Nov. 13, 1923. 1,474,200

J. L. McKELLAR

FOLDING COT

Filed Dec. 16, 1922 2 Sheets-Sheet 1

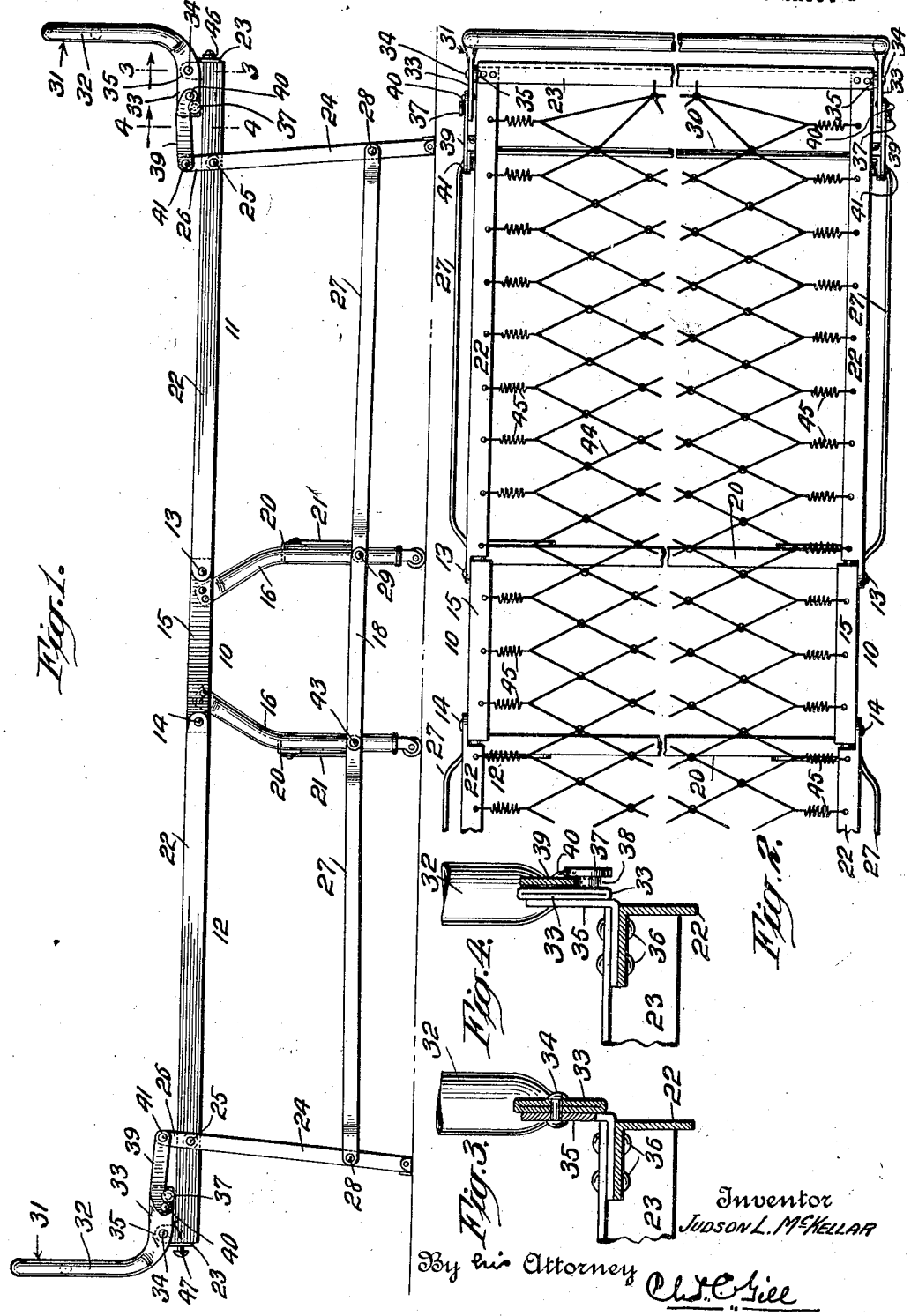


