

J. SCHWARTZMAN.
BED SPRING.

APPLICATION FILED AUG. 19, 1907.

4 SHEETS—SHEET 1.

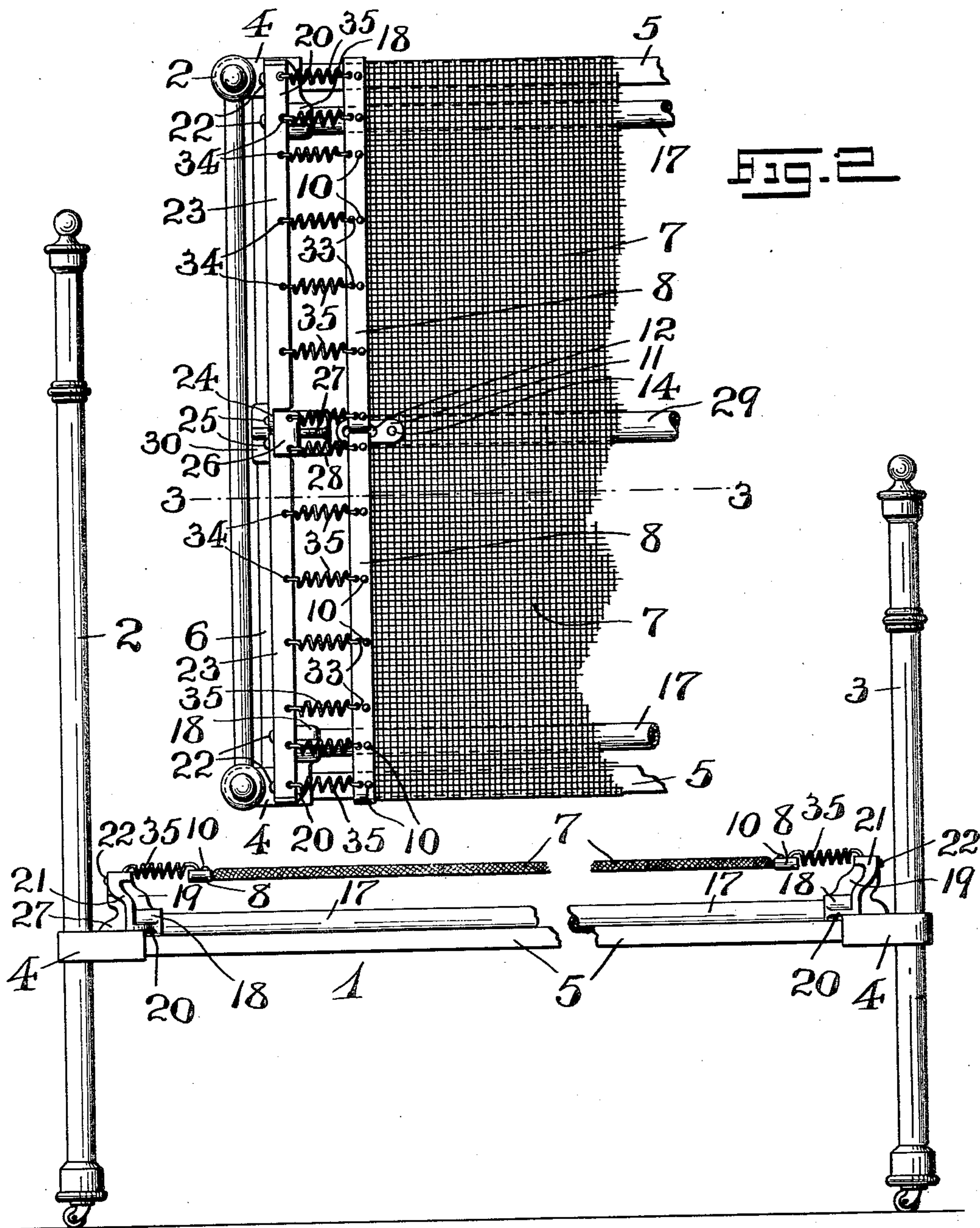


Fig. 1

WITNESSES:

Anna H. Alter
Edwin P. Lesser

INVENTOR:

Jacob Schwartzman,

BY

Fraentzel and Richards,
ATTORNEYS

No. 877,004.

