

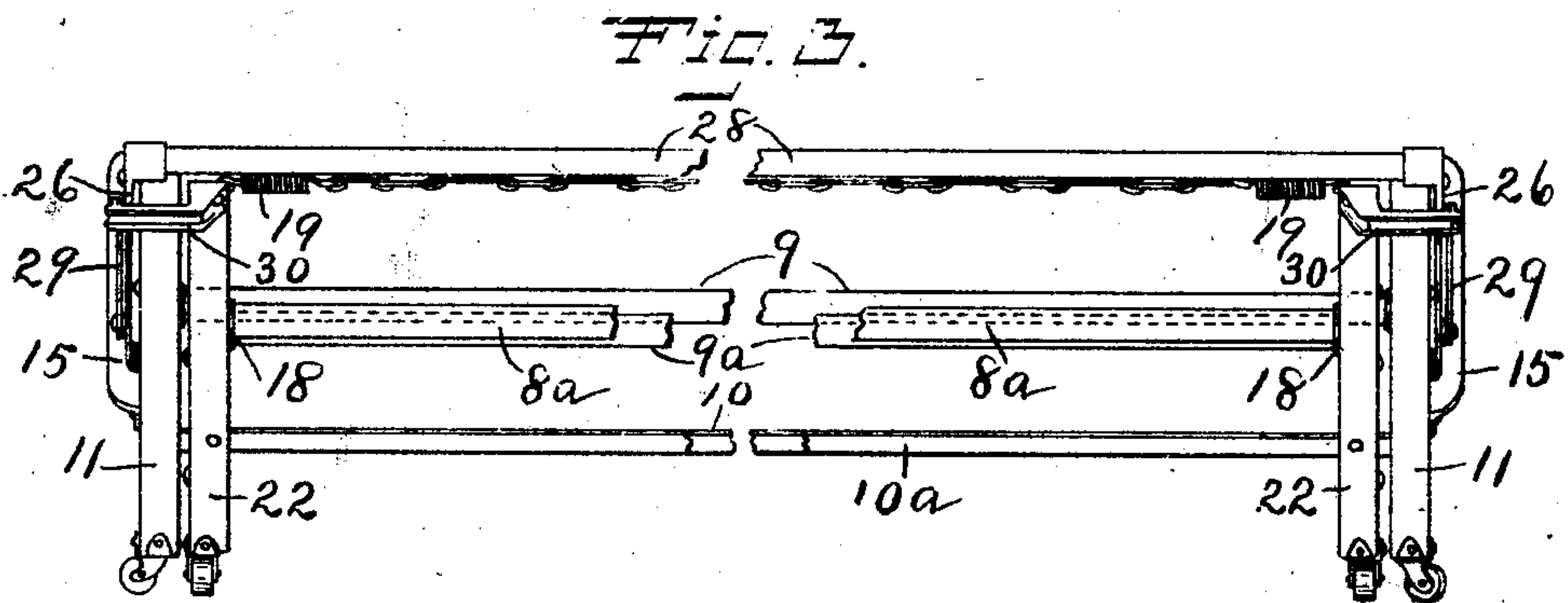
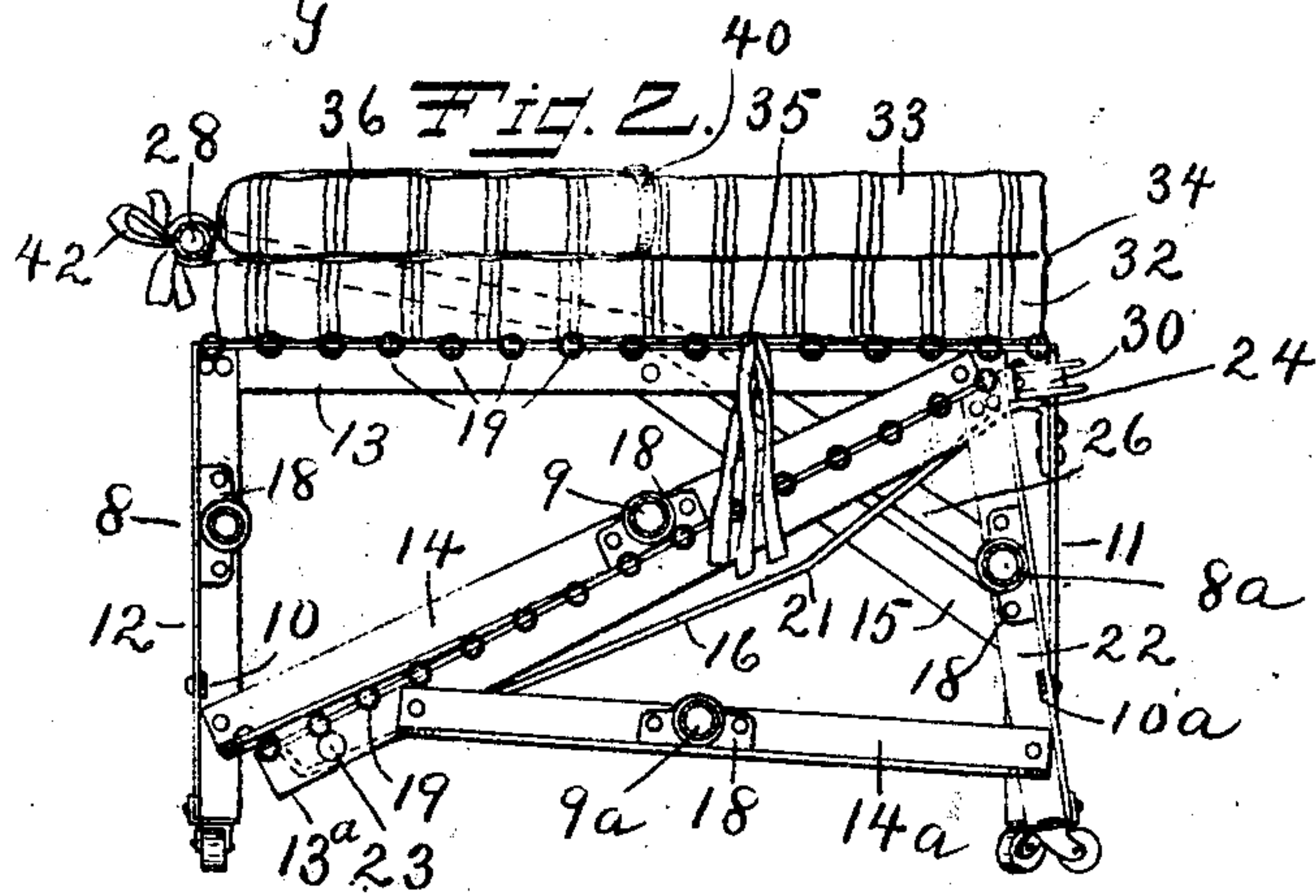
