

(No Model.)

2 Sheets—Sheet 1.

F. D. SWANEY.
COMBINED FOLDING BED AND COUCH.

No. 566,813.

Patented Sept. 1, 1896.

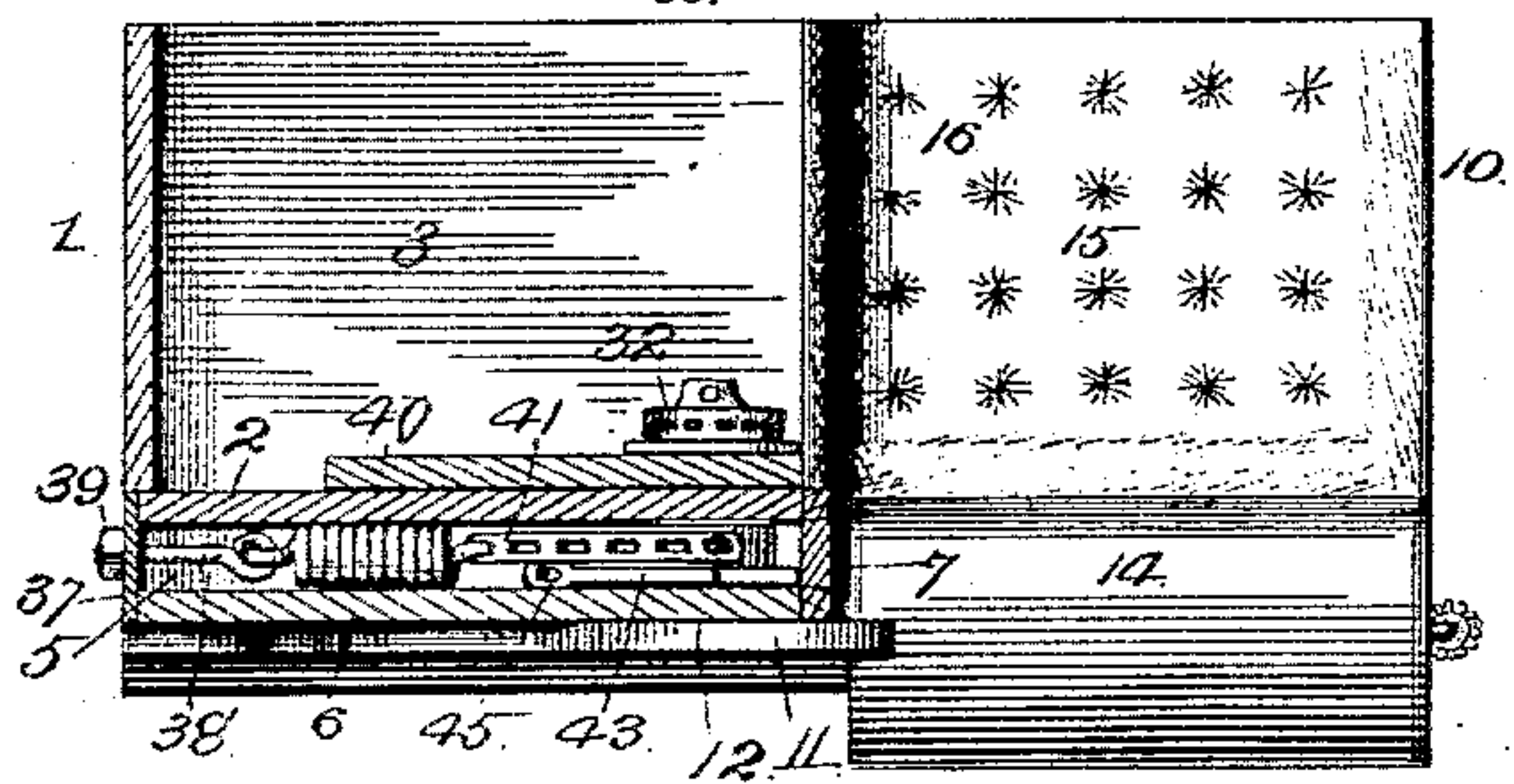
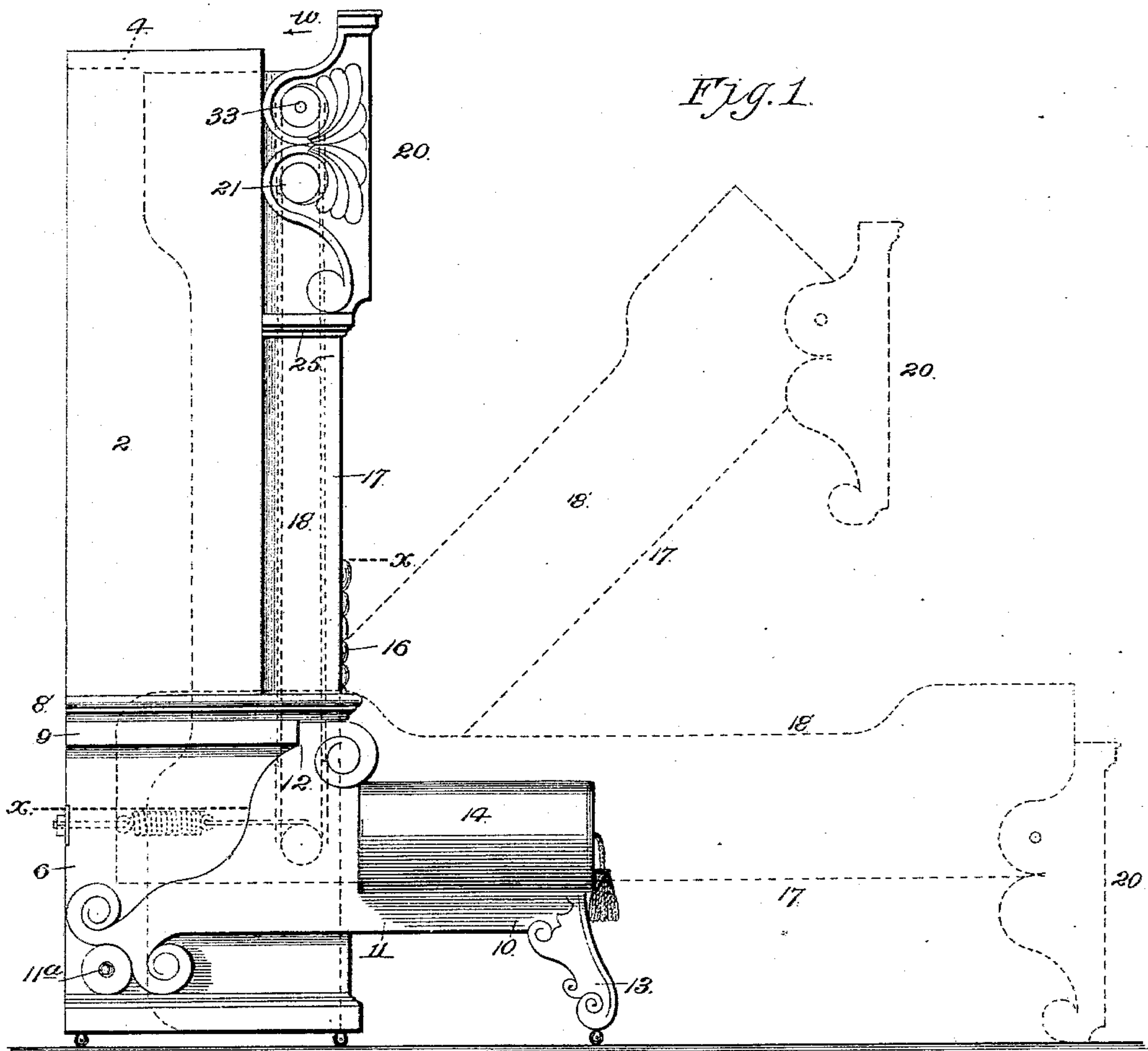


