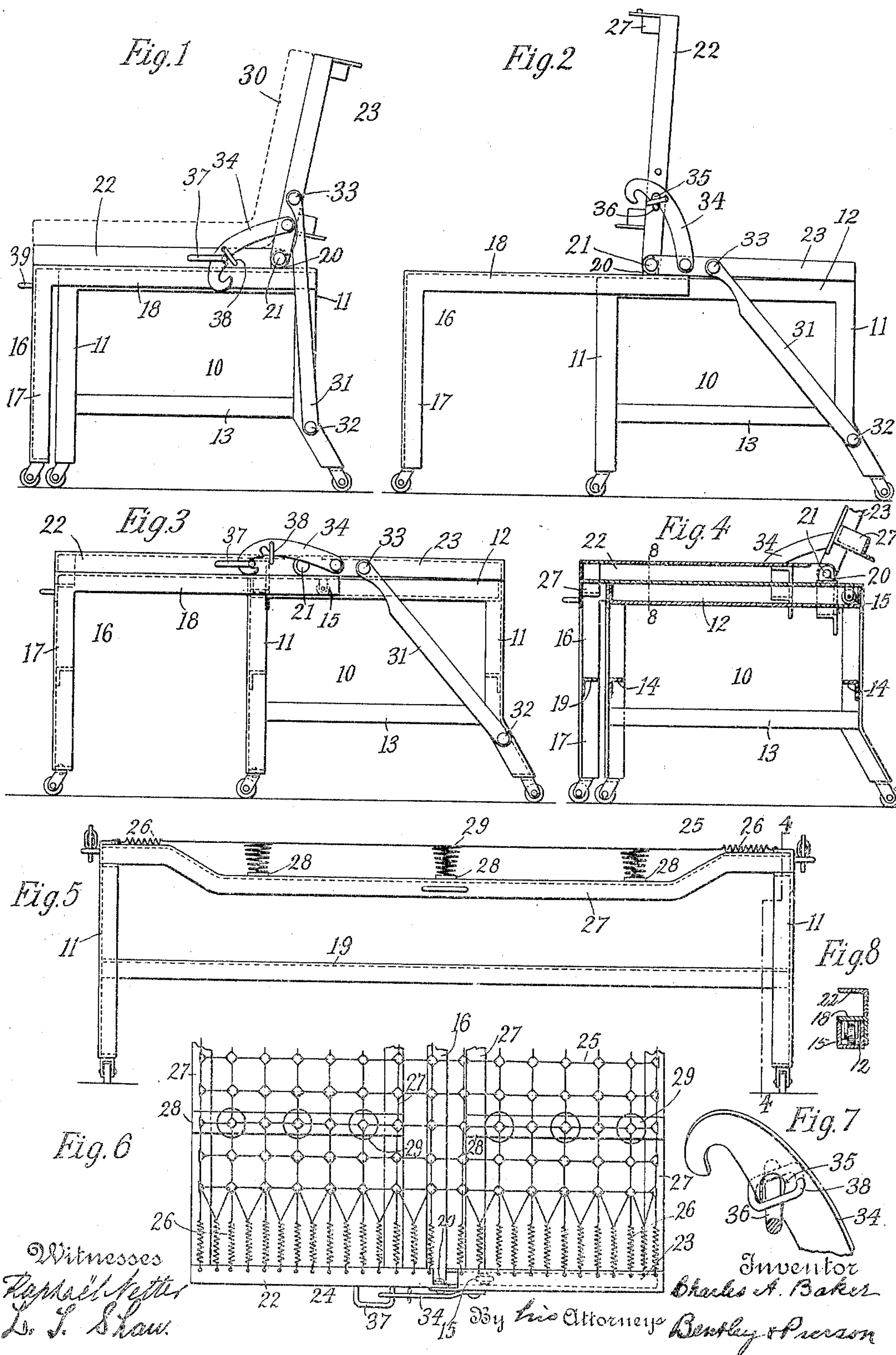


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C. A. BAKER.  
COUCH BED.

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# UNITED STATES PATENT OFFICE.

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## COUCH-BED.