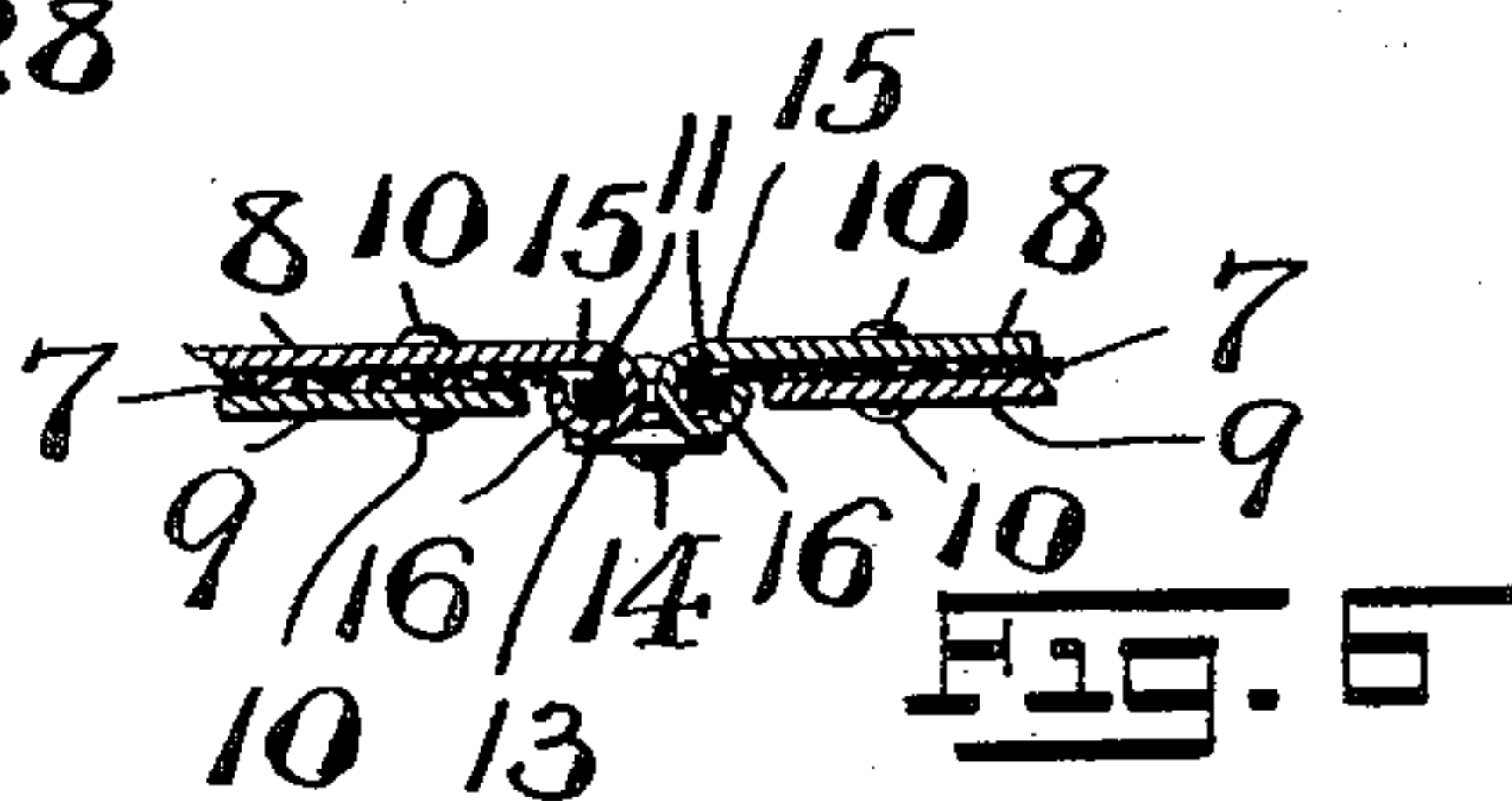
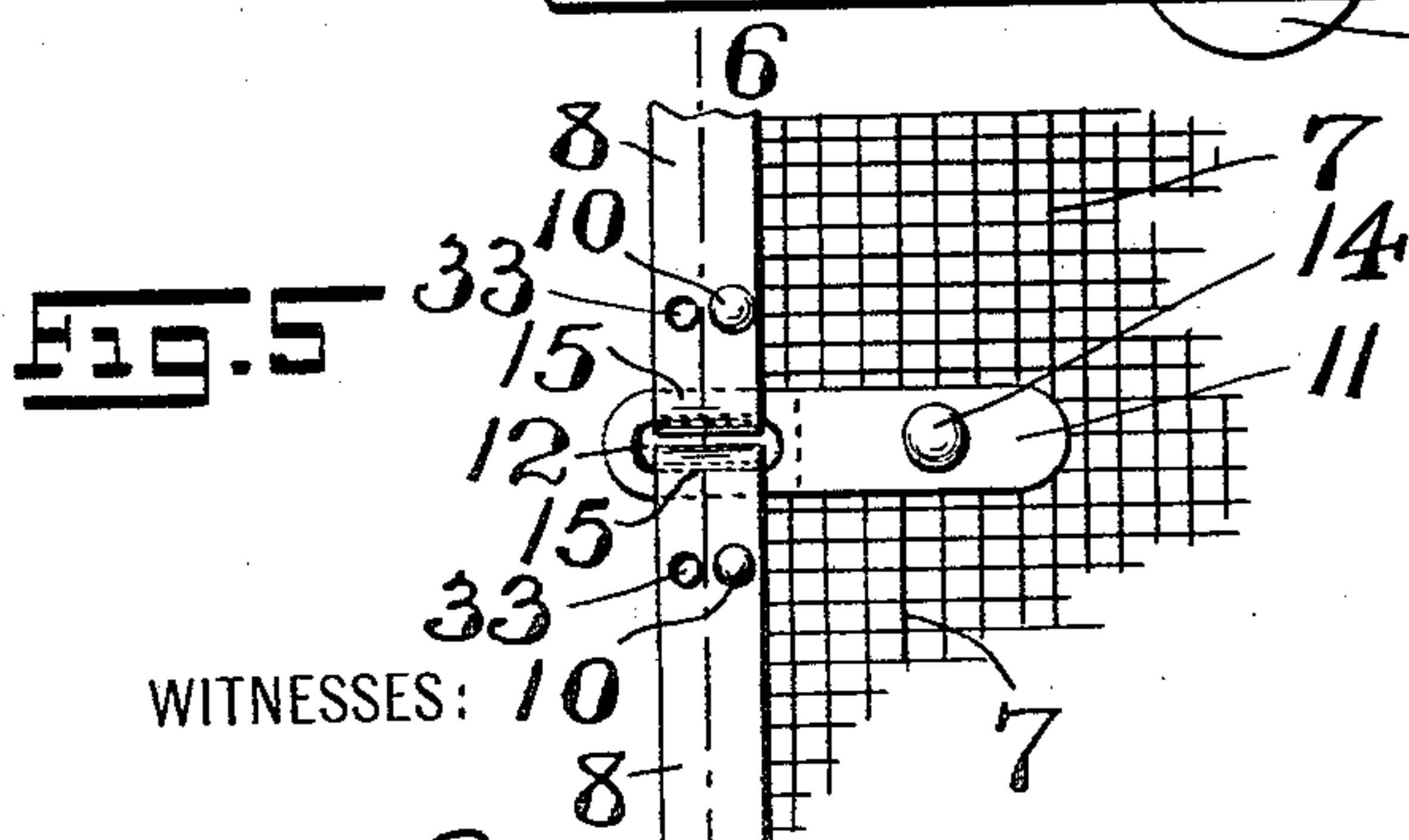