Fig. 4

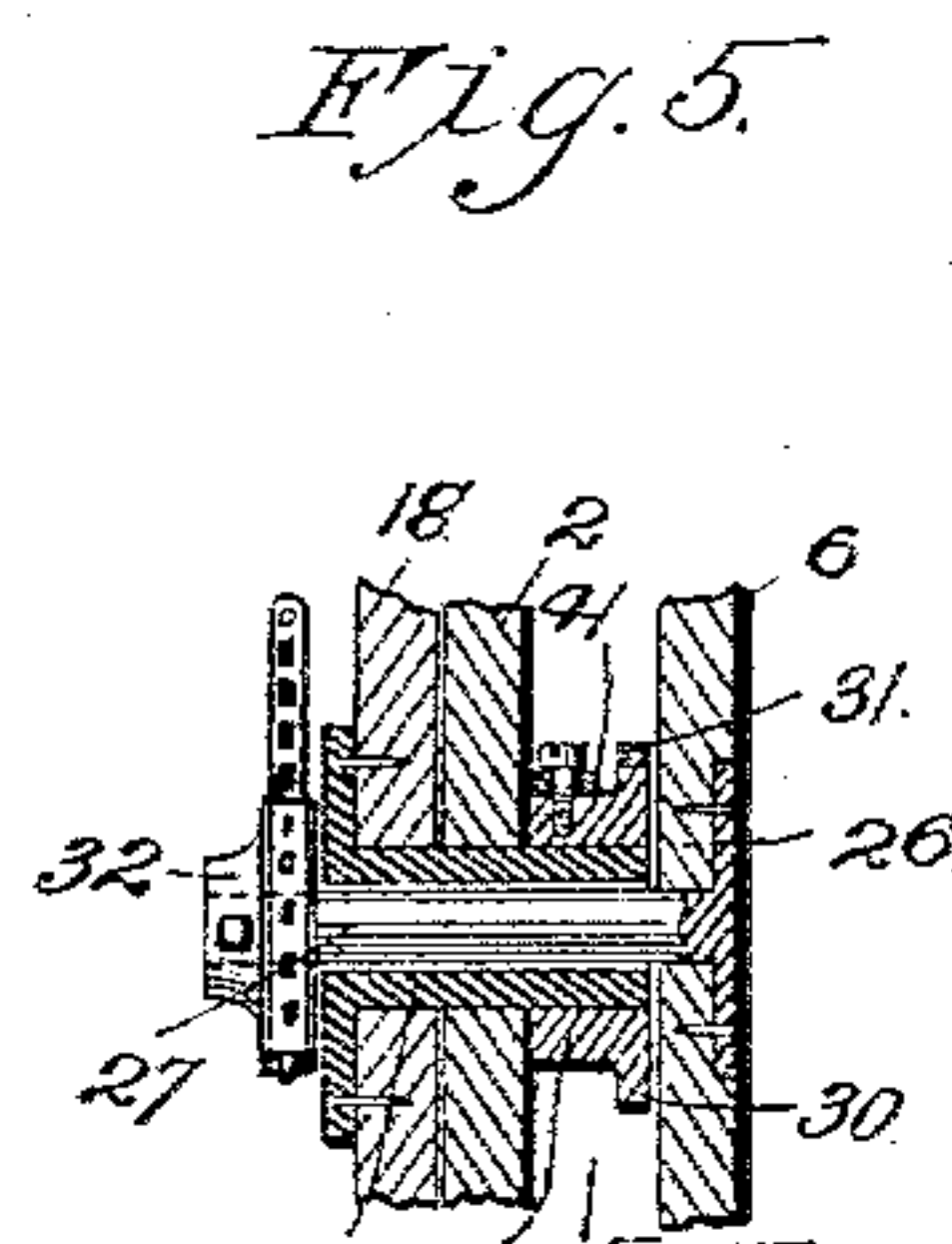


Fig. 5

Witnesses:

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G. B. Thorpe.

Inventor:
F. D. Swaney.

