

No. 780,419.

PATENTED JAN. 17, 1905.

L. F. GEHR.
FOLDING BED.

APPLICATION FILED APR. 18, 1904.

3 SHEETS—SHEET 2.

Fig. 4.

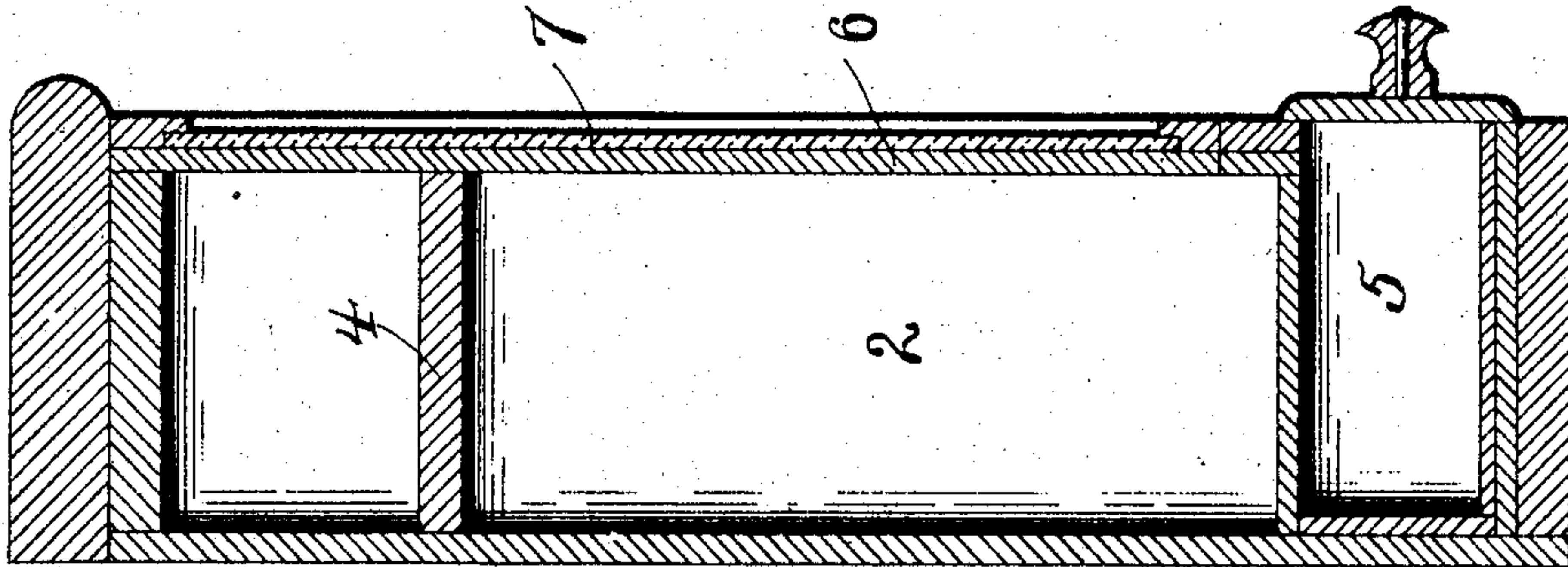
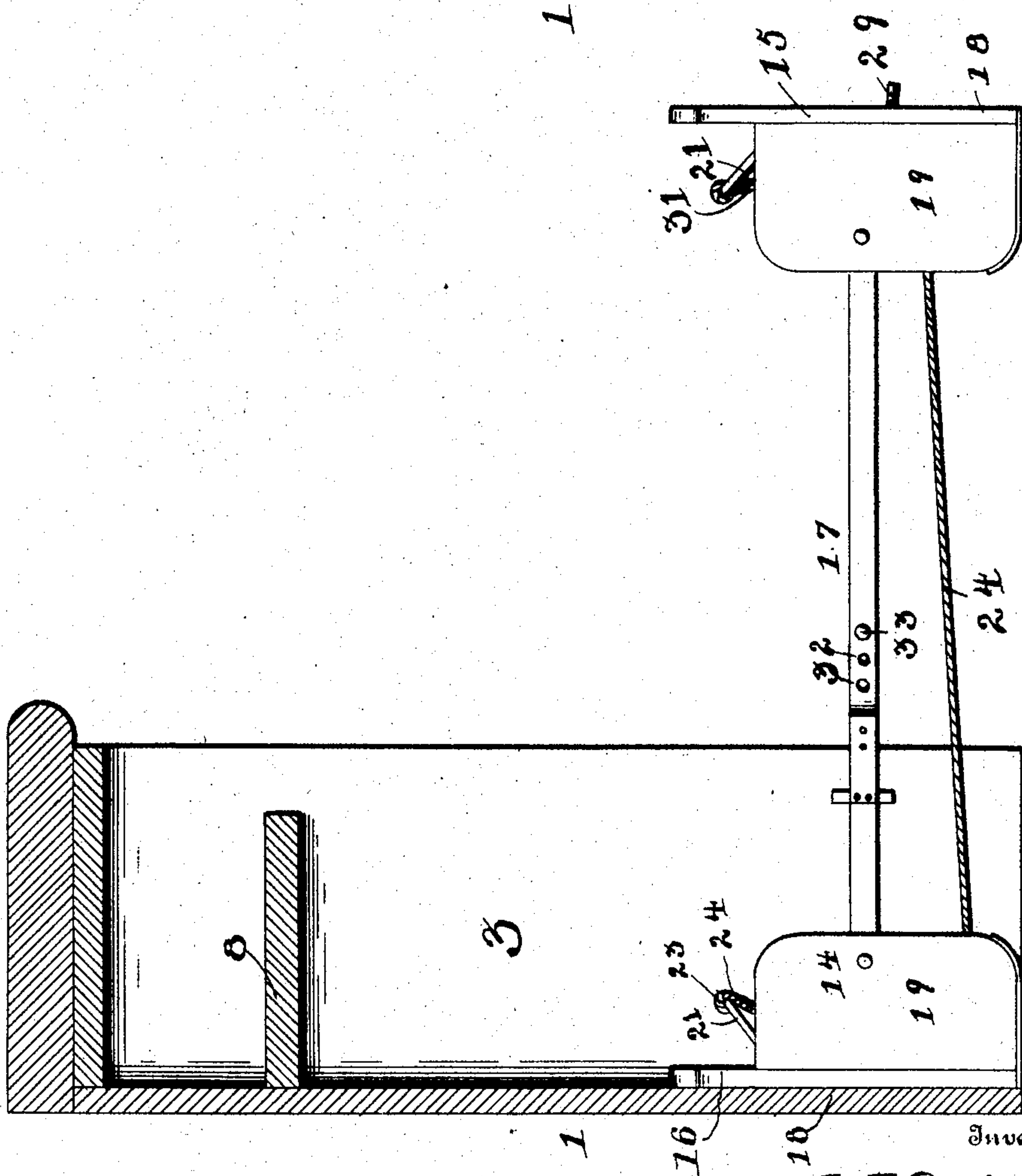


