M. LOWY.

FOLDING COT.

APPLICATION FILED AUG. 13, 1915.

1,196,253.

Patented Aug. 29, 1916.

6 SHEETS—SHEET 1.

Fig. 1.

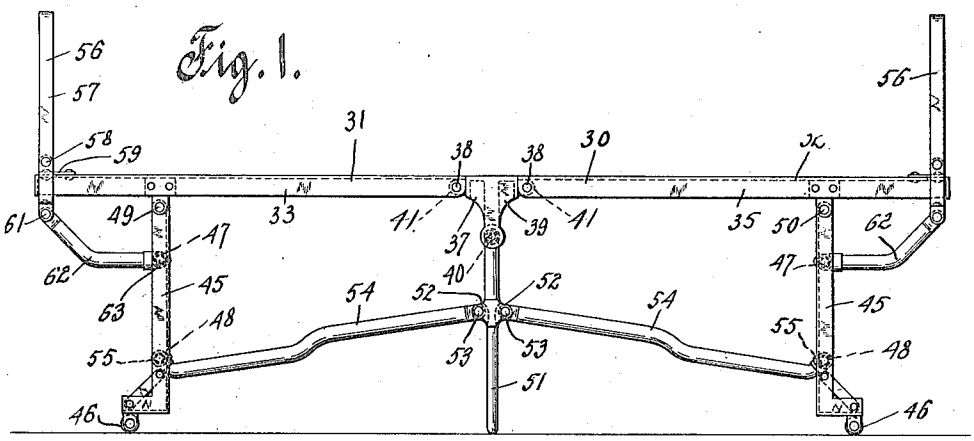


Fig. 2.

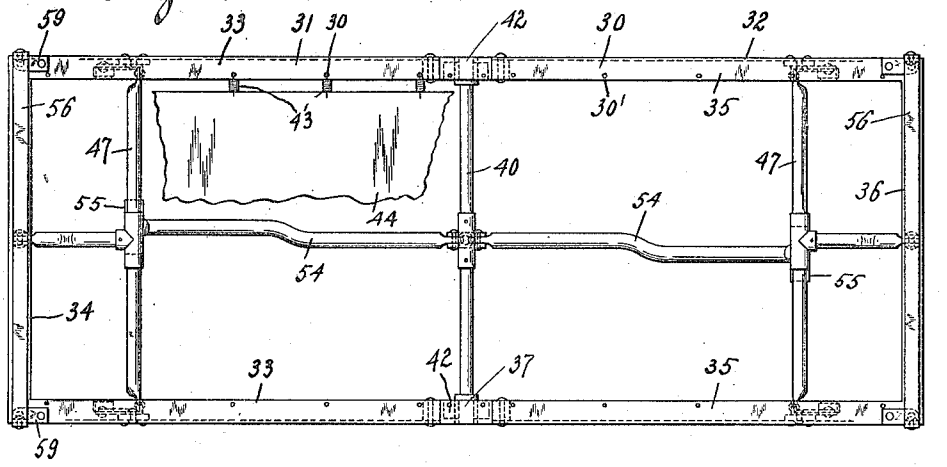


Fig. 5.

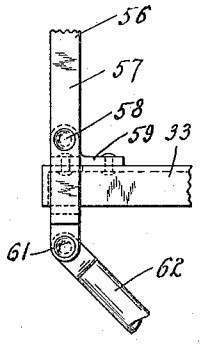
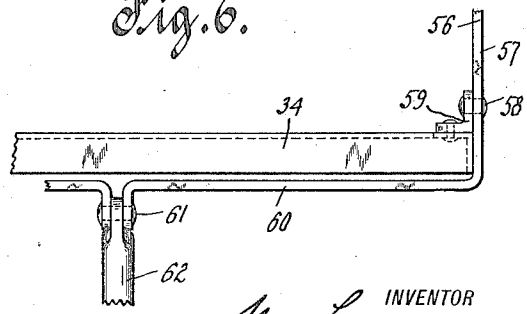


Fig. 6.



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6 SHEETS—SHEET 2.

Fig. 3.

