

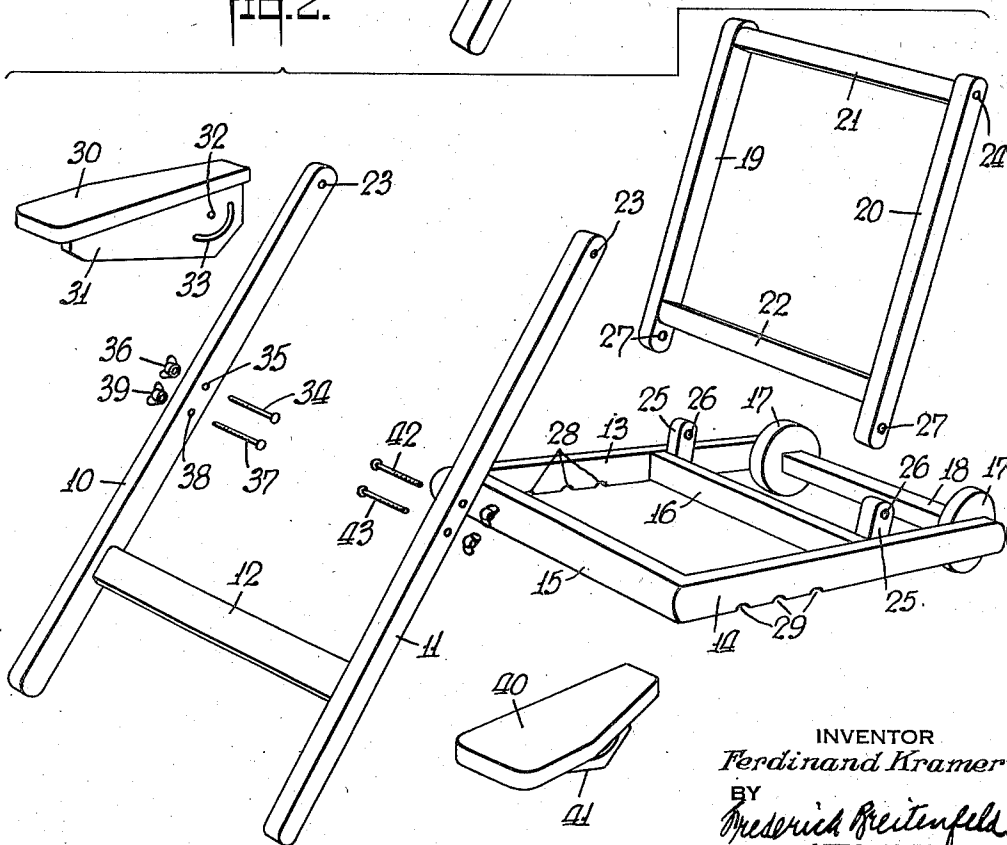
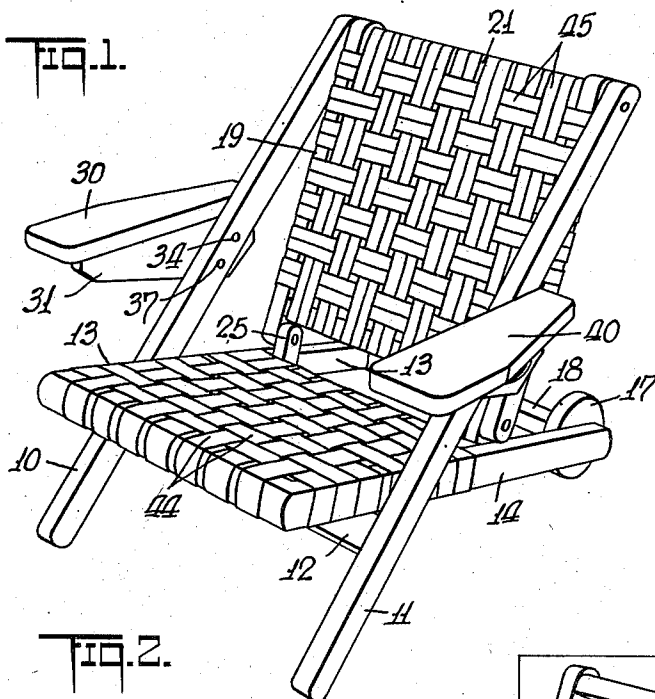
Sept. 21, 1948.

