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FOLDABLE CHAIR WITH SUSPENDED BOOK HOLDER

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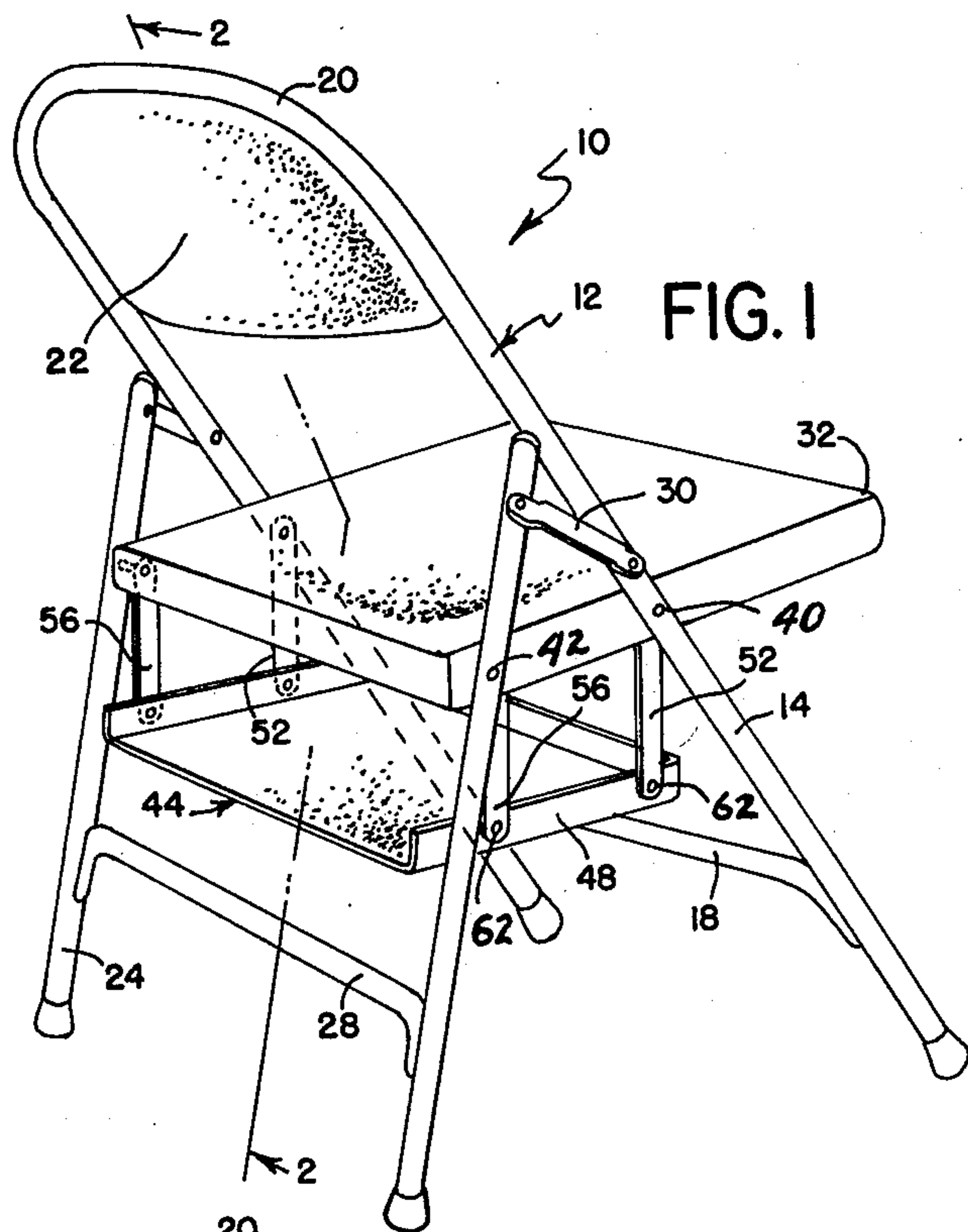