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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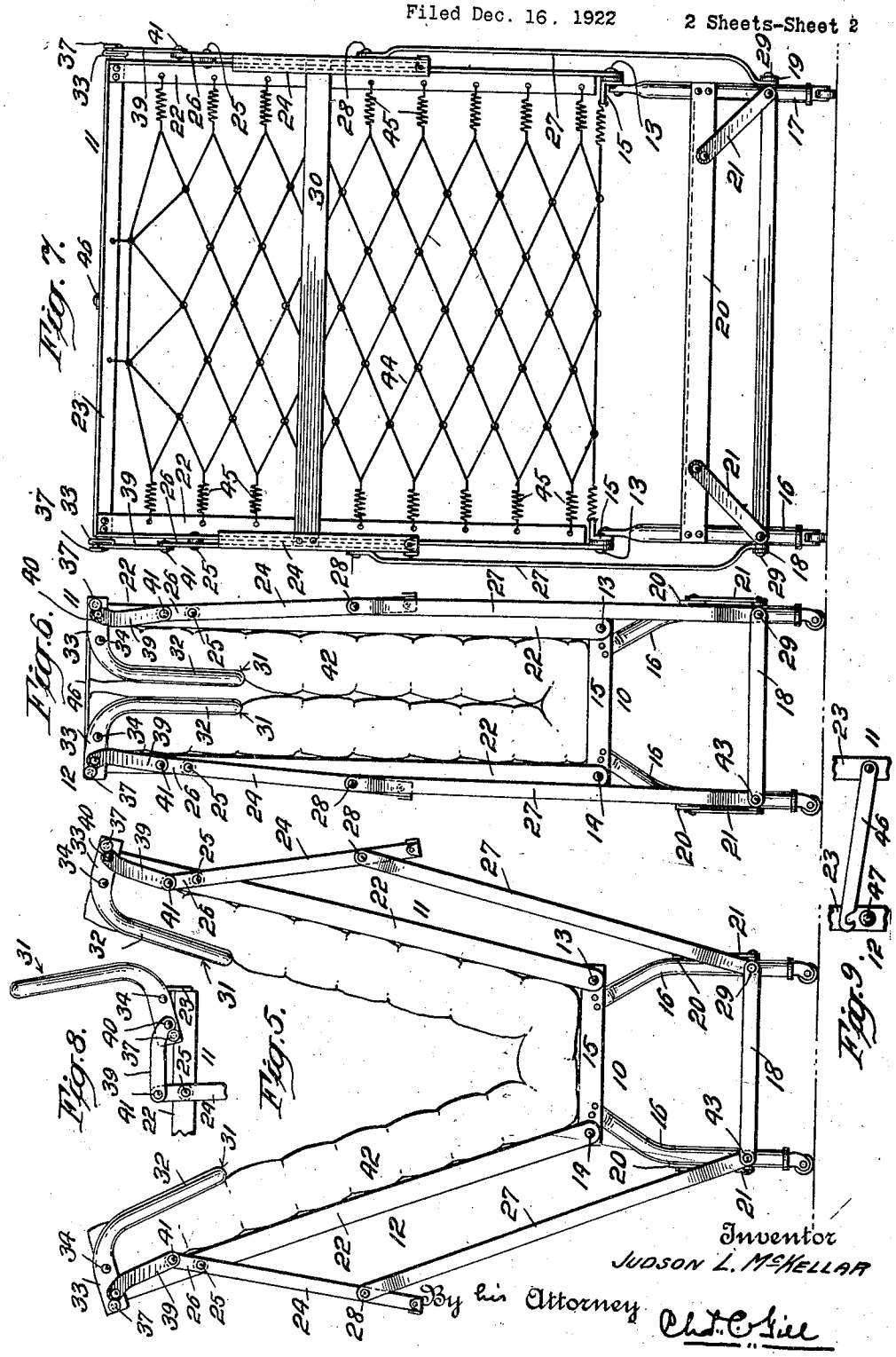


Fig. 7.