By Higdon & Higdon
Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

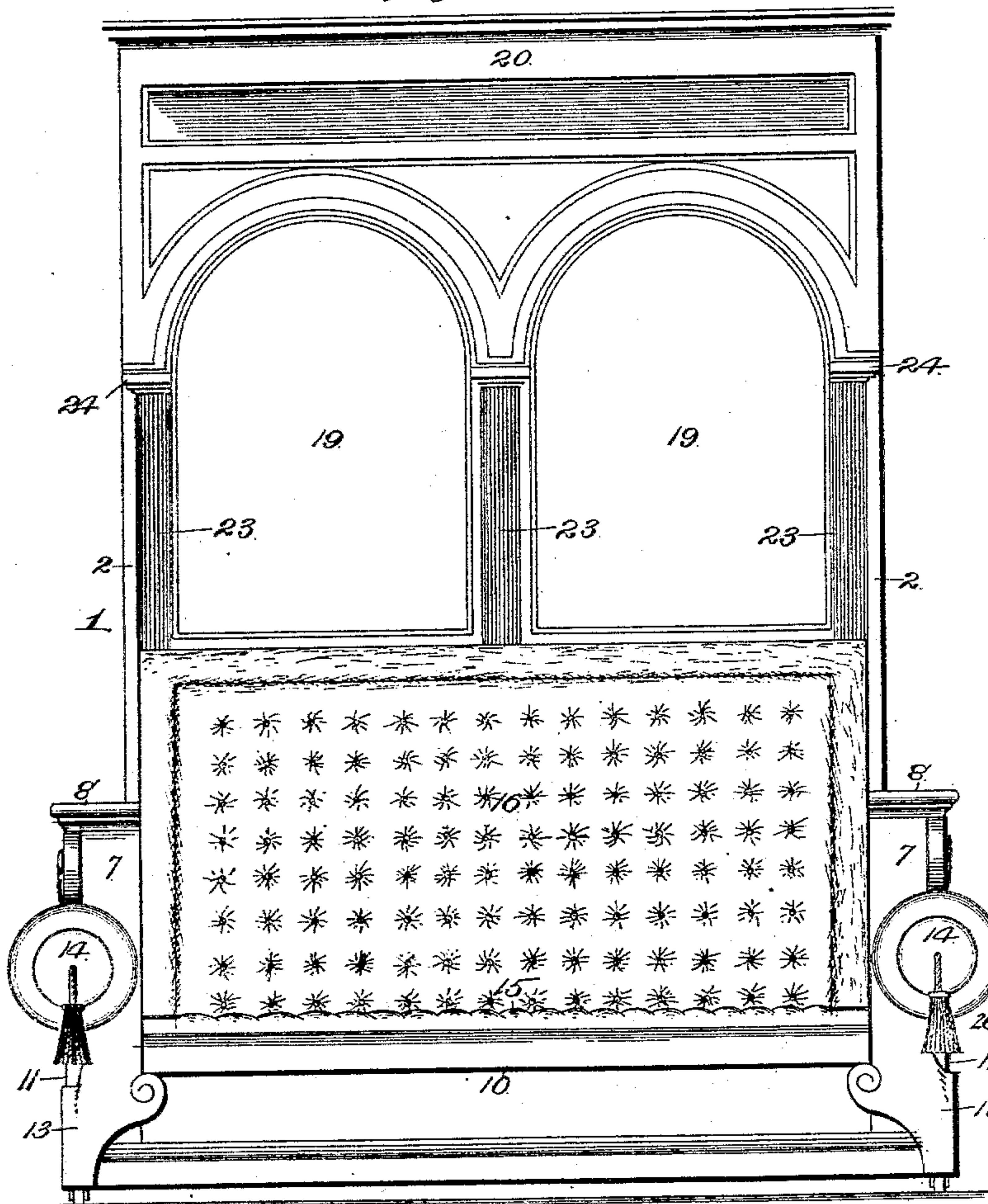


Fig. 3.