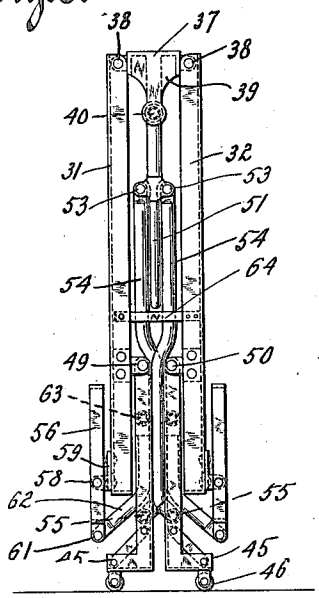


Fig. 4.

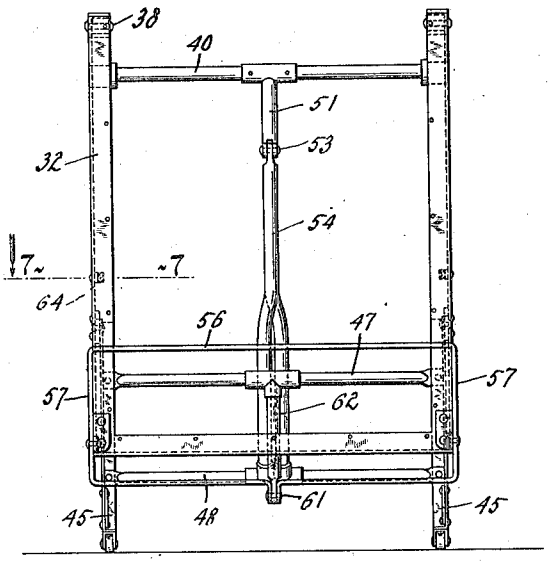


Fig. 7.

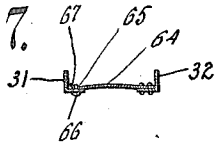


Fig. 8.

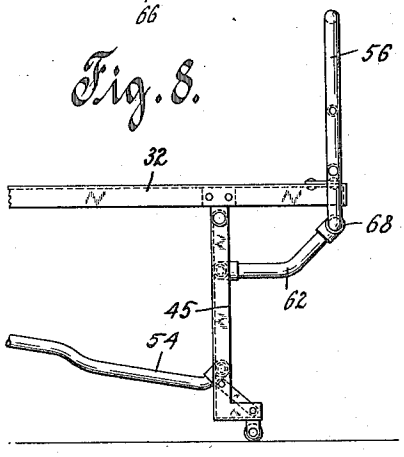
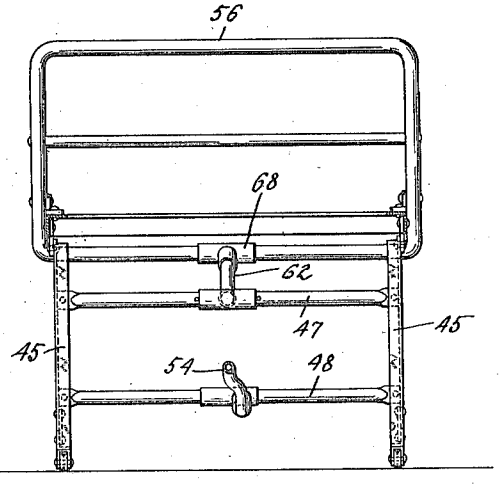


Fig. 9.



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6 SHEETS—SHEET 3.

