Sept. 4, 1945. R. P. BREESE 2,384,234

UTILITY FURNITURE PIECE

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Fig. 1.

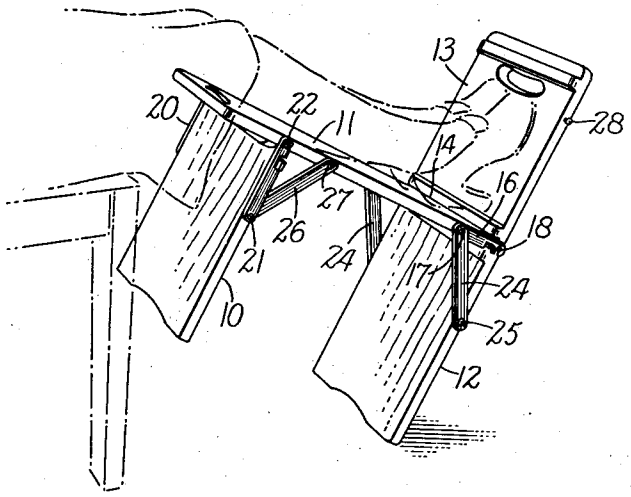
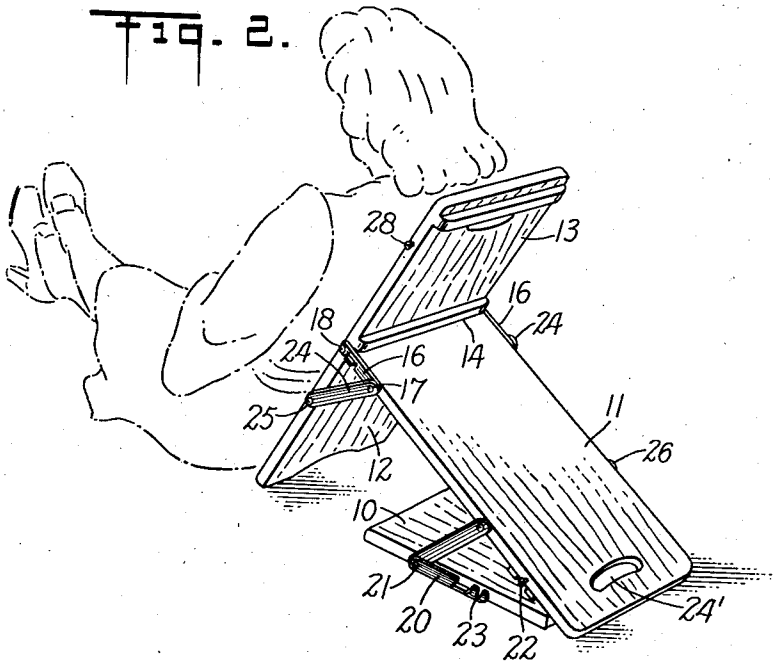


Fig. 2.



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Fig. 4.

