Oct. 29, 1935. M. FOX ET AL 2,019,218

STUDIO COUCH

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Fig. 1.

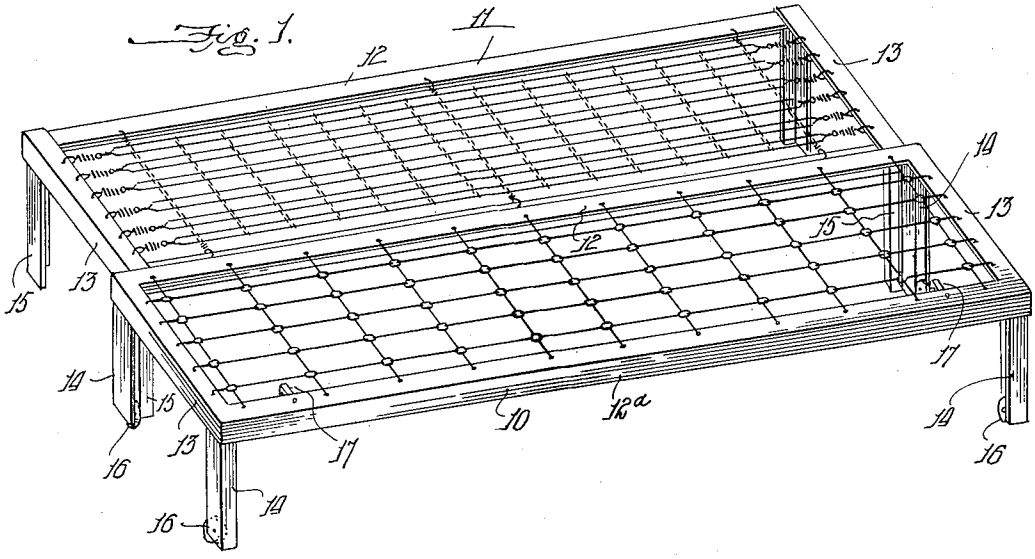


Fig. 2.

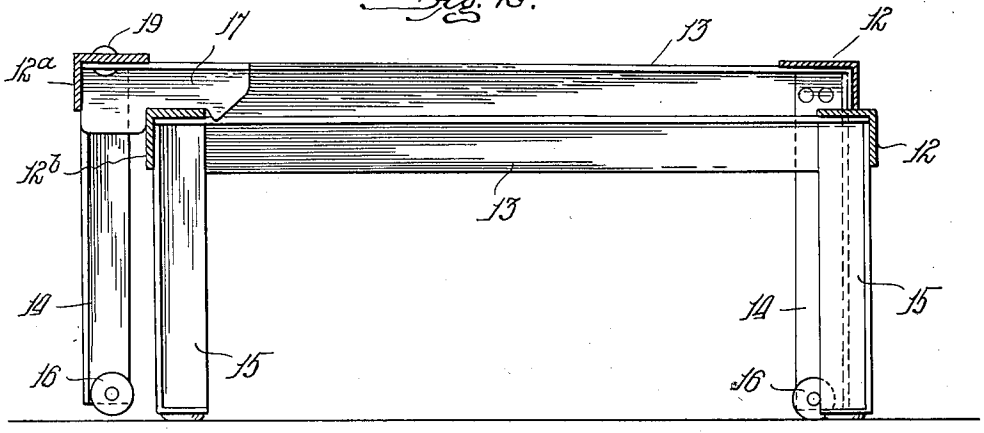
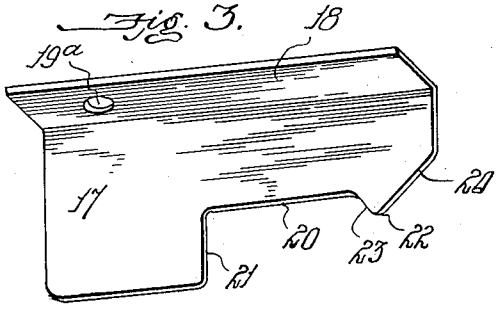


Fig. 3.



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Fig. 4.

