of a modified form of the stop shown attached to one end of a conventional slat, and

Figure 8 is a fragmentary perspective illustration of an extensible steel cross-member or slat such as that illustrated in Figure 6.

The invention contemplates the provision of a device which is adapted to be installed in any of the several types of conventional beds having head and foot members connected with side rails for supporting a plurality of slats which in turn support the springs and mattress of the bed. In such conventional structures the side rails 10 ordinarily have cleats 11 secured along the lower inner sides thereof, as illustrated in cross-section in Figures 1 and 2. The cleats 11 generally support the conventional slats 12 on which the springs and mattress are supported. The side rails 10 are conventionally supported at each end by end frames 13 which are ordinarily referred to as the head and foot members of the bed.

In the conventional structure, whether the beds are of wood or metal, unusual weights have a tendency to spread the side rails 10, especially along their mid-sections, to the extent where the conventional slats 12 are dislocated and allowed to fall, dropping the springs and mattress. Various methods, such as the tying of the side rails 10 across intermediate the end frame 13, have been employed to prevent the slats 12 from being dislocated from the cleats 11 but such devices are not generally satisfactory. In order to overcome such difficulties a pair of supporting strips 14 are provided which in turn are supported along the cleats 11 in the manner illustrated in Figures 1 and 2 and the conventional slats 12 arranged along these strips.

The supporting strips 14 are generally of a relatively thin material which is flexible, and these members are adapted to flex inwardly un-

der weight applied to the mattress and springs. Therefore, instead of spreading the side rails 10 outwardly and releasing the slat 12 from the cleats 11, the supporting strips 14 flex or incline inwardly and for this reason are capable of retaining the slats, frictionally engaging the upper edges of the strips 14, in preventing the same from dislocation.

In order to prevent the strip 14 from flexing inwardly too far it is desirable to provide special stops 15 which may be attached to each end of the conventional slats 12 and limit the inward flexing of the strips 14, as illustrated in Figures 1 and 2. The members 15 comprise metal plates having angular flanges formed at one end which, when the stops 15 are attached near the end of the conventional slats 12, have their angular flanges 16 depending beneath the slats 12 and spaced from the supporting strip 14 so that slight inward movements or flexing of the latter can be accomplished, though limiting such inward movement by the depending flanges 16 of the stops 15. It is also contemplated that the stops 15 may be modified in several different ways, if desired, since the devices shown in Figures 1 and 2 are adapted to be secured by screws, or similar devices, to the slats 12 and thus be incapable of adjustment after installation.

In Figure 3 is illustrated a cast stop 17 whose body is formed wedge-shaped and at its thicker end has a depending right angular flange 18 opposite the engaging surface, which is preferably formed with ribs or corrugations 19 which engage the underside of the slats 12 to prevent the member from dislocation after it is fixed by a special rectangularly formed collar 20, shown in Figures 4 and 5, forced toward the flange 18 longitudinally along the member 17 to firmly secure the same to the underside of the slat 12 in the manner shown in Figure 5. This arrangement will provide for the attachment of the stop 17 to any conventional slat 12, regardless of the width of the bed to which it is to be applied.

A still further modification of the stop is illustrated in Figure 7 and comprises a stamped device consisting of a plate 21 having upturned flanges 22 on each side and a right-angular or depending flange 23 on one end extending opposite the flanges 22. A pair of projections 24 are formed with the flanges 22 and are capable of being turned over the top of a conventional slat 12, the latter reposing between the flanges 22 on the plate 21, and secured by screws or rivets 25 on top of the slat 12. The flange 23 is spaced the proper distance from the end of the slat 12 to accommodate the supporting members 14 and permit these members to move outwardly to a desirable degree.

In applying the invention to beds of different widths, such as half beds, three-quarter beds, and the like, it is desirable to provide extensible members 26, such as that illustrated in Figures 6 and 8, which may be employed at each end of the bed and transversely intermediate its ends. In this structure it is desirable to provide an open slot 27 in each end 28 which latter is preferably flat, as illustrated in Figure 6, the slot 27 receiving a bolt 29 projecting from the supporting members 14. The end of the slot 27 is capable of limiting the inner movement of the members 14 under stresses applied by unusual weights on the bed and will allow for proper flexibility without permitting the slats 12, arranged between the members 26, to become dislocated from the supporting members 14. It is desirable, in any event, that the slats having the stop secured thereto be arranged at each end of the bed and transversely thereof intermediate the end frame members, the remainder of the slats being of conventional character without having the stops 15 or 17 attached thereto.

The supporting members 14, while preferably of long wooden strips of relatively narrow width and thicknesses, may be formed of fibers of different types having sufficient firmness to support weights generally applied to beds while yet sufficiently flexible to yield slightly to weights applied thereto, the stops 15 and 17 preventing the excessive yieldability of the member 14 to allow the latter to turn over and drop off of the cleats 11 on which they are supported.

Other variations of the device are contemplated, and may be resorted to from time to time by persons skilled in the art, without departing from the spirit and intent of the invention or the scope of the appended claims.

What is claimed is:

1. In a device for supporting slats for beds, in combination with a bedstead having head and foot members and supporting rails connected therebetween, each having a longitudinal cleat along its lower edge, a pair of strips arranged along and supported by the said rails, a plurality of transverse members adapted to be supported at each end by said strips near said head and foot members and intermediate said members, each of said transverse members having adjustable means on each end thereof limiting the lateral movement of said strips under a load and bearing outwardly against said strips under said load.

2. In a supporting device for beds, in combination with a bedstead having end members and side rails connecting the same, a cleat attached to each of said rails and extending longitudinally thereof along its lower edge, a strip arranged along each side rail and supported on the cleat thereon, a transverse slat adapted to be supported at each end on each strip near each end member of said bedstead and intermediate said end members, means detachably secured at each end of each of said slats providing a bearing for said strips limiting the lateral inward movement of said strips under a load.

3. In a supporting device for beds, in combination with a bedstead having head and foot members and side rails connecting the same and having supporting cleats thereon, a flexible strip detachably supported along each of said cleats on said side rails and capable of flexing inwardly independently of said cleats under a load, a plurality of transverse slats arranged on said strips and supported on each end thereby, and means detachably secured on each end of said slats engageable with said strips to limit the inward movement thereof under a load.

4. In a supporting device for slats in a bed, in combination with a bedstead having end frames and side rails connecting the same and having cleats secured longitudinally of their inner lower edge, a strip supported along each side rail and capable of flexing inwardly under a load independently of said rails and said cleats, a plurality of extensible slat members arranged transversely of said bedstead and supported at each end by said strips, and means on each end of each of said slats engageable with said strips limiting the inward flexing of the latter.

5. In a device for supporting springs and mattresses on beds, in combination with a bedstead having end frames connected by side rails and

cleats attached along said side rails, a flexible strip supported by the cleat on each side rail, a plurality of slats arranged transversely of said flexible strips and supported at each end thereon, and means adjustably arranged on each end of each of said slats engageable with said strips under a load on said slats to limit the inward flexing of said strips.

ROBERT H. CONNALLY.

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