

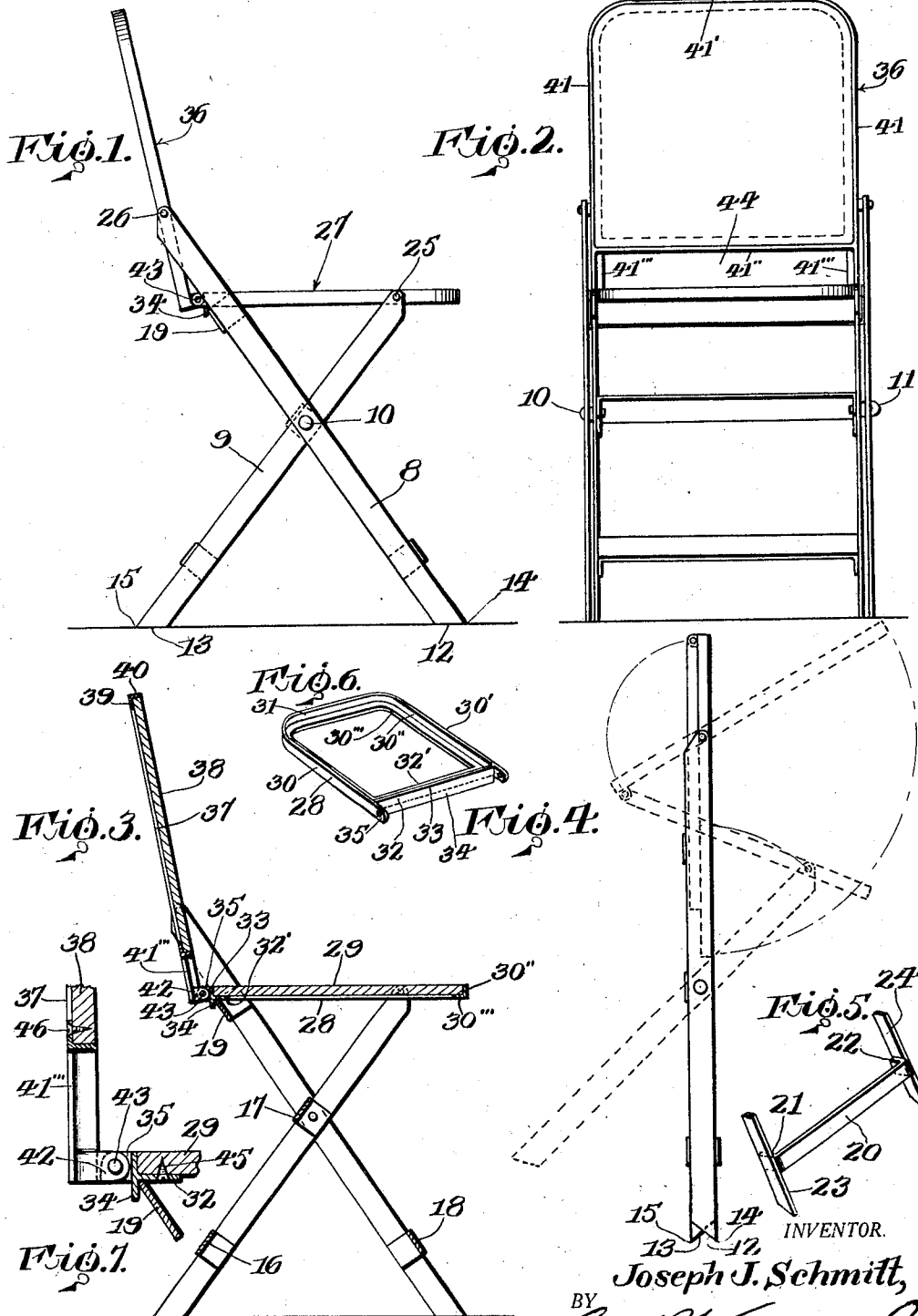
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J. J. SCHMITT

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FOLDABLE CHAIR

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INVENTOR.  
Joseph J. Schmitt,

BY  
Georg Kimmel  
ATTORNEY.

## UNITED STATES PATENT OFFICE

JOSEPH JOHN SCHMITT, OF ALGOMA, WISCONSIN

## FOLDABLE CHAIR

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This invention relates to chairs, more particularly to collapsible or foldable chairs designed primarily to be used in halls, gymnasiums and other buildings where only temporary seating capacity is desired, but it is to be understood that a chair in accordance with this invention may be employed for any purpose wherein it is found applicable, and the invention has for its object to provide in a manner as hereinafter set forth a chair which is adapted to collapse into a compact rectangular unit requiring the minimum of storage space.

Another object of the invention is to provide, in a manner as hereinafter set forth, a chair which may be collapsed or opened by only using one hand, and to further provide a chair which may be placed at rest in an angular position against a wall without the slipping or sliding from that position.

