

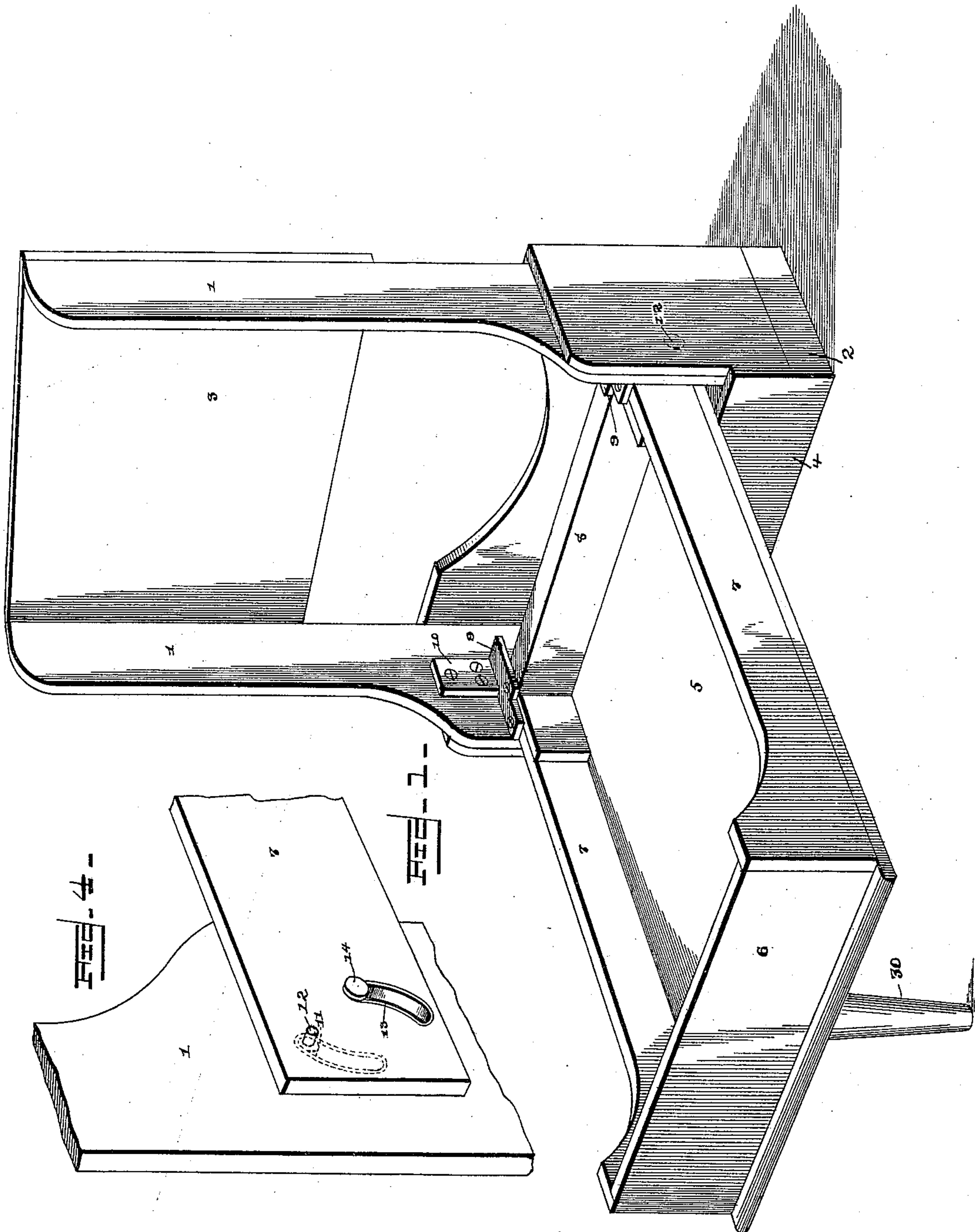
(No Model.)

2 Sheets—Sheet 1.

B. RINGO.
FOLDING BED.

No. 459,819.

Patented Sept. 22, 1891.



Witnesses:

E. S. Duvall Jr.
W. S. Duvall.

By *his* Attorneys,

C. A. Snow & Co.

Inventor
Bert Ringo.