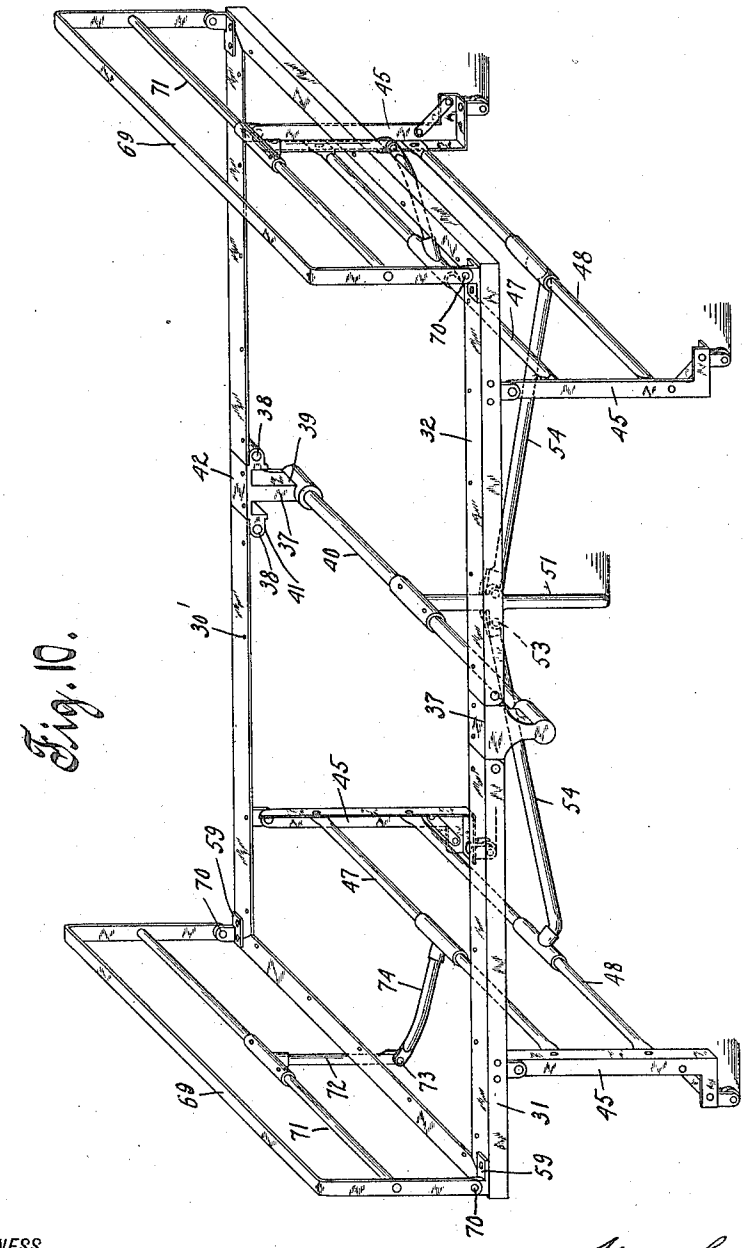


Fig. 10.

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6 SHEETS—SHEET 4.

Fig. 11.

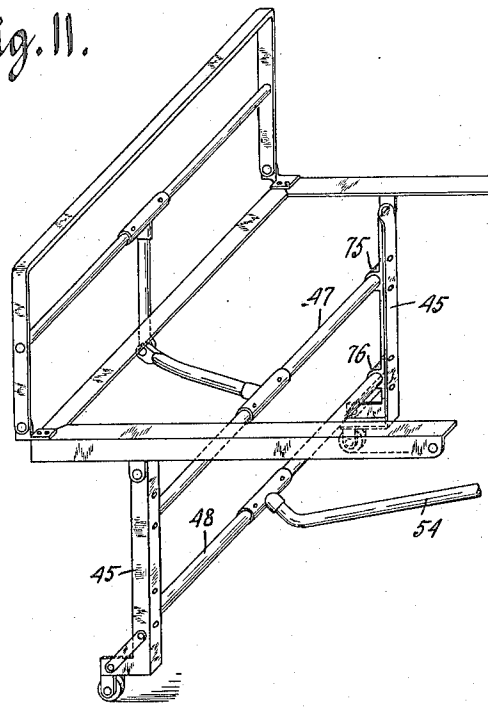


Fig. 20.

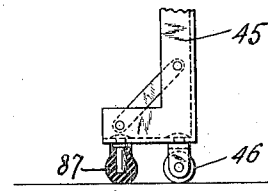


Fig. 13.