F. KRAMER
LOUNGE CHAIR

2,449,747

Filed July 27, 1945

2 Sheets-Sheet 1



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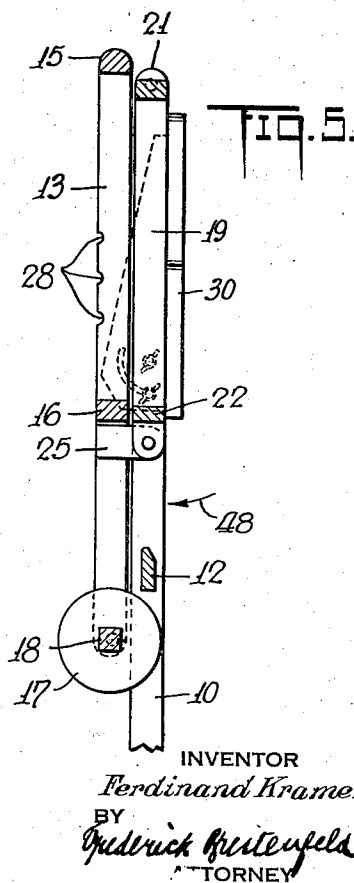
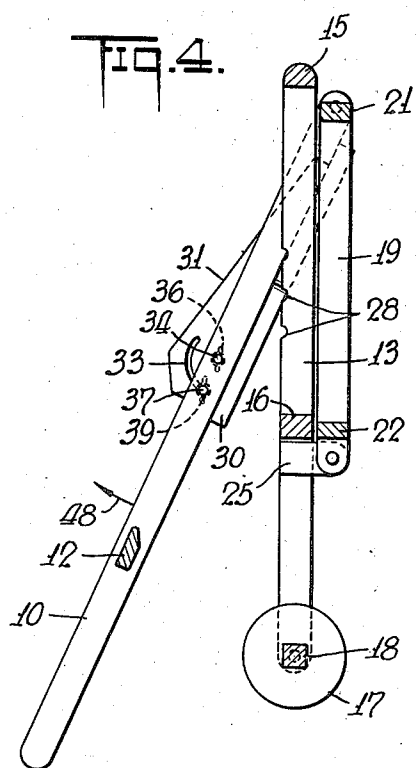
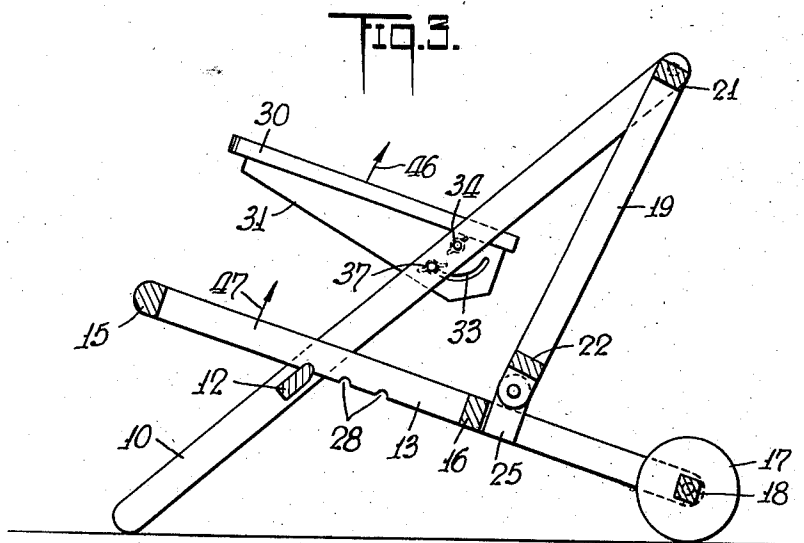
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F. KRAMER
LOUNGE CHAIR

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2 Sheets-Sheet 2



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LOUNGE CHAIR

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6 Claims. (Cl. 155-117)

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My present invention relates generally to furniture, and has particular reference to chairs and settees of the kind which are primarily intended for use on porches, terraces, and in other informal surroundings.

It is a general object of the invention to provide certain structural innovations in the type of lounge chair in which the parts may be conveniently adjusted to bring them either into a compact relationship for purposes of shipment or storage, or into selected set-up relationships in which varying degrees of sitting or reclining comfort are afforded.

A chair embodying the features of the present invention is composed of a relatively small number of constituent parts each of which is simple and inexpensive in structural character; it is staunch and stable; it is unusually comfortable; and it is highly ornamental in appearance. It may be manufactured, as may be desired, of wood, metal, plastics, or other structural materials; and it lends itself readily to the employment of a wide variety of attractive seat and back coverings and other ornamental embellishments.