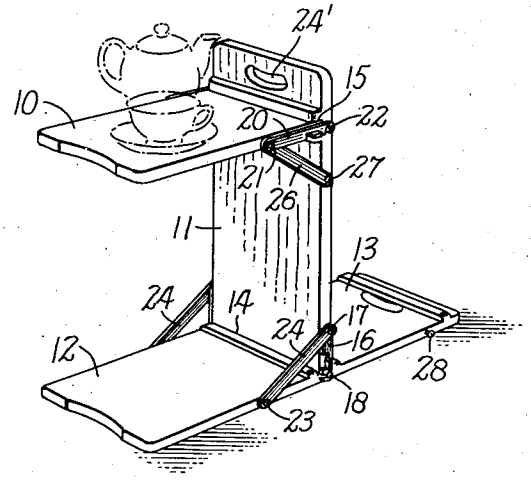
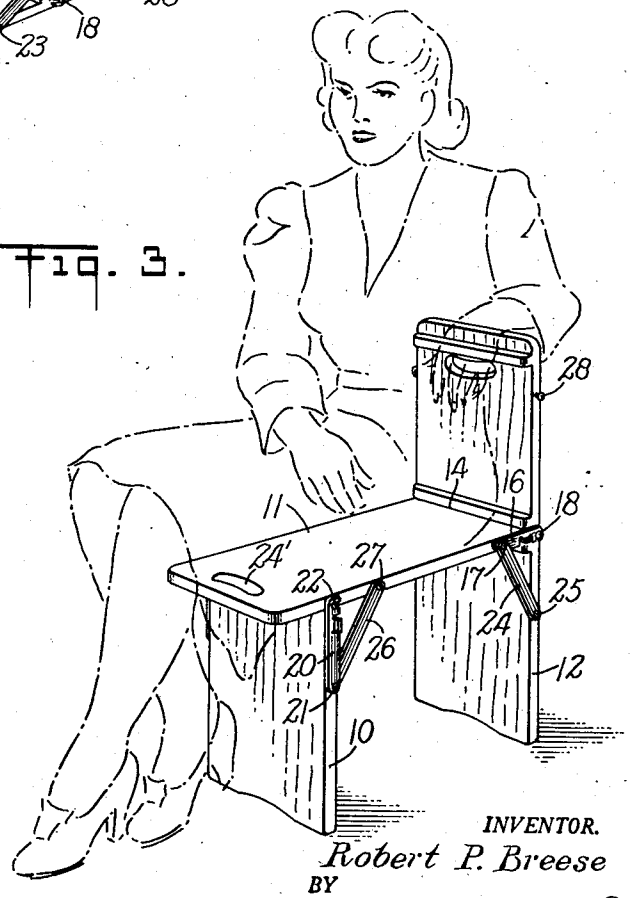


Fig. 3.



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Fig. 6.

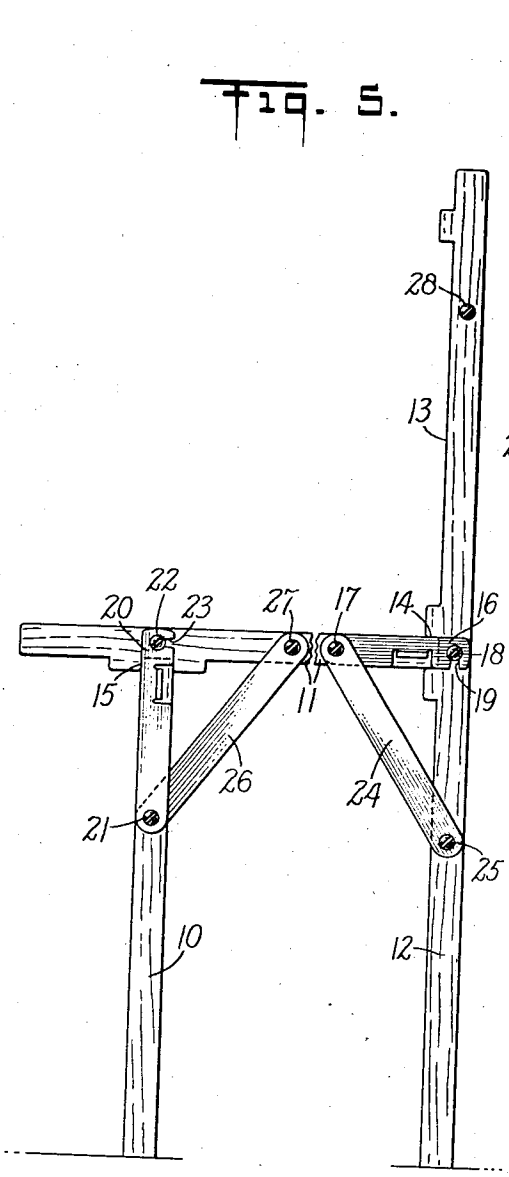


Fig. 7.

