Dec. 13, 1938. E. E. WOLLER 2,139,923

STUDIO COUCH

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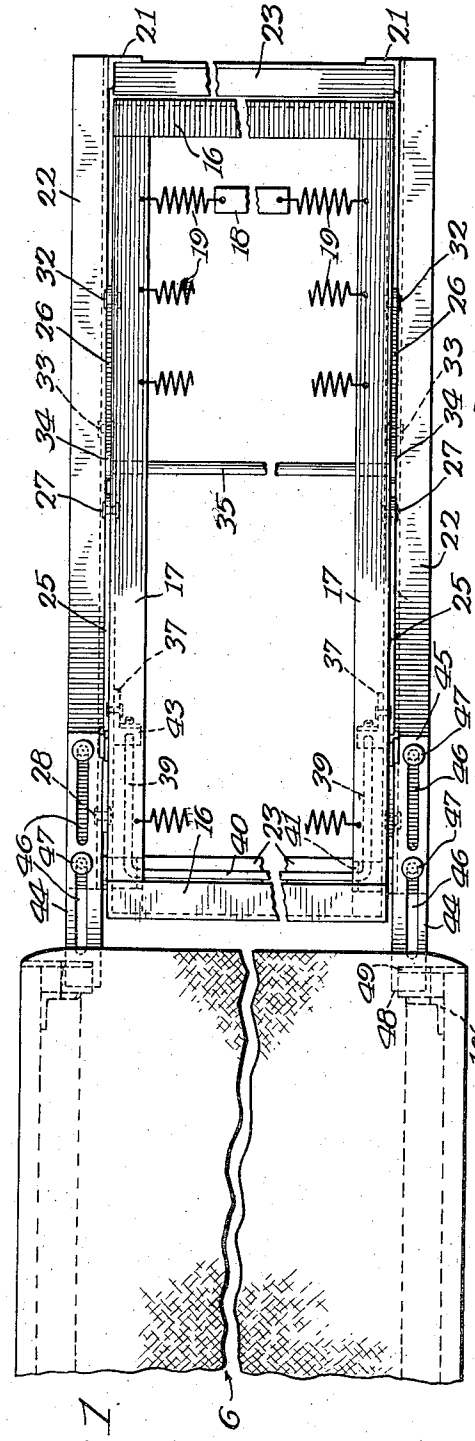