A characterizing feature of the invention resides in the employment of only three simple basic frames which may be designated, for the sake of convenience, as a bracing frame, a seat frame, and a back frame, these parts being pivotally associated in a special but simple relationship which achieves the desired objectives in an unusually efficient manner. Briefly, when the device is set up, the bracing frame slants rearwardly upwards with its lower end defining a front support, the seat frame slants forwardly upward and intersects the plane of the bracing frame, and the back frame is pivoted at its upper edge to the upper end of the bracing frame and at its lower edge to a midportion of the seat frame rearwardly of said intersection. This produces a structurally strong and rigid assembly, and affords a simplified yet highly effective means for selectively adjusting the seat and back frames into various angularities, and for swinging the parts, when desired, into a compact substantially aligned relationship when the device is to be stored or packaged.

Among the further features of the invention are the simplified details of the frames themselves, the improved means for retaining the parts in the selected set-up relationship, and the provision of arm rests whose design and mounting are of special character.

One way of achieving these general objects and advantages, and such other advantages as

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may hereinafter appear or be pointed out, is exemplified in the accompanying drawings, in which:

Figure 1 is a perspective view of a lounge chair constructed in accordance with the present invention;

Figure 2 is an exploded view of the parts entering into the construction;

Figure 3 is a longitudinal cross-sectional view of the chair in set-up condition; and

Figures 4 and 5 are views similar to Figure 3, showing successive steps in the collapsing of the device into compacted storage or shipment condition.

The device I have chosen to illustrate is a chair whose structural elements are composed of wood, but it will be understood that any other suitable material may be used, if desired.

I have shown a bracing frame composed of a pair of spaced elongated elements 10 and 11, and a cross-bar 12 extending between them. This cross-bar is positioned relatively near the lower ends of the elements 10 and 11, these lower ends defining a front support for the chair when it is set up, and the cross-bar 12 defining a seat support.

The seat frame is similarly composed of a pair of spaced elongated elements 13 and 14, and is provided with a pair of cross-bars 15 and 16, the cross-bar 15 being preferably at the forward end of the seat frame elements, the cross-bar 16 being rearwardly positioned. The rear or lower ends of the seat frame define a rear support for the chair when it is set up, and I have shown the possibility of securing wheels 17, of appreciable diameter, to these rear ends. The provision of such wheels is optional but is desirable because of the facility with which the chair may be moved from place to place when it is tipped slightly to rest on these wheels alone. A cross-bar 18 may extend between the wheels 17 and may have its ends rounded to serve as bearings upon which the wheels are rotatably mounted.

The back frame is composed of the spaced elongated elements 19 and 20, and the cross-bars 21 and 22, these cross-bars being preferably arranged adjacent to the upper and lower edges of the back frame.

In assembling the device, the upper edge of the back frame is pivoted to the upper ends of the bracing frame elements 10 and 11. This may be accomplished by simple pivot pins extending through preformed openings 23 in the elements 10 and 11, and similar openings 24 in the ele-

ments 19 and 20, although any other convenient pivoting expedient may be employed, if desired.

The back frame elements 19 and 20 are so spaced that the width of the back frame, throughout its extent, is narrower than the space between the bracing frame elements 10 and 11. That is, in pivoting the back frame to the bracing frame, the elements 19 and 20 lie on the inside of the elements 10 and 11, respectively.

The back frame has its lower edge pivoted to the seat frame at a midportion of the latter. The preferred way of accomplishing this is to provide upstanding lugs 25 on the seat frame elements 13 and 14, respectively, these lugs being positioned directly behind the cross-bar 16 and being provided with openings 26 adapted to align with openings 27 in the back frame elements 19 and 20 so as to receive pivot pins or the like. This mode of pivoting permits the seat frame and the back frame to be brought into superposed relationship (see Figures 4 and 5) when the device is to be adjusted into a collapsed condition.

As in the case of the back frame, the seat frame has a width which is, throughout its extent, narrower than the space between the bracing frame elements 10 and 11.

For a purpose presently to be described, the seat frame elements 13 and 14 are provided with a series of spaced devices adapted to engage with the cross-bar 12. Preferably, this result is accomplished by providing the seat frame elements 13 and 14 with a series of longitudinally-spaced notches. I have illustratively shown three such notches 28 formed on the under surface of the seat frame element 13, and a corresponding and respectively aligned set of notches 29 on the under surface of the seat frame element 14.