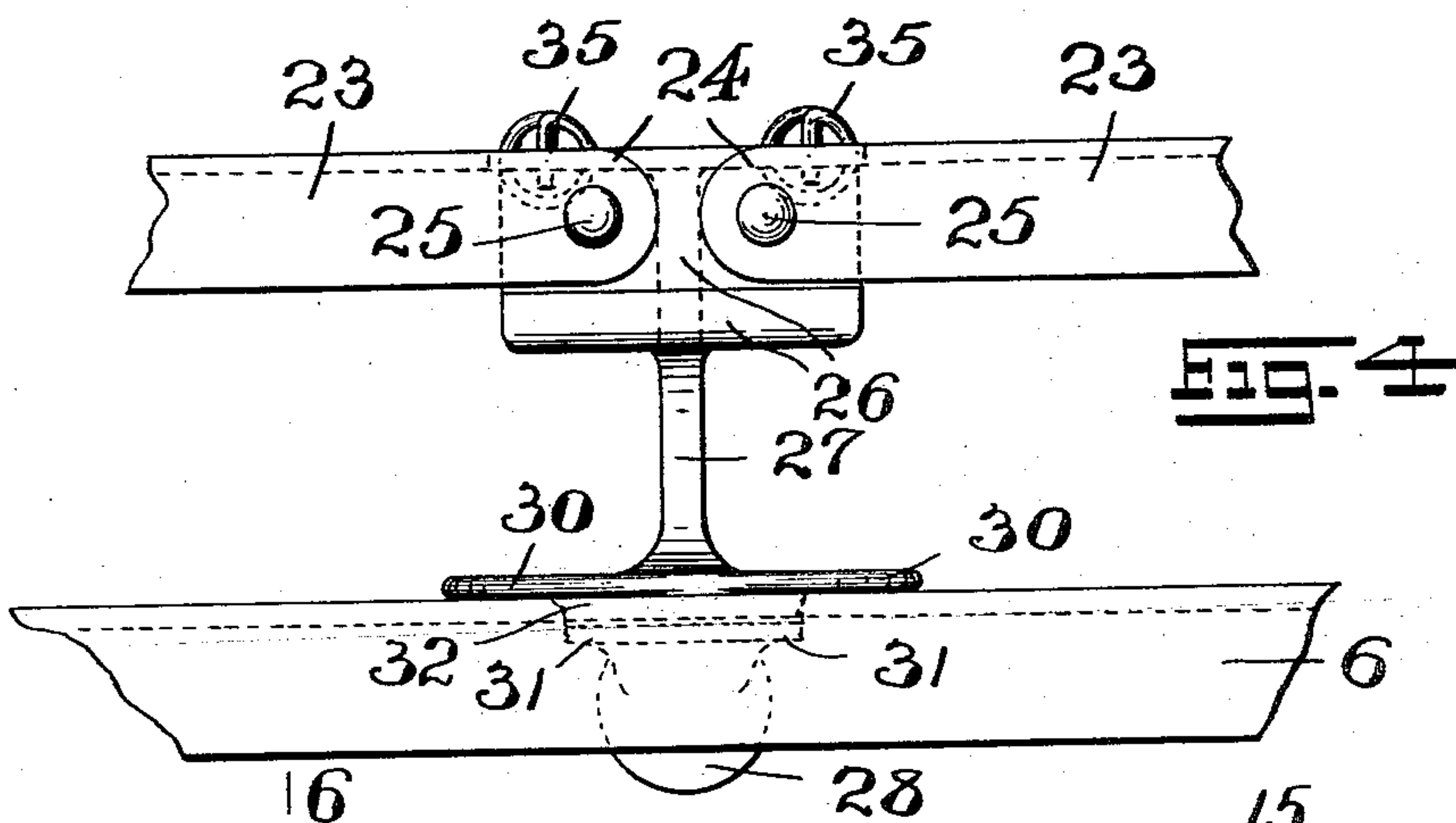
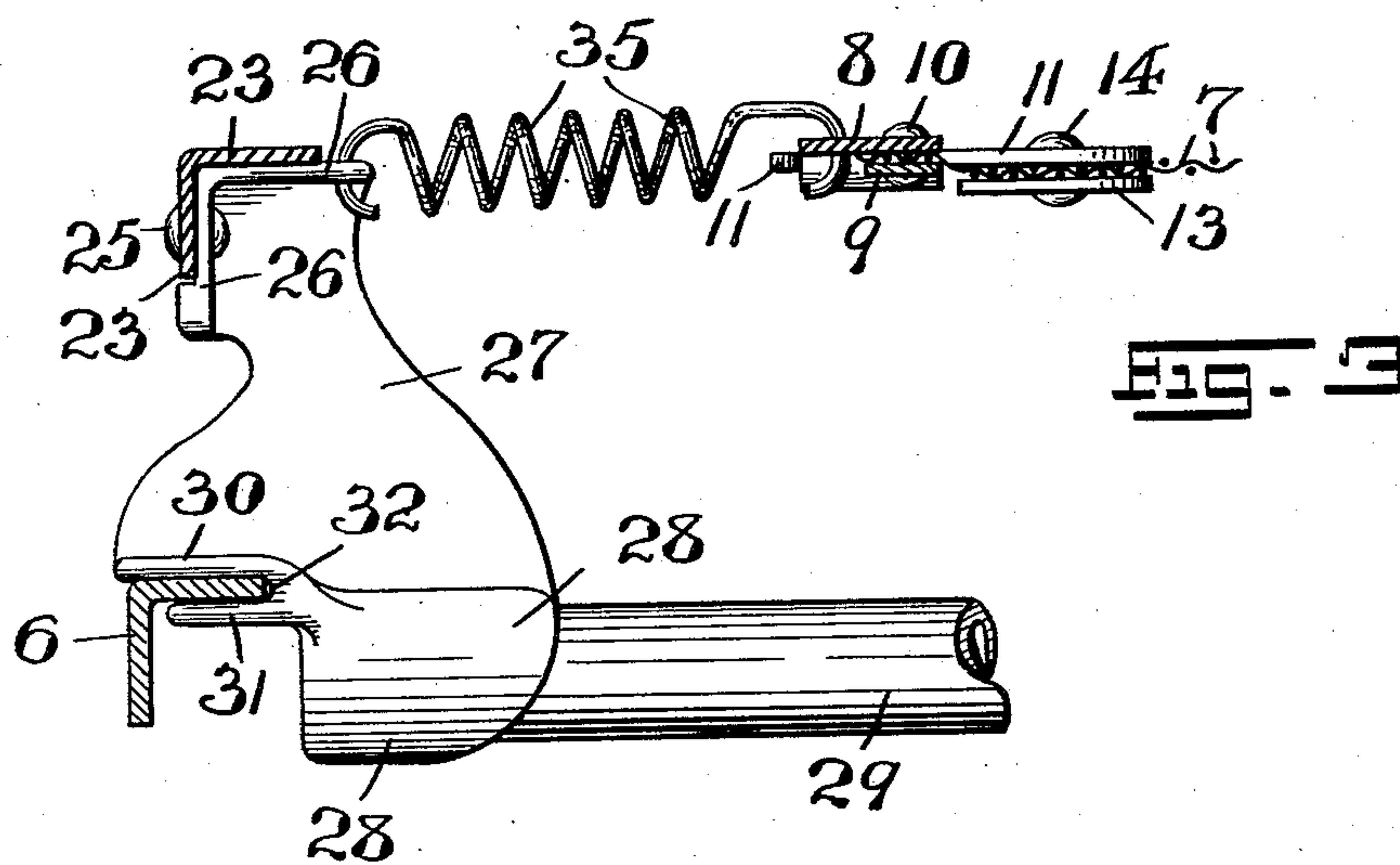
PATENTED JAN. 21, 1908.