Fig. 1

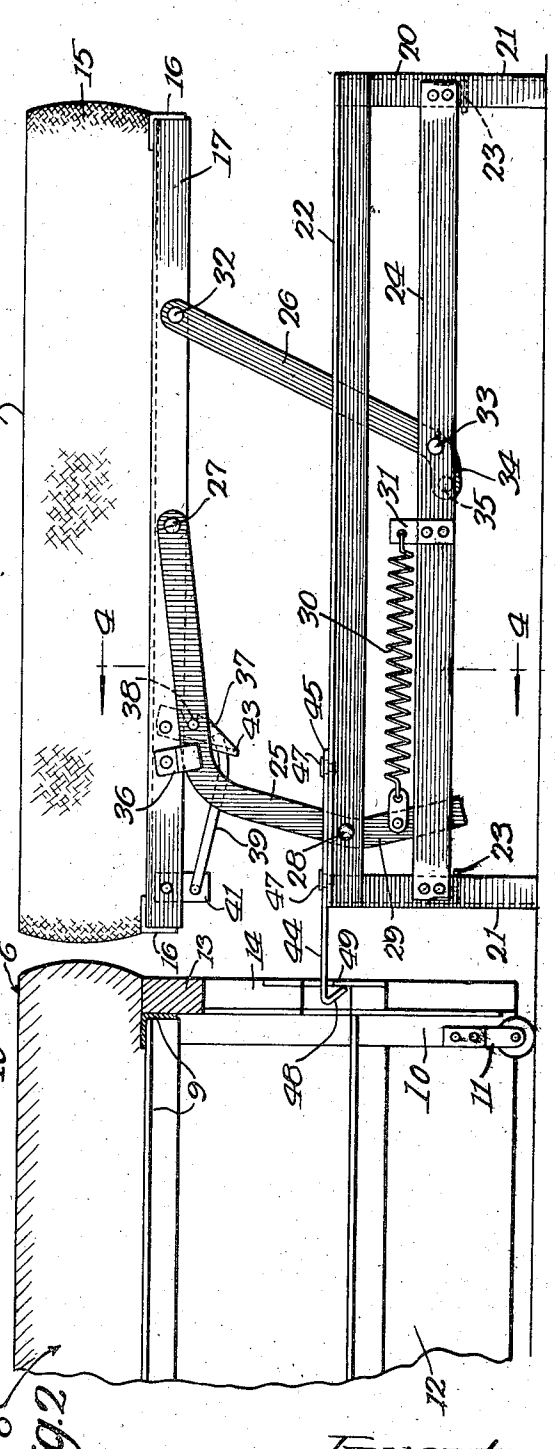

Fig. 2

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Fig. 4

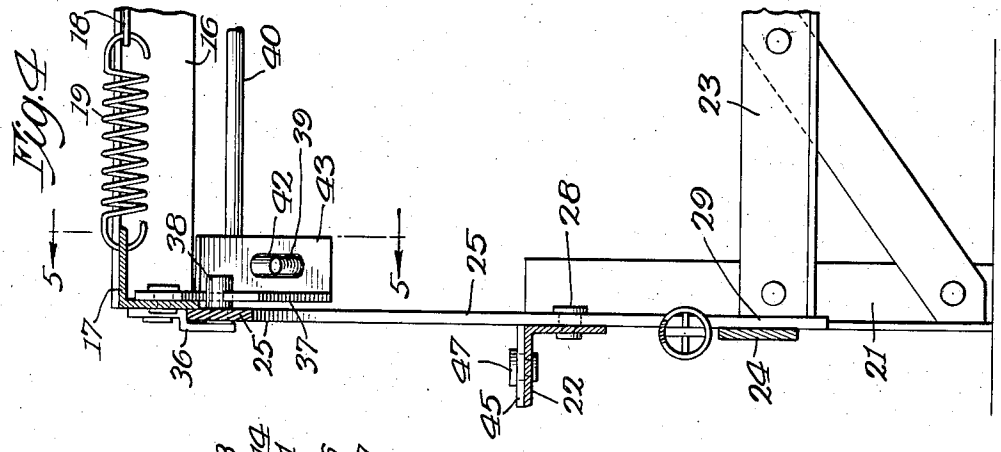


Fig. 3

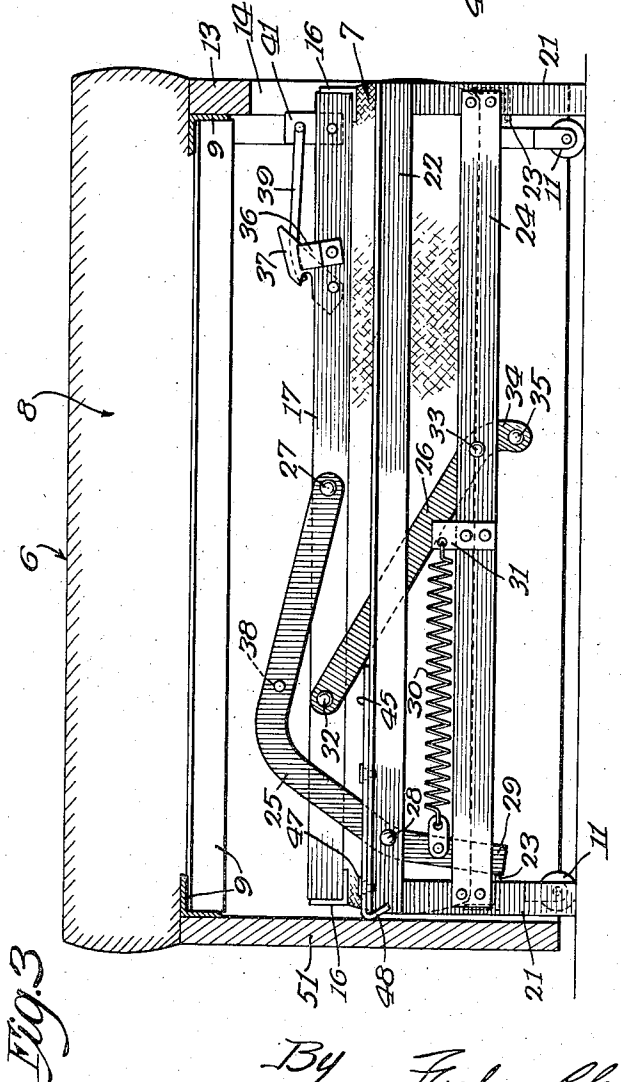
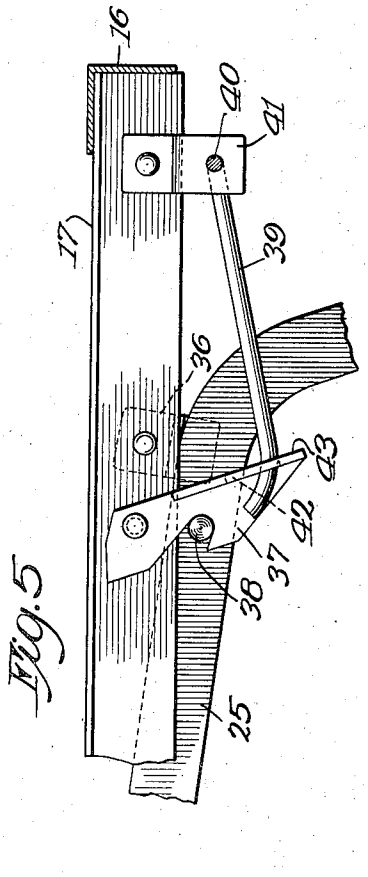


Fig. 5



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UNITED STATES PATENT OFFICE

2,139,923

STUDIO COUCH

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2 Claims. (Cl. 5—26)

This invention relates to improvements in a studio couch or extensible couch bed of the type wherein there are two couch sections, one of which is collapsible and adapted to be received within the other so that the entire structure presents the appearance of a single couch.

The main objects of the invention are to provide a studio couch structure of the character described having improved means for mounting the bed bottom structure of the collapsible section for folding movement so as to permit the collapsible section to be housed within the non-collapsible section; to provide mounting means such as referred to which is simple in construction and durable and efficient in operation; to provide simple but effective means for locking the collapsible bed bottom structure in its bed position; to provide an arrangement which will be effective to rigidly support a collapsible bed bottom structure in its elevated bed position; to provide a simple and efficient self-acting connection between the collapsible bed section and the non-collapsible section for preventing unintentional separation of the two sections; and in general, it is the object of the invention to provide an improved studio couch structure of the type referred to.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawings (2 sheets) wherein there is illustrated a studio couch structure embodying a selected form of the invention.