Fig. 3.



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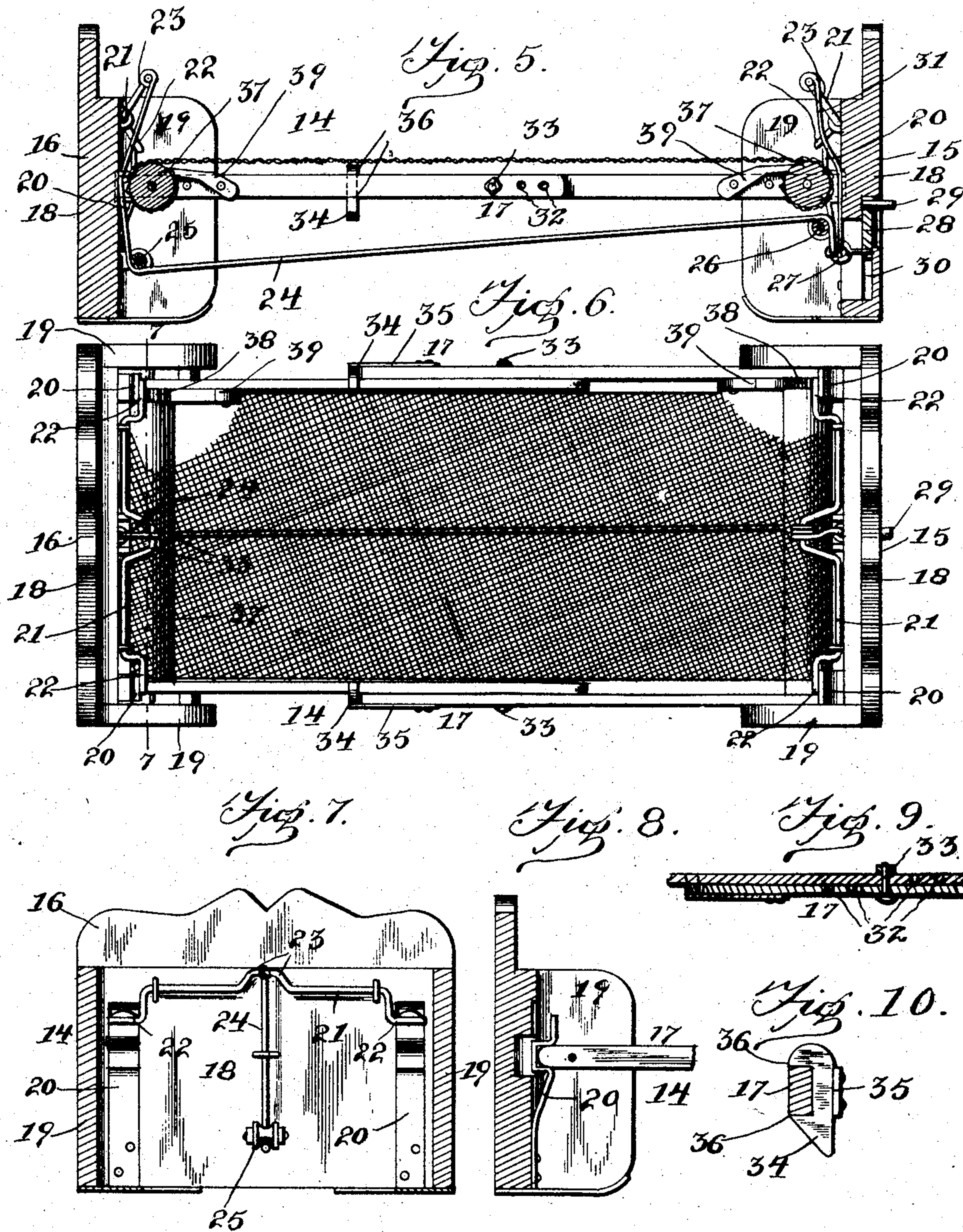
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UNITED STATES PATENT OFFICE.

LEE F. GEHR, OF MECHANICSBURG, PENNSYLVANIA.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 780,419, dated January 17, 1905.

Application filed April 18, 1904. Serial No. 203,664.

To all whom it may concern:

Be it known that I, LEE F. GEHR, a citizen of the United States, residing at Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Folding Beds; and I do 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.

This invention relates to improvements in folding beds.

The object of the invention is to provide a combined folding bed, wardrobe, and cabinet which when closed will be an attractive and ornamental as well as a useful piece of furniture.

A further object is to provide a folding bed and case of this character which may be quickly opened and arranged to form a comfortable bed, provision being also made for the disposition of the bedclothing when the bed is in folded or closed position.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a front elevation of a combined cabinet and wardrobe containing the folding bed. Fig. 2 is a vertical sectional view on the line 2 2 of Fig. 1. Fig. 3 is a similar view showing the bed unfolded and opened for use. Fig. 4 is a vertical sectional view on the line 4 4 of Fig. 1. Fig. 5 is a vertical longitudinal sectional view of the bed removed from the case and in open or unfolded position. Fig. 6 is a top plan view of the bed, parts being broken away to more clearly show the construction of certain of the parts. Fig. 7 is a vertical cross-sectional view on the line 7 7 of Fig. 6. Fig. 8 is a fragmentary detail sectional view through the end board of one end of the bed, showing the arrangement of the springs for holding the ends of the side rails in place. Fig. 9 is a detail horizontal section through the lapping ends of one of the side rails, showing the manner of connecting the same together.

Fig. 10 is a detail vertical sectional view of the same.