SPECIFICATION forming part of Letters Patent No. 793,761, dated July 4, 1905.

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*To all whom it may concern:*

Be it known that I, CHARLES A. BAKER, a citizen of the United States, residing in the city, county, and State of New York, have  
5 invented certain new and useful Improvements in Couch-Beds, of which the following specification and accompanying drawings illustrate one form of the invention, which I now regard as the best out of the various  
10 forms in which the invention may be embodied.

My invention relates to folding couch-beds of that type employing a main stationary frame, a secondary frame adapted to slide in  
15 and out on the main frame and having its forward edge resting on the floor, and a back and seat hinged to each other and to the secondary frame, together with catch devices for connecting said back and seat at an angle or  
20 allowing them to lie extended horizontally, and linkage attached to the main frame and back, whereby the secondary frame and the back and seat carried thereby are caused to slide in and out when the seat is properly  
25 manipulated by grasping and swinging its front edge. Couch-beds of this kind can be opened and closed without moving them out from the wall. Heretofore these articles have been made in the form of a sofa with  
30 stationary ends and the sliding frame, as well as the back and seat, made in box form, a construction particularly adapted to being manufactured in wood. Such affairs are heavy and clumsy, collectors of dust, and occupy  
35 practically all of the space between the top level of their seat and the floor.

My invention embodies a new arrangement of the parts in their individual construction and mutual relation, such that a couch-bed  
40 having the general characteristics first mentioned may be made of light and strong materials, such as rolled angle iron or steel, and is furthermore adapted to receive a modern pattern of wire mattress, such as one made of  
45 a flexible fabric of wire bars and plates suspended by tension-springs at its edges and preferably supported underneath by bed-springs.

The invention includes a construction of

angle-iron metallic frame arranged for the support of the bed-springs and the attachment of the wire-mattress fabric.

It further includes a simple improved form of catch for connecting the back and seat, constructed for a pulling as distinguished  
55 from a pushing action when the couch-bed is drawn or folded together.

Of the accompanying drawings, Figure 1 represents an end elevation of a couch-bed embodying my improvements with the parts  
60 in folded position to constitute a couch. Fig. 2 represents an end view with the seat thrown up to extend the couch and convert it into a bed. Fig. 3 represents an end view with the seat depressed into the plane of the back.  
65 Fig. 4 represents a section on the line 4 4 of Fig. 5. Fig. 5 represents a front elevation. Fig. 6 represents a plan view. Fig. 7 represents a perspective view of the catch for connecting the back and seat frames. Fig. 8  
70 represents a section on the line 8 8 of Fig. 4.

The same reference characters indicate the same parts in all the figures.

As shown in the drawings, all of the frames are of skeleton metallic construction, preferably made of rolled angle-iron bars.

The stationary base-frame 10 has legs 11 11 at the four corners thereof, provided with roller-casters and suitable top bars or rails 12  
80 12 at the ends. It also has transverse braces 13 and longitudinal braces 14 connecting the legs. The longitudinal braces are depressed below the top of the base-frame 11 in order to accommodate the depressed longitudinal bars of the movable superstructure hereinafter  
85 alluded to. Transverse top rails 12 are in the form of angle-iron troughs, forming guides for the rollers 15 of the superstructure. It is to be observed that the top of the base-frame is nearer to the mattress-level than to  
90 the floor-level, which is a decided advantage for the purposes of strength, lightness, and cleanliness and ventilation, as well as to afford a direct support for the back-frame, as hereinafter described. The moving superstructure  
95 includes a secondary frame 16, whose principal elements are two legs 17 17 at the forward corners, provided with casters resting