In the drawings—

Fig. 1 is a plan, certain portions intermediate the ends of the structure being broken away to facilitate illustration;

Fig. 2 is an end view partly in section;

Fig. 3 is an end view partly in section, corresponding to Fig. 2 but showing the parts in changed position;

Fig. 4 is a section on an enlarged scale, on the line 4—4 of Fig. 2; and

Fig. 5 is a section on the line 5—5 of Fig. 4.

Referring now to the drawings, the improved studio couch structure illustrated includes a portable but non-collapsible couch or bed bottom section designated 6 and a collapsible couch or bed section designated 7. As indicated in Fig. 3, the collapsible section, when collapsed, is telescoped within the portable but non-collapsible section so as to be substantially concealed thereby.

The portable section 6 is provided with a resilient bed bottom top structure 8, which may be of any suitable construction not herein shown in detail. The bed bottom structure 8 is suitably supported, preferably on metallic frame work which embodies angle iron frame elements designated 9, and corner posts or legs 10. Rollers or non-swiveling casters 11 are secured to the lower ends of the corner posts 10 to facilitate movement of the portable section 6. The front side and ends of the portable section 6 are preferably closed in solidly with suitably upholstered or finished walls designated 12 and the back or rear side is provided with a wall 13 which is cut out as indicated at 14 to provide an opening through which the collapsible section may pass to the interior of the portable section 6.