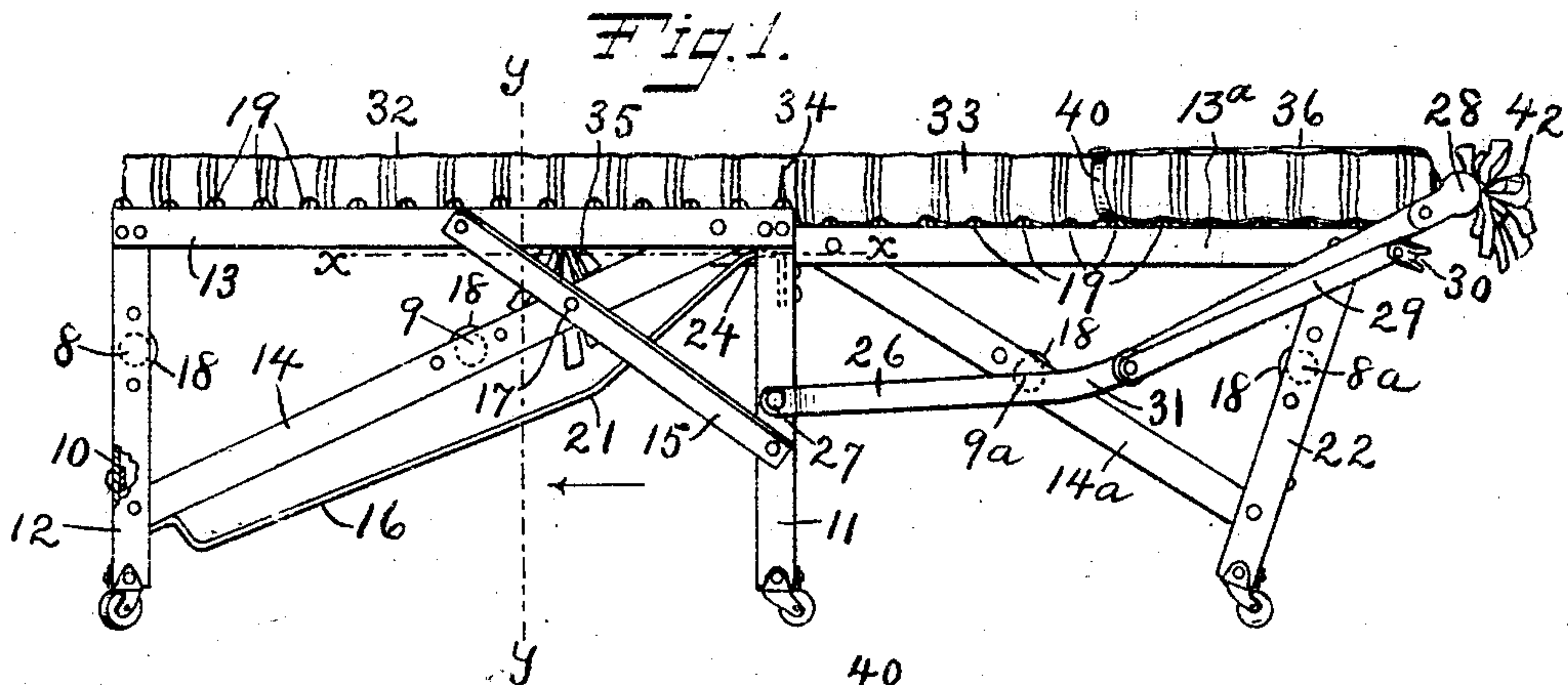
H. B. ARNOLD.  
EXTENSION BEDSTEAD.