Where it is desired to provide arm rests, they are associated with the bracing frame as shown most clearly in Figure 2. The arm rest 30 has a depending inner wall 31, provided at its rear end with a pivot opening 32 and with an arcuate slot 33. The wall 31 is applied to the external surface of the bracing frame element 10, and a threaded pin 34 is passed through an opening 35 and through the opening 32, a wing nut 36 being then applied to hold the parts in releasable engagement. A similar pin 37 extends through an opening 38 in the frame element 10, and then passes through the slot 33, a wing nut 39 engaging the end of the pin. In similar fashion, the arm rest 40 is provided with a depending wall portion 41, and pins 42 and 43 effect the desired engagement in the manner hereinbefore described.

It will be observed that the seat frame and the back frame are each of such character that any selected type of upholstery may be provided thereon. I have illustratively shown a series of interlaced strips 44 secured to the seat frame, and a corresponding set of interlaced strips 45 secured to the back frame. These strips may be applied in any desired manner, and are merely illustrative of the type of ornamental and comfortable span that may be provided for the purpose. The seat upholstery, whatever its nature, extends only between the cross-bars 15 and 16, and not rearwardly beyond the latter. Similarly, the upholstery on the back frame, whatever its nature, is conveniently secured to the cross-bars 21 and 22, and does not extend downwardly beyond the latter.

For the sake of convenience, the frame elements have been shown in their original bare state in each of Figures 2-5.

When the parts are assembled, and the chair is

set up, it assumes the appearance shown in Figure 1. One set of notches (28, 29) is in engagement with the upper attenuated edge of the cross-bar 12. This defines a rigid structure of great strength and stability, since it is basically triangular in nature, as shown most clearly in Figure 3. One arm of the triangle consists of that portion of the bracing frame which extends from its upper end to the seat support 12. Another arm of the triangle consists of the back frame. The third arm of the triangle consists of that portion of the seat frame which lies between the lower edge of the back and the seat support 12.

This rigidity is retained even when other sets of notches are engaged with the seat support 12. In Figure 3, for example, the foremost set of notches is engaged with the cross-bar 12. This establishes a predetermined angularity of the seat and back frames with respect to the horizontal, and with respect to each other. By lifting the seat frame by a slight amount, and pulling it forwardly, the second or third set of notches may be caused to engage with the seat support 12, and this adjusts the chair to a different angularity of the seat and back frames with respect to the horizontal, and with respect to each other.

In any of the selected adjustments, the chair is unusually comfortable, since there is a firm seat for a person to sit upon and a firm back to lean against, and since both the seat and the back can be comfortably and resiliently upholstered. The weight of the sitter does not alter the relationships of the parts, as is often the case in connection with ordinary so-called "camp chairs" or with reclining chairs having long strips of canvas or the like which sag uncomfortably under the weight of a sitter. Nor is the sitter subjected to the uncomfortable hard feeling which is customarily experienced in a collapsible chair, such as a bridge chair or the like, where the seat and back are often upholstered, non-adjustable in angularity, and where the seat portion is rigidly horizontal, rather than rearwardly inclined as in the present case.

Similarly, weight that may be applied to the arm rests of the present chair does not have any tendency to disturb the stability of the chair, nor does it tend to press the arm rests out of position. As will be observed in Figure 3, downward pressure upon the arm rest forces the pin 37 against the forward end of the slot 33, thus affording a firm resistance to the weight which may be applied.

Coupled with the foregoing advantages, is the ability to adjust the present chair into a collapsed condition so that it may be conveniently stored or shipped in a compact relationship of parts. In accomplishing this objective, the wing nuts 36 and 39 (and the corresponding wing nuts at the opposite side of the bracing frame) are slightly loosened, and the arm rests are swung upwardly (as indicated by the arrow 46 of Figure 3) so that they lie substantially in alignment with the bracing frame, as indicated in Figures 4 and 5. In this position, the wing nuts are tightened so that the arm rests remain secure. The seat frame is then lifted, as indicated by the arrow 47 of Figure 3, bringing it into superposed relationship to the back frame, as indicated in Figure 4. Finally, the bracing frame is swung in the direction of the arrows 48 of Figures 4 and 5 to bring the parts into the compacted relationship shown in Figure 5.

Obviously, the chair may be made wider, without altering its basic structural nature or ad-

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vantages. The term "lounge chair" as used herein and in the appended claims, is therefore intended to include within its scope, any bench, settee, or similar device.