on the floor, top end rails 18 parallel with the rails 12, and a longitudinal brace 19, depressed to about the level of the base-frame 14 and for the same purpose, all of said elements being, as shown, of angle-iron construction. The rear corners of the sliding frame are supported by rollers 15, working in the guides 12, which rollers, together with the forward casters, enable this frame to slide in and out with respect to the base-frame 10. Near the rear edge of the sliding frame 16 and secured thereto are the ears 20, holding the hinge-pins 21 for the seat and back frames 22 23, pivoted upon a common axis, whereby the seat and back frames are attached to the sliding secondary frame. It is not essential that these ears should project upwardly, and, in fact, it is one of the incidents of my departure from a box construction of frames that I dispense with long uprights which have been considered essential features for the purpose of supporting the hinge-pins. The seat and back frames are of similar construction, being of rectangular form with end rails and longitudinal rails made of angle-iron. The end rails 24 have free edges turned inwardly and adapted for the attachment of the wire-mattress fabric. I have shown the fabric 25 of well-known form, supported by tension-springs 26 from the end rails 24 and having a body made up of plates and wire bars. To permit the sag of this mattress, the longitudinal rails 27 of both seat and back frames have their middle portions depressed below their ends, as best seen in Fig. 5, and connect at intervals by cross-bars 28. On these cross-bars and the rails 27 are lodged ordinary bed-springs 29, supporting the fabric 25. The wire fabric 25 may be a single one, continuous over both seat and back sections. The cushion-mattress, which I have shown dotted at 30 in Fig. 1, may also be a separate mattress covering both frames.

At the end of the couch are a pair of links or levers 31, located outside of the frames and having their lower ends pivoted at 32 to the rear legs 11 of the base-frame and their upper ends pivoted at 33 to the end rails of the back-frame 23 a short distance back of the hinge-axis 21. The effect of these links is to cause the superstructure to move outwardly when the back-frame 23 is depressed to a horizontal position, thus causing the back edge of said back-frame to describe nearly a perpendicular line and enable the couch to be extended without drawing it out from the wall.

Pivoted to the end rails of the back-frame 23 at each end are catches 34, designed to elevate the back-frame 23 from a horizontal to a substantially upright position when the seat-frame 22 has been elevated to the proper angle. To engage these catches, the catches further disengaging automatically by proper manipulation in order to permit the seat-frame

to be laid out flat. Each catch 34 has a notch 35 on its under side adapted to engage a keeper-pin 36, formed by one bar of a loop 37, fixed to the end rail of the seat-frame. This notch has a guard or filler in the form of a loop 38, pivoted to swing across the notch and either uncover the said notch to permit the keeper-pin 36 to enter the same when the seat and back frames are placed at a certain angle (shown in Fig. 1) or to drop back of said keeper-pin, as shown in Figs. 2 and 7, when the seat-frame is turned through a further angle, and then as the seat-frame is brought back this guard is drawn over the notch by the retractile movement of the catch 34, and the pin 36 rides on the guard across the notch instead of entering the notch. It will be noted that the under side of the loop-guard 38 engages the lower edge of the catch 34 and is thereby positively held in guarding position, so that the guard does not require an abutting surface other than that furnished by the edge of the catch and the pin 36 in performing its function. Moreover, when the seat and back frames are extended, as in Fig. 3, their pivots and keepers lie in substantially a straight line with the hinge-pins 21, and consequently the catches lie practically in the same plane with the narrow side bars 22 23.

The manner of operation of the couch is as follows: In folded or couch form the sliding frame 16 is drawn in and the seat and back frames 22 23 held in angular relation by the catches 34, as shown in Fig. 1. To extend the couch into the form of a bed, a hand-loop 39 on the front edge of the seat-frame 22 is grasped and said frame swung upwardly at an angle. This allows the back-frame 23 to descend by gravity, and the links 31 cause the frame 16 to slide outwardly. The back-frame having reached a horizontal position, the seat-frame 22 is given a continued angular movement until it is brought into the position shown in Fig. 2, with the keeper-pin 36 back of the guard 38 on catch 34, whereupon the seat-frame is then swung down to a horizontal position, and the keeper-pin 36 passes the notch in catch 34 without entering the same. In this position the back-frame 23 has its forward edge supported by the secondary frame 16 and its rear edge supported directly on the upper edge of the base-frame 10 without the intervention of auxiliary legs or other supports. It is to be observed that the catches 34 are located above the hinge-axis 21 when the seat and back frames are in angular relation, so that the angular movement of the seat-frame is transmitted to the back-frame by a pull through these catches when the couch is folded up from the position shown in Fig. 3 from that shown in Fig. 1. I prefer to have this motion a pull rather than a push in order to make the catch mechanism light, strong, and durable.



ble and avoid obstructive projections below the axis of the hinge.