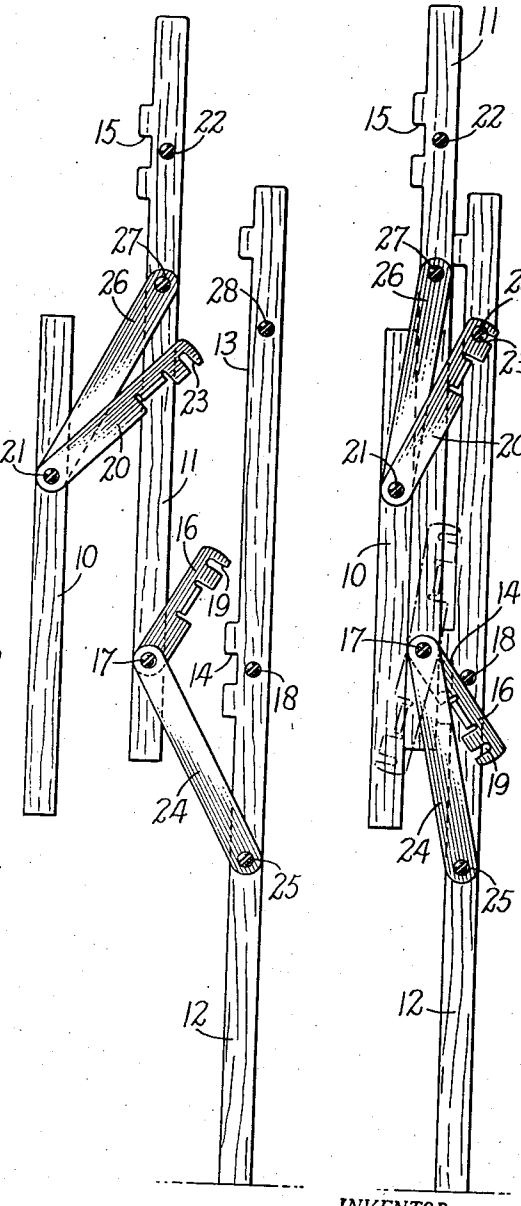


Fig. 5.

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UNITED STATES PATENT OFFICE

2,384,234

UTILITY FURNITURE PIECE

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Application January 27, 1944, Serial No. 519,865

5 Claims. (Cl. 155—141)

This invention relates to a general utility furniture piece.

An object of the invention resides in the creation of a furniture piece that may be folded into a compact substantially flat form and that may be extended for use as a seat, a foot and leg rest, a back rest and a table.

A further object of the invention resides in providing bracing and locking means which are under tension when maintaining the several parts of the furniture piece in their extended operative positions.

A further object of the invention resides in so constructing the piece that it may be formed of stamped sheet metal and thus admirably adapted for outdoor use.

With the above and other objects in view which will appear as the description progresses, my invention resides in the combination and arrangement of parts hereinafter set forth in the claims.

In the drawings which illustrate a specific embodiment of my invention:

Figure 1 is a view of the piece used as a leg and foot rest;

Figure 2 is a view of the piece used as a back rest;

Figure 3 is a view of the piece used as a chair;

Figure 4 is a view of the piece used as a table;

Figure 5 is a view showing the bracing and swing piece in large detail;

Figure 6 is a view showing the positions of the elements as they are swung to their folded positions; and

Figure 7 is a view of the furniture piece folded.

In the illustrated embodiment of the invention the furniture piece includes three major elements 10, 11, and 12, which are adapted to be folded into the compact relatively flat condition illustrated in Figure 7 of the drawings, and which are adapted to be extended into the condition illustrated in Figure 5.

The elements 10, 11 and 12, while illustrated as substantially rectangular in form, may be of various other forms, as will be realized. Means, which will later be described, are provided to cause the elements to swing into a predetermined folded relationship and additional means are provided which will maintain the elements in their extended condition.

When the elements are extended and locked in their extended condition, the furniture piece may be used as a foot and leg rest, as illustrated in Figure 1 of the drawings. When the piece is thus used, it is held in a tilted position by the pressure of the feet against the portion 13 of the element 12. In this position the element 11 will support the legs of the user. The advantage of such a furniture piece when thus used is at once evident when it is remembered that it reduces the work that the heart is called upon to perform. When one is walking the heart pumps the blood through the arteries to the veins. The blood is returned to the heart by the movement of the muscles in cooperation with the valves which are in spaced positions in the veins. When, however, one assumes a sitting position with the feet upon the floor, with the muscles relaxed, they do not perform any pumping action, with the result that the strain upon the heart is increased. It has long been recognized that, when one sits or lies down, the elevation of the feet causes the blood to flow through the valves by gravity and thus reduces the work that the heart must perform. The furniture piece, when used as illustrated in Figure 1, thus reduces the heart action and "rests" the legs and feet of the user.