Also, while I have shown a seat support in the form of a simple cross-bar 12 and a means for engaging this seat support by means of notches in the seat frame, equivalent expedients may be employed to accomplish the same general objective, and there may be fewer or more of the selectable devices, exemplified by the notches 28 and 29.

In general, it will be understood that the details herein described and illustrated may be modified, in a number of respects, by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. In a lounge chair of the character described, a bracing frame slanting rearwardly upwards and provided with a seat support, the lower end of said frame defining a front support for the chair, a seat frame slanting forwardly upwards and intersecting said bracing frame at the level of said seat support, said seat frame removably engaging said seat support, the lower end of said seat frame defining a rear support for the chair, and a back frame pivoted at its upper edge to the upper end of said bracing frame and at its lower edge to a midportion of the seat frame rearwardly of said intersection.

2. In a lounge chair of the character described, a bracing frame slanting rearwardly upwards and provided with a seat support, the lower end of said frame defining a front support for the chair, a seat frame slanting forwardly upwards and intersecting said bracing frame at the level of said seat support, the lower end of said seat frame defining a rear support for the chair, a back frame pivoted at its upper edge to the upper end of said bracing frame and at its lower edge to a midportion of the seat frame rearwardly of said intersection, and means for releasably securing the seat frame, at selected different regions thereof, to said seat support.

3. In a lounge chair of the character described, a bracing frame slanting rearwardly upwards and provided with a seat support, the lower end of said frame defining a front support for the chair, a seat frame slanting forwardly upwards and intersecting said bracing frame at the level of said seat support, the lower end of said seat frame defining a rear support for the chair, a back frame pivoted at its upper edge to the upper end of said bracing frame and at its lower edge to a midportion of the seat frame rearwardly of said intersection, and means for releasably securing the seat frame, at selected different regions thereof, to said seat support, said means comprising a series of spaced devices carried by the seat frame and adapted to engage with said seat support.

4. In a lounge chair of the character described, a bracing frame comprising a pair of spaced elongated elements and a cross-bar extending between them to define a seat support, said frame slanting rearwardly upwards so that the lower ends of said elements define a front sup-

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port for the chair, a seat frame slanting forwardly upwards between said bracing frame elements and resting upon said seat support, said seat frame comprising a pair of spaced elongated elements whose lower ends define a rear support for the chair, and a back frame pivoted at its upper edge between the upper ends of said bracing frame elements and at its lower edge to a midportion of the seat frame rearwardly of said seat support.

5. In a lounge chair of the character described, a bracing frame comprising a pair of spaced elongated elements and a cross-bar extending between them to define a seat support, said frame slanting rearwardly upwards so that the lower end of said elements define a front support for the chair, a seat frame slanting forwardly upwards between said bracing frame elements and resting upon said seat support, said seat frame comprising a pair of spaced elongated elements whose lower ends define a rear support for the chair, and a back frame pivoted at its upper edge between the upper ends of said bracing frame elements and at its lower edge to a midportion of the seat frame rearwardly of said seat support, said seat frame elements being provided with a series of longitudinally-spaced notches adapted releasably to engage with said seat support, whereby the angularity of the seat and back frames with respect to each other and to the bracing frame may be selectively varied.

6. In a lounge chair of the character described, a bracing frame comprising a pair of spaced elongated elements and a cross-bar extending between them to define a seat support, said frame slanting rearwardly upwards so that the lower ends of said elements define a front support for the chair, a seat frame slanting forwardly upwards between said bracing frame elements and resting upon said seat support, said seat frame comprising a pair of spaced elongated elements whose lower ends define a rear support for the chair, and a back frame pivoted at its upper edge between the upper ends of said bracing frame elements and at its lower edge to a midportion of the seat frame rearwardly of said seat support, the back and seat frames being throughout their extent narrower than the space between the bracing frame elements, whereby the chair may be collapsed by pivoting the back and seat frames into superposed relationship and swinging them into a plane substantially parallel to that of the bracing frame.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 6,076	Stewart -----	Oct. 6, 1874
585,913	Haynes -----	July 6, 1897
1,247,303	McLean et al. -----	Nov. 20, 1917
1,876,549	Bales -----	Sept. 13, 1932
1,916,771	Parks -----	July 4, 1933

FOREIGN PATENTS

Number	Country	Date
226,036	Great Britain -----	Dec. 18, 1924
438,081	Great Britain -----	Nov. 11, 1935