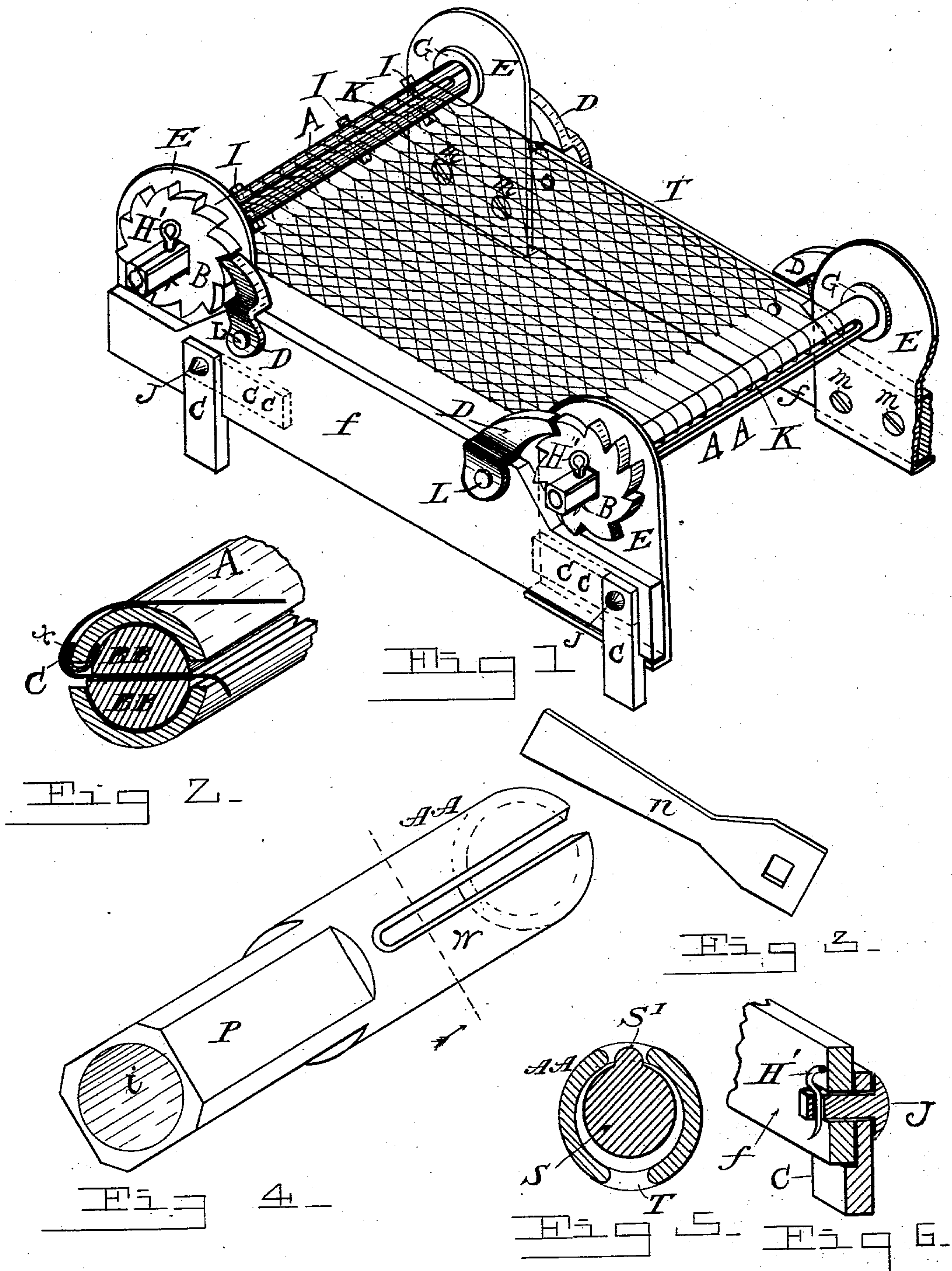


(No Model.)

J. J. A. MILLER.
BED SPRING TIGHTENER.

No. 569,114.

Patented Oct. 6, 1896.



Witnesses

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By

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UNITED STATES PATENT OFFICE.

JOHN J. A. MILLER, OF DENVER, COLORADO.

BED-SPRING TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 569,114, dated October 6, 1896.