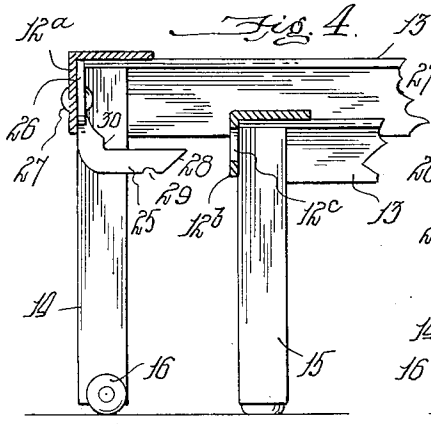


Fig. 5.

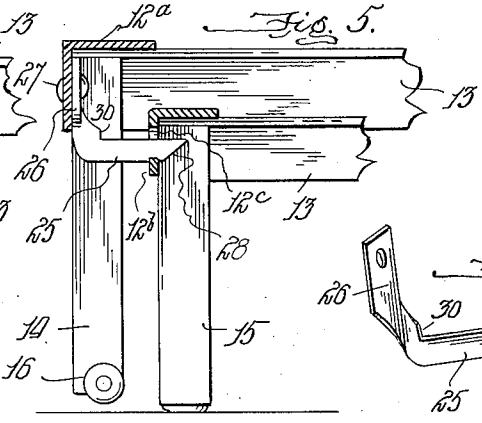


Fig. 6.

Fig. 7.

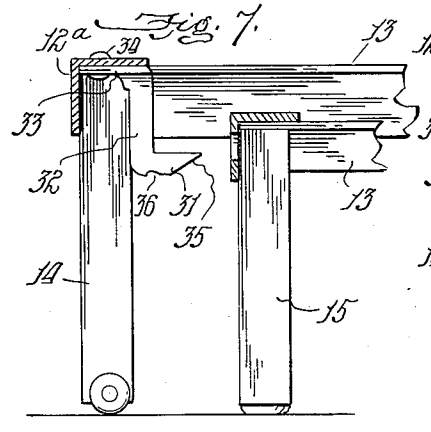


Fig. 8.

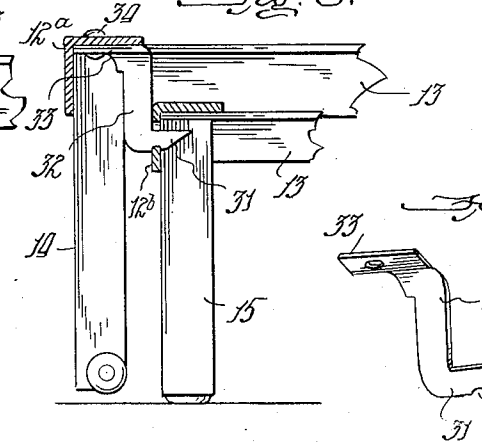


Fig. 9.

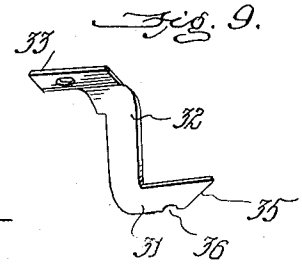


Fig. 10.

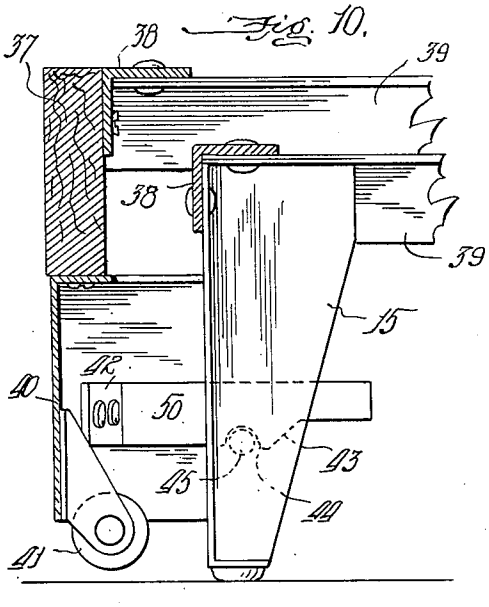
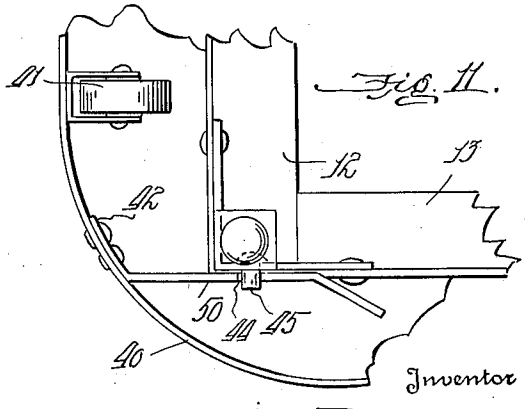