Referring more particularly to the drawings, 1 denotes the case, which is here shown as divided into two main compartments 2 and 3. The compartment 2 is arranged in the form of a clothes-press or wardrobe, in the upper end of which is secured a shelf 4 and in the lower end a drawer 5. This compartment is closed by a door 6, in the front of which is arranged a mirror 7. The compartment 3 is adapted to contain the folded bed and is provided at its upper end with a shelf 8 to receive the pillows and bed-coverings when the bed is in closed or folded position. This compartment is closed by a door 9, in the upper portion of which is formed a cabinet 10, containing shelves for the reception of medicine-bottles, thus forming a medicine-cabinet, or, if desired, the same may be used for other purposes, such as a bookcase. A glazed door 12 is provided for this cabinet and is hinged to the same, as shown. Below the cabinet 10 in the lower portion of the door may be arranged dummy drawers 13, of which there may be any desired number, two being shown in the drawings.

The compartment 3 is adapted to receive the bed 14 when the same is in folded position, as shown in Fig. 2 of the drawings. The bed 14 consists of head and foot sections 15 and 16, which are connected together by jointed side rails 17. The head and foot sections are similar in construction, each consisting of end boards 18, the upper edges of which may be made ornamental, if desired. To the end boards 18 are secured inwardly-projecting side pieces 19, to the inner sides of which are pivoted the ends of the side rails 17. On the inner faces of each of the end boards adjacent to the side pieces 19 are secured spring-catches 20, with which the ends of the side rails 17 are adapted to be engaged to firmly hold and lock the ends of said rails and said head and foot sections together when the bed is an extended position. In order that said spring-catches may be disengaged from the ends of said rails to permit the same to be folded to close said bed a releasing mechanism is provided for each end section, said releasing mechanism

consisting of a crank-shaft 21, pivotally mounted on the inner side of the head and foot sections. On the ends of said shaft are formed downwardly-projecting cranks 22, the ends of which are engaged with the upper free ends of the spring-catches, as shown.

On the crank-shafts 21, midway between the ends of the same, are formed inwardly-projecting crank-arms 23. To the end of the arm 23 on the crank-shaft of the head-section is connected a cord or other flexible connection 24, which passes downwardly and under a pulley 25, mounted on the lower inner face of the head-section, and from thence said cord passes rearwardly and over a pulley 26, mounted on the inner face of the foot-section and has its end attached to an eye 27, secured to the inner side of a plate 28, which is slidably mounted in the end board of the foot-section, as shown. Said eye is adapted to work through a slot in the inner side of said end board. On the outer side of the sliding plate is secured an outwardly-projecting lug 29, which projects through and works in a slot 30 in the outer face of the end board. The crank-arm 23 on the crank-shaft of the foot-section is also connected to the eye 27 by a short link or rod 31, so that when said sliding plate 28 is actuated to force said eye downwardly the crank-shafts 21 on both the head and foot sections will be rocked to cause the cranks on the ends of the same to simultaneously force said spring-catches out of engagement with both ends of said side rails.

The side rails 17 are each formed in two parts or sections, the inner ends of one of said parts or sections overlapping the other, as shown. In the inner ends of the sections of each rail is formed a series of bolt-holes 32, through one of which in each adjacent rail-section is passed a bolt 33, whereby the parts or sections of said rails are pivotally and adjustably connected together. At the end of each of the outside sections of the rails is arranged a detent or catch 34, which is secured by a flat leaf-spring 35 to the end of said outside rail, as shown. The lower ends of each of said detents or catches 34 is beveled off, as shown at 35, and above said beveled end on the inner edge of said detents are formed notches 36, whereby when the pivoted lapping ends of said rail-sections are brought down into a horizontal position the beveled end of said detent will engage the inside rail-section and be forced outwardly thereby until the notches in the detents are reached, when the springs 35 will force said notches into engagement with said inside rail-sections, and thereby lock the two sections of each rail together.

Between the rails 17, adjacent to the head and foot boards, are arranged rolls 37, the shafts of which are journaled in the ends of said rails. To said rolls are connected the ends of the bed-bottom, which may be of any suitable fabric, but is preferably formed of

woven wire. The ends of the bed-bottom are adapted to be wound on the rolls 37, which are held against casual retrograde movement by pawls or dogs 39, pivoted to the side rails adjacent to one end of said rolls and adapted to engage the teeth of a ratchet-wheel 38, formed on or fixed to said end of the roll.