APPLICATION FILED JULY 29, 1908.

Patented June 15, 1909.

3 SHEETS—SHEET 1.

924,626.



Witnesses.

S. H. Clark  
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Inventor.

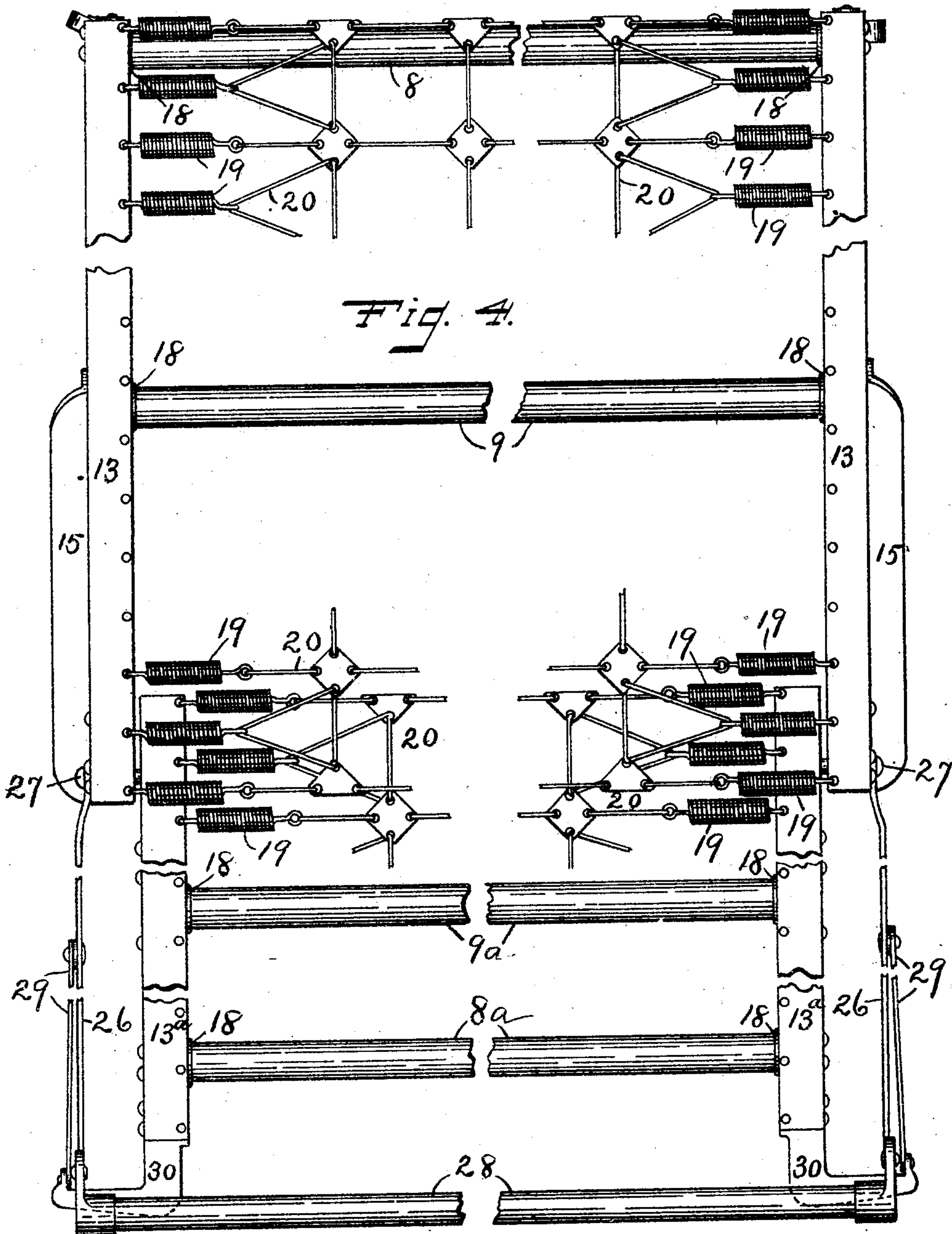
Harry B. Arnold.  