Fig. 11.



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Patented Oct. 29, 1935

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UNITED STATES PATENT OFFICE

2,019,218

STUDIO COUCH

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Application November 10, 1934, Serial No. 752,524

2 Claims. (Cl. 5—18)

Our invention is an improvement in convertible couches of that particular type comprising two sections mounted one upon the other when arranged to form a couch, and in which the uppermost section is slidable upon the floor for the extension thereof in forming a bed, now commonly known as studio couches.

In the construction of the conventional type of studio couch the smaller or under section, nested beneath the larger or uppermost section, remains stationary and therefore rests firmly upon the floor while the uppermost section, which provides for the extension of the couch in forming the bed, is provided with rollers or casters for convenience in sliding the same to the different positions. This simple construction has met with the objection that when arranged as a couch the uppermost section, being easily rolled upon the floor, was apt to move forward when a person was seated thereon, and to overcome the free movement of this section means have been provided for either locking both sections together in closed position or for allowing spring depressed front rollers or casters to recede into the lower ends of the legs by the weight of a person seated on the couch, thus more firmly holding said uppermost section in place. However, the devices generally provided for this purpose either add to the expense of manufacture or are not entirely satisfactory in accomplishing what is desired in operation.

The main object of our invention therefore is to provide a simple and inexpensive locking means in the form of a rigid catch plate attached to the framework of one of the sections, preferably the slidable uppermost section, and adapted to cooperate with the framework of the other or stationary section in not only locking both sections together when closed one upon the other but to slightly lift the front end of the uppermost section from contact with the floor, and at the same time effect engagement of the catch in a more positive manner when a person is seated on the couch, the form of catch plate depending upon the peculiar construction of the couch section to which it is applied, as hereinafter fully set forth.

In the drawings:

Figure 1 is a perspective view of the framework of a studio couch to show the application of the catch plates thereto, the sections being extended.

Fig. 2 is a transverse sectional view with the couch sections closed one upon the other.

Fig. 3 is a perspective view of the preferred form of catch plate in accordance with our invention.

Fig. 4 is a view illustrating the application of a modification of the combined lifting device and catch, the slidable couch section being in lowered position.

Fig. 5 is a similar view with the device in engagement with the stationary couch section.

Fig. 6 is a perspective view of this modification.

Figs. 7, 8, and 9 are views similar to Figs. 4, 5, and 6, illustrating a further modification, and

Figs. 10 and 11 are side and bottom plan views of another modification of the combined lifting device and catch.

The framework of the two sections of a studio couch is usually constructed of steel, an example being shown in Fig. 1 of the drawings in which both sections 10 and 11 are made up of longitudinal and transverse angle bars 12, 13 riveted together at the corners and supported on legs 14, 15 in the form of angle plates, the lower end of the corner posts or legs 15 of the smaller or stationary section 11 resting directly on the floor while the corner posts or legs 14 of the slidable uppermost section 10 are provided with rollers 16 for easily rolling this section on the floor in converting the piece of furniture from couch to bed and vice versa. These couch frames are usually provided with suitable spring bottoms, but the general construction of the same forms no part of our present invention, it being necessary only that in some instances the longitudinal bars at the front of the frames 10 and 11 be angle bars to cooperate with the rigid catch plates hereinafter particularly described, and for convenience in describing the application and operation of said catch plates the angle bars at the front ends of said couch frames are referred to by the numerals 12*a* and 12*b* respectively.