What I claim as new, and desire to secure by Letters Patent, is—

1. A couch-bed comprising a stationary base-frame of skeleton metallic construction and of such height that its upper portions supporting the movable superstructure are nearer the mattress-level than the floor-level, a movable superstructure of skeleton metallic construction including a secondary frame mounted to slide on the floor and on said base-frame, and back and seat frames hinged to said secondary frame, the back-frame when depressed having its rear edge supported directly on the upper edge of the base-frame, automatic catch mechanism for connecting the seat and back frames in angular relation, and pivoted links at the two ends of the bed outside of the base-frame connecting said back-frame and base-frame for causing the superstructure to slide forward when the back-frame is depressed, and vice versa.

2. A couch-bed comprising a stationary base-frame of skeleton metallic construction embodying integral upper cross-bar members of angle-iron forming roller-guides, a secondary frame of skeleton metallic construction having horizontal end bars of angle-iron bent downwardly on the outside of the said cross-bar members of the base-frame to hold the secondary frame against endwise movement on the base-frame, rollers on the secondary frame coöperating with said guides, and back and seat frames hinged to said secondary frame.

3. A couch-bed comprising a supporting-frame, seat and back frames of skeleton metallic construction hinged to said supporting-frame and including metallic end bars with inwardly-presented free edges, metallic longitudinal bars with their middle portions depressed below their ends to permit sagging of the spring-mattress, and a flexible wire-fabric mattress or web structure attached to the said free edges of the end bars of both seat and back frames.

4. A couch-bed comprising a base-frame and a secondary frame mounted to slide thereon, both of skeleton metallic construction and having metallic longitudinal bars depressed below the upper edges of said frames, seat and back frames of skeleton metallic construction hinged to said secondary frame and having longitudinal metallic bars with middle portions depressed below their ends and connected by cross-bars, a flexible wire-fabric mattress or web structure supported by the ends of the hinged frames, and bed-springs underneath

said mattress on the hinged frames, supported by the depressed longitudinal bars and cross-bars thereof.

5. A couch-bed comprising a stationary base-frame made of metallic bars including upright legs at the four corners and integral end cross-bar members of angle-iron forming roller-guides and joining the upper ends of said legs, a sliding frame made of metallic bars including legs at its forward corners adapted to rest on the floor and at its rear corners having rollers mounted in said guides, a mattress-section including hinged seat and back members made of metallic bars and mounted to swing on said sliding frame, automatic catch mechanism for holding the back and seat members in angular relation, and pivoted links connecting the back member with the base, whereby the sliding frame is caused to move out when the back is depressed, and vice versa.

6. A couch-bed comprising a base-frame, a secondary frame mounted to slide on said base-frame and on the floor, seat and back frames hinged to said secondary frame, catches to connect said seat and back frames in angular relation and having provisions for automatic engagement and disengagement through swinging movements of the seat-frame relatively to the back-frame, said catches being located above the hinge axis of the seat and back frames when the latter are connected in angular relation whereby the back-frame is elevated by a pull transmitted through the catches, said catches each having a pivot and keeper which are located substantially in a straight line with the hinge of the seat and back frames when the latter are extended and linkage connecting the base-frame with the back-frame whereby the superstructure slides outwardly when the back-frame is depressed and vice versa.

7. A couch-bed comprising hinged seat and back frames adapted to fold at an angle to each other or extend to form a bed-top, a keeper-pin on one of said frames, a pivoted catch on the other frame having a notch to engage the keeper-pin, a guard so pivoted to said catch as to swing across the notch, and coöperating members on the guard and catch for arresting the guard in notch-guarding position, whereby the keeper-pin rides on the guard past said notch when the guard is back of the pin.

In witness whereof I have hereunto set my hand this 8th day of February, 1905.

CHARLES A. BAKER.

Witnesses:

CHARLES STROBEL,  
W. A. REED.