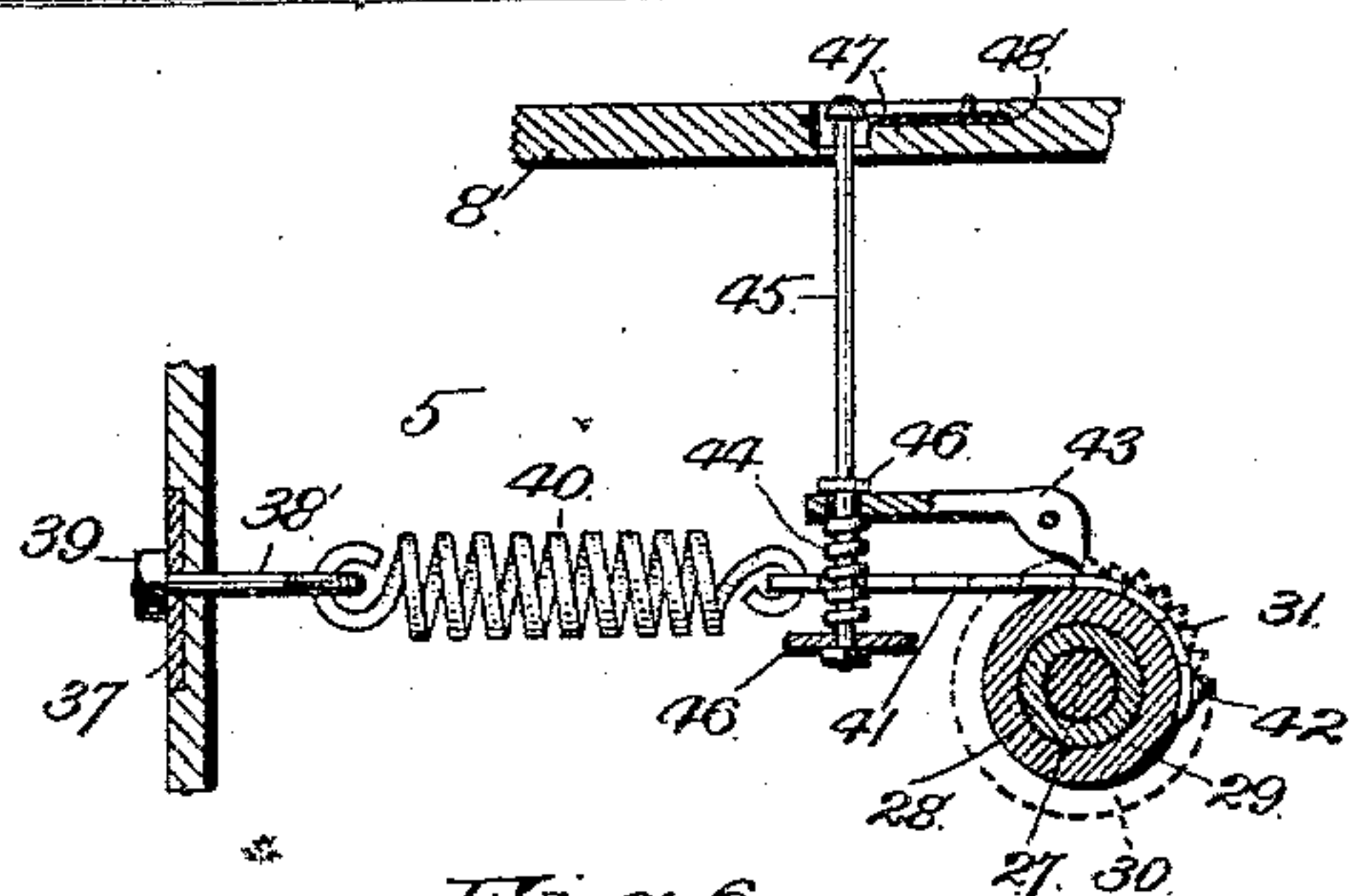
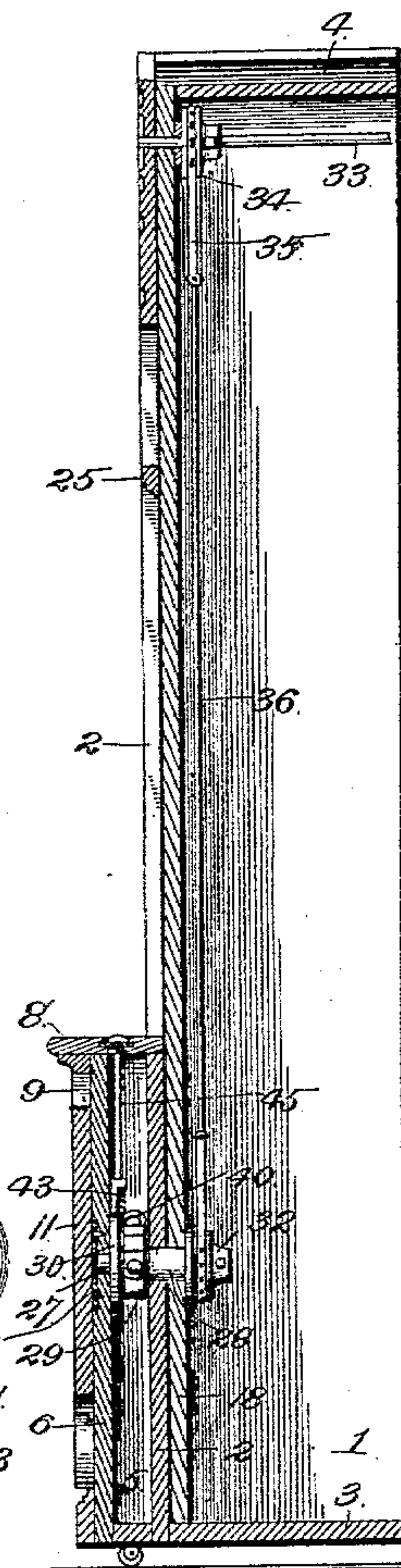


Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

FLETCHER D. SWANEY, OF KANSAS CITY, KANSAS.