In that form of the combination lifting device and catch illustrated in Figs. 1 to 3 it is shaped to provide a body portion or plate 17 with a laterally projecting flange 18 at its upper longitudinal edge by which it is attached to the angle bar 12*a* of the uppermost section of the couch, by means of rivet 19, and the lower edge of the body portion is shaped for effective engagement with the angle bar 12*b* of the lowermost or stationary section. For this purpose the lower edge of the body portion or plate is provided intermediate its ends with a recess 20 of a length to correspond with the width of the upper member of angle bar 12*b* and of sufficient depth to provide an abutment 21 at its inner end while at the other or outer end the plate is narrowed and

shaped to form a projection 22 with oppositely inclined edges 23, 24, the forwardly inclined edge 24 being at the end of the plate and comparatively long to serve as the lifting element of the catch. As will be seen the catch plate is in the general form of a hook but of peculiar shape to meet certain requirements; that is to say, it is especially adapted to be rigidly and securely fastened to the inner sides of the angle bar 12a with the flange 18 in intimate engagement with the uppermost member of said angle bar and the inner edge likewise in intimate engagement with the vertical member, and as the catch projects inwardly from the angle bar on the slidable couch section it will ride over the angle bar 12b of the stationary couch section for locking engagement therewith, at which time the catch is resting on said angle bar 12b with the upper member of the latter confined within the recess 20 to prevent forward or backward movement of the couch section to which the catch is attached. Catches constructed in accordance with our invention are secured to the front angle bar of the uppermost or slidable couch section 10 near the opposite ends thereof, and the function of these catches is not to merely lock the sections together but what is more important they operate to slightly lift the forward end of the uppermost section with the rollers 16 at this end off the floor so that said couch section cannot be moved forward by a person sitting on the same, for the reason that the weight of the occupant augments the normal engagement of the catch with angle bar 12b. In extending the uppermost of the couch sections it is necessary only to pull it outwardly when the inner inclined edge 23 of the projection or bill 22 of the hook-like catch and lifting device will ride over the inner edge of the angle bar 12b of the stationary couch section, and after the projection clears said angle bar the forward end of the slidable couch section will drop to rest on the rollers, and being then supported on all four rollers it may be easily rolled into bed position. In closing the couch this slidable section is pushed inwardly over the companion section, and the catch plates will automatically ride over the angle bar 12b to lift the front end of the uppermost section and effect a locking engagement with said angle bar in slightly lifted position, in this operation the inner edge or abutment wall 21 striking against the vertical member of the angle bar to limit the inward movement of the uppermost section. As will be noted the intimate engagement of the inner and upper edges of the catch plate with the vertical and horizontal members of the angle bar to which it is secured will provide contact bearings to strengthen the attachment of the catch, thus requiring only a single rivet to secure it in place.

The advantages of providing a rigid catch plate and lifting device of the construction and operating in the manner hereinbefore described will be appreciated by the manufacturers and users of studio couches, and it is obvious that the construction or shape of the catch may be modified without materially changing the operation or affecting its advantages. Consequently in Figs. 4 to 9 inclusive we have illustrated two modified forms, in each instance the combined catch and lifting device being rigidly secured to the angle bar 12a of the uppermost or slidable couch section and engaging the depending member of the angle bar 12b of the lowermost or stationary couch section, in this instance the last mentioned angle bar being provided with a vertical slot 12c.

As illustrated in Figs. 4, 5, and 6 the catch and lifting device is shaped to present a hook-like projection 25 with an attaching member 26 at right angles thereto, said attaching member being secured to the vertical member of the angle bar 12a by rivet 27 so that the hook will project horizontally at such level that when the uppermost couch section is closed over the lowermost couch section said hook will enter the slot 12c and support the forward end of couch section 10 with the front rollers slightly off the floor, as hereinbefore described with reference to the preferred form of catch. So that the forward end of the uppermost couch section will be slightly lifted when the sections are closed the outer end of the hook 25 of this modified form of catch is likewise beveled forwardly, as at 28—corresponding with the inclined edge 24 at the outer end of catch plate 17—and to prevent movement of the slidable couch section when the catch is in engagement with the slot in the angle bar 12b said hook is provided at its lower edge with an arcuate recess 29 into which the wall at the lower end of said slot is received. This catch plate is also provided near the inner end of the upper edge of the hook-like portion with an abutment 30 for limiting the inner movement of the slidable couch section with respect to the stationary couch section, said abutment being incidental to the reinforcement of the catch at the angle thereof. These catches are also rigidly secured to the angle bar 12a, one near each end thereof, and serve to support the slidable couch section with the front supporting rollers off the floor, the engagement of the catches being augmented by the weight of a person sitting on the couch.