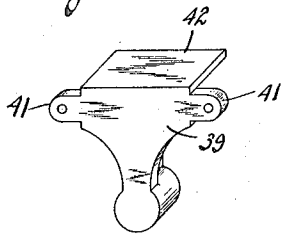


Fig. 17.

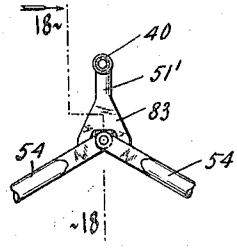


Fig. 18.

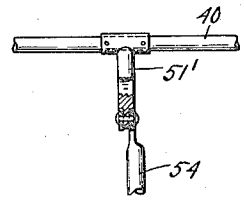


Fig. 14.

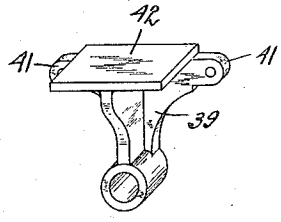
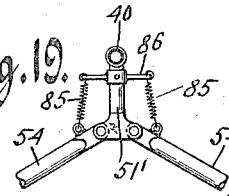


Fig. 19.



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6 SHEETS—SHEET 5.

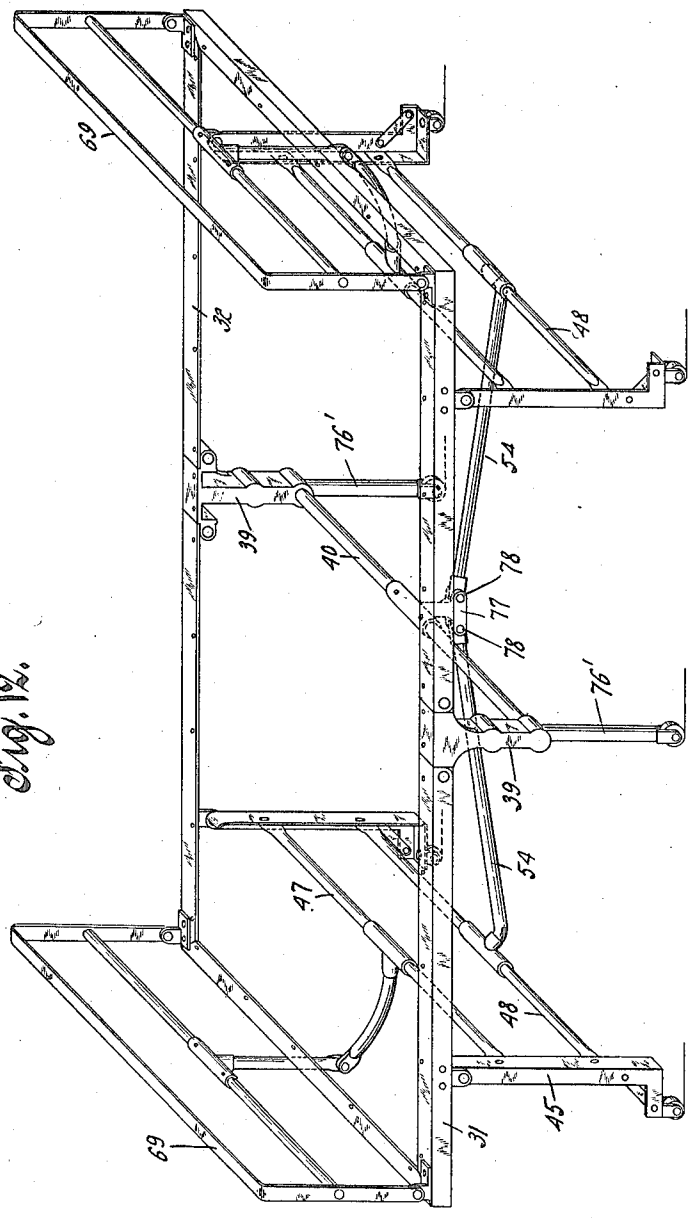


Fig. 12.

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6 SHEETS—SHEET 6.

Fig. 15.