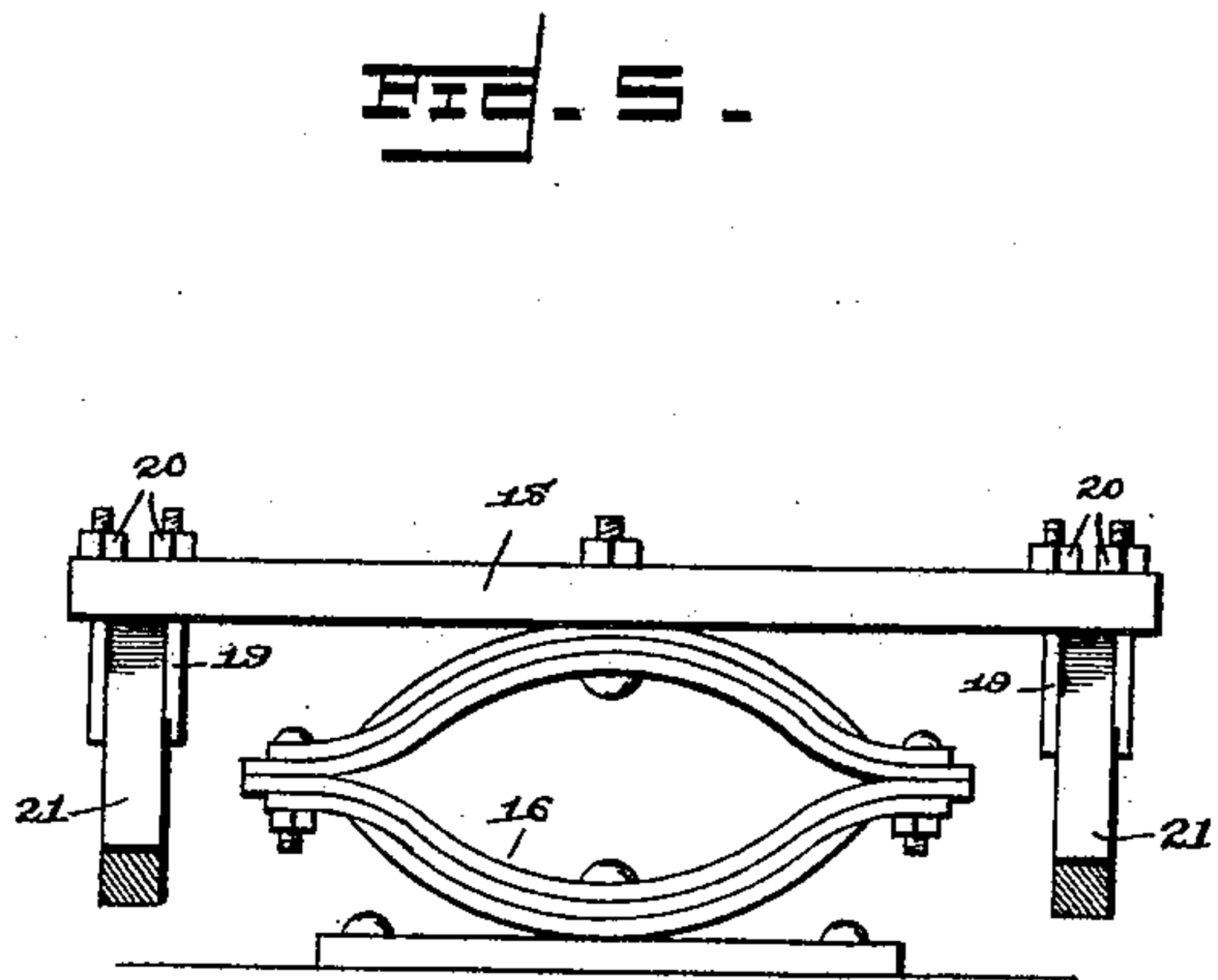
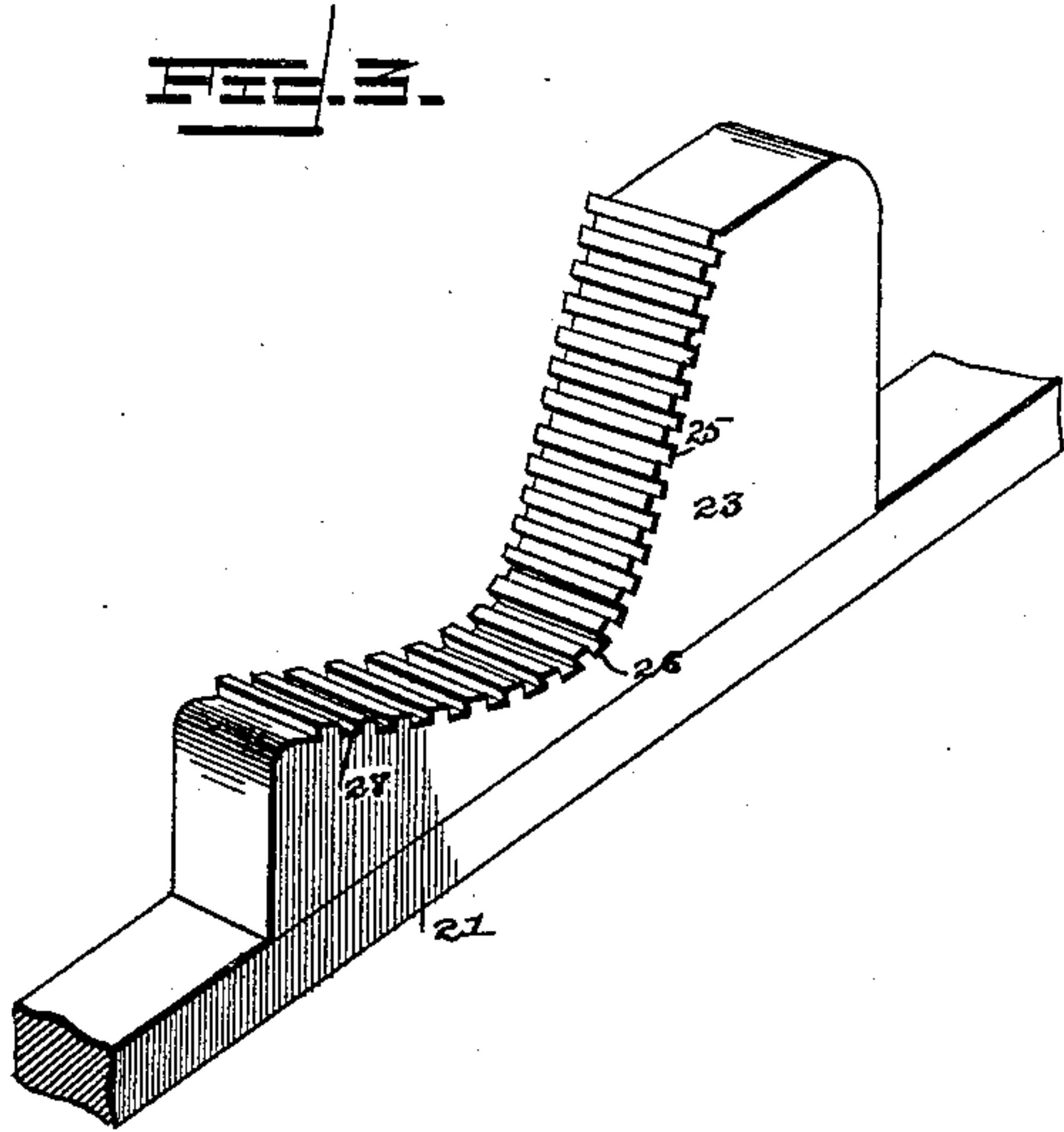