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4 SHEETS—SHEET 2.



WITNESSES:

Anna A. Alter
Evelyn P. Leser

INVENTOR:

Jacob Schwartzman,

BY

Fraentzel and Richards,
ATTORNEYS

No. 877,004.

PATENTED JAN. 21, 1908.

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4 SHEETS—SHEET 3.

Fig. 7

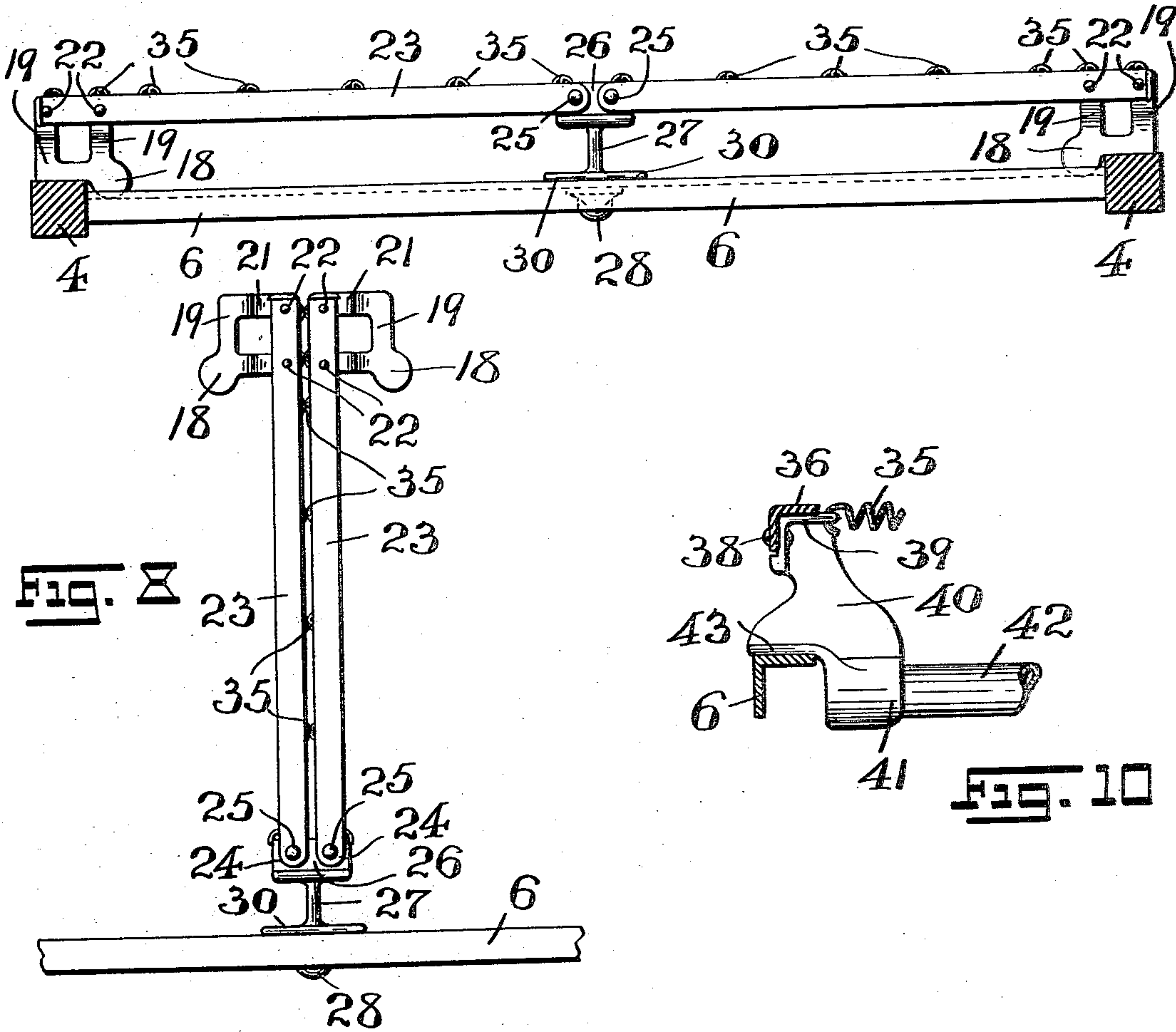


Fig. 8

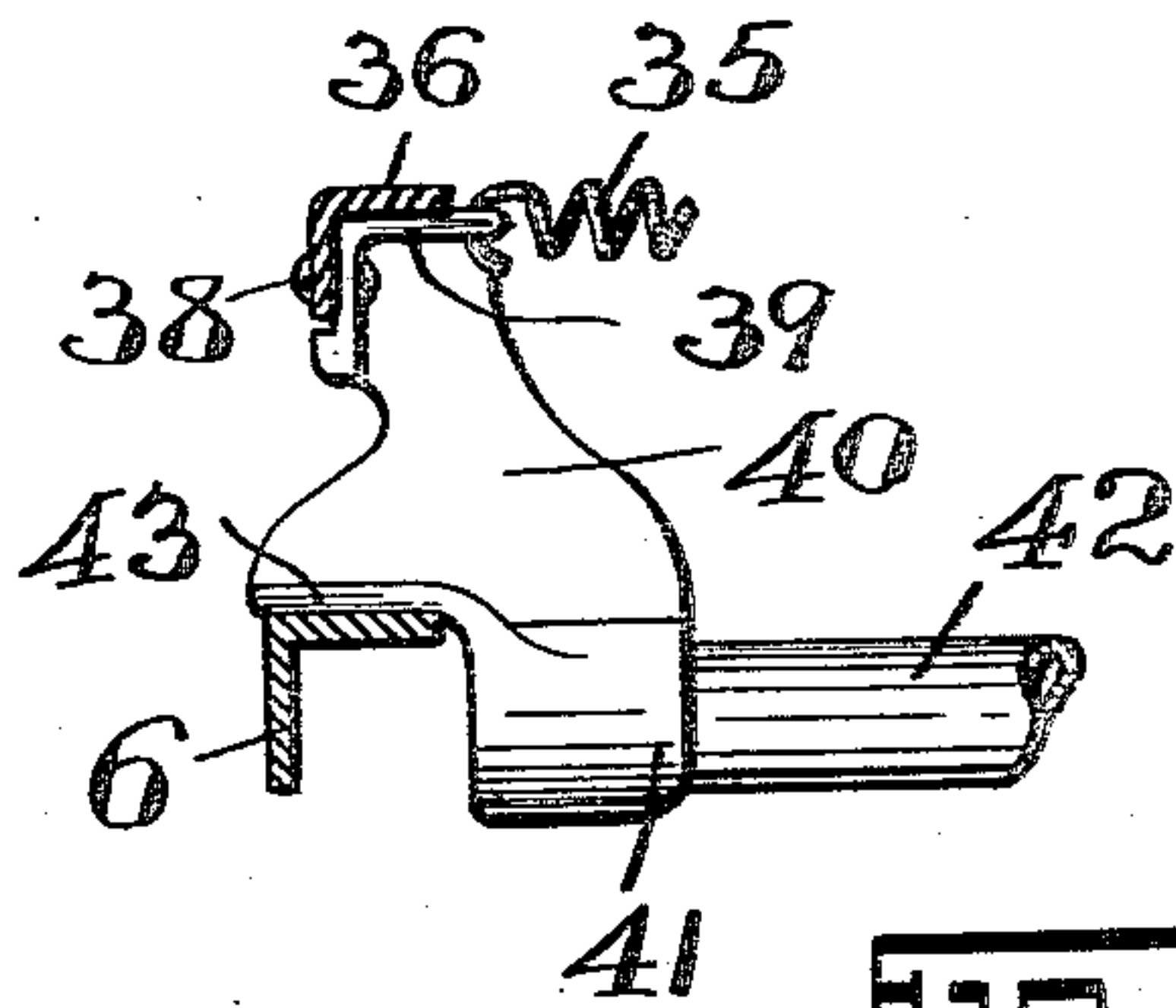
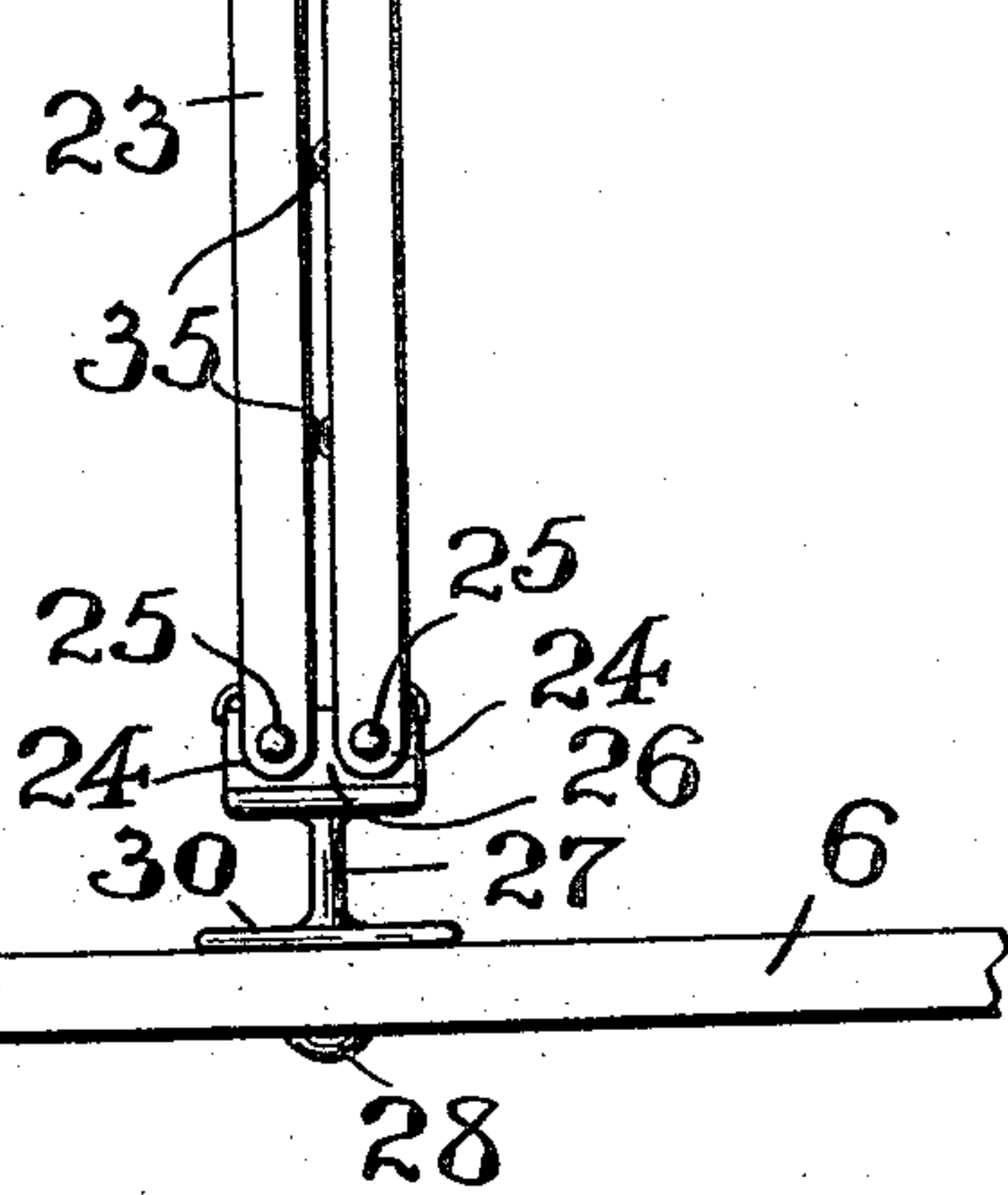
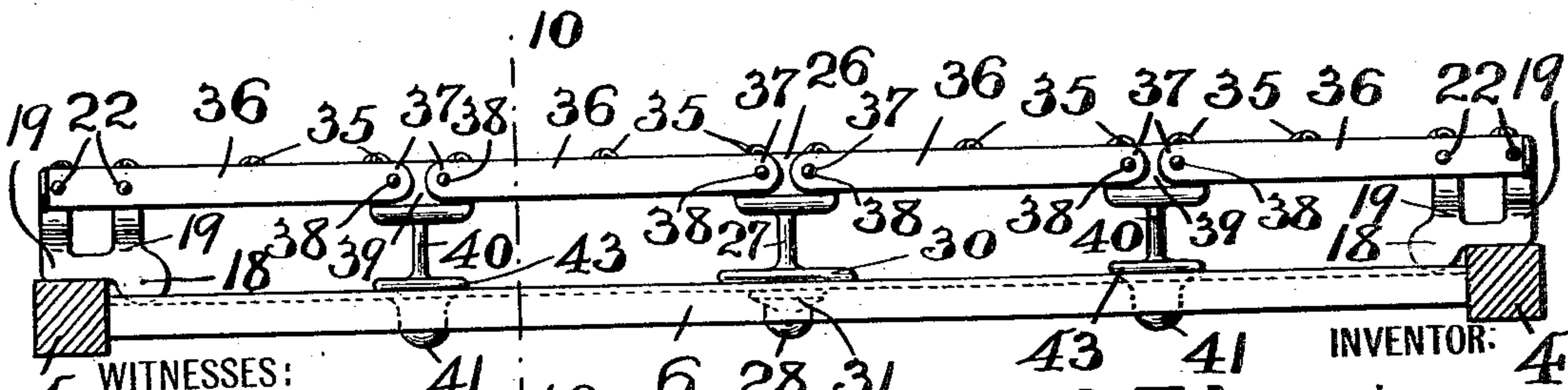