Fig. 6.

Fig. 8.

Fig. 5.

Fig. 9.

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UNITED STATES PATENT OFFICE.

JUDSON L. McKELLAR, OF BROOKLYN, NEW YORK, ASSIGNOR TO GASAU-THOMPSON COMPANY, INC., OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

FOLDING COT.

Application filed December 16, 1922. Serial No. 607,272.

To all whom it may concern:

Be it known that I, JUDSON L. McKELLAR, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Folding Cots, of which the following is a specification.

The invention relates to improvements in folding cots, and it resides in the novel features and combinations of parts hereinafter described, and particularly pointed out in the claims.

The present invention embraces certain improvements in the folding cot shown in Letters Patent No. 1,294,925, dated February 18, 1919.

In carrying out my invention I form the body of the cot in three sections, one being a middle section and two being end sections or head and foot frames which may be folded upwardly toward each other, and I equip each of the bed sections with legs and the head and foot sections with foldable head and foot frames or boards and with means for folding the legs of these sections against the body thereof when the sections are turned upwardly into vertical position. The head and foot frames or boards are foldable and connected by links with upwardly projecting extensions of the legs for the head and foot sections of the bed, and the connections between the head and foot frames or boards and the legs for the head and foot sections have been specially constructed to overcome certain disadvantages in prior constructions which my invention seeks to improve.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Fig. 1 is a side elevation of a folding cot, in unfolded condition for use, constructed in accordance with and embodying my invention;

Fig. 2 is a top view, partly broken away, of the same;

Fig. 3 is a vertical transverse section through a portion of one end of the same, taken on the dotted line 3—3 of Fig. 1;

Fig. 4 is a vertical transverse section of an end portion of the same, taken on the dotted line 4—4 of Fig. 1;

Fig. 5 is a side elevation of the cot, with a mattress thereon, shown in partly folded condition, the end members of the cot being shown as folded to different angles so as to indicate that said members are independently foldable;

Fig. 6 is a side elevation of the cot shown as completely folded and with the two end members latched together;

Fig. 7 is an end view of the folded cot, taken from the right hand side of Fig. 6;

Fig. 8 is a side elevation of a portion of one end of the bed and illustrates the position the head and foot frames or boards will automatically take when the bed sections are unfolded outwardly for use, said frame then, by hand, being pulled outwardly at its upper end to take the position shown in Fig. 1 to lock the connections in rigid relation to one another, and

Fig. 9 is a detailed top view showing the latch for securing the upper ends of the folded end members together.

In the drawings 10 designates the middle section of the cot, and 11, 12, respectively, indicate the two corresponding end frames pivotally secured at their inner ends by rivets 13, 14, respectively, to the side bars 15 of said middle section. For convenience of description the frame 11 may be considered the head frame and the frame 12 the foot frame, although since both of said frames are alike in every respect either may be the head frame or foot frame.

The middle section 10 of the cot comprises the aforesaid side bars 15, which are of angle-iron, tubular legs 16, 17, respectively, at opposite sides of said section and riveted at their flattened upper ends against the inner faces of said side bars 15, lower side bars 18, 19, respectively, connecting the legs 16, 16 and 17, 17 together at opposite sides of said middle section, transverse bars 20 connecting the legs 16, 17 together and angular braces 21 connecting the bars 20 with the legs that they connect. The legs 16 constitute a pair of legs for one side of the middle section 10 and are duplicated by the legs 17 at the opposite side of said section, and the legs of each pair diverge downwardly and outwardly in their upper portions and then extend downwardly on vertical lines, as shown in Figs. 1, 5 and 6, said legs thus being spread apart and affording a broad support at each side of the cot for the middle section 10. The middle section 10 con-

sists of a single rigid frame composed of the parts hereinbefore identified riveted in fixed relation to one another.