As illustrated in Figs. 7, 8, and 9 the form of combined lifting device and catch is also similar in construction to the preferred form, in this instance adapting the device for attachment to the upper horizontal member of angle bar 12a instead of the vertical member, for which purpose the bill 31 of the hook is at the lower end of a vertical shank 32 from which it projects at right angles or horizontally outward, and the attaching member 33 projects at right angles inwardly from the upper end of said shank for attachment to the under side of angle bar 12a by rivet 34. In this form of catch plate the movement of the slidable couch section over the stationary couch section is limited by that part of angle bar 12b above slot 12c striking against the shank of the catch, and as in the forms of construction hereinbefore described the bill of the hook has a forwardly inclined edge 35 at its outer end for raising the slidable couch section, and an arcuate recess 36 engaged by the lower end wall of slot 12c.

As a further illustration of how our improved combined lifting device and catch plate for studio couches may be modified within the spirit and scope of the invention we have illustrated in Figs. 10 and 11 that form adapted for use in connection with a particular type of studio couch in which the frame of the slidable section is a little more elaborate to provide round corners, and consequently in this instance there is a wooden facing board or strip 37 attached to the longitudinal and transverse angle bars 38, 39, and a skirt 40 of metal fastened to the lower end of the wooden strip to the inner side of which the supporting rollers or casters 41 are attached. This frame construction forms no essential part of this application and consequently is merely to show

the application of the proposed catch plate 50 in which one end 42 is bent at the proper angle for attachment to the metal skirt and the outer end provided with a forwardly inclined edge 43 in advance of an arcuate slot 44, the inclined edge serving to lift the front end of the slidable couch section and the arcuate slot of each catch plate engaging a lug 45 projecting outwardly from the front legs of the stationary couch section. In this example of supporting hook or catch plate the outer terminal, immediately beyond the inclined lifting edge, is bent outwardly to form a guide member.

Other modifications may be suggested in the manufacture of the combined lifting device and catch for that type of couch in which one section is slidable over the other section, and we therefore desire that our patent protection as set forth in the claims be understood to cover obvious modifications which retain the general features of construction and advantages in operation.

We claim:—

1. In combination with a studio couch of that type in which the uppermost section is slidable over the lowermost or stationary section, said couch sections having corner posts at their forward ends connected by longitudinal angle bars or rails, of a lifting and locking device attached to the angle bar of the slidable uppermost section to engage the angle bar of the stationary or lowermost section, said device comprising a plate having a member extending at right angles from the upper end of the body portion thereof by which it is attached to the underside of the upper member of the angle bar of the slidable uppermost section of the couch at a little distance from the adjacent corner post, the body portion of the plate having a straight rear edge at right angles to the attaching member for intimate engagement of said edge and attaching member with the inner sides of the angle bar, a forwardly inclined edge at the outer end of the body portion of the plate for lifting the forward end of the couch section, and a recess in the lower edge of the plate in the rear of the inclined edge for engaging the upper member of the angle bar of the stationary section to firmly hold the slidable section of the couch in slightly lifted position on the stationary section.

2. In combination with a studio couch of that type in which the uppermost section is slidable over the lowermost or stationary section, said couch sections having corner posts at their forward ends connected by longitudinal angle bars or rails, of a lifting and locking device attached to the angle bar of the slidable uppermost section to engage the angle bar of the stationary or lowermost section, said device comprising a plate having a member extending at right angles from the upper end of the body portion thereof by which it is attached to one of the members of the angle bar of the slidable uppermost section of the couch at a little distance from the adjacent corner post, a forwardly inclined edge at the outer end of the body portion of the plate for lifting the forward end of said couch section, and a recess in the lower edge of the plate in the rear of the inclined edge to firmly hold the slidable section on the stationary section.

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