COMBINED FOLDING BED AND COUCH.

SPECIFICATION forming part of Letters Patent No. 566,813, dated September 1, 1896.

Application filed November 20, 1895. Serial No. 569,564. (No model.)

To all whom it may concern:

Be it known that I, FLETCHER D. SWANEY, of Kansas City, Wyandotte county, Kansas, have invented certain new and useful Improvements in a Combined Folding Bed and Couch, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to household furniture, and more particularly to a combined folding bed and couch or settee.

The object of the invention is to produce an article of this character which is easy of manipulation, which cannot be accidentally closed, and which is simple, strong, durable, inexpensive of construction, and of ornamental appearance.

With this object in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a side elevation of a combined folding bed and couch embodying my invention. Fig. 2 represents a front elevation of the same. Fig. 3 represents a vertical section taken on the line *ww* of Fig. 1. Fig. 4 represents a view, partly in plan and partly in horizontal section, on line *xx* of Fig. 1. Fig. 5 is a sectional view, on a slightly enlarged scale, of one of the bearings or pivots of the bed; and Fig. 6 represents a view of certain mechanism to be hereinafter described.

In the said drawings, 1 designates a stationary frame or casing, and it consists of the back 1, the sides 2, the bottom 3, and the top 4, and 5 designates a pair of chambers which are formed at the outer sides of said frame by arranging parallel and outward of the sides 2 the boards 6. These chambers are closed at their lower ends by the bottom 3 of the casing, at their front ends by the vertical strips 7, and at their upper ends by the top pieces 8, which are preferably in the form of an ornamental molding. Below said molding and secured to the outer side of each board 6 is a bar or strip 9, which extends

horizontally to within a short distance of the front edge of the casing, for a purpose which will hereinafter appear.

10 designates the couch-frame, which preferably consists of a horizontal base portion which extends across the front of the casing at a suitable height from the floor and the sides 11, which form the arms of the couch or settee, and snugly embrace the outer sides of the casing below the top pieces or molding 8. At their rear ends said sides, which may be of any ornamental configuration desired, are pivoted, as shown at 11^a, to the boards 6, that there may be no accidental disconnection of the couch or settee from the casing, and at their upper ends and near their middle they are formed with the rearwardly-disposed shoulders 12, which are opposite the opposing or front ends of the bars or abutting strips 9. The object of this relation will be hereinafter explained. The couch at its front end is supported upon the legs 13, which depend from the front ends of the sides or arms 11, and for convenience in moving this combined bed and couch it is mounted upon casters, as shown. The couch at either end is provided with the cylindrical heads or enlargements 14, which in practice will be padded and covered with plush, leather, or other suitable material. The couch will also preferably be provided with a padded and ornamental seat 15 and back 16. The relation, however, of the back and seat varies, as will appear in the description of the operation.

17 designates the bed-frame, which is of the ordinary configuration and construction, and comprises the front portion, the sides, head and foot boards, which do not appear in the drawings. To the front side of the bed the padded back of the couch is secured in any suitable or preferred manner, and above this back the front of the bed is provided with the accompanying drawings with a pair of mirrors 19, and above said mirrors, when the bed is elevated or in its closed position, is the pivoted foot-piece or leg 20. This pivoted foot-piece extends clear across the bed and is provided with rearwardly-projecting arms 21, which snugly embrace the opposite sides of the bed near its upper end. Said foot-piece is preferably of ornamental configuration,

and in the present instance its lower margin is in the form of a double arch, which surmounts the mirrors, or rather appears to surmount the same, and is superposed relative to and apparently supported by the ornamental columns 23, formed between and at the outer sides of the mirrors at the front of the bed. The caps 24 of the two outer columns are extended rearward at the sides of the bed, as shown at 25, for a suitable distance, and are adapted by coming in contact with the front margins of the sides 2 of the bed-frame to limit the closing movement of the bed.

I will now proceed to describe the pivotal support of the bed. There are two of these supports, one at either side, but as they are precisely alike a description of one will suffice for both.