The head frame 11 is composed of corresponding angle-iron side bars 22 and an angle iron outer end rail 23 connecting the outer ends of said side bars 22, whose inner ends are pivotally connected to the adjacent ends of the side bars 15 by the aforesaid rivets 13. The head frame 11 is equipped near its outer end with supporting legs 24 which are pivotally secured by rivets 25 to the side bars 22 and extend above said bars to form short lever arms 26 hereinafter referred to. The legs 24 slant rearwardly and downwardly, as shown in Fig. 1, and at their lower portions are pivotally connected by links 27 with the forward legs 16, 17, the forward or outer ends of said links 27 being pivotally secured to the legs 24 by rivets 28, and the inner ends of said links being pivotally secured to the forward legs 16, 17 by the same rivets 29 which secure the forward ends of the lower side bars 18, 19 to said legs. The legs 24 are also connected together by a transverse bar 30 riveted at its ends thereto (Figs. 2 and 7).

The head-frame 11 is equipped with a head-board 31 preferably formed of a tube whose ends are bent at right angles to the transverse body of the tube to form side members 32, from whose lower ends are bent inwardly the right angle arms 33 which are pivotally secured by rivets 34 to the upstanding arms of angle-brackets 35 (Fig. 3) secured by rivets 36 between adjacent portions of the side-bars 22 and end rail 23. The arms 33 are flattened, as shown in Figs. 2, 3 and 4, to closely engage the brackets 35, which project above the side bars 22. At the lower portions of their outer ends, the arms 33 carry laterally projecting headed studs 37, the heads on these studs and the adjacent faces of the arms 33 forming recesses 38 to at the proper time receive the edges of links 39, as shown in Figs. 1 and 4, whose forward ends are pivotally secured by rivets 40 to the arms 33 forwardly of the studs 37 and whose inner ends are pivotally secured by rivets 41 with the upper ends of the lever arms 26 created by the upward extensions of the legs 24. The forward or outer ends of the links 39 are bent downwardly where they engage the studs 37, as shown in Fig. 1. If we consider the bed in its folded condition shown in Fig. 6, the unfolding of the section 11 by turning it outwardly and downwardly from a vertical to a horizontal position, results in the links 27 being forced outwardly at their upper ends by the pressure of the legs 24 against them, and as the section or frame 11 is gradually turned downwardly and outwardly, the links 27 act to force the legs 24 outwardly and finally into their position shown in Fig. 1. The outward turning of the legs 24 results in an inward turning of the upper extensions 26 of said legs and in said extensions acting through the links 39 to pull against the arms 33 of the head board or frame 31 and turn the body thereof upwardly to the position shown in Fig. 8, said body being then nearly but not quite vertical. An outward pull, by hand, then on the upper portion of the head board or frame 31 turns the same to its final operative vertical position shown in Fig. 1, the arms 33 at this time turning upwardly and lifting the outer ends of the links 39 to a position at which said arms 33 and links 39 are about in a direct line. The upwardly turning movement of the arms 33 just referred to, causes said arms to carry the studs 37 against the links 39 at the outward bends therein and this aids in aligning the links 39 and arms 33. When the bed section 11 is in its operative position shown in Fig. 1, it is prevented from collapsing downwardly by reason of the legs 34 and links 27 and also by the alignment of the links 39 and arms 33, and at this time, also, the bed section 11 cannot turn upwardly or be folded upwardly because of the alignment of the said links 39 and arms 33, such alignment locking the legs 24 against movement in either direction.