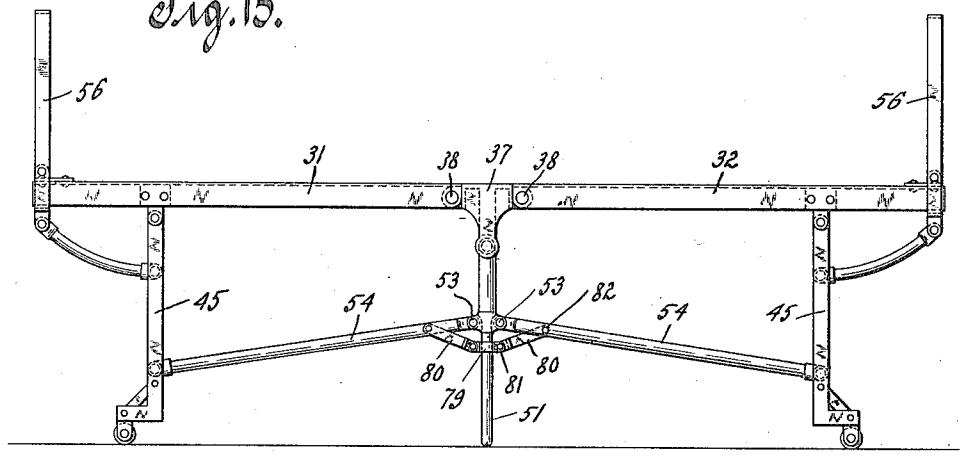
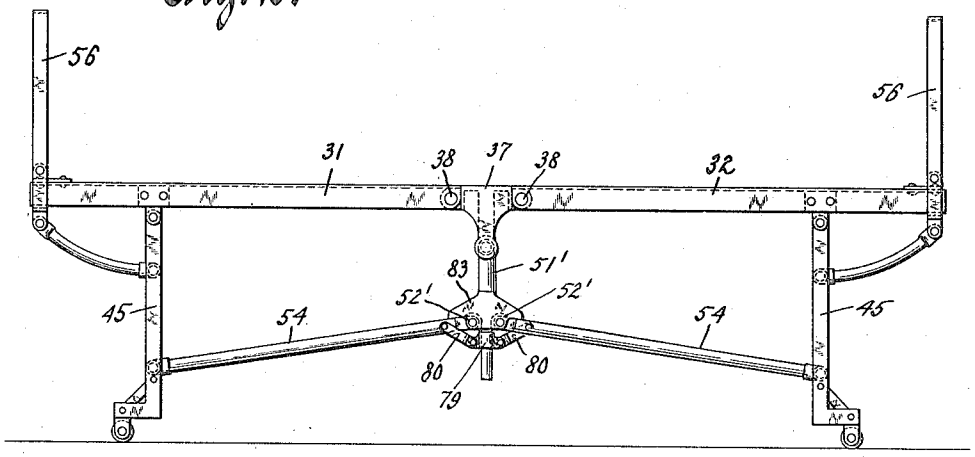


Fig. 16.



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UNITED STATES PATENT OFFICE.

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FOLDING COT.

1,196,253. Specification of Letters Patent. Patented Aug. 29, 1916.

Application filed August 13, 1915. Serial No. 45,334.

To all whom it may concern:

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

The present invention relates to folding cots.

One of the objects of the invention is to simplify the construction of devices of this kind by providing a structure which is light, durable, simple, inexpensive to manufacture, and which can be readily so folded that it will occupy a small space.

Another object of the invention is to produce a folding cot comprising a pair of foldable sections which are united by a short intermediate section, each of said foldable sections having a pair of legs which are so connected by simple means with said middle section that by one movement both foldable sections as well as the legs may be folded into a compact, upright structure, or opened in readiness for use, and when open the cot will be maintained in its position against premature closure.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