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S. H. Clarke.  
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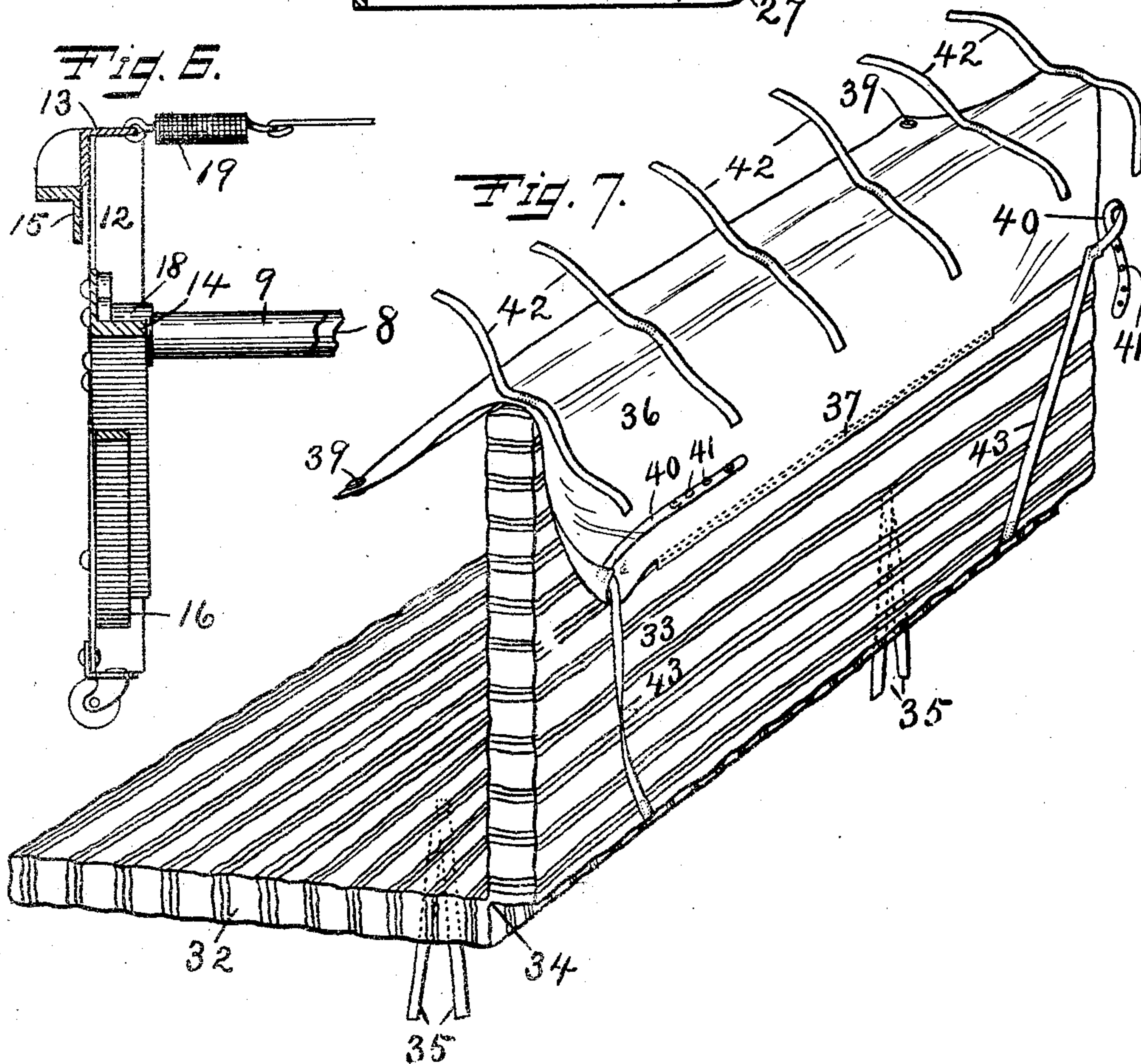
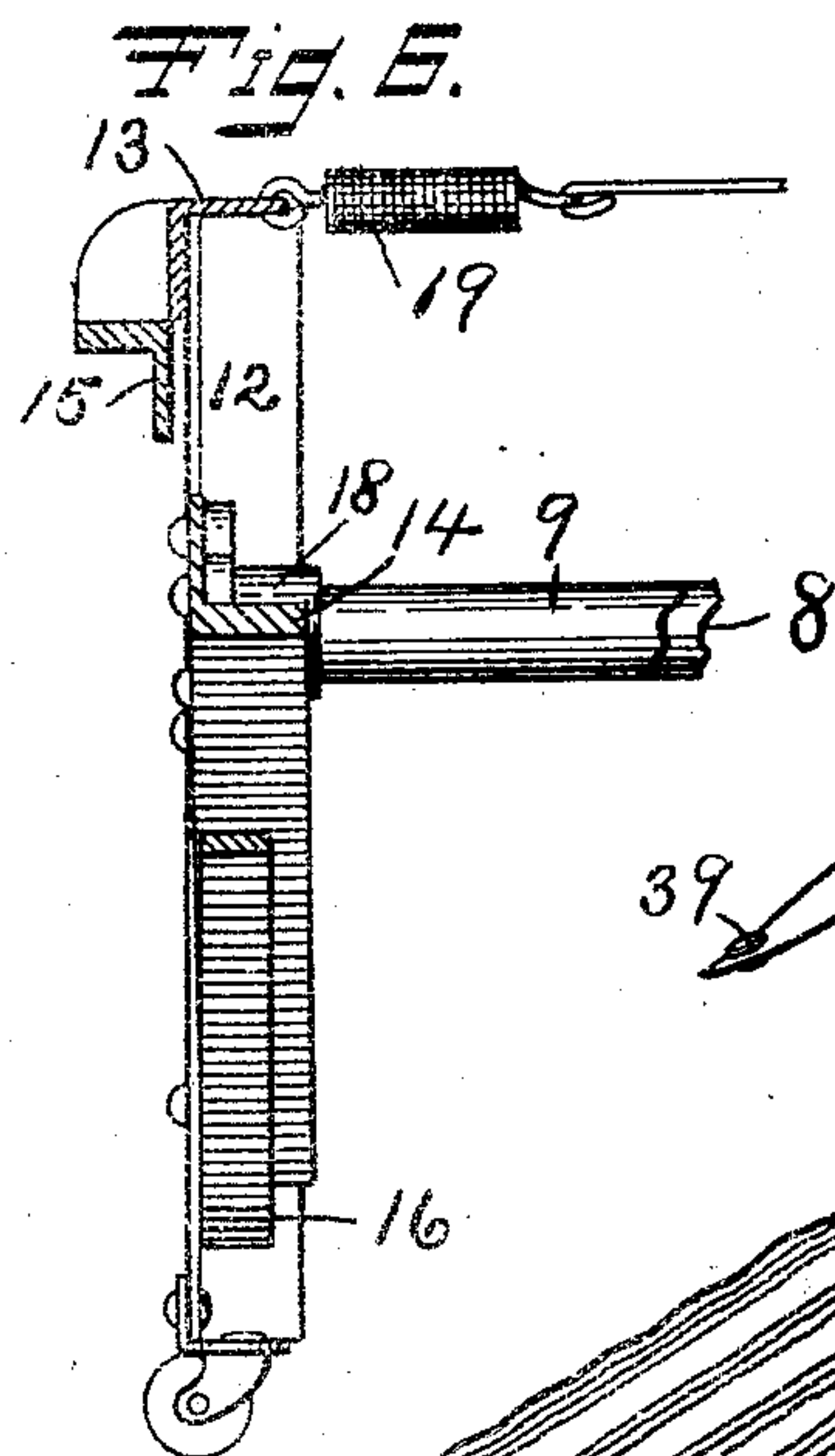
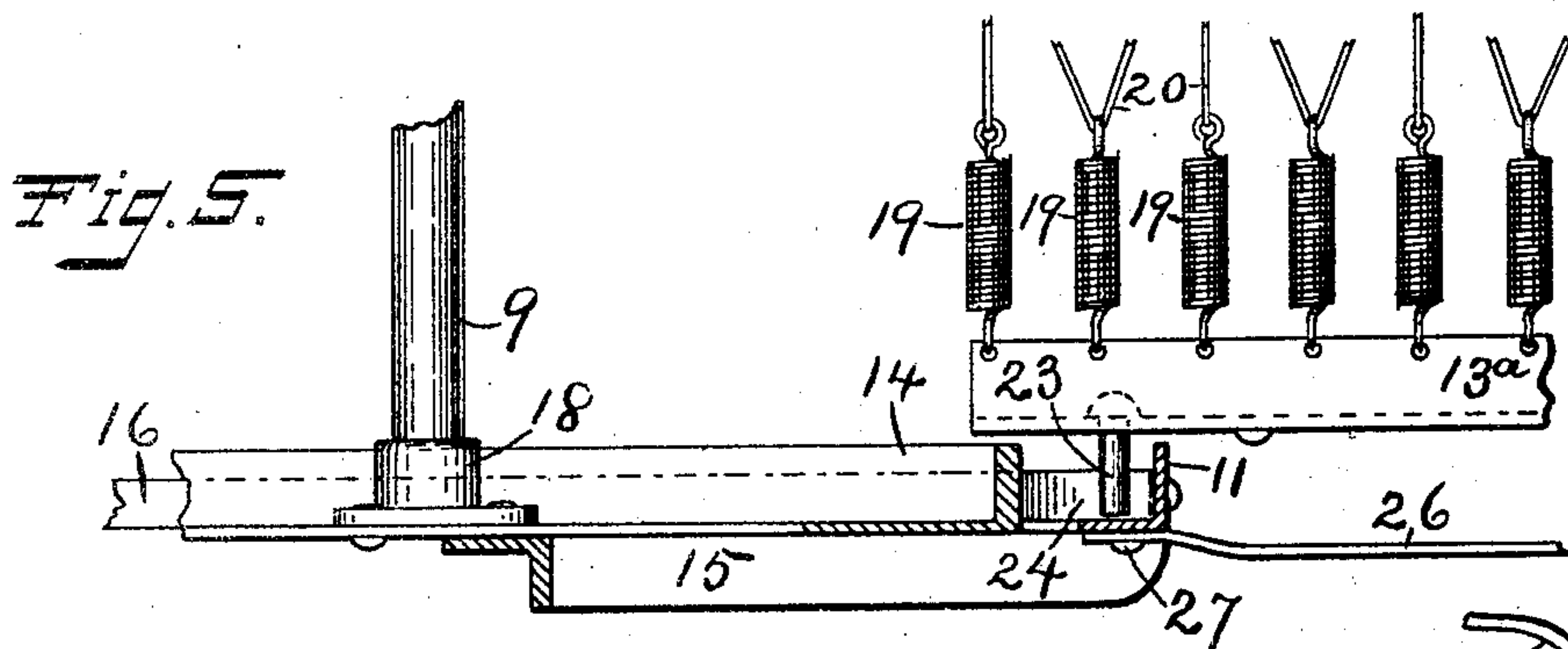