FIG. 1

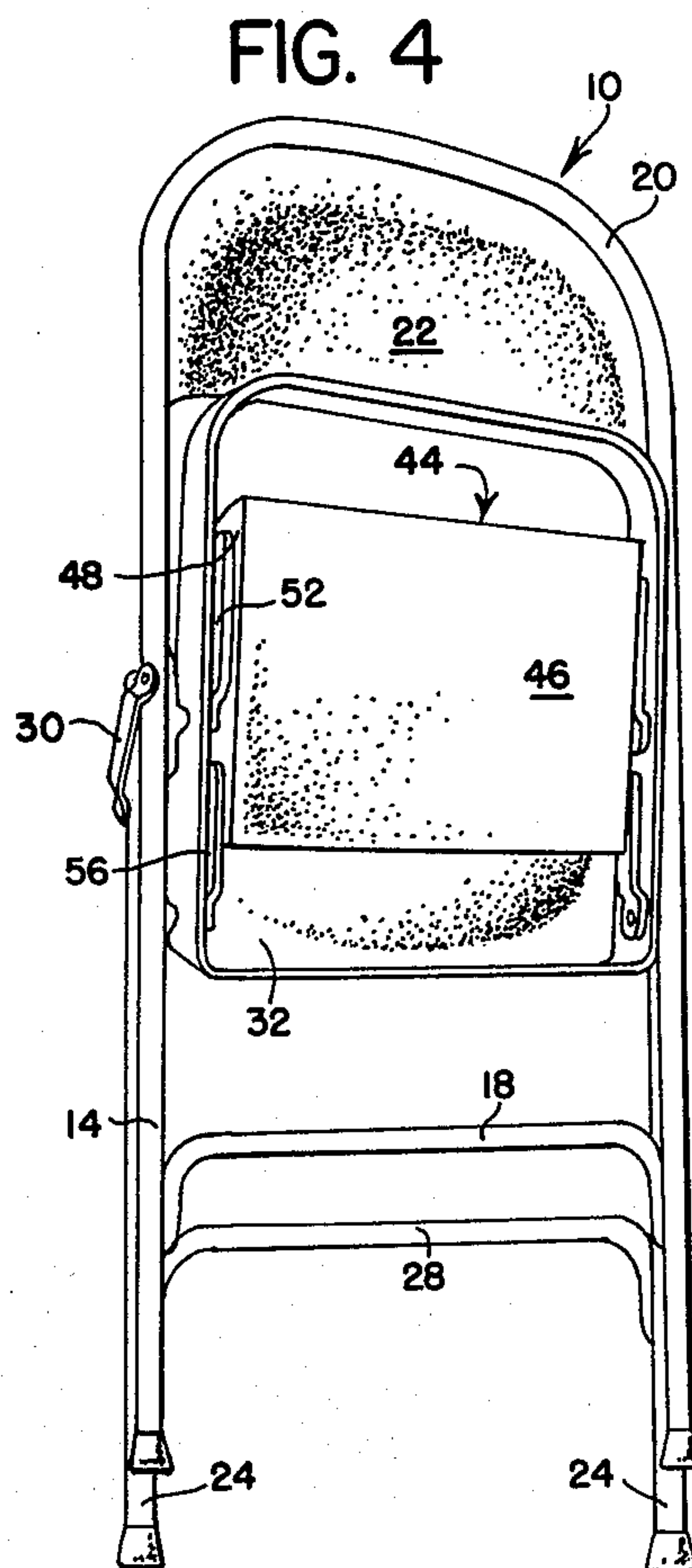


FIG. 4

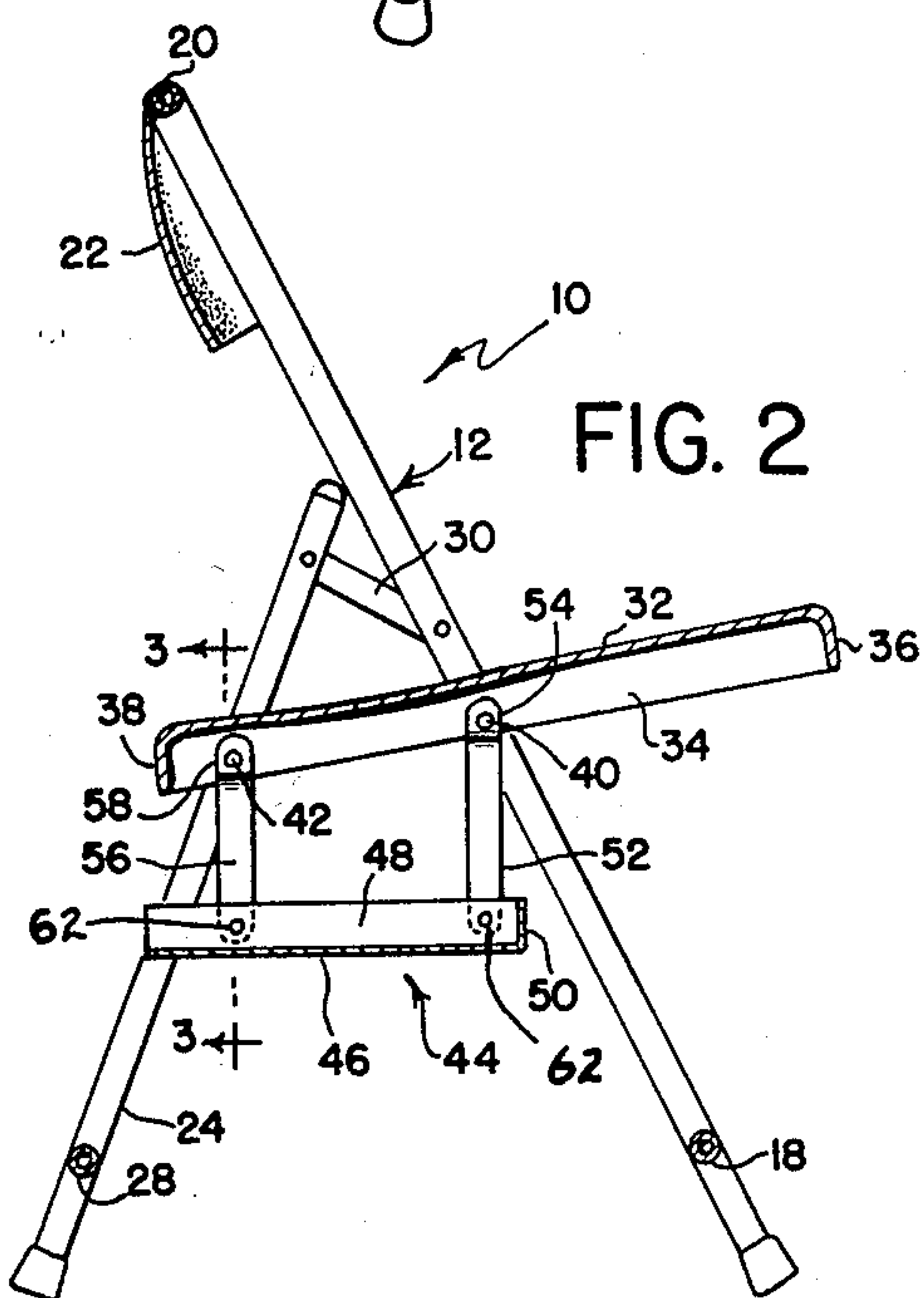


FIG. 2

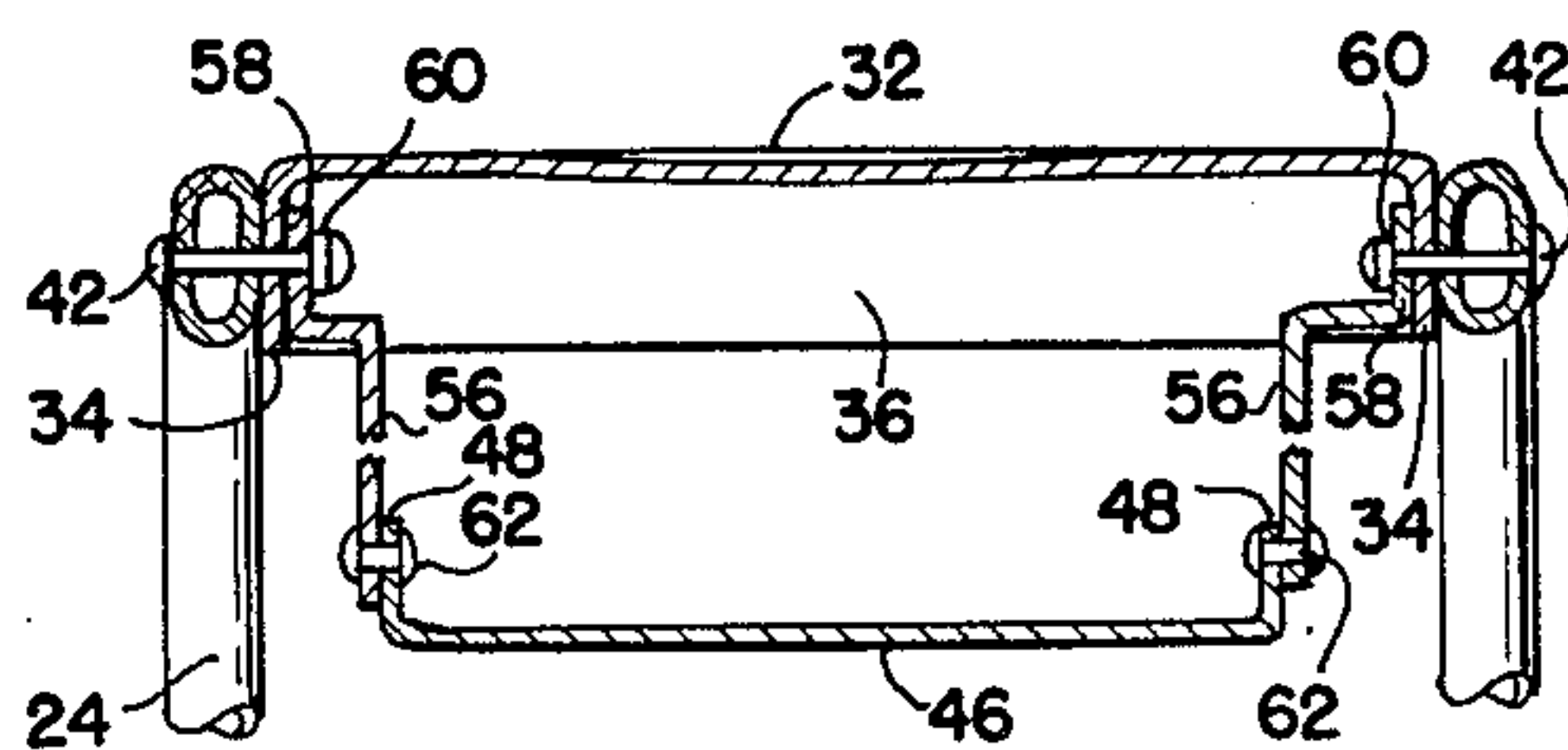


FIG. 3

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3,180,680 FOLDABLE CHAIR WITH SUSPENDED BOOK HOLDER

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This invention relates generally to foldable chairs, and pertains more particularly to such a chair having in combination therewith a book holder that is suspended from the seat of the chair.

One important object of the invention is to provide a book holder or rack that is normally suspended from the seat of the chair when in actual use but which can be swung into adjacency with the underside of the seat when the chair is folded into a collapsed condition. More specifically, an aim of the invention is to provide a book holder that can be moved against the underside of the seat in order to allow a compact stacking of the chair with other such chairs. In other words, it is a feature of the present invention that the book holder will not project beyond the seat structure when moved thereagainst.

Another object of the invention is to provide a hook holder for hymnals and other literature which permits access to such books from either the rear or the front. It will be apparent that a chair equipped with a book holder