A further object of the invention is to provide, in a manner as hereinafter set forth, a metallic reinforced seat and back thereby providing long life for the chair.

A further object of the invention is to provide, in a manner as hereinafter set forth, a chair including metallic legs, metallic braces therefor, a metallic back frame and a metallic seat frame whereby a chair structure is set up which possesses unusual durability.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a foldable chair which is strong, durable, compact when folded, highly efficient for its intended purposes, easily positioned for occupancy, comparatively inexpensive to manufacture and readily folded.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a side elevation of the chair, in accordance with this invention in an extended position.

Figure 2 is a front elevation thereof.

Figure 3 is a vertical sectional view of the chair.

Figure 4 is a side elevation of the chair when folded, and further illustrating in dotted lines the position of the elements of the chair when extending the same.

Figure 5 is a fragmentary view in perspective illustrating a reinforcing element for a pair of legs.

Figure 6 is a perspective view of the seat frame upon a reduced scale.

Figure 7 is a fragmentary view in vertical section upon an enlarged scale illustrating the pivotal connection.

A chair in accordance with this invention is constructed of metal of suitable strength throughout with the exception of the seat and back panels which are made of wood, fiber or any suitable material. All pivots referred to in the following description, with the exception of the one connecting the seat and the back are formed by round headed rivets with a spacing washer interposed between the pivoted parts to facilitate the folding of the chair without the faces of the movable opposed parts binding against each other. The round head of the rivet is positioned on the outside of the parts to present the best appearance to the observer, whereas the flattened battered head is on the inside concealed from view.

Referring to the drawings in detail the chair includes a pair of front legs 8, a pair of rear legs 9 and with the rear legs 9 pivoted intermediate their ends to the front legs 8 by the individual pivots 10, 11. The front legs are positioned exteriorly of the rear legs. The legs are made of flat strips of metal of a thickness equal to the strength required. The bottom edges 12, 13 of each pair of legs are angularly disposed with respect to the side edges thereof, thereby performing the dual function of providing an even bearing surface with the floor when the chair is in the open position and providing the oppositely projecting points 14, 15 when the chair

is in closed position so as to bight into the floor to prevent slipping when inclined against a wall at either angle.

The rear pair of legs 9 are provided with a pair of flat tie straps 16, 17 in the nature of reinforcing braces to prevent the binding or warping of the legs, and one of said straps 17 is located in alignment with the individual pivots 10, 11 while the other strap 16 is located between said pivots and the bottom edge of leg 9. In addition to the manner of attaching the straps to the legs which will hereafter be referred to, the pivots 10, 11 secure the single strap 17 to the legs 9. The front pair of legs are provided with tie straps 18, 19 similar to 16, 17, with strap 18 located between the pivots 10, 11 and the lower edge 13 of legs 8, whereas the other strap 19 is positioned between said pivots and the upper end of the legs 8. The upper strap 19 provides in addition to its reinforcing function, a rest or support for the seat inasmuch as its top edge abuts against the lower flange of the T-shaped rear bar or member of the seat frame hereafter to be described. The straps 16, 17 of the rear legs project from the same edge of the legs. The straps 18, 19 project from opposite edges of the front legs whereby they are oppositely disposed with respect to each other for the purpose of compensating for the strains on the opposite ends of the central pivots 10, 11 in addition to the reinforcing purposes. Each strap is of like construction and by way of example the structure thereof is illustrated in Figure 5. The strap is formed from a flat strip of metal of the same width and thickness as a leg. The strap includes a body portion 20, extending between the opposed legs. The opposite ends of the body portion are bent inwardly at right angles forming the flanges 21, 22 which contact flush with and are welded to the inner side faces 23, 24 of the opposite legs.

The top of the rear legs 9 are pivoted in the aforementioned manner to the side edges of the seat frame near its forward end as at 25, while the top of the front legs 8 are pivoted in the same manner to the outer side edges of the back frame near its lower end. The front legs 8 are substantially longer than the rear legs 9.

The seat portion of the chair designated generally at 27 is substantially rectangular with rounded forward corners. The seat comprises a metallic frame 28 that provides a support for a panel or seat member 29 formed of wood or other suitable material which is seated therein flush with the top edges of the frame. The sides 30, 30', front 31 of the frame 28 are of angle shape in vertical section having a vertical flange 30'' and a horizontal flange 30''', which horizontal flange extends inwardly from the lower end of the flange 30''. The back member or bar 32 of the frame 28 is of T-shaped cross section

forming a horizontally disposed web 32'' and an upper vertical flange 33 and a lower vertical flange 34 which latter is of less length than the flange 33 and forms a combination thereof. The web 32' is centrally disposed with respect to the flanges 33, 34, and is of greater cross sectional width than the other flanges. The several flanges and the web are integral with each other and constitute a supporting base for the panel 29 which is seated flush with the upper edge of the frame 28 and in the angle formed by the contiguous vertical flanges 30'', 33, and the horizontal flange 30''' and web 32'. The lower flange 34 abuts against the tie strap 19 and thereby forms a support for the rear end of the seat 27 in open position, while the forward end of the seat is supported on the pivots 25. Projecting rearwardly from the outer edges and near the ends of the T-shaped rear member of the seat frame 28, is a pair of apertured ears 35, which form a pivotal support for pivotally connecting seat 27 to the back of the chair as will be hereafter described.