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3 SHEETS—SHEET 3.



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S. H. Clarke  
my. Atty.

INVENTOR.

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By James Shepard  
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# UNITED STATES PATENT OFFICE.

HARRY B. ARNOLD, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO NATIONAL SPRING BED COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION.

## EXTENSION-BEDSTEAD.

No. 924,626.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed July 29, 1908. Serial No. 445,871.

*To all whom it may concern:*

Be it known that I, HARRY B. ARNOLD, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Extension-Bedsteads, of which the following is a specification.

My invention relates to improvements in extension bedsteads, and the objects of my improvement are efficiency and convenience in use and operation as hereinafter more specifically pointed out in connection with the constructions described herein.

In the accompanying drawing:—Figure 1 is an end view of my bedstead with a mattress secured thereto, the same being illustrated in the extended or open position. Fig. 2 is a transverse sectional view of the said bedstead with an end view of the mattress, the same being illustrated in the contracted or closed position. Fig. 3 is a broken out front elevation of my bedstead in its extended form with the mattress removed. Fig. 4 is an enlarged broken out plan view of my bedstead in its extended position and the mattress removed. Fig. 5 is a broken off horizontal section of the main bed section on the line *x x* of Fig. 1, together with a plan view of a portion of the extension bed section. Fig. 6 is a vertical section of a portion of the main bed section on the line *y y* of Fig. 1. Fig. 7 is a perspective view of the two part mattress on the same scale as in Figs. 1, 2 and 3.

My bedstead comprises a main bed section and an extension bed section arranged to move laterally to and from the said main section, a two part mattress for the said two sections, and an opening mechanism for operating the said extension bed section and that part of the mattress which belongs thereto.

The main bed section comprises a mattress supporting fabric, two end frames, two longitudinal bars 8, 9, and one longitudinal tie rod 10, the said rails and tie rod connecting the said two end frames. Each end frame comprises front and rear legs 11, 12, a fabric supporting end rail 13, preferably of angle iron and rigidly secured by its ends to the upper ends of the legs 11 and 12, a long brace 14, a shorter brace 15, both of angle iron and a track 16 in the form of a strap or plate. The fabric supporting end

rail 13 of angle iron is disposed with its angle or corner at the outer upper edge of the end frame, and its horizontal member extending inwardly from the said angle. The angle iron legs are preferably secured to the inner face of the vertical member of the fabric supporting end rail with their angle or corner at the outer ends of the said rail. The long brace 14, of angle iron, is arranged with its vertical member on the outer side and its horizontal member at the lower edge. It is secured by its rear end to the inner side of the rear leg 12 toward the lower end of the said leg, and with its upper end on the inner side of the fabric supporting end rail 13 at a point near the front leg 11, so that the said brace extends diagonally downward and rearward from near the upper front corner of the end frame. The shorter brace 15 is disposed with its upper corner or angle inwardly and is secured by its upper end to the vertical member of the fabric supporting end rail near the middle of its length while its lower end is secured to the front leg 11, a little below the middle of its length, whereby the shorter brace extends obliquely downward and forward from the said end rail 13, and crosses the long brace 14. The two braces are rigidly secured to each other by means of the rivet 17, Fig. 1. Both end frames are alike excepting as they are made in rights and lefts.

I have used the same reference numerals to designate corresponding parts of both end frames.

Bar receiving sockets 18 of any ordinary construction are secured to the inner sides of the rear legs some distance below their upper ends and also to the inner side of the long braces 14 near the middle of their length and at about the same distance below the fabric supporting end rails 13. The ends of the longitudinal bars 8 and 9 are received in the sockets 18 of the end frames while the tie rod 10 is secured by its ends to the rear legs of the two end frames below the rear side bar 8.

I prefer to employ a metallic fabric as the mattress supporting fabric, in which case the iron end rails 13 are drilled near their inner edge to receive the hooked ends of the springs 19 on which the metallic fabric 20 is stretched in the ordinary manner of wire fabric beds. This main bed section is complete in itself and may be used alone for a



narrow bedstead if desired. It is of a peculiar construction in that it is a complete bedstead standing on four legs and without any longitudinal bar between its front legs or at its front side. The bar 8 is between the rear legs 12 and may be called the rear side bar or outside bar, because it is at the rear of the bedstead outside of the middle. The bar 9 is mounted at the middle portion of the end frames remotely from either side of the bed section, so that it is in no sense a side bar. The strain of the fabric on the end rails 13 is transmitted in part through the rear legs to the longitudinal side bar 8, and in part through the long brace 14 to the longitudinal bar 9 at the middle of the end frames and with no direct strain on the front legs.