26 designates a plate which is secured in a recess in the outer side of the board 6 at a suitable point, and 27 an integral stub-shaft projecting inwardly therefrom and through the corresponding side 18 of the bed and also through the interposed side 2 of the casing. Rotatably mounted upon said stub-shaft and rigidly secured to the side 18 of the bed is the tubular sleeve 28, and said sleeve extends loosely through the side 2 of the frame and into the chamber 5. Within this chamber, and mounted rigidly upon the sleeve 28, is the wheel 29, which is formed with an annular flange 30 at its outer margin, provided with a series of peripheral ratchet-teeth 31, which extend one-fourth of the way around its circumference, and have their abrupt surfaces presented toward the rear. Mounted rigidly upon the inner end of the stub-shaft 27 is a sprocket wheel or pulley 32, and vertically above the same, and mounted rigidly upon the shaft or pivot 33 of the foot-portion 20, is a similar wheel or pulley 34. Extending around said sprocket wheels or pulleys are sprocket chains or cords 35, which have a positive connection with said wheels or pulleys, so that no slipping of the chain or cords can occur, and said chains or cords are connected by means of the rods 36, or the connection between said wheels or pulleys may be a continuous one. I prefer, however, to use the rods, owing to the fact that there will be less expansion in the connection between said wheels if two short chains are used than would be the case if a continuous and long chain were employed. The construction described and illustrated may be employed owing to the fact that said wheels never make more than a quarter of a revolution. From the foregoing it will be apparent that by grasping and pulling the bed downward to a horizontal position, and thus describing an angle of about forty-five degrees, the connection between the fixed or stationary wheel or pulley 32 and the upper wheel or pulley 34 will cause the latter to rotate the shaft 33 one-fourth of a revolution in order that the foot portion may always maintain its vertical position as the relation between itself and the bed is varied.

This is illustrated by the various positions of the bed and foot-piece in Fig. 1.

I will now proceed to describe the mechanism for elevating the bed.

37 designates a plate which is secured to the rear margins of the side 2 of the bed-frame and the board 6, and extending through the same into the chamber 5 is an eyebolt 38, the outer end of which is engaged by the retaining and adjusting nut 39. Its inner edge is engaged by the retractile spring 40, and attached to the opposite end of the same is the chain or flexible metallic strap 41, which has a positive connection at its opposite end, as at 42, with the wheel 29. When the bed is moved down to its horizontal or operative position, the spring, or springs, rather, because, as hereinbefore stated, the mechanism is duplicated at each side, will be expanded, as shown in Fig. 6, and will tend to again elevate the bed. This is prevented, however, owing to the fact that a pivoted dog 43 engages one of the ratchet-teeth 31 and is held positively in such engagement by means of the coil-spring 44, mounted slidably upon the trip-rod 45 and bearing at its opposite ends against said dog and the guide-plate 46, through which said trip-rod projects at its lower end. Said trip-rod extends loosely within an opening in the rear end of the dog 43 and is provided with a fixed collar 46, which bears upon the upper side of the said arm of the dog, in order that when said trip-rod is depressed the pressure of the spring 44 may be overcome and the dog disengaged from the ratchet-tooth. The upper end of the trip-rod extends through the top piece 8 of the chamber 5, and is provided with a head or thumb-piece, by which it may be depressed whenever it is desired to raise the bed. As it is desirable for two of these trip-rods to be employed, owing to the fact that the bed may occupy such positions that a particular side could not always be conveniently reached, it is desirable that the one out of reach, for instance, next to a wall, should be held depressed and the dog 43 out of engagement with its respective ratchet-wheel. To accomplish this I may employ any suitable device, for instance, a slide-plate 47, as shown. Said slide-plate may occupy grooves in the top piece, as shown at 48, and may be easily manipulated. When the bed is down, the back 16 of the couch, being secured to and forming a part of the front of the bed, will lie flatly upon the seat of the couch and thus form, in conjunction with the foot portion 20, a firm and substantial support for the bed exclusive of its pivotal support, and it will not become marred or injured. When the bed is elevated, as hereinbefore stated, the extensions 25 of the caps 24 bear against the front margins of the sides 2 of the casing, and when in its horizontal or operative position the retractile tendency of the springs 40 is to raise the bed (which, however, is prevented by the engaging dog and ratchet) or

to tilt the casing forward. This, however, is prevented by reason of the abutting shoulders or surfaces of the strips or bars 9 and of the sides 11, as illustrated clearly in Fig. 1. Ow-
 5 ing to this tendency it will thus be apparent that it is absolutely necessary to have a wide bearing for the base of the bed, or, in other words, to have a bearing some distance in advance of the pivotal point, and this bear-
 10 ing I obtain through the legs 13 of the couch. As the projecting portions 11 and the legs 13 alone would detract from the appearance and be decidedly in the way, I brace the same and utilize the space between them in the
 15 formation of a couch or settee, the body portion of which forms a cushion between the bed and the couch-frame when the former is depressed.