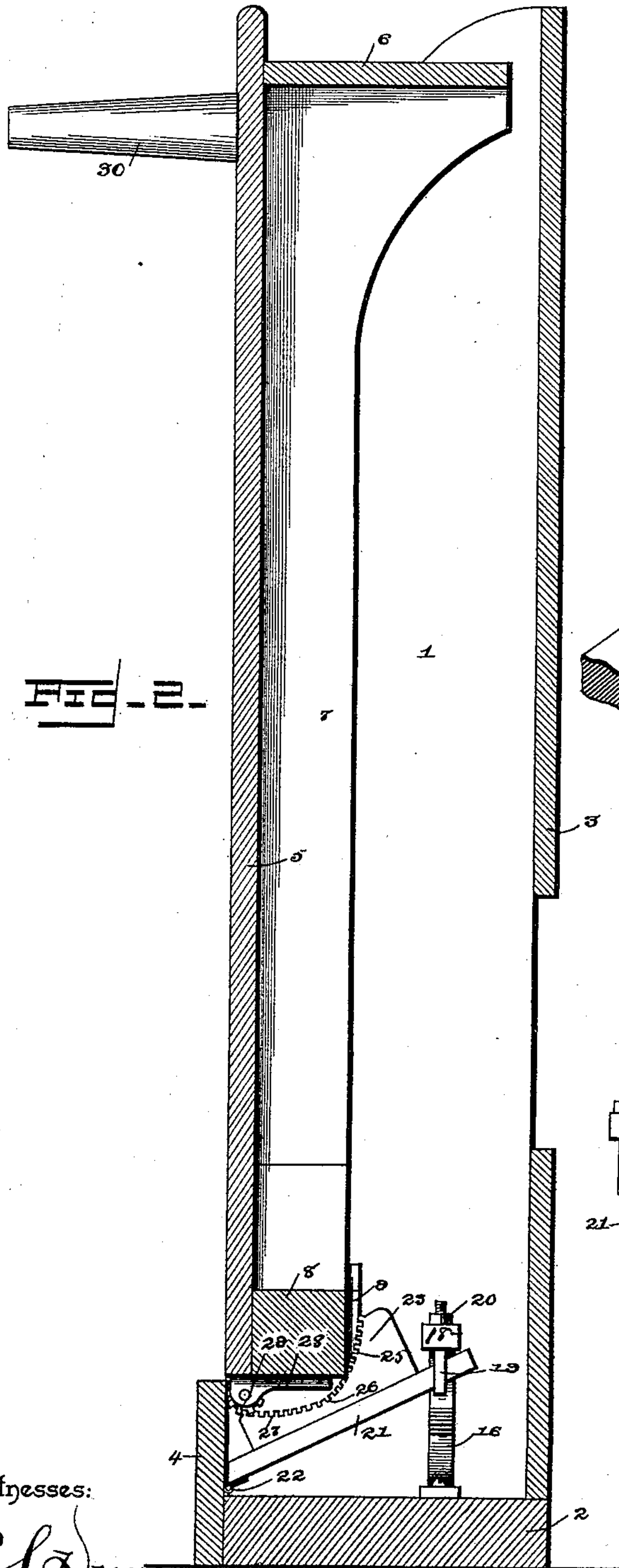
(No Model.)