The back of the chair is designated generally at 36 and is substantially rectangular with rounded upper corners. The back is constructed of a metallic frame 37 in which is supported a panel 38 formed of wood, fibre or other suitable material. The frame is formed of metal of right angled cross section having a flange 39 projecting inwardly upon which the base of the panel 38 rests and an upturned flange 40 made integral with flange 39 and extending at right angles to the outer edge thereof, which abuts against the edges of said panel, so that the panel is seated flush within the angle of the frame. The two sides 41 and the top 41' of the frame are formed of a single length of angular metal bent in U-shape, with a separate piece of like angular metal welded to the sides, arms and across the bottom of the U-shaped piece to form the bottom 41'' of the frame. The opposite sides of the frame 41 project beyond the bottom of the back to form a pair of arms 41''', which are integral with the top and sides of the frame 37. On the extremities of each of the arms 41''' and projecting at right angles thereto is an apertured ear 42 which is inset with respect to the arm. The apertured ears 42 are positioned on the outer sides of the apertured ears 35 of the seat 27. The apertures of each outer ear register with an aperture of an inner ear. Extending through each pair of registering ears is a pivot 43 by means of which the seat 27 and the back 36 are pivotally connected together.

In Figure 2 of the drawings the space provided by the structure of the registering ears and drums 41''' will allow the folding of the seat 27 and the back 36 to be folded into superimposed position indicated by the dotted lines in Figure 4, without the edges

of the members 27 and 36 binding each other in any manner.

The seat panel 29 is secured in the seat frame 28 by means of a plurality of holdfast devices 45 spaced around the horizontal flange 30''' and web 32', and likewise the back panel 38 is secured to the back frame 37 by the holdfast devices 46 around the flange 39.

What I claim is:—

1. In a folding chair a pivoted seat comprising a rim including sides, front and rear, said sides and front of angle shaped cross section to provide vertical and horizontal flanges disposed at right angles to each other, said rear of T-shaped cross section to provide a horizontal web and upper and lower vertical flanges, said horizontal web and flanges providing a base for a seat panel surrounded by the upper flange of said rear and the vertical flanges of said sides and front, and said lower flange providing a support for the seat rim when the chair is extended.

2. In a folding chair a pivoted seat comprising a rim including sides, front and rear, said sides and front of angle shaped cross section to provide vertical and horizontal flanges disposed at right angles to each other, said rear of T-shaped cross section to provide a horizontal web and upper and lower vertical flanges, said horizontal web and flanges providing a base for a seat panel surrounded by the upper flange of said rear and the vertical flanges of said sides and front, and said lower flange providing a support for the seat rim when the chair is extended, said rim further including rearwardly extending apertured ears projecting from the ends of the rear thereof for pivotal connection to a chair back.

3. In a folding chair a pivoted seat comprising a rim including sides, front and rear, said sides and front of angle shaped cross section to provide vertical and horizontal flanges disposed at right angles to each other, said rear of T-shaped cross section to provide a horizontal web and upper and lower vertical flanges, said horizontal web and flanges providing a base for a seat panel surrounded by the upper flange of said rear and the vertical flanges of said sides and front, and said lower flange providing a support for the seat rim when the chair is extended, said horizontal web of greater cross sectional width than said horizontal flange.

4. In a folding chair, a pair of opposed front legs, a pair of opposed rear legs, upper and lower braces interposed between the front legs, upper and lower braces interposed between the rear legs, each of said braces formed from a flat strip having flanges at the ends thereof secured to the inner faces of a pair of opposed legs, the upper brace for the front legs positioned above the upper brace for the rear legs, and a pair of spaced, aligning pivots, each pivot connecting a rear leg to a

front leg, said pivots connecting the flanges of the upper brace for the rear legs to the latter.

5. In a folding chair, a seat comprising a substantially rectangular rim of angular cross section throughout, a panel mounted in, supported by and flush with the top of said rim, a pair of pivotal supports on the side edges of said rim and in proximity to the front of the latter adapted for connection with the rear legs of the chair, a vertically disposed flange on and depending below the rear edge of said rim and adapted for abutting a leg brace for supporting the rear of the seat, a pair of rearwardly extending apertured ears at the opposite ends of the flange, in alignment with the sides of the said rim and adapted to pivotal connection to the back of the chair, and means extending upwardly through the body of the rim for securing the panel therein.

In testimony whereof, I affix my signature hereto.

JOSEPH JOHN SCHMITT.