Application filed May 8, 1896. Serial No. 590,796. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. A. MILLER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Bed-Spring Tighteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices for tightening bed-springs, sheets of canvas, or other analogous material; and the objects of my invention are, first, to provide an automatic holding bed-spring tightener; second, to provide a simple, durable, and compact tightening device. I attain these objects by the mechanism illustrated and described in the accompanying drawings and specification, in which—

Figure 1 represents a perspective view of a cot-bed frame and spring with my improved bed-spring tightener operatively secured thereto. Fig. 2 is a sectional perspective view of a fragment of the clamping-bar. Fig. 3 is a perspective view of the operating wrench. Fig. 4 is a perspective view of a fragment of one end of a clamping-bar differing slightly in construction from the clamping-bar shown in Figs. 1 and 2. Fig. 5 is a cross-section of Fig. 4 on line B of Fig. 4. Fig. 6 represents a fragmentary sectional view of one of the sides and supporting-legs of the cot's frame.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, F designates the sides of the cot-bed. Near each end of each side I secure a leg C, which I arrange to swing upward parallel with the length of the sides. I secure these legs by means of a square-shanked bolt J, which passes freely through a square hole in both the sides and legs. The bolts are secured against displacement from the holes by split pins H, which are inserted through their ends. The legs are rabbeted to set under the lower edge of the sides when supporting the sides, and the square-shanked bolts lock the legs against a tendency to turn

on the bolts, and when the cots are to be moved about the legs are turned up parallel with the sides. In order to do this, the bolts must be withdrawn from the sides by first removing the split pins and then reinserting them after the position of the legs is changed. Upon the inner side of each end of the sides F, I secure a metal bracket E by screws M. Through these brackets and across the ends of the sides a bar A extends and projects through the brackets a short distance. These bars A, I term "clamping-bars." They comprise metal tubes of about one inch diameter. The tube or clamping-bar A (shown in the upper part of the drawings) is split into two equal parts, which are clamped together by bolts I. A slot K is formed through the tube on each side of the line of division. The ends of the clamping-bar are milled square, and this milled portion extends far enough beyond the brackets to receive a washer G, which is provided with a square hole. This washer forms a collar or shoulder against which the brackets bear and defines the distance apart of the sides on the bars, as the clamping-bars are or need be the only end pieces used. On the ends of the clamping-bars on the opposite side of the brackets from the said collars I place ratchet-wheels B. These are provided with a square hole which fits the square portion of the clamping-bar and secures the two together against rotative movement independent of each other. I secure the ratchets and brackets against the collar by a split pin H'. To the sides F, I pivot a pawl D by a pivoting-screw L. These pawls are positioned to rest by their weight in engagement with the ratchet-teeth.

N designates a wrench which is adapted to fit the ends of the clamping-bars. The clamping-bar A at the lower end of Fig. 1 is constructed slightly different from the bar A at the opposite end. A fragment of this bar is shown in Fig. 4. This bar is not divided into two halves, but is an integral piece of pipe. It contains the slot K and is otherwise similar in construction to the one above described. I place in both clamping-bars a core of wood. The wood core used in the clamping-bar A is divided into two halves BB and B B; but the core S used in the bar A is an integral piece of wood. It is provided

with a projecting rib S', which extends axially along its length for a distance a little less than the length of the slot K, into which it is adapted to extend. Both of these cores
5 act as a binding-wedge to secure the ends of wires of which the spring-bed T is made to the clamping-bar.

The tightening device is shown applied to both ends of the bed-spring, but will be sufficient if applied to but one end.
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The operation is as follows: The ends of the wires of which the bed-spring is made are placed through the slots in the clamping-bars before the cores are introduced and are drawn
15 through the bars far enough to take up the slack of the spring. The cores are then introduced into the bars. In the bar A the wires pass between the halves of the core, but in bar A A they pass around the core and
20 between its rib and one side of the slot into which it extends. The wrench N is then applied to either end of one or both clamping-bars and it is rotated in a direction to draw the spring tight. The pawls automatically
25 lock and hold the ratchet-wheels and clamping-bars against retraction when the spring is tightened. The wires of the spring as they are wound around the bar A bind the two halves of the bar together and tightly clamp
30 the wires that pass between them and the

halves of the core, and this form of clamping-bar is better adapted to hold the ends of the spring against slipping than the bar A A.

X designates a strip of rubber or leather which I insert between the wires and the edge
35 of the slot where the wires enter it. It acts as a fender to prevent the sharp edge of the slot from cutting the wires.

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

The combination of the cot-bed frame and its bed-spring, of the divided adjustably-separable tubular shaft or clamping-bar having square ends and an interior divided core or
45 filling, the collars and ratchet-wheels secured thereon, the holding-pawl pivoted to said frame in operative engagement with said ratchet-wheels, with the sides of said bed-frame and the legs pivoted thereto having a
50 rabbeted step fitting under the edges of said sides and a removable pivotal bolt having parallel sides adapted to secure said legs to said sides in either a vertical or horizontal position, substantially as described.

JOHN J. A. MILLER.

Witnesses:

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