In restoring the bed section or frame 11 to its vertical position, I first push inwardly on the upper end of the head-board or frame 31 so as to turn the free ends of the arms 33 thereof downwardly and cause said arms to turn the outer ends of the links 39 downwardly, thus breaking the alignment of the links 39 and arms 33, as shown in Fig. 8, and thereupon I take hold of the end rail 23 and turn the frame or section 11 upwardly, and while the said section or frame is moving upwardly the links 27 draw the legs 24 inwardly to the side bars 22, as will be understood on reference to Figs. 5 and 6, and this movement of the legs 24 toward the side bars 22 results in the lever extensions 26 of said legs being turned outwardly and pushing the links 39 outwardly against the arms 33 of the head-board 31 and in thereby causing said head-board to automatically fold inwardly against the mattress 42, as shown at the right hand side of Figs. 5 and 6.

The bed-section 12 is identical in construction and operation with the bed-section 11, and hence I need not specifically describe the parts of the section 12 but will number said parts correspondingly with the like parts of the section 11, adding however that the inner ends of the links 27 of the section 12 are pivotally secured to the rear legs 16, 17 by the same rivets 43 which fasten the rear ends of the side bars 18, 19 to said legs. The member 31 of the bed-section 12, while

the same in every particular as the member 31 of the section 11, except that it is reversed to fit the foot end of the bed or cot, may be termed a foot-board or frame instead of a head-board or frame.

The bed-sections 10, 11, 12 are equipped with a suitable spring fabric 44 in one continuous piece connected to the side bars of said sections by helical springs 45.

After the sections 11, 12 have both been folded toward each other into vertical position they may be secured together at their upper ends by a latch-bar 46 pivotally secured to the end rail 23 of one section and detachably hooked upon a stud 47 secured to the end rail 23 of the other section, as shown in Fig. 9.

The head and foot members 31 are of bell-crank formation and when the bed-sections 11, 12 are to be folded upwardly, said members 31 are pressed inwardly to the position shown in Fig. 8, and thereafter said members automatically fold or turn inwardly against the mattress during the upward movement of said bed-sections to vertical position, this being one of the features accomplished by my invention. When the head and foot sections are lowered or turned downwardly, the legs 24 automatically take their operative position and the head and foot members 31 automatically take the position indicated in Fig. 8, and thereupon the several parts become locked in rigid relation to one another upon the upper ends of the members 31 being pulled outwardly to elevate the inner ends of the arms 33 thereof and the outer ends of the links 39.

What I claim as my invention and desire to secure by Letters Patent, is:

1. A folding cot or bed comprising a middle bed-section having rigid supporting legs, end bed-sections having pivoted legs and pivotally secured to the end portions of said middle section and adapted to be turned upwardly into vertical position and downwardly into horizontal position, links connecting said pivoted legs with said rigid legs and foldable with said pivoted legs, head and foot members of bell-crank type pivotally secured on the outer ends of said end bed-sections, and links pivotally connected with and connecting inwardly extending arms of said head and foot members and the upper ends of said pivoted legs above the pivots thereof and adapted to lie in substantial alignment with said inwardly extending arms for locking said head and foot members and the pivoted legs respectively connected with them in rigid relation to each other.

2. A folding cot or bed comprising a middle bed-section having rigid supporting legs, end bed-sections having pivoted legs and pivotally secured to the end portions of said middle section and adapted to be turned upwardly into vertical position and downwardly into horizontal position, links connecting said pivoted legs with said rigid legs and foldable with said pivoted legs, head and foot members of bell-crank type pivotally secured on the outer ends of said end bed-sections, and links pivotally connected with and connecting inwardly extending arms of said head and foot members and the upper ends of said pivoted legs above the pivots thereof and adapted to lie in substantial alignment with said inwardly extending arms for locking said head and foot members and the pivoted legs respectively connected with them in rigid relation to each other, and said arms having studs below said links for on a final manual outward turning of said head and foot members, engaging and turning said links upwardly at their outer ends and thereby positioning said links in dead-locking relation to said arms and folding legs.

Signed at Brooklyn, in the county of Kings, and State of New York, this 6 day of Dec. A. D. 1922.

JUDSON L. McKELLAR.