A few of the many possible embodiments of the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a cot constructed in accordance with the present invention in its extended position; Fig. 2 is a plan view thereof, part of its bed spring or mattress being removed in order to more clearly show the construction; Fig. 3 is a side elevation of the cot in its folded position; Fig. 4 is a front elevation thereof, also folded; Fig. 5 is a side elevation of a detail of construction; Fig. 6 is a front elevation of the detail shown in Fig. 5; Fig. 7 is a section taken on line 7—7 of Fig. 4; Fig. 8 is a side elevation of a portion of a modified cot in its extended position; Fig. 9 is a front elevation thereof; Fig. 10 is a perspective view of another modified cot in its extended position; Fig. 11 is a perspective view of a portion of still another modified cot in its extended position; Fig. 12 is a perspective view of a further modification of the invention; Fig. 13 is a perspective view of a portion of the middle section employed upon the cots herein shown; Fig. 14 is a perspective view of the detail shown in Fig. 13 looking from the other side; Fig. 15 is a side elevation of another modified cot in its extended position; Fig. 16 is a similar elevation of a further modification of the invention; Fig. 17 is a side elevation of a modification of the connecting means between the foldable sections and the middle section of the cot; Fig. 18 is a section taken on line 18—18 of Fig. 17; Fig. 19 is a side elevation of a further modification of the connecting means between the folding sections and the middle section of the cot; and Fig. 20 is a side elevation, partly in section, of a modification of one of the legs of the cot.

Referring now more particularly to Figs. 1 to 7, inclusive, the numeral 30 indicates the top frame of the cot. This frame comprises an oblong structure, formed of two similar sections 31 and 32, each of which is constructed, preferably, of angle-irons. The section 31 comprises side rails 33, the outer ends of which are connected by an end rail 34. In a similar manner the section 32 consists of side rails 35, which are connected at their outer ends by an end rail 36. The side rails of both sections of the top frame are united by a short middle section 37, to which the inner ends of said side rails are pivoted at 38. The middle section comprises two bracket-like structures 39, which are connected by a cross rod or brace 40, the latter being disposed a substantial distance below the side rails of the frame sections, so as to leave sufficient clearance under the bed bottom to enable the latter to sag under the weight of a person lying thereupon without his body striking or contacting with said cross rod. Upon the vertical portions of the bracket-like structures 39 are formed lugs 41, to which the side rails of the frame sections are pivoted. The inner ends of the side rails of the frame sections overlap and

rest upon these lugs when the cot is in its extended position, the horizontal portions 42 of the brackets then filling the gaps between the inner ends of the horizontal flanges of the side rails.

The top frame carries a bed spring which might serve at the same time as a mattress. For this purpose the said frame is provided with a plurality of apertures 30′ in the horizontal flanges of the angle-irons constituting the said frame. Each of these apertures is engaged by one end of a spring 43, the other end of which is attached to a sheet 44 of a suitable fabric or other flexible material. This structure forms a combined mattress and spring, and is adapted to be folded with the cot as the latter is brought into the positions shown in Figs. 3 and 4 of the drawings.

Each of the frame sections 31 and 32 is suported by a pair of legs 45, which are provided with casters 46 for a well known purpose. Each pair of legs is braced by a pair of tie-rods, in the present case by two rods, denoted by the numerals 47 and 48. These rods extend horizontally and transversely of the cot, those denoted by the numeral 47 being disposed near the upper ends of the legs, and those indicated at 48 near their lower ends. One pair of legs is pivoted at 49 to the side rails 33, and the other pair at 50 to the side rails 35. The middle section is supported by a single leg, shown at 51, this leg being fixedly attached to the central portion of the brace or cross-rod 40. Upon the leg 51 are formed two lugs 52, to which are pivoted at 53 links 54, the other ends of which are fulcrumed at 55 to the tie-rods 48. These links extend in the longitudinal axis of the cot, each of the same connecting one pair of legs with the central leg 51.

The cot is provided with end-pieces, that is to say a head- and a foot-piece, so as to give it the appearance of a normal bedstead. These end pieces are denoted by the numeral 56, and comprise each a substantially oblong frame, the vertical portions 57 of which are pivoted near their lower ends at 58 to standards 59, the latter being rigidly attached to the side rails of the cot. The head and foot members have their lower horizontal bars 60 projecting below the side rails, and to the central portions of these bars are pivoted at 61 bent links 62, the other ends of which are fulcrumed at 63 to the respective tie-rods 47.