Fig. 10



WITNESSES:
Anna H. Alter
Evelyn P. Lerner

Fig. 9

INVENTOR:
Jacob Schwartzman,

BY
Fraentzel and Richards,
ATTORNEYS

No. 877,004.

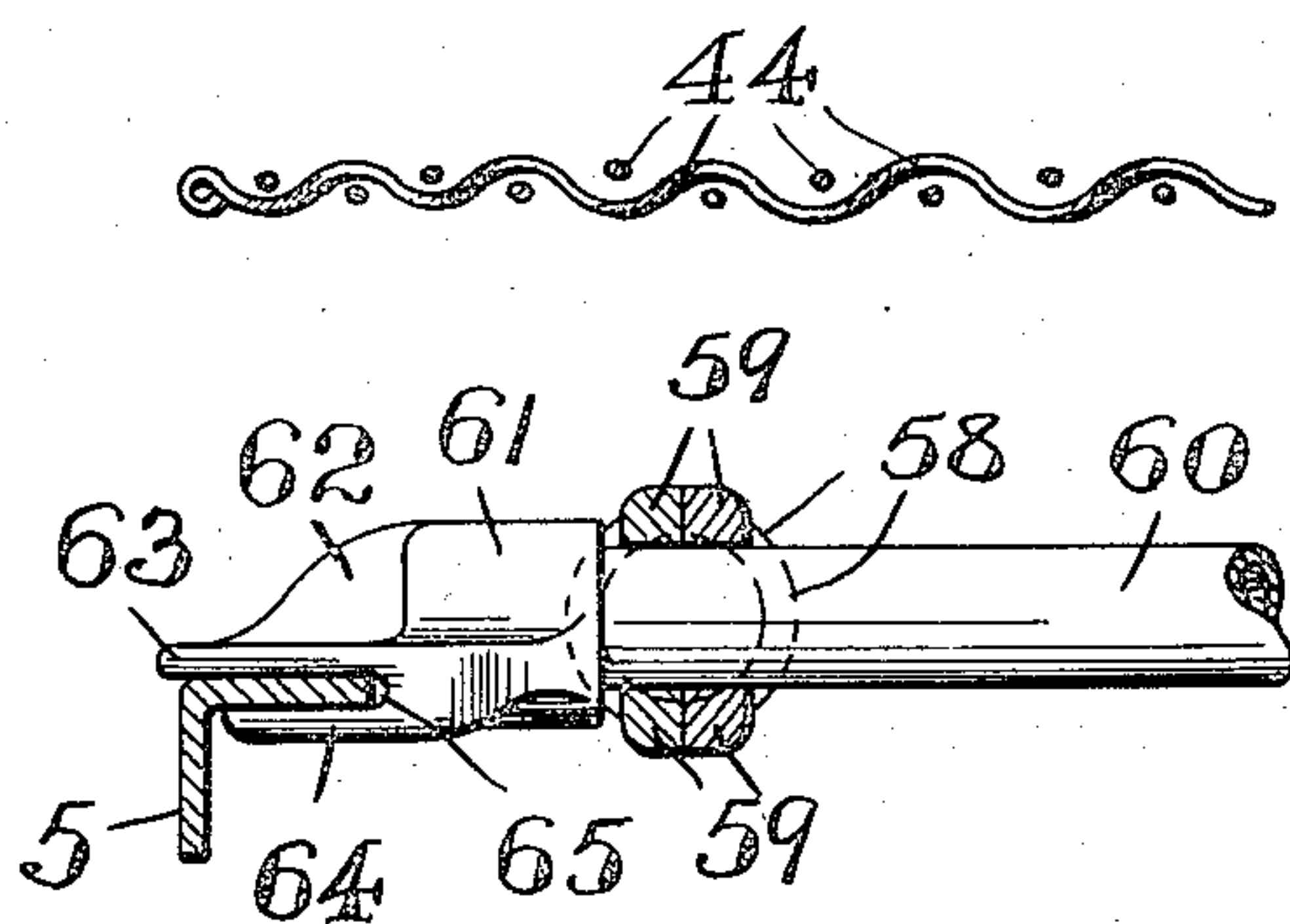
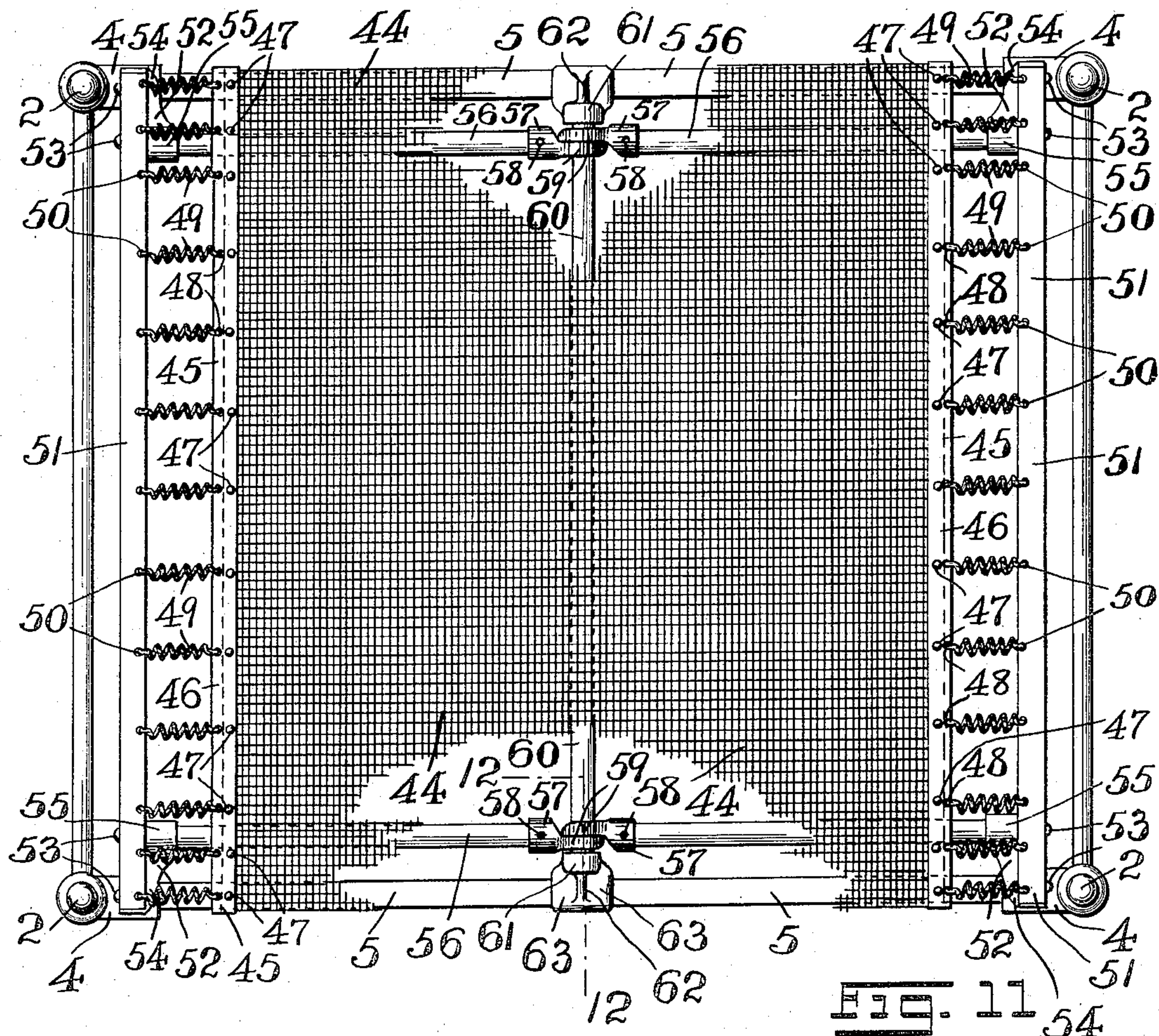
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J. SCHWARTZMAN.