When the furniture piece is arranged in the position shown in Figure 2, with the element 10 in a folded position, the element 11 becomes a prop and the element 12 a back rest when one sits upon the ground, and the angle assumed by the element 12 is such that the body and the legs of the user will both assume restful and comfortable positions.

When the piece is used as illustrated in Figure 3, it will perform the function of a chair with the usual seat, back and legs.

When, however, the piece is used as illustrated in Figure 4, it will perform the function of a table or stand with a base, a standard and a top or support.

Thus it will be seen that when the piece is used as a leg and foot rest, the element 11 will act as a leg rest and the element 12 as a foot rest, and a pivoted support, so that the proper angle may be assumed. When the piece is used as a back rest, the element 11 will then act as a brace or support, and the element 12 as a back rest. When the piece is used as a chair, the element 11 will act as a seat, the element 12 as a leg and back and the element 10 as a leg, while, when the piece is used as a table or stand, the element 11 will act as a standard, the element 12 as a base and the element 10 as a top.

In each of the uses, each of which subjects the elements to a different set of strains which tends to collapse the elements, the elements are braced by means which are placed under tension instead of compression, with the result that the greater the load the greater the bracing action,

with no tendency of the bracing means to collapse.

Referring now to Figure 5 of the drawings, the element 12 is provided with a socket 14 in which the edge of the element 11 is adapted to seat when the elements are in their extended position, and the element 11 is provided with a similar socket 15 into which one edge of the element 10 is adapted to seat. The element 11 is provided with latches 16, which are pivoted at 17 and each of which is adapted to be engaged with a projection 18 on the element 12 through the medium of a slot 19 which is preferably cam-shaped to draw the element 11 tightly into the socket 14.

A second latch 20 is pivoted at 21 on each side of the element 10 and is adapted to engage a projection 22 through the medium of a slot 23 which is likewise cam-shaped to draw the element 10 tightly into the socket 15.

When the furniture piece is used as a foot and leg rest, as illustrated in Figure 1, the force that is created by the legs of the user, which tends to draw the element 11 from the socket 14, will be resisted by the latches 16, which will be placed under tension rather than compression, and therefore more effectively resist the movement of the element 11.

When the furniture piece is used as a back rest, as illustrated in Figure 2, the latches 16 will have a similar action because there will be a tendency for the element 11 to move out of the socket 14 due to the force exerted by the weight of the body of the user. When the furniture piece is used as a chair, as illustrated in Figure 3, there will, of course, be a tendency for the piece to collapse by the movement of the element 10 out of the socket 15 and the element 11 out of the socket 14, due to the weight of the user. However, the latches 20 will prevent this movement of the element 11, both of said latches being placed under tension by the force which tends to collapse the piece.

When the furniture piece is used as a table or stand, as illustrated in Figure 4, there will be a tendency for the element 10 to move out of the socket 14 and the element 11 to move out of the socket 15, and here again these movements are resisted by the latches 16 and 20, which in this instance are placed under tension by the forces which tend to collapse the elements of the piece.

A pair of links 24 is pivoted to the element 11 and the element 12 at 17 and 25 respectively, which links will permit the element 11, when the latches 16 are disengaged, to first swing away from the element 12 and then upward toward the element 12 into the position illustrated in Figure 7 of the drawings, with the handle 24' in a position to be grasped for transportation of the furniture piece.

Links 26, which are pivoted at 21 and 27 to the elements 10 and 11, permit the element 10, when the latches 20 are disengaged, to swing away from the element 11 and then toward the folded element 11, so that the three elements 10, 11 and 12 will then lie in a compact position. When in this folded condition the latches 20 are adapted to engage projections 28 carried by the element 12 to maintain the elements of this furniture piece in the folded position illustrated in Figure 7.

The latches 16 may be, when the elements 10, 11 and 12 are in their folded condition, swung to lie between the projection 18 which will hold them against unnecessary protrusion. However, these latch members 16, if it is more convenient to the user, may be swung into either of the two dotted line positions illustrated.