2 Sheets—Sheet 2.

B. RINGO.
FOLDING BED.

No. 459,819.

Patented Sept. 22, 1891.



Witnesses:

C. S. Duval Jr.
W. S. Duval.

By his Attorneys,

C. S. Duval & Co.

Inventor

Birt Ringo.

UNITED STATES PATENT OFFICE.

BIRT RINGO, OF MEXICO, MISSOURI, ASSIGNOR TO C. WADE AND J. C. BUCKNER, OF SAME PLACE.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 459,819, dated September 22, 1891.

Application filed May 14, 1891. Serial No. 392,730. (No model.)

To all whom it may concern:

Be it known that I, BIRT RINGO, a citizen of the United States, residing at Mexico, in the county of Audrain and State of Missouri, have invented a new and useful Folding Bed, of which the following is a specification.

This invention relates to folding beds; and the objects of the invention are to provide a cheap and simple construction of bed that may be readily raised to a folded or lowered to an unfolded position with but little exertion upon the part of the operator, which in either position will be automatically locked against accidental displacement.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a bed, the same being open. Fig. 2 is a vertical central longitudinal section of the bed, the same being closed or folded. Fig. 3 is a detail of the cam-shaped friction support. Fig. 4 is a detail of the connection between the casing and the side rail of the bed. Fig. 5 is a detail view of the spring-adjusting means and connections.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the opposite side walls of the casing usually employed in this class of folding beds, which are mounted upon the base or bottom 2 of the casing. These side walls or standards are connected at their rear by the head-board 3, and at their front by the cross-piece 4.

5 designates the bed-bottom, which becomes the front face of the casing when the bed is folded, and will be suitably decorated or ornamented.

6 designates the foot-board, and the same, as usual, connects the opposite side pieces 7, which latter are connected at the head of the bed by means of the transverse bar 8. The rear corners of the frame or bedstead are provided with rearwardly-disposed stop-bars 9, which are designed to come into contact with stop-blocks 10, located upon the inner faces of the standards or side pieces 1 of the casing.