The collapsible section 7 comprises a suitable resilient bed bottom structure 15 which is illustrated in this instance as being mounted on a bed spring structure embodying angle iron frame sides 16, 16 and angle iron frame ends 17. The frame elements 16 and 17 are of course rigidly secured together and suitably braced and resiliently supported bed fabric, embodying slats such as indicated at 18 and helical connectors 19, is provided.

The bed bottom structure of the collapsible section is movably mounted on a main supporting frame structure 20 which embodies corner posts 21, 21, frame ends 22 and frame sides 23. The corner posts, frame ends and frame sides are preferably of angle iron construction, as indicated in the drawings, and these parts are suitably riveted or otherwise secured together and braced so as to produce a rigid main supporting frame. Supplemental end members 24 are also provided, said members 24 being spaced downwardly from the top end members 22 and extending transversely of the structure with their opposite ends rigidly secured to the respective corner posts 21.

For mounting a bed structure on the main frame, there are provided at each end of the section, links such as indicated at 25 and 26. The link 25 is preferably of bent formation and has one end pivoted, as indicated at 27, to the bed structure end member 17, preferably about midway of the width of the bed bottom structure. Near its other end, the link 25 is pivoted, as indicated at 28, to the end member 22 of the main supporting frame, this pivotal connection being preferably located adjacent the inner side of said supporting frame. The link 25 is provided with an extension 29 beyond its pivot 28 and said extension engages the inside of the cross member 24 whereby side sway of the link, i. e., sway-

ing movement lengthwise of the bed section, is resisted. A coil spring 30 connected at one end to the extension 29 of the link 25 and at its other end to a bracket 31 secured to the cross member 24, tends to swing the link 25 in counter-clockwise direction, as seen in Fig. 2, and thereby tends to elevate the collapsible bed bottom structure. Obviously, the spring 30 will also tend to cushion the descent or collapsing movement of the bed bottom structure and hence constitutes a counterbalancing spring. The other link 26 is pivoted, as indicated at 32, at its upper end to the bed bottom structure end member 17. Adjacent its lower end, the link 26 is pivoted, as indicated at 33, to the main frame cross member 24. The link 26 is also provided with an extension 34 and the extensions 34 of the links 26 at opposite ends of the structure are connected by means of a tie rod 35. The link 26 is held against sidewise swaying partly by its engagement intermediate its length with the frame element 22 and also by reason of its connection 35 with its cooperating link at the other end of the section.

It will be understood that the locations of the link pivots are such that when the bed is in collapsed position as indicated in Fig. 3, upward lifting movement applied to the bed bottom structure against its outer edge will tend to lift the bed bottom structure upwardly about the pivot 28 of the bent link 25 and such that the link 26 will cause the bed bottom structure to be inverted as an incident to its elevating movement.

Lifting or turning movement of the bed bottom structure is limited in this instance by means of a stop member such as indicated at 36, designed to engage the link 25 when the bed bottom structure has reached its proper bed position substantially coplanar with the bed bottom structure 8 of the portable non-collapsible section.

For securely locking the collapsible section in its elevated position, pivoted hook-like latch members such as 37 are provided, these members being respectively pivoted near their upper ends on the end members 17 of the collapsible bed bottom structure. The latch members 37 are designed to engage studs as indicated at 38, which project inwardly from the links 25. It will be evident that when the latches 37 and the studs 38 are engaged, the bed bottom will not be movable about the link pivots so that the bed bottom is securely locked in its elevated position.