To stretch the bed-bottom, the detents and spring-catches of the side rails are released and the ends of said rails forced slightly upward at their center. The bed-bottom is now wound as tightly as possible on one or both of said rolls, after which the side rails are forced down and locked by their detents in a horizontal position, thus lengthening the distance between said winding-rolls, and thereby stretching the fabric of said bed-bottom.

If desired, suitable casings may be arranged to cover the crank-shafts on head and foot boards, said casings being left off in the drawings to more clearly disclose the parts. The head end or section of the bed may be secured within the compartment 3 of the casing in any suitable manner or may be left free, as shown, so that the bed may be entirely removed from the compartment. Casters (not shown) may also be secured to the end sections, whereby the bed may be rolled around the room.

To fold the bed, the detents 34 on the ends of the outside rail-sections are disengaged from the inside sections, after which the lug 29 is depressed by the foot to rock the crank-shafts 21 and disengage the spring-catches 20 from the ends of the side rails, when the head and foot sections of the bed may be pushed toward each other, thereby folding the side rails together, as shown in Fig. 2. To open the bed again, all that is necessary is to pull the head and foot sections apart, which will cause the side rails to unfold and the ends of the same spring into engagement with the spring-catches on the head and foot boards, and the detents or catches 34 will spring into engagement with and lock the pivoted lapping ends of the rails together, as hereinbefore described.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A bed comprising head and foot sections, overlapping side rails pivotally connected to said head and foot sections, and pivoted together between the head and foot sections, spring-catches secured to said sections to engage the ends of said side rails to lock the lat-

ter in horizontal position, means to disengage said catches from said side rails, operating-cords connecting said disengaging means and a movable element carried by one of the bed-sections and to which said operating-cords are attached, for simultaneous operation by the movement of said movable element, substantially as described.

2. A bed comprising head and foot sections, overlapping side rails having their outer ends pivotally connected to said head and foot sections, and pivoted together between the head and foot sections, spring-catches to lock the members of said pivotally-jointed side rails together when said side rails are in a horizontal position to extend the bed, crank-shafts and operating-cords for releasing said spring-catches, rollers having their bearings in said side rails, means to turn said rollers, means to lock them against reverse rotation, a bed fabric having its ends connected to the respective rollers, spring-catches carried by the end sections to engage the side rails and lock them in extended horizontal position and means to simultaneously disengage said spring and catches, substantially as described.

3. The combination with a casing, of a bed adapted to be folded into said casing, said bed comprising head and foot sections, jointed side rails pivotally connected to said head and foot sections, spring-catches secured to said sections, to engage the ends of said side rails to lock said rails in horizontal position, a shaft mounted on the end boards of said head and foot sections, cranks formed on the ends of said shaft to engage said spring-catches, crank-arms formed on said shafts, and means whereby said shafts may be simultaneously rocked to cause the cranks on the ends of the same to release said spring-catches from en-

gagement with said rails, substantially as described.

4. The combination with a casing, of a bed adapted to be folded into said casing, said bed comprising head and foot sections pivotally connected together by side rails, said rails being formed of sections the inner ends of which lap one over the other, a series of holes formed in the inner ends of said sections, a bolt adapted to be inserted through a pair of said holes whereby said ends may be adjustably pivoted together, a spring catch or detent carried by one of said rail-sections and adapted to be sprung into engagement with the adjacent sections whereby said sections are locked together, means arranged on said head and foot sections to lock the ends of said rails, and means for releasing said locking mechanism, substantially as described.

5. The combination with a casing, of a bed adapted to be folded into said casing, said bed comprising head and foot sections, jointed side rails pivotally connected to said head and foot sections, spring-catches secured to said sections to engage the ends of said side rails to lock said rails in horizontal position, crank-shafts and operating-cords for releasing said spring-catches from engagement with said rails, rolls revolubly mounted in the ends of said rails, a bed-bottom secured to and adapted to be wound on said rolls, and means for preventing a retrograde movement of said rolls, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEE F. GEHR.

Witnesses:

STELLA R. STEUART,
W. R. BARR.