No. 612,336. Patented Oct. 11, 1898.

E. A. HALL.

BED OR MATTRESS SUPPORTING FRAME.

(Application filed Nov. 10, 1897.)

(No Model.)

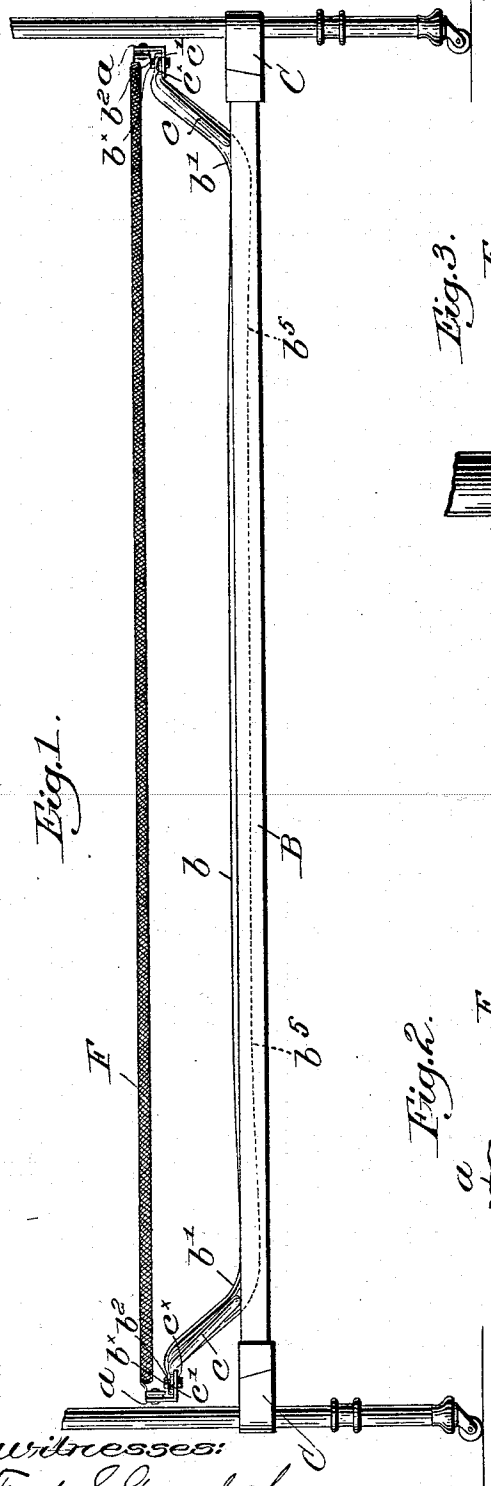


Fig. 1.

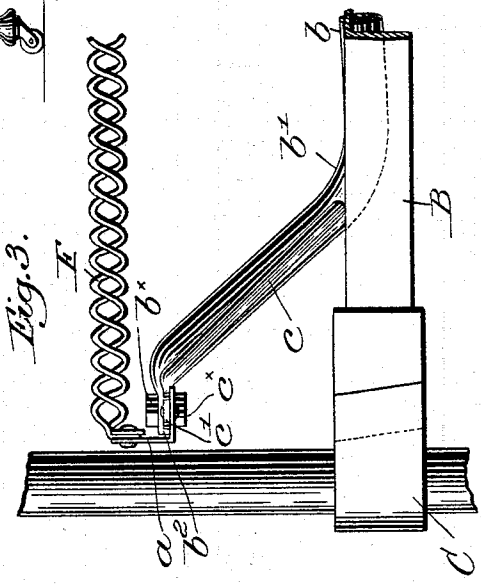


Fig. 3.

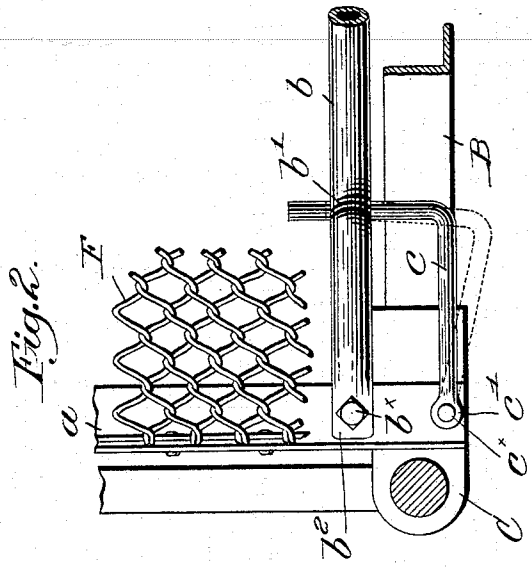


Fig. 2.

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UNITED STATES PATENT OFFICE.

ERWIN A. HALL, OF MELROSE, MASSACHUSETTS.

BED OR MATTRESS SUPPORTING FRAME.

SPECIFICATION forming part of Letters Patent No. 612,336, dated October 11, 1898.

Application filed November 10, 1897. Serial No. 658,012. (No model.)

To all whom it may concern:

Be it known that I, ERWIN A. HALL, of Melrose, county of Middlesex, State of Massachusetts, have invented an Improvement in Bed or Mattress Supporting Frames, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The extended use of metal bedsteads has created a widespread demand for a strong, rigid, and light-weight bed or mattress supporting frame of moderate cost and so constructed that the flexible fabric suspended between the ends of the frame may be sustained well above the side rails of the bedstead, in order to give free play to the spring fabric, particularly at the edges.