The side walls of the casing near their lower ends are each provided with curved slots 11, which slots are metal-lined, as shown, and re-

ceive outwardly-disposed pins 12, extending from the side rails of the bed-frame, said pins being provided with friction-rollers and are adapted to ride in the slots. Similar but oppositely-disposed slots 13 are formed in the side rails of the bed-frame, said slots being concentric with the pins 12 and receiving pins 14, extending from the side walls of the casing. The pins 14 are provided with friction-rollers, and the slots 13 are metal-lined.

In operation, taking the bed in a folded position, the first half of the downward-swinging movement of the bed-frame is upon the pins 12 as bearings, the pins 14 riding in the slots 13. The bedstead is thus brought to an angle of about forty-five degrees. The remaining downward movement of the bed-frame is upon the pins 14, which have now arrived at the upper ends of the slots 13, and the pins 12 ride to the upper ends of the slots 11. It will be obvious at once that such a construction of pivotal connection will be both strong and durable, as well as noiseless and cheap.

Upon the base 2 of the casing and at the center thereof there is located an elliptical spring 16. This spring is preferably of the form commonly used in vehicles, and is of proper tensile strength. To the upper side of the spring is bolted, as at 17, a transverse bolster 18, in the opposite ends of which are located the depending U-shaped stirrups 19, the terminals of which are passed upwardly through suitable perforations formed in the ends of the bolster and above said bolster provided with adjusting-nuts 20.

21 designates an inclined bar, and I employ a pair of the same. These bars are hinged at their lower ends, as at 22, to the front edge of the base 2 and have their upper or rear ends loosely supported in the stirrups 19. By means of the nuts 20 it will be obvious that the rear ends of the bars may be raised and lowered, so that their normal inclinations may be varied and adjusted. Upon each bar 21 is mounted a toothed metal cam-track 23, which track consists of the rear upwardly-inclined surface 25, the same leading to a central depression 26, and at the front end in an inclined shoulder 27. To the rear edge of the bed-frame opposite each of the cam-tracks is located a bracket 28, and in each of the brackets there is loosely mounted a periph-

erally-toothed roller 29, said rollers being designed to embrace and ride upon the cam-tracks 23. This completes the construction of the bed, with the exception of the usual supporting-leg 30.

In operation, in order to unfold the bed it is simply necessary to draw the upper end of the same downwardly, so that the loose rollers ride down the inclined face 27, and by the inclination of said face the bed is permitted to fall by gravity until the rollers reach the central depression in the cam-tracks and move up the inclined faces 25. The momentum which the bedstead generates while the rollers are moving down the inclined faces 27, in connection with the gravity of the bedstead, serves to continue the movement, the rollers passing up the inclined faces 25, which, by reason of their inclination and the force of the spring, serve as brakes and thus lower the free end of the bed gently to the floor. To return the bed, the free end of the bedstead should be elevated sufficiently to start the rollers down the inclined faces 25, and the force of the spring serves to overcome the weight of the bed, which is thus elevated within the casing.

From the above it will be seen that I have improved the manner of pivotally connecting the bed-frame and casing, and that I have constructed a bed which may be lowered to an open or unfolded position or raised and closed to a folded position with but very slight effort upon the part of the operator, the entire operation being accomplished smoothly and noiselessly.

Having described my invention, what I claim is—

1. In a folding bed, the combination, with the casing and the bed-frame pivoted at its

rear ends to the side walls of the casing, of opposite toothed rollers located in brackets at the lower edge of the rear wall of the bed-frame, a bow-spring centrally located upon the bottom of the casing, a bolster mounted on the bow-spring, stirrups located in the ends of the bolster, inclined bars having their lower ends hinged to the base of the casing and their upper ends loosely mounted in the stirrups, and toothed cam-tracks for the reception of the rollers, mounted on the inclined bars and provided with the inclined faces 25 at the rear ends of the bars, substantially as specified.

2. In a folding bed, the combination, with the casing and the bed-frame pivoted at its rear end to the side walls thereof, of opposite rollers located in brackets at the lower edge of the rear wall of the bed-frame, a bow-spring centrally located upon the bottom of the casing, a bolster mounted on the spring and provided with opposite perforations at its ends, U-shaped stirrups having their terminals passed through the perforations, adjusting-nuts thereon, the inclined bars having their lower ends hinged to the base of the casing and their upper ends loosely supported by the stirrups, and the cam-track mounted upon the bars, adapted to receive the rollers and provided with the rear inclined face 25 and the inclined shoulder 27, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

BIRT RINGO.

Witnesses:

J. C. BUCKNER,
J. T. NELSON.