The end rail 13, rear leg 12 and long brace 14, all rigidly secured together form a triangular frame upon which the strain of the fabric is received and transmitted to the two longitudinal bars 8 and 9, so that one tie rod 10, on the rear legs below the side bar 8 near the lower rear corner of the said triangular frame is sufficient to tie the said end frames together and prevent the lower parts of the said end frames from spreading outwardly. The shorter brace 15 crossing the long brace and being connected with the end rail and front leg holds the front legs properly in position and prevents them from cocking inwardly at their lower ends. These frames are very rigid and substantial and enable me to wholly eliminate the ordinary front side rail of the bedstead so as to leave all of the space beneath the metallic fabric and in front of the inside bar 9 available for storage. As shown, I utilize this storage space for the extension bed section. The track 16 for supporting the inner edge of this bed section is arranged obliquely under the long brace 14 and extends in the same general direction. Its lower end is secured to the under side of the horizontal member of the angle iron brace 14, while its upper end is secured to the angle iron front leg 11 on the inner side, the said track being so formed and secured as to have the body portion which forms the track proper a suitable distance below the under side of the said long brace 14. Instead of making this track proper or track rail straight from end to end, I form a depression 21 between its ends, preferably a little above the middle of its length from which depression in both directions the track surface slants toward the brace 14, while the upper end of the track terminates in a short and substantially horizontal portion 24, near the front ends of the end frames.

The extension bed section comprises a mattress supporting fabric, preferably metallic, two end frames, two longitudinal bars 8<sup>a</sup> and 9<sup>a</sup> and one tie rod 10<sup>a</sup> connecting

the said two end frames. Each end frame of the extension bed section is in the form of an acute triangle and comprises a fabric supporting end rail 13<sup>a</sup>, a leg 22 on its front side, a long brace 14<sup>a</sup> and track lugs 23 near the angle formed by the end rail and brace. The fabric supporting end rails are the same as in the main bed section, and they form the longest side of the triangular end frame while the front legs form the shortest side of said frame. The track lugs 23 project horizontally from the outer face of the end rails 13<sup>a</sup> near their rear ends and are in the form of pins as shown in Figs. 4 and 5.

The legs 22 are of angle iron and are secured by their upper ends to the front ends of the end rails 13<sup>a</sup>, but instead of being arranged at right angles thereto, they are fixed at an acute angle and when the bed is extended slant inwardly at their lower ends as shown in Fig. 1. The long brace 14<sup>a</sup> is secured by its upper end to the end rail 13<sup>a</sup> near the track pin at the rear end, and by its lower end to the leg 22 near the lower end of the said leg. As in the main bed section, one end rail, one leg and a brace form a triangular frame, but inasmuch as there is no leg at one end of these end frames, the shorter brace of the main bed section is omitted. Bar receiving sockets 18 are secured to the leg 22 and long brace 14<sup>a</sup> to receive the longitudinal bars 8<sup>a</sup> and 9<sup>a</sup> as in the main bed section. Such bars, a tie rod 10<sup>a</sup>, and metallic fabric 20, practically complete the extension bed section. This extension section is a little lower and a little shorter than the main bed section so that the end frames of the extension section can slide in and out between the end frames of the main bed section. The extension bed section is arranged with its track lugs 23 in engagement with or resting upon the tracks 16 of the main section, while its legs 22 rest upon the floor.

The lower ends of the legs may be provided with any ordinary casters. When the extensible bed section is pulled out the track lugs 23 rest upon the short horizontal portions 24 of the track 16 and bring the inner or rear edge of the extension bed section and its fabric, closely to the level of the fabric of the main section as shown in Fig. 1. If the extension bed section is pushed toward and into the main bed section its legs move along the floor and the track lugs follow the track, formed as hereinbefore described, whereby the inner or rear edge of the extension bed section not only moves obliquely downward but immediately drops after leaving the short horizontal portion 24 and moves farther away from the long brace until the said track lugs reach the depression 21 in said track after which the said inner or rear edge as it moves downwardly more nearly approaches the long brace so that when the lower end of the



track is reached the triangular shaped extension bed section is within the triangular space beneath the main bed section in the position shown in Fig. 2. In passing into and out of this position so much of the extension bed section as passes any longitudinal bar or tie of the main bed section passes entirely beneath such bar. In passing from the position shown in Fig. 1 to that shown in Fig. 2, the extension bed section rocks on its legs 22 so that instead of slanting inwardly as in Fig. 1, these legs slant outwardly as in Fig. 2, when the sections are closed, and the mattress supporting fabric is tipped into an oblique position.

While the extension bed section may be moved in and out to close and open up the bed without any special mechanism, I prefer to provide an opening mechanism for operating the extension bed section. The said opening mechanism consists of a pair of levers 26, each pivotally connected by one end to the front leg of the respective end frames of the main bed section and preferably considerably below the upper ends of the said legs by bolts or rivets 27, a connecting bar 28 to which the outer ends of both levers 26 are connected, and a pair of links 29 each pivotally connected by one end to a bracket 30 that is secured to the front upper corner of the end frames of the extension bed section and by its other end to the middle portion of the levers 26. The said levers 26 are each provided with an edgewise bend or curve 31 adjacent to that end of the links 29 that are pivotally connected to the said levers as best shown in Fig. 1.

The brackets 30 extend forwardly far enough to permit the front upper corner of the end frames of the extension bed section to pass a little inside of the front upper corners of the end frames of the main section, as shown in Fig. 2 and the said brackets extend longitudinally of the two bed sections far enough to permit the links 29 to be pivotally connected to the extension bed section outside of the levers 26.

The connecting bar 28 serves as a handle by which to operate the levers 26 and connected parts. By raising this connecting bar when the bed is opened up as shown in Fig. 1 and carrying it over to the rear of the main bed section as shown in Fig. 2, the levers 26 pull on the links 29 and force the extension bed section into the position shown in the said Fig. 2. A reverse movement of the said connecting bar will carry the parts back again into the position shown in Fig. 1. The said opening mechanism is also adapted to close and open up the mattress shown in Fig. 7, and the construction of the mattress and its connecting devices is such that this may be done when the bed is "made up." The two parts 32 and 33 of the mattress are connected together at the middle 34 of the

complete mattress as on a hinge. The part 32 for the main bed section is provided with means for securing said part to the said section, said means consisting of suitable tapes or straps 35 on its under side at two or more points, so that the said part 32 of the mattress may be secured to the metallic fabric of the said main section to hold the mattress in place thereon.