of the envisaged type will find especial utility when used in churches, auditoriums, schools and the like where chairs frequently must be moved from place to place and which chairs must be capable of being stored when not in actual use.

Another object of the invention is to provide a book holder or rack of the foregoing character that will not interfere with the folding of the chair. It is also an aim of the invention to provide such a book holder that will not offer any obstruction to either the person using the chair or the person sitting in a chair immediately behind when the chairs are arranged in rows.

Still another object of the invention is to provide a book holder that is quite inexpensive and which can be readily installed at the factory, although the invention contemplates a later installation if need be. When installed at the factory, it is within the purview of the invention to make a dual utilization of certain pivots that are normally provided in the chair construction itself, thereby further contributing to the low cost of a book holder of the contemplated character.

Yet another object of the invention is to provide a book holder for foldable chairs that will add but little weight to the chair.

Still another object of the invention is to provide a book holder that can withstand relatively rough usage without damage.

These and other objects and advantages of my invention will more fully appear from the following description, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the several views and in which:

FIGURE 1 is a perspective view of a typical folding chair when equipped with my book holder;

FIGURE 2 is a sectional view taken in the direction of line 2-2 of FIGURE 1;

FIGURE 3 is a fragmentary sectional view taken in the direction of line 3-3 of FIGURE 2, and

FIGURE 4 is a perspective view showing the chair in a folded condition with my book holder moved into adjacency with the underside of the seat, the view illustrating the compactness of the combined chair and book holder which permits the chair to be readily stacked with other such chairs.

Referring now in detail to the various figures constitut-

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ing the drawings, the foldable chair selected for depicting the invention has been generally denoted by the reference numeral 10. Although such chairs are of conventional construction, it can be pointed out that the chair 10 includes a U-shaped front frame 12, portions thereof forming tubular legs 14 and which have a transverse reinforcing member 18 extending therebetween. The U-shaped frame 12 further comprises a bight portion 20 having a back rest 22 secured thereto.