For releasing the latches 37, there is provided a lever arrangement consisting of arms 39, 39 formed integrally with and projecting laterally from a connecting bar 40. The arms 39 are mounted for rocking movement about the axes of the connecting part 40 which projects through openings provided in depending bracket elements, such as indicated at 41, which are secured to the bed bottom structure end members 17. The free ends of the arm 39 are curved slightly as indicated and project through openings 42 formed in flanges 43 which extend inwardly from the back edges of the respective latch members 37. The length of the arms 39 is such that the free end of each arm will clear the respective studs 38 when the arms are swung upwardly and the curved free end portions of the arms engaging the upper edges of the openings 42 will cam the latch members 37 out of engagement with the studs 39, thereby freeing the collapsible bed bottom section for collapsing turning movement.

For preventing unintentional separation of the portable section from the stationary section, there are provided hook members such as indicated at 44 adjacent each end of the structure. Each hook member 44 includes a straight shank portion 45 provided with slots 46, 46 through which pass headed rivets 47, 47 which are anchored in the underlying frame portion 22. It will be seen that the members 44 are thus movable transversely of the stationary bed section, as permitted by the slots 46. The free ends of the members 44 are provided with hook portions 48 which are designed to engage the upwardly extending lip portion 49 of bracket plates 50 which are secured to the back wall 13, as will be readily understood from an inspection of Figs. 1 and 2.

When the couch is to be collapsed, the elevated bed bottom structure of the stationary section is first turned to inverted and collapsed or lowered position, after which the portable bed section is rolled rearwardly so as to fit over and inclose the collapsed stationary section. When the portable section approaches its final position, as indicated at Fig. 3, the front wall 51 thereof engages the hooked end 48 of the member 44 and pushes the members 44 inwardly of the stationary section so that the stationary section may be completely received within the portable section. Upon outward movement of the portable section to expose the collapsible section, the lipped element 49 engages the hook 48 before the sections are fully extended and automatically pulls the hooks out as far as permitted by the slots 46 which therefore determine the spacing of the portable and stationary sections. The hook members 44 may be considered self-adjusting, since no special care need be given to their adjustment.

The described structure is comparatively simple, since it involves no complicated parts and it is easy to operate, durable and rigid. The various movable parts of the collapsible section are so adequately braced that practically no noise is apt to be produced by normal use of the section, and the collapsible section is adequately locked against accidental collapsing. The locking engagement may be readily disengaged simply by manually lifting upwardly on the arms 39, which first serves to cam the latch members 37 out of engagement with the studs 38 and then effects turning and collapsing movement of the collapsible bed section.

Changes in the described structure may be made without departing from the spirit of the invention, the scope of which should be determined by reference to the following claims, the same being construed as broadly as possible consistent with the state of the art.

I claim:

1. In a collapsible couch section of the class described, the combination of a main supporting frame, a bed bottom structure, means for mounting said bed bottom structure on said main frame for turning movement from normal inverted, collapsed position to elevated, reversed bed position, said means comprising a link pivoted at one end to said bed bottom structure intermediate the width of the latter and at its other end to said main frame adjacent one side of the latter, another link pivoted respectively at its opposite ends to said bed bottom structure and main frame, stop means engaged by one of said links for limiting swinging movement thereof as an incident to elevation of the bed bottom structure, and disengageable interlocking means for locking the bed bottom structure in the elevated position determined by said stop means.

2. In a collapsible couch section of the class described, the combination of a main supporting frame, a bed bottom structure, means at each end of the section for mounting said bed bottom on said main frame for turning movement from normal inverted, reversed bed position comprising a link pivoted at one of its ends to said bed bottom intermediate the width of the latter and at its other end to said main frame adjacent one side of the latter, another link pivoted at its opposite ends to said bed bottom structure and main frame respectively, interlocking means carried by said bed bottom and one of said links respectively for locking the bed bottom in its elevated position, and manually operable means for disengaging said locking means to permit collapsing of the couch section, said interlocking means comprising a stud extending laterally from one of said links and a hook member pivoted to the bed bottom structure for engaging said stud upon completion of the elevating and turning movement of the bed bottom, and a member extending longitudinally of the section and having laterally extending arms adjacent its ends, said arms being operatively connected to said hooks for simultaneously effecting disengagement of the same from the respective studs to permit collapsing of the section.

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