BED SPRING.

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4 SHEETS—SHEET 4



WITNESSES:

Anna H. Alter
Evelyn R. Lesser

INVENTOR:

Jacob Schwartzman,
BY
Fraentzel and Richards,
ATTORNEYS

UNITED STATES PATENT OFFICE.

JACOB SCHWARTZMAN, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-THIRD TO SAMUEL SHIFMAN AND ONE-THIRD TO ABRAHAM SHIFMAN, OF NEWARK, NEW JERSEY.

BED-SPRING.

No. 877,004.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed August 19, 1907. Serial No. 389,140.

To all whom it may concern:

Be it known that I, JACOB SCHWARTZMAN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bed-Springs; and I do hereby 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 characters of reference marked thereon, which form a part of this specification.

The present invention relates to improvements in bed-springs for iron, brass or like bedsteads; and, the said invention has for its principal object to provide a novel arrangement and construction of bed-spring and supporting frame therefor which may be arranged and manipulated upon the iron, brass or like bedstead in such a manner, so as to render the same easily accessible for the purposes of cleaning the frame-portions of the bed and the bed-spring, in order to keep the same in a perfect sanitary condition.

The present invention has for its further object to provide a bed spring of woven-wire, or the like, arranged upon a novel supporting frame therefor which may be folded up and is easily removed from its normal supporting relation with an iron, brass or other bedstead, when it is desired to take down the said bedstead or remove the same from place to place. This said feature of a folding woven-wire or other bedspring, enables a single person to easily and quickly remove the spring from the bedstead, and has a decided advantage over the old form of flat or rigid woven-wire bed spring which could be handled or removed from the bedstead by a single person only by the exercise of much strength and attended by considerable difficulty and inconvenience.

Other objects of the present invention are to provide novel folding joints in connection with the bed-spring, as well as novel supporting brackets for maintaining said spring in its normal relation with an iron, brass or like bedstead.

With the various objects of my present invention in view, the same consists, primarily, in the novel and preferably woven-wire bed spring provided with folding joints and the novel supporting brackets adapted to sup-

port the same upon an iron, brass or like bedstead, to be hereinafter more fully described; and, furthermore, this invention consists in the general arrangements and combinations of the devices and parts, as well as in the details of the construction of the same, all of which will be fully set forth in the accompanying specification and then finally embodied in the clauses of the claims, which are appended to and form an essential part of the said specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of an iron, brass or like bedstead provided with the novel folding bed-spring embodying the principles of the present invention. Fig. 2 is a plan view of the same, one end being shown broken away, but nevertheless, fully illustrating the present invention, since both ends of the said bed-spring are of like construction. Fig. 3 is a detail vertical section of one end of the bed-spring showing more particularly the middle supporting-bracket and folding-joint of said bed-spring, the said section being taken on line 3—3 in said Fig. 2 and being drawn on an enlarged scale. Fig. 4 is an end view of the middle supporting bracket and folding-joint of the bed-spring, the other parts of the spring being broken away. Fig. 5 is a detail plan view of the metallic binding and joint therefor, by means of which the said woven-wire spring is secured and provided with a folding joint. Fig. 6 is a vertical section of the same, taken on line 6—6 in said Fig. 5. Fig. 7 is an end view of the folding-bed-spring, showing a portion of the frame-work of the iron, brass or like bedstead, and the means of supporting the said spring thereon. Fig. 8 is a similar view, showing the said folding bed-spring in its folded relation. Fig. 9 illustrates a slightly modified construction of folding bed-spring, this said view being an end view similar to that shown in Fig. 7, but showing the spring provided with a plurality of folding-joints, instead of a single folding joint. Fig. 10 is a detail vertical longitudinal section, taken on line 10—10 in said Fig. 9, and illustrating more particularly the style of supporting bracket used with all the folding joints except the middle-joint. Fig. 11 is a plan view of another modification of folding woven wire bed spring in which, instead of the folding-joints being constructed to fold

the spring upon a longitudinal line, the joints are constructed to permit the said spring to be folded on a transverse line. Fig. 12 is a detail cross-section, taken on line 12—12 in said Fig. 11, and illustrating the type of folding joint provided by this modification of folding bedspring.