Thus it will be seen that I have provided a furniture piece which has many uses, and in which the elements are properly braced and locked together in such manner that the force which tends to collapse the elements places the latch or locking means under tension, which latch or locking means, therefore, will effectively resist the collapsing force. Moreover, certain of the latch means performs the additional function of securing the several elements of the furniture piece in folded condition, while the links that extend between, and are pivoted to, the elements of the piece assist in maintaining the elements of the piece in folded condition.

What I claim is:

1. A collapsible utility furniture piece including three elements, a pair of said elements being adapted to be extended into substantial parallelism and the third element being adapted to be extended to bridge said pair of elements, a socket on one of said pair of elements to receive an edge of the third mentioned element, a socket on the third mentioned element adapted to receive an edge of the other of said pair of elements, links pivotally connected between one of said pair of elements and the third mentioned element and between the other of said pair of elements and said third element, detachable tension latch connections between one of said pair of elements and said third mentioned element and between the other of said pair of elements and the third mentioned element, whereby the three elements may be held in extended condition and may be folded into substantial parallelism, said tension latches extending substantially perpendicular to said socket carrying elements.

2. A collapsible utility furniture piece including three elements, a pair of said elements being adapted to be extended into substantial parallelism and the third element being adapted to be extended to bridge said pair of elements, a socket on one of said pair of elements to receive an edge of the third mentioned element, a socket on the third mentioned element adapted to receive an edge of the other of said pair of elements, links pivotally connected between one of said pair of elements and the third mentioned element and between the other of said pair of elements and said third element, detachable tension latch connections between one of said pair of elements and said third mentioned element and between the other of said pair of elements and the third mentioned element, whereby the three elements may be held in extended condition and may be folded into substantial parallelism, and means on one of said pair of elements for engagement with one of the latch connections to secure the said three elements in folded condition, said tension latches extending substantially perpendicular to said socket carrying elements.

3. A collapsible utility furniture piece adapted to be used as a chair, including a combined back and back leg, a front leg, a seat extending between the front leg and the combined back and back leg, a transverse socket extending across the front of the combined back and back leg, in which the adjacent edge of the seat is located, a socket extending across the seat adjacent the front edge on the underside thereof in which the adjacent edge of the front leg is located, braces pivotally secured to the seat and to the front and back legs remote from the sockets, a pivotally mounted notched latch engaging a projection extending

between the seat and the combined back and back leg and establishing a breakable connection between the two, and a pivotally mounted notched latch engaging a projection extending between the front leg and the seat and establishing a breakable connection between the two, the first mentioned latch extending in alignment with the seat and the second mentioned latch extending in alignment with the front leg.

4. A collapsible utility furniture piece adapted to be used as a chair, including a combined back and back leg, a front leg, a seat extending between the front leg and the combined back and back leg, a transverse socket extending across the front of the combined back and back leg in which the adjacent edge of the seat is located, a socket extending across the seat adjacent the front edge on the underside thereof in which the adjacent edges of the front leg is located, a pivotally mounted notched latch engaging a projection extending between the seat and the combined back and back leg and establishing a breakable connection between the two, a pivotally mounted notched latch engaging a projection extending between the front leg and the seat and establishing a breakable connection between the two, the first mentioned latch extending in alignment with the seat and the second mentioned latch extending in alignment with the front leg, and diagonal pivoted braces extending between the seat and legs.

5. A collapsible utility furniture piece including a pair of spaced elements and a third element extending between said pair of elements, pivotally connected links extending between points on said pair of elements and points on said third element remote from the points of engagement of said pair of elements with said third element, a socket member on one of said pair of elements for receiving the edge of the third element, a socket member on said third element for receiving the edge of the other of said pair of elements, a tension latch pivoted adjacent one of its ends on one of said pair of elements and detachably engaged adjacent its other end with said third element, a tension latch pivoted adjacent one of its ends on said third element and detachably engaged adjacent its other end with the other of said pair of elements, the first mentioned tension latch extending substantially at right angles to said third mentioned element and the second mentioned tension latch extending substantially at right angles to the member of the pair of elements with which it is detachably engaged, whereby any force applied to any of said elements at any point thereon tending to change the relative positions of said elements will place said latches under tension to prevent the collapse of said elements.

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