The operation of this device is as follows: In order to fold the cot, the operator takes hold of the top frame sections 31 and 32, and moves the central portions of the same upward, swinging them around the pivots 38, which results, due to the connections between the legs 51 and 45, in a swinging of the legs 45 around the pivots 49 and 50, until the legs abut against their respective side rails, and the said side rails are brought in parallel relation to each other into the positions shown in Figs. 3 and 4 of the drawings. At the same time it is to be observed that as the legs 45 are moved into the positions indicated, the links 62 shift the end-pieces 56 around their pivots 58, until they are brought into substantially parallel relation to the side rails. If desired an upholstered mattress and the bed clothing can also be folded with the frame.

The short intermediate section 37 maintains the two folding sections of the cot suitably spaced to provide a proper place for the legs and the links when the structure is folded. Inasmuch as the inner ends of the side rails of the two folding sections of the cot rest upon the lugs 41 and the latter are properly supported by the middle leg 51, the said lugs will act as stops when the bed is in its extended position and thus prevent the cot sections from moving out of alinement under weight. The intermediate section thus not only serves to maintain the two sections of the cot suitably spaced, but, by reason of the lugs formed thereon, it acts as a stop to maintain the frame sections in alinement.

It is to be noted that, while the structure herein described comprises but a single pair of legs for each folding section and a single leg for the intermediate section, so that the cot, as a whole, has but five legs, these legs are so located and organized as to efficiently support the frame sections; moreover, these legs are so connected with the frame sections and with the folding head and foot that by one movement both of the sections as well as the legs and the head and foot may be folded into a compact, upright structure, or opened in readiness for use, and when open the cot will be maintained in position against premature closure.

In order to keep the cot in its closed position, catches may be made use of. The catches illustrated in the drawings are made in the form of leaf springs 64, which are attached in any suitable manner to one section of the top frame and provided near their outer free ends each with an aperture 65, in which are adapted to be seated studs 66, the latter being carried by the other section of the top frame. The free ends of these springs are curved, as shown at 67, whereby the studs will be automatically seated in the apertures thereof when the bed is being folded.

A modification of the invention is illustrated in Figs. 8 and 9 of the drawings, differing from the one above described in that its head and foot pieces are made of tubings, or of bars of circular cross section, the frames being endless. In this case the bent links 62 carry upon their outer ends sleeves 68, which are drawn over the lower horizontal sections of the end-pieces. Other-

wise the construction and operation of the device are similar to those of the cot above described.

In the modification illustrated in Fig. 10 of the drawings, the end-pieces are substantially bail-shaped. These end-pieces are denoted by the numeral 69, their lower ends being pivoted at 70 to standards 59 of the type above described. A transverse tie-rod 71 connects the vertical portions of each end-piece, and to this tie-rod is fixedly attached a lever 72, said lever extending below the respective end-rail of the top frame section and being pivoted at 73 to a lever 74, which is oscillatable upon the tie-rod 47 of the respective pair of legs. The operation of this device is similar to those described in connection with the two cots above referred to.

A further modification of the invention is illustrated in Fig. 11 of the drawings. In this construction the tie-rods 47 and 48 are oscillatably journaled in bearings 75 and 76, respectively, said bearings being carried by the legs 45 of the cot. The outer ends of the links 54 are in this case fixedly attached to the tie-rods 48. The construction differs thus from the device described in connection with Figs. 1 to 7 in that, while in the latter the links 54 and 62 are pivoted to the tie-rods, and the tie-rods are fixedly attached to the legs of the cot, in this structure the tie-rods are pivoted to the legs and the links rigidly connected with the said tie-rods.

In the modification illustrated in Fig. 12 of the drawings, each of the bracket-like structures 39 of the short middle section is provided with a leg 76′, these brackets being connected by a brace 40. Upon this brace is mounted a downwardly extending projection 77, to which are pivoted at 78 the links 54, the outer ends of which are connected to the tie-rods 48. Otherwise the operation and construction of this device do not differ from those above described.