Continuing with the description of the chair 10, it will be seen that the chair additionally includes a pair of inclined posts forming rear tubular legs 24. Here again, the legs 24, as with the legs 14, may have a transverse reinforcing member 28 extending therebetween. Near the upper end of the rear tubular legs 24 and at each side is a hinged brace 30 that assists in maintaining the chair 10 in an erected condition.

Additionally, the chair 10 is provided with a seat 32 having downturned marginal side flanges 34, a front flange 36 and a rear flange 38. These flanges 34, 36 and 38 impart a concave configuration to the underside of the seat 32. The seat 32 is pivotally connected to the front legs 14 through the agency of a pair of rivets 40 and is similarly connected to the rear legs by a pair of rivets 42.

The book holder or rack itself has been designated generally by the reference numeral 44. The holder 44 includes a panel 46 having upturned side flanges 48 and an upturned first flange 50 of lesser height than the flanges 34, 36 and 38. The side flanges 48, as best discerned from an inspection of FIGURES 3 and 4, have a lateral spacing less than that of the side flanges 34 on the seat 32. In this way, as will become manifest as the description progresses, there is no interference when the holder or rack 44 is moved into adjacency with the underside of the seat 32. Since it is planned that in normal usage that the books placed on the panel 46 will be removed via the rear of the holder 44, no flange extends across the rear edge of said panel 46.

Assisting in the suspension of the panel 46 are a pair of forward links 52 having apertured offset upper ends labeled 54. Similarly, the rear edge of the panel 46 is suspended by links 56 having apertured offset upper ends 58. The offset upper ends 54 of the links 52 are pivotally carried by the rivets 40 that have already been mentioned. Likewise, the offset upper ends 58 of the rear links are pivotally carried by the rivets 42. Consequently, a minimum number of pivot members (rivets in the exemplary construction) are necessary when installing the holder or rack 44 at the factory. Inasmuch as it is intended that the holder 44 be suspended as shown in FIGURES 1 and 2, and also retained in an adjacent relationship with the underside of the seat 32, it is of advantage to employ friction washers 60, which can be of fiber or resilient material. These washers 60 resist somewhat the pivotal movement of the links 52 and 56 thereby helping in the retention of the holder 44 in the position illustrated in FIGURE 4, as well as preventing unwanted swinging when in the position shown in FIGURES 1 and 2.

Whereas the upper ends of the links 52 and 56 are pivotally carried by the rivets 40 and 42, it is contemplated that four additional lower rivets 62 be employed, these rivets extending through the upturned side flanges 48 on the panel 46 and the lower ends of said links. Thus, the panel 46 can be easily swung from the position in which it is pictured in FIGURES 1 and 2 into the position in which it appears in FIGURE 4. It will be noted, though, that the links 56 at the rear are somewhat shorter than the distance between the rivets 40, 42 so that there is no interference when the panel 46 is moved into adjacency with the underside of the seat 32. Likewise, the links 52 are of a shorter length than the distance be-

tween the upper pivot points provided by the rivets 40 and the downturned flange 36 on the seat 32, thereby obviating any chance of interference occurring at the forward edge of the panel 46 when it is in the position shown in FIGURE 4.

Having presented the foregoing information, the use of a chair equipped with my book holder should be obvious. Although not shown, it is the usual custom to arrange foldable chairs in spaced rows one behind the other. Hence, when the chair 10 depicted in FIGURE 4 is unfolded and erected as shown in FIGURES 1 and 2, the custodian can readily swing the book holder 44 downwardly into the position that it appears in FIGURES 1 and 2. When so suspended, books and the like material can be placed on the panel 46 and access can be readily had to such material from either the front or the back of the chair 10. With the exception of the front row of chairs, the literature will normally be removed from the rear of the holder 44 by those persons occupying the row immediately behind. However, as far as the front row is concerned, the material can be removed from the front by lifting the material sufficiently so that it can be taken out over the upturned flange 50.

In some instances, the book holder 44 will not be needed and can be left in the position it assumes against the underside of the seat 32. It will be recalled that the washers 60 were specifically mentioned as imparting a frictional resistance to the pivoting action that would otherwise be utilized in moving the rack 44 from the position of FIGURE 4 to that in FIGURES 1 and 2. Consequently, the holder 44 need not be suspended as shown in FIGURES 1 and 2 when it is not actually needed.

By virtue of the fact that the upturned flanges 48 and 50 on the panel 46 are of a lesser height than the downturned flanges 34, 