Similar characters of reference are employed in all of the above described views to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference-character 1 indicates a complete iron, brass or like bedstead, the same comprising the usual ornamental metal end-pieces or boards, as the head-piece and foot-piece. The said head-piece is provided at its opposite ends with the posts 2, and in like manner, the base or foot-piece is provided at its opposite ends with the posts 3. Suitably connected with and secured upon each post 2 and 3 is a key or lug-receiving-piece or bracket 4 of any well known type. Connected with the longitudinally and oppositely located brackets 4 are the side-bars 5 of metal and preferably made L-shaped in cross-section. The said transversely and oppositely located brackets 4 are also connected in the usual manner with the cross-bar 6, also preferably made L-shaped in cross-section. The folding bed-spring, embodying the principles of this invention, comprises the woven wire or other suitably constructed body or spring-portion 7, provided at each end with a jointed or hinged metal binding comprising a pair of upper plates or metallic strips 8 and a pair of lower plates or metallic strips 9, the said woven-wire body or spring-portion 7 being secured between these said upper and lower plates or strips 8 and 9 when the same are secured or clamped together by means of rivets 10, or in any other suitable manner. The joint or hinged connection which is employed to connect the plates or strips 8 and 9 together, to form a folding-joint for said woven-wire body or spring-portion 7, consists of a top-plate 11 arranged upon the upper side of said body or spring-portion 7, said top-plate 11 being formed at its free end with an elongated opening or slot 12. Placed beneath or on the under side of the body or spring-portion 7, and adapted to register with the inner end of said top-plate 11, is a bottom-plate 13, said top and bottom plates 11 and 13 and the body or spring-portion 7 being rigidly secured together in their operative relation by means of a rivet 14, or any other suitable holding means. The inner ends 15 of the said upper plates or metallic strips 8 are adapted to be inserted in the slot or elongated opening 12 of the top plate 11 and turned to form a loop or hinge-member 16 upon each side of the said top-plate 11, substantially as shown in the drawings, whereby the woven-wire body or spring-portion 7 is provided at

each end with a folding joint, for the purposes above set forth.

The frame-work upon which the body or spring-portion 7 is supported, or suspended in a manner to be subsequently described, comprises a pair of side-bars or braces 17, preferably of a tubular construction, the ends of said side-bars or braces 17 being rigidly secured in any suitable manner in the receiving sockets 18 of corner-brackets 19 of any desired construction or shape. These said corner brackets are provided with outwardly extending arms or members 20 which are adapted to engage or rest upon the upper surfaces of the key or lug receiving-pieces or brackets 4, to support the bed-spring upon the bedstead in the usual and well-known manner. Arranged upon the upwardly extending members or portions 21 of the said corner-brackets 19, by means of rivets 22 or any other suitable means, are angle-irons 23; the inner or free ends of the said angle-irons 23 are provided with longitudinally extending lugs or ears 24 which are pivotally secured by means of rivets 25, or other suitable means, which serve as pintles to the upper L-shaped portion 25 of a middle supporting bracket 27. These middle supporting brackets 27 are provided at their lower ends with receiving sockets 28 in which are suitably secured the free ends of a middle-bar or brace 29, preferably of tubular construction, which is adapted to connect the longitudinally and oppositely placed middle supporting brackets 27. The said middle supporting brackets 27 are further provided upon their lower outer ends with a supporting plate 30 arranged at right angles to said brackets 27 and preferably formed integrally therewith. The said supporting plate 30 is adapted to engage and rest upon the upper surface of the L-shaped cross-bar 6 of the bedstead. The said brackets 27 are furthermore provided with outwardly extending tongues or lugs 31 arranged beneath and parallel with the said supporting plate 30, so as to form a U-shaped opening 32 in which the said L-shaped cross-bar 6 is received. This lower tongue or lug 31 serves to retain the supporting brackets 27 in an upright position upon the cross-bar 6 of the bedstead when the said bed-spring is arranged in its folded position, as shown more particularly in Fig. 8 of the drawings, and thereby prevents the bed-spring from falling to one side or the other when folded, as will be clearly understood from an inspection of the drawings.

The preferred method of securing or suspending the woven-wire or other body or spring-portion 7 upon its supporting frame, consists of a series of holes or openings 33 arranged near the outer edge of the upper plate or metallic strip 8, and a corresponding and oppositely placed series of holes or open-

ings 34 are arranged near the edge of said angle irons 23 and also in the upper L-shaped portion 26 of the middle supporting bracket 27. Hooked or caught in these
 5 holes or openings 33 and 34 are the opposite ends of connecting and suitably coiled springs 35, by means of which the woven-wire body or spring-portion 7 of the bed-spring is resiliently suspended upon the
 10 frame-work thereof.

Referring now more particularly to Figs. 9 and 10 of the accompanying drawings, there is shown therein a slightly modified construction of folding bed-spring embodying the principles of this invention, in which,
 15 instead of a single folding joint, a plurality of folding joints are provided.

The construction of the center or middle supporting bracket 27 and joint is the same
 20 as herein above described. In this construction, there are provided any desired number of angle-irons 36 formed with ears or lugs 37, which are pivotally secured by means of rivets 38, adapted to act as pintles, to the
 25 upper L-shaped portions 39 of the brackets 40. Said brackets 40 are provided with receiving sockets 41 in which are arranged the free ends of suitable bars or braces 42, preferably of a tubular construction. The said
 30 brackets 40 are provided at their lower outer ends with supporting plates 43 arranged at right angles to and preferably forming right angles with said supporting brackets 40. These said plates 43 are adapted to engage or
 35 rest upon the L-shaped cross-bar 6 of the bedstead. The said brackets 40 are constructed without the lower tongues or lugs 31 used in the middle-supporting bracket 27, so that, in folding the spring, the said brackets 40 can be raised from the cross-bar 6
 40 without twisting or turning the whole spring, as is necessary when removing the middle bracket 27 from its engagement with said cross-bar 6.

Referring again to the accompanying drawings, and particularly to Figs. 11 and 12, there is illustrated therein another modified construction of folding bed-spring embodying the principles of this invention. This bed-spring is constructed to fold in a transverse line, or cross-wise, instead of in a longitudinal line or lengthwise, as in the construction hereinabove described. The bed-spring
 55 of this modified construction consists, essentially, of a woven-wire or other body or spring-portion 44, provided at each end with a metallic binding consisting of the upper plate or metallic strip 45 and a lower plate or metallic strip 46, between which is arranged
 60 the said woven wire body or spring-portion 44, said parts being secured thereto or connected by means of rivets 47, or other suitable means. A series of holes or openings 48 are provided near the outer edges of said upper plate or metallic strip 45 in which are

hooked or secured the end-portions of a series of coiled springs 49, the other end-portions of said springs 49 being hooked or secured in a series of holes or openings 50 arranged near the edge of an angle-iron 51; the free ends of
 70 which are secured to corner-brackets 52 by means of rivets 53, or other suitable means. The said corner brackets 52 are provided with outwardly extending arms 54, which are adapted to engage with and rest upon the
 75 key or lug-receiving pieces or brackets 4 of the bedstead in the usual manner. The said corner-brackets are furthermore provided with receiving sockets 55 in which are rigidly secured in any suitable manner, the
 80 free ends of pairs of braces or rods 56. The opposite ends of said pairs of braces or rods 56 are secured in the receiving sockets 57 by means of rivets 58, or other suitable means, of suitably constructed hinge members 59 which
 85 are pivotally arranged upon a transverse rod or brace 60, the free ends of which are secured in the receiving sockets 61 of a supporting-bracket 62 in any suitable manner. These
 90 said brackets 62 are provided with supporting plates 63 arranged at right angles to said brackets 62, and preferably integrally formed therewith. These supporting plates 63 are adapted to engage with and rest upon the
 95 upper surface of the L-shaped side-bars 5 of the bedstead. The said brackets 62 are further provided with outwardly extending tongues or lugs 64 which are arranged beneath and parallel to the said supporting plate 63, so as to form a U-shaped opening 65 in which
 100 may be inserted the L-shaped side bars 5, the said tongues or lugs 64 maintaining the bracket 62 in an upright position when the bed-spring is folded, and therefore preventing said spring from falling to one side or the
 105 other when the same is in its folded or raised position.