From the above description it is apparent
 20 that I have produced a combined article of household furniture which is ornamental and is absolutely safe, owing to the fact that the bed cannot possibly close until the connection between the dogs and the ratchet-teeth
 25 is broken.

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

1. In combination, a casing, a bed-frame
 30 pivotally mounted therein, a resilient connection between the bed-frame and the casing which is of sufficient power when unresisted to raise the former, a couch or settee arranged in front of the bed structure and provided
 35 with sides or arms which embrace and are secured to the outer sides of the casing near its lower end, legs depending from the front ends of said sides to form a support for the couch and the advanced bearing of the bed
 40 structure, and strips secured to the casing and arranged in opposition to the sides of the couch, substantially as and for the purpose set forth.

2. In combination, a casing, stub-shafts
 45 projecting therein, wheels mounted rigidly upon said stub-shafts, a bed-frame pivotally mounted upon said stub-shafts, a shaft extending transversely through the opposite
 50 end of the bed-frame, wheels mounted rigidly thereon, a foot portion mounted rigidly upon and vertically pendent from the outer ends of said shaft, and connections between said
 55 wheels whereby when the bed is lowered through an angle of forty-five degrees its relation to the foot portion is changed and the latter maintains its vertical position, and when it reaches the floor at the same time bears firmly against the outer end of the bed, substantially as shown and described.

3. In combination, a casing suitably braced
 60 in front, as by a couch, chambers formed at opposite sides of the casing, stub-shafts pro-

jecting therethrough and carried by the casing, sleeves rotatably mounted upon said
 stub-shafts, a bed-frame rigidly mounted 65 upon said sleeves, wheels rigidly mounted upon the stub-shafts, a shaft journaled in the opposite end of the bed-frame, wheels mounted rigidly thereon, operative connections for imparting motion between said 70 wheels, a foot portion mounted rigidly upon the opposite ends of said shaft, and a retractile connection between the casing and the sleeves, whereby the latter tends to elevate the bed-frame, or hold it elevated, substan- 75 tially as described.

4. In combination, a casing, and a couch connected to and arranged in advance of the casing in order to provide a wide bearing for the latter, chambers formed at opposite sides 80 of the casing, stub-shafts projecting there-through and carried by the casing, sleeves rotatably mounted upon said stub-shafts, a bed-frame rigidly mounted upon said sleeves, wheels rigidly mounted upon the stub-shafts, 85 a shaft journaled in the opposite end of the bed-frame, wheels mounted rigidly thereon, connections between said wheels and the first-named wheels, a foot portion for the bed-frame mounted rigidly upon the opposite 90 ends of the said shaft, wheels mounted rigidly upon said sleeves within said chambers, eyebolts secured to the casing, and an expansive connection between said eyebolts and said first-named wheels, which will rotate the 95 latter at the proper time, and means to prevent the rotation of the same until it is desired to raise the bed-frame, substantially as described.

5. A folding bed, comprising a casing, stub- 100 shafts projecting therein, sleeves mounted rotatably upon said stub-shaft, a bed-frame mounted rigidly upon said sleeves, wheels mounted rigidly upon said sleeves and provided with a series of ratchet-teeth, plates 105 secured to the casing, eyebolts extending through the same and engaged by nuts, retractile springs secured to said eyebolts, metallic but flexible connections attached at their opposite ends to said springs and to said 110 wheels, spring-actuated pivoted dogs engaging ratchet-teeth of said wheels, trip-rods for overcoming the pressure of the springs and disconnecting the dogs from the ratchet-teeth, and means to hold said trip-rods in a 115 depressed position when required, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

FLETCHER D. SWANEY.

Witnesses:

G. Y. THORPE,
 M. R. REMLEY.