One of the objects of my present invention is to produce a light, cheap, strong, and rigid bed or mattress supporting frame without the use of heavy and expensive corner-castings; and another object of my invention is to provide means whereby such a frame may be readily adapted to the varying widths of bedsteads and whereby the suspended flexible fabric may be maintained as high as possible above the side rails of the bedstead.

Other objects of my invention are effected by and flow from the construction hereinafter described.

Figure 1, in side elevation, represents a metal bedstead with a mattress supporting or spring frame thereon embodying one form of my invention. Fig. 2 is an enlarged plan view of one corner of the frame resting on the bedstead, the flexible fabric being only partly shown; and Fig. 3 is an enlarged side elevation thereof.

I have herein shown the frame as composed of end rails *a a*, preferably angle-iron, as combining strength and lightness, and tubular side rails *b b*, bent upward near their ends, as at *b'*, and flattened at their extremities b^2 to rest firmly upon the end rails, to which they are rigidly secured by suitable bolts $b^\times$.

A flexible fabric F, shown as a woven-wire spring fabric, is suitably secured to the upturned flanges of the end rails, and by means of the upturned ends of the side rails said fabric is freely suspended between the end rails at a considerable distance above the major portion of the side rails. Any suitable flexible fabric may be employed.

A single bolt at each end of the side rail is sufficient to give the necessary strength; but to preserve the rectangular shape of the frame corner-braces are necessary, and by the construction shown the corner-braces also form supports for the frame.

The end rails project laterally beyond the side rails, as shown in Fig. 2, and to such projecting portions I secure one end of each corner-brace. These braces are substantially L-shaped pieces *c* of stout iron rods, united at one end at $c^\times$ to the end rail, the end of the brace being bent and flattened, as at *c'*, Figs. 2 and 3. The free inturned end of the brace is passed through a hole in the side rail, at or near the bend *b'* thereof, making a tight fit therein, the inturned ends of the braces being substantially parallel to the end rails. When the frame is so braced, it is very rigid, and it is practically impossible to distort it or destroy the rectangular form thereof.

Heretofore the end rails of the mattress-supporting frame have rested on the side rails *b* of the bedstead or on the corner-post castings C, thus bringing the fabric F so near the side rails B that very little movement was possible, or some form of blocking was used to raise the frame. By my present invention, however, I utilize the braces *c* as corner-supports for the frame, the inturned portions of the braces resting on the side rails of the bedstead, and so lifting the fabric F high above the said rails, as clearly shown in Fig. 1.

As the supporting parts of the braces are located near the bends of the side rails *b* of the frame, I am thus enabled to get practically the same effect as if the said rails rested upon the side rails B of the bedstead.

Bedsteads vary considerably in width, and the braces provide for considerable variation; but I increase their utility by reason of their lateral adjustability—that is, if a bedstead is very wide I can, with a hammer blow on the free end of the brace *c*, drive it outward into dotted-line position, Fig. 2, to thus materially increase the distance between the outer extremities of opposite braces—and the fit of the braces in the side rails *b* is so tight that they will hold firmly in the position set. The

straight portion of the side rails *b* fall within the bed side rails B, so that the spring-frame cannot be displaced.

In making up or assembling the parts of the frame the fabric is first secured to the end rails and then the fabric is stretched. While it is thus held stretched under high tension, the side rails are attached to the end rails and the corner-braces positioned, after which the tension devices are slackened, the side rails thus taking up the tension of the fabric. I have found in practice that the tension will unduly bend the side rails unless counteracted, and I provide for this by making slight auxiliary bends b^5, Fig. 1, in the side rails opposite to and between the upturned bends *b'*. When the strain is permitted to come upon the side rails, it tends to nearly straighten these auxiliary bends; but they effectually prevent any undue upward bending of the side rails thereafter.

It will be seen that I obtain by my construction a light, strong, and rigid frame, consisting of a small number of parts and without any castings whatever, thus greatly decreasing the cost and weight of the frame.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A bed or mattress supporting frame comprising end rails, side rails rigidly attached thereto, and laterally-adjustable braces directly connecting the side and end rails at the corners of the frame, and serving also as supports for the frame.

2. A bed or mattress supporting frame comprising end rails, side rails upturned at their ends and rigidly attached to the end rails, and a flexible fabric under tension secured to the latter, the side rails having auxiliary bends therein to stiffen them under the tension of the fabric.

3. A metal spring-supporting frame comprising end rails, side rails rigidly attached thereto, a flexible spring fabric suspended between the end rails, the side rails being upturned at their ends to elevate the fabric, and laterally-projecting braces directly connecting the side and end rails at the corners of the frame, to stiffen the frame and serve as supports therefor.

4. A bed or mattress supporting frame, comprising angle-iron end rails, tubular side rails upturned and flattened at their ends, bolted to the end rails, frame-supporting corner-braces attached to the end rails and extended laterally through the side rails, and a flexible fabric suspended between the end rails above the side rails.

5. A bed or mattress supporting frame comprising side rails upturned at their ends, end rails rigidly attached to the upturned portions of the side rails and extended laterally beyond them, a flexible fabric suspended between the end rails, and corner-supports for the frame permanently attached directly to the laterally-extended portions of the end rails and bent to extend laterally and adjustably through the bends of the side rails, whereby by moving the bent ends of said corner-supports in the side rails, the frame may be adapted to bedsteads of different widths.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERWIN A. HALL.

Witnesses:
JOHN C. EDWARDS,
AUGUSTA E. DEAN.