From the above description it will be readily understood, that the present invention provides a novel folding bed-spring which
 110 lends itself to many convenient uses, namely; it can be raised, so that the corners of the bedstead, as well as the under part of the spring itself, may be rendered easily accessible for the purpose of cleaning, washing, or other-
 115 wise removing dirty or other unsanitary conditions; it may be easily raised to remove articles kept or accidentally finding their way beneath the bed; and furthermore, in cases where it is desired to remove the spring from
 120 the bedstead and to take down the same for removal, the spring may be folded and easily handled and removed by a single person which is a distinct advantage, aside from the compactness of the spring when thus folded
 125 when it is desired to pack or store the same.

I claim:

1. A bed-spring comprising a pair of oppositely disposed supporting brackets, each bracket being provided with a receiving
 130

socket, a bar or brace having its end-portions arranged and secured within said receiving sockets, a series of foldably arranged supporting members connected with said supporting brackets, and a spring-portion or body connected with said members, substantially as and for the purposes set forth.

2. A bed-spring comprising a pair of oppositely disposed supporting brackets, each bracket being provided with a receiving socket, a bar or brace having its end-portions arranged and secured within said receiving sockets, a series of foldably arranged supporting members connected with said supporting brackets, and a spring-portion or body connected with said members, and oppositely disposed supporting corner-brackets.

3. A bed-spring comprising a pair of oppositely disposed supporting brackets, each bracket being provided with a receiving socket, a bar or brace having its end-portions arranged and secured within said receiving sockets, a series of foldably arranged supporting members connected with said supporting brackets, and a spring-portion or body connected with said members, and oppositely disposed supporting corner-brackets each corner-bracket being provided with a receiving socket, and bars or braces having their end-portion arranged and secured within said receiving sockets, substantially as and for the purposes set forth.

4. A bed-spring comprising supporting brackets, a series of foldably arranged supporting members connected with said supporting brackets, a spring-portion or body connected with said members, and supporting corner-brackets.

5. A bed-spring comprising supporting brackets, a series of supporting-members, and a hinge-like connection between said supporting brackets and said supporting members, a spring-portion or body connected with said members, and supporting corner brackets.

6. A bed-spring comprising supporting brackets, a series of supporting members, and a hinge-like connection between said supporting brackets and said supporting members, a spring-portion or body connected with said members, supporting corner-brackets, and means for retaining said supporting members in their raised relations.

7. A bed-spring comprising a series of laterally extending strips, a hinge-connection between said strips, a spring-portion or body secured to said strips, laterally extending angle-irons, a hinge-connection between said angle-irons, and springs arranged between and having their end-portions connected with said strips and angle-irons, all arranged that the bed-springs can be folded, and means for retaining said strips and the angle-irons in their raised relations, substantially as and for the purposes set forth.

8. A bed-spring comprising centrally disposed supporting brackets, laterally extending angle-irons, a means of pivotal connection between said supporting brackets and said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, springs arranged between and having their end-portions connected with said strips and angle-irons, and supporting corner-brackets secured to said angle-irons, all arranged that the bed-spring can be folded, substantially as and for the purposes set forth.

9. A bed-spring comprising centrally disposed supporting brackets, laterally extending angle-irons, a means of pivotal connection between said supporting brackets and said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, springs arranged between and having their end-portions connected with said strips and angle-irons, and supporting corner-brackets secured to said angle-irons, all arranged that the bed-spring can be folded, and means for retaining said strips and the angle-irons in their raised relations, substantially as and for the purposes set forth.

10. A bed-spring comprising centrally disposed supporting brackets, laterally extending angle-irons, a means of pivotal connection between said supporting brackets and said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, springs arranged between and having their end-portions connected with said strips and angle-irons, and supporting corner-brackets secured to said angle-irons, all arranged that the bed-spring can be folded, said corner-brackets being provided with receiving sockets, and side-bars or braces having their end-portions arranged and secured in said receiving sockets, substantially as and for the purposes set forth.

11. A bed-spring comprising centrally disposed supporting brackets, laterally extending angle-irons, a means of pivotal connection between said supporting brackets and said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, springs arranged between and having their end-portions connected with said strips and angle-irons, and supporting corner-brackets secured to said angle-irons, all arranged that the bed-spring can be folded, said corner-brackets being provided with receiving sockets, and side-bars or braces having their end-portions arranged and secured in said receiving sockets, and means for re-

maintaining said strips and the angle-irons in their raised relations, substantially as and for the purposes set forth.

12. In a metal bed, the combination with the metal frame-work comprising a head-piece and a foot-piece, said head and foot-pieces being provided with posts, a supporting bracket secured to each post, side-bars and cross-bars arranged between said brackets, supporting brackets mounted upon said cross-bars, each bracket being provided with a receiving socket, a middle-bar or brace having its end-portions arranged and secured in said receiving sockets, corner-brackets mounted and supported upon the brackets of said posts, said corner-brackets being provided with receiving sockets, and side-bars or braces having their end-portions arranged and secured in said receiving sockets, angle-irons secured at one end to said corner-brackets, a means of pivotal connection between the other ends of said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, and springs arranged between and having their end-portions connected with said strips and angle-irons, all arranged that the bed-spring can be folded, substantially as and for the purposes set forth.

13. In a metal bed, the combination with the metal frame-work comprising a head-piece and a foot-piece, said head and foot-pieces being provided with posts, a supporting bracket secured to each post, side-bars and cross-bars arranged between said brackets, supporting brackets mounted upon said cross-bars, each bracket being provided with a receiving socket, a middle-bar or brace having its end-portions arranged and secured in said receiving sockets, corner-brackets mounted and supported upon the brackets of said posts, said corner-brackets being provided with receiving sockets, and side-bars or braces having their end-portions arranged and secured in said receiving sockets, angle-irons secured at one end to said corner-brackets, a means of pivotal connection between the other ends of said angle-irons, a series of laterally extending strips, a means of pivotal connection between said strips, a spring-portion or body secured to said strips, and springs arranged between and having their end-portions connected with said strips and angle-irons, all arranged that the bed-spring can be folded, and means for retaining said strips and angle-irons in their raised relations, substantially as and for the purposes set forth.

14. The herein described supporting bracket for a bed-spring comprising a main body-

member, an L-shaped portion upon the upper part of said body-member, a receiving socket at the lower part of said body member, and a supporting plate extending from said body-member, said member being provided with outwardly extending lugs, all arranged to provide a receiving opening by means of which the bracket can be fitted upon the cross-bar of a bed, substantially as and for the purposes set forth.

15. The herein described supporting bracket for a bed-spring comprising a main body-member, an L-shaped portion upon the upper part of said body-member, a receiving socket at the lower part of said body-member, and a supporting plate extending from said body-member, said member being provided with outwardly extending lugs, all arranged to provide a receiving opening by means of which the bracket can be fitted upon the cross-bar of a bed, combined with a series of angle-irons, and a means of pivotal connection between the L-shaped portion of the upper part of said body-member, substantially as and for the purposes set forth.

16. In a metal bed, the combination with the metal frame-work comprising a head-piece and a foot-piece, said head and foot-pieces being provided with posts, a supporting bracket secured to each post, side-bars and cross-bars arranged between said brackets, supporting brackets mounted upon said side-bars, each bracket being provided with a receiving socket, a laterally extending middle bar or brace having its end-portions arranged and secured in said receiving sockets, corner-brackets mounted upon the supporting brackets of said posts, said corner-brackets being provided with receiving sockets, side-bars having one end-portion arranged and secured in said receiving sockets, and a means of pivotal connection between the other end-portions of said side-bars and said laterally extending middle-bar or brace, angle-irons secured to said corner-brackets, a series of laterally extending strips, a spring-portion or body secured to said strips, and springs arranged between and having their end-portions connected with said strips and angle-irons, all arranged that the bed-spring can be folded, substantially as and for the purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 16th day of August, 1907.

JACOB SCHWARTZMAN.

Witnesses:

FREDK. C. FRAENTZEL,
ANNA H. ALTER.