The device illustrated in Fig. 15 of the drawings differs from those above described in that upon the middle leg 51 thereof there is slidably mounted a sleeve 79, which is connected with the links 54. More particularly, it is connected with each link 54 by a short link 80, that is pivoted at 81 and 82 to the sleeve 79 and to the link 54, respectively. When this cot is being folded, the connection between the links 54 and the sleeve 79 will cause the leg 51 to remain during the folding operation in a vertical position, thereby greatly facilitating the folding operation.

In the modification illustrated in Fig. 16 of the drawings the central leg is lacking. In this instance, there is attached to the brace 40 a downwardly projecting bar 51′, provided with lugs 52′, to which are pivoted the inner ends of the links 54. The links 80 and the sleeve 79 above mentioned may be resorted to in this case also for the purpose specified. Upon the rod 51′ are formed stops 83, which rest upon the links 54, when the cot is in its extended position. This structure, while it has only four legs, is just as well supported as those above referred to for the reason that its stops, resting upon the links 54, prevent the inner ends of the top frame sections from dropping below the level of the outer ends thereof.

A modification of the structure shown in Fig. 16 is illustrated in Figs. 17 and 18. In this case the sleeve 79 and the links 80 are missing.

In the modification shown in Fig. 19 of the drawings the links 54 are connected by springs 85 with pins 86 upon the downwardly extending bar 51′. These springs will maintain the central leg or the rod 51′ in vertical positions during the folding operations.

Besides the casters 46 there may be attached to each leg a projection 87 of rubber or similar material, said projections resting upon the ground or floor, and preventing a sliding of the cot.

What I claim is:—

1. In a folding cot, the combination with a pair of foldable cot sections, of a short middle section pivotally connected to the inner ends thereof, said foldable cot sections folding transversely of the cot by lifting such inner ends and thereby allowing the outer ends to drop and close toward each other, a pair of legs pivoted to each of said foldable sections, a single leg attached to said middle section, and a link connecting the legs of each foldable section with the leg of said middle section, said links being disposed substantially in the longitudinal center line of said cot.

2. In a folding cot, the combination with a pair of foldable cot sections, of a short middle section pivotally connected to the inner ends thereof, said foldable cot sections folding transversely of the cot by lifting such inner ends and thereby allowing the outer ends to drop and close toward each other, a pair of legs pivoted to each of said foldable sections, a leg attached to said middle section, a link connecting the legs of each foldable section with the leg of said middle section, an end-piece fulcrumed to each foldable section, and a link pivotally connecting each end-piece with the legs of the same section.

3. In a folding cot, the combination with a pair of foldable cot sections, of a short middle section pivotally connected to the inner ends thereof, said foldable cot sections folding transversely of the cot by lifting such inner ends and thereby allowing the outer ends to drop and close toward each

other, a pair of legs pivoted to each of said foldable sections, a leg attached to the center of said middle section, a link connecting the legs of each foldable section with the leg of said middle section, an end-piece fulcrumed to each foldable section, and a link pivotally connecting each end-piece with the legs of the same section.

4. In a folding cot, the combination with a pair of foldable cot sections, of a short middle section pivotally connected to the inner ends thereof, said foldable cot sections folding transversely of the cot by lifting such inner ends and thereby allowing the outer ends to drop and close toward each other, a pair of legs pivoted to each of said foldable sections, a leg attached to the center of said middle section, a link connecting the legs of each foldable section with the leg of said middle section, and means for maintaining the leg of said middle section in its vertical position during the folding operation.

5. In a folding cot, the combination with a pair of foldable cot sections, of a short middle section pivotally connected to the inner ends thereof, said foldable cot sections folding transversely of the cot by lifting such inner ends and thereby allowing the outer ends to drop and close toward each other, a pair of legs pivoted to each of said foldable sections, a single leg attached to said middle section, a link connecting the legs of each foldable section with the leg of said middle section, a sleeve slidably disposed upon the leg of said middle section, and a link connecting said sleeve with each of said first named links.

Signed at New York, in the county of New York, and State of New York, this 11th day of Aug., A. D. 1915.

MORRIS LOWY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."