The part 33 of the mattress for the extension section is provided with a flap or fly 36 which is secured by the middle portion of one edge to the under side of the mattress part 33. It is so secured by the stitching 37 but in order to permit the bed clothing to be tucked in under the mattress care is taken not to have this stitching extend to the ends of the mattress and also to have this stitching some distance from the edge of the mattress so as to leave both lower corners of the flap free. The fly or flap 36 is wide enough to fold over the front edge of the mattress part 33 and to be turned down on the top of the mattress as shown in Figs. 1 and 2, so as to bring the free edge of the flap on the top of the mattress nearly opposite or directly over the stitched edge on the underside. The free edge of the flap 36 is provided at each corner with a suitable fastening device, preferably the socket member 39 of an ordinary ball and socket glove fastener, while the free corners of the under edge are provided with straps 40 having one or more ball members 41 of a glove fastener thereon so that the top and bottom corners of the flap may be fastened together by means of the said fastening devices, as shown in Figs. 1 and 2. Several tapes, forming a series of tie straps 42 are secured to the flap 36 in a row that extends longitudinally along the middle portion of the said flap for securing it to the connecting bar 28. I also prefer to connect the under corners of the flap 36 to the underside of the mattress part 33, by means of diagonal tapes or straps 43 which are secured by one end to the said corners and by their other end to the rear or inner edge of the said part at some distance from the ends as shown in Fig. 7. The entire flap 36 is free from the mattress except where its under edge is stitched to the underside of the mattress. The only purpose or use for this flap which forms a pocket, is to connect the mattress with the opening means and to inclose the front edge of the mattress with bed clothes thereon, in order to carry over the shiftable mattress and bed clothes in opening and closing the bed. When the bed is to be occupied the pocket is opened up and its upper part turned down out of the way. The tapes by which the mattress is secured to the main bed section should be remote from the edges so as to permit the bed clothing to be tucked in under the mattress.



By unfastening the straps 40 as shown in Fig. 7, the upper fold or leaf of the flap may be turned down over the connecting bar 28 when the bed is extended. The bed may be then "made up" with the proper bed clothing and the said clothing tucked in under the mattress. The upper fold or leaf may then be brought down on the top of the clothing at the front of the bed and fastened in place by the fastening devices 39, 40 and 41. With the part 32 of the mattress fastened to the main bed section and the part 33 secured by the tapes 42 to the connecting bar 28 of the opening mechanism, the said opening mechanism will turn over the part 33 of the mattress upon the part 32, changing it from the position shown in Fig. 1, to that shown in Fig. 2, whenever the said mechanism is operated to close the bedstead and also turn the said part 33 of the mattress back again into its former position whenever the bed is opened up by the said opening mechanism. This it will do so long as the upper and lower leaves of the flap are secured together by the fastening devices whether the bed is made up or not, and if the bed is made up it will so close and open the mattress without disarranging the bed clothing. By pivoting the levers 26 of the opening mechanism to the middle portion of legs 11 the distance from the connecting bar 28 to which the outer edge of the part 33 of the mattress is connected to the mattress supporting fabric, when directly over the pivots 27, is less than the width of the said part, and consequently only the front portion of the said part has to be lifted by the said connecting bar to roll over the said front part, while the rear part lies on the metallic fabric and is supported thereby as the said part 33 is rolling over to and from the rear part 32. This makes the parts easy to operate and avoids undue strain on the mattress or the fastenings by which the front part is connected with the opening mechanism. As the mattress thus rolls over when partly supported it is deflected into a partial coil and the pull of the pocket thereon is more or less transversely to the sides of the mattress and to the bed clothes, so as to create friction thereon tending to prevent the bed clothes from falling out of the pocket as they might sometimes do if the bed clothes and mattress depended vertically from the bar of the opening mechanism.

I claim as my invention:

1. A bedstead, comprising two end frames, two longitudinal bars connecting the said end frames, and a mattress supporting fabric stretched thereon, the said end frames each comprising a fabric supporting end rail, front and rear legs secured to the ends of the said end rail and a long brace extending from the said end rail near its front end obliquely downward to near the lower end

of the rear leg, the said longitudinal bars being connected the one to the rear legs of the two end frames and the other to the middle portion of the said long braces, whereby the ordinary side rail at the front is eliminated and a free open space is left beneath the fabric in front of that bar which is mounted on the long braces of the said end frames.

2. A bedstead having two end frames each comprising a fabric supporting end rail, front and rear legs secured to the ends of the said end rail, and a long brace extending obliquely downward from the said end rail near its front end to near the lower end of the rear leg; a mattress supporting fabric stretched between the said end rails, two longitudinal bars connecting the said end frames the one being mounted on the rear legs and the other being mounted on the middle portion of the said long braces, and a tie rod connecting the lower ends of the rear legs while the space between the front legs of the said end frames is left open and free from the usual side bar and tie rod.

3. A bedstead having two end frames each comprising a fabric supporting end rail, front and rear legs secured to the ends of the said end rail, a long brace extending from the said end rail near its front end obliquely downward and rearward to near the lower end of the rear leg, a short brace extending from the middle portion of said end rail obliquely downward to the front leg and crossing the long brace toward its upper end; a mattress supporting fabric stretched between the end rails of the said end frames, and two longitudinal bars mounted the one on the rear legs of the said end frames and the other on the middle portion of the said long brace.

4. In an extension bedstead, a bed section having two end frames each comprising a fabric supporting end rail, a leg secured to one end of the said end rail, a long brace extending obliquely downward from near one end of the said end rail to near the lower end of the said leg, a mattress supporting fabric stretched between the end rails of the said end frames, two longitudinal bars one mounted on the legs of the said two end frames and forming a side rail of the said bed section and the other mounted on the said long braces of the said end frames at the middle portion thereof remote from either side of the said bed section and a tie rod connected to the said legs below the said side bar.

5. In an extension bedstead, a main bed section comprising two end frames having front and rear legs, a mattress supporting fabric and longitudinal bars one of which bars is mounted between the rear legs of the said end frames and the other between the said end frames at their middle portion



remotely from the front, in combination with an extension bed section having end frames of a triangular form and adapted to be housed within the said main bed section beneath the fabric and longitudinal bars of the said main section.

6. In an extension bedstead, a main bed section comprising two end frames having front and rear legs, and a long brace extending from the top edge of the said end frames obliquely downward to near the lower end of the rear legs of the said end frames, a mattress supporting fabric, two longitudinal bars, one of which bars is mounted between the rear legs of the said end frames and the other between the long braces of the said end frames at their middle portion remotely from the front of the said bed section, and a track mounted on the said end frames and extending from near the upper end of the front legs of the said end frames downwardly and rearwardly in the same general direction as the said brace to near the lower end of the rear leg, in combination with an extension bed section having a mattress supporting fabric, end frames of a triangular form, one side of which end frames is formed by the front legs, and track lugs near the angle of the other two sides of the triangular end frames for supporting the inner edge of the said extension bed section on the said track for bringing the mattress supporting fabric into a horizontal position when the bedstead is extended and tipping the said fabric into an oblique position underneath the main bed section when the bedstead is contracted into its closed position.

7. In an extension bedstead, a main bed section having a mattress supporting fabric and end frames provided with a track, and an extension bed section having a mattress supporting fabric and end frames provided with track lugs for riding over the said track and supporting one side edge of the said extension bed section, the said track having at its front end a short and substantially horizontal portion for the said track lugs to rest upon and hold the fabric of the said extension bed section in position nearly on the same level with the fabric of the main section and an inclined portion leading rearwardly and downwardly from the said horizontal portion for the said track lugs to follow and carry the fabric of the said extension bed section farther away from that of the said main bed section as the track lugs pass from the said horizontal to the said inclined portion of the said track.

8. In an extension bedstead, a main bed section having a mattress supporting fabric and end frames, provided with a track extending obliquely downward and rearward from near the front upper corners of the said end frames, in combination with an extension bed section having a mattress sup-

porting fabric, track lugs and end frames comprising each a fabric supporting end rail, a front leg and a brace secured together in the form of an acute angled triangle of which the said end rails form the longest side and the said legs the shortest side, whereby the end frames of the said extension bed section may be mainly housed within the main bed section when the said end rails of the said extension bed section are inclined downwardly to the rear, substantially as described.

9. In an extension bedstead, a main bed section comprising a pair of end frames having front and rear legs, a mattress supporting fabric stretched on the said end frames, an extension bed section comprising end frames and a mattress supporting fabric stretched thereon, the said extension bed section being adapted to move laterally toward and from the said main section, and an opening mechanism comprising a pair of levers and links pivotally connected with the said two bed sections and a connecting bar between the outer ends of the said levers, the said levers being pivoted by their lower ends to the front legs of the said main bed section in a plane below the pivotal connection of the outer ends of the said links with the said extension bed section.

10. In an extension bedstead, the combination of a pair of bed sections, one slidable relatively to the other, a folding mattress therefor, a swinging bar attached to one part of the said mattress and pivotally attached to one of the said sections to swing above the top of both sections in an arc of a circle the summit of which is at a less distance from the top of the bed section than the width of the shiftable part of the said mattress, and a pocket attached to the said bar and to the said mattress for confining the bed clothes in place over the front edge of the mattress and carrying them over with the said mattress and bar.

11. In an extension bedstead, a main bed section and an extension bed section adapted to move laterally to and from the said main section, a two part mattress, one part being adapted for use as the mattress of the said main bed section, the other part being adapted for use as the mattress of the said extension bed section, the said two parts being flexibly connected along the middle line of the complete mattress, and an opening mechanism comprising a pair of hinged levers and links pivotally connecting the said two sections and a connecting bar between the outer ends of the said levers, the said levers being pivoted by their lower ends to the said main section below the top part of both sections for swinging the connecting bar over both sections in an arc of a circle the summit of which is at a less distance from the top of the bed sections than the width of



the mattress part for the said extension bed section, the said connecting bar for the said opening mechanism being connected with the said mattress part for the said extension bed section, whereby that part of the mattress which is moved by the said bar is rolled over without being bodily lifted.

12. In an extension bed section, a main bed section and an extension bed section adapted to move laterally to and from the said main section, a two part mattress, one part being adapted for use as the mattress of the said main bed section, the other part being adapted for use as the mattress of the said extension bed section, the said two parts being flexibly connected along the middle line of the complete mattress, a pocket attached to the part for the said extension bed section on the underside with a tucking space between the point of attachment and the front and end edges of the said part, and an opening mechanism comprising a pair of hinged levers and links pivotally connecting the said two sections and a connecting bar between the outer ends of the said links, the said connecting bar of the said opening mechanism, being connected with the mattress through the said pocket, whereby the mattress and opening devices may be operatively connected when the bed clothing is tucked under the edges of the mattress.

13. In an extension bedstead, the combina-

tion of a pair of bed sections, one slidable relatively to the other, a folding mattress therefor, a pocket for confining the bed clothes in place over the front edge of the said folding mattress, and means attached to the said bed sections and to the said pocket which in turn is attached to the mattress, to both open the bed and the mattress with the bed clothes secured thereon.

14. In an extension bedstead, the combination of a pair of bed sections, one slidable relatively to the other, a folding mattress therefor, and a swinging bar attached to one part of the said mattress and pivotally attached to one of the said sections to swing above the top of both sections in an arc of a circle, the summit of which is at a less distance from the top of the bed sections than the width of the shiftable part of the said mattress.

15. In a combined bedstead and folding mattress, the combination of means to open the bed and the mattress to form a double bed, and a pocket attached to the said means and to the said mattress, for confining the bed clothes in place over the front edge of the mattress and operatively connecting the mattress with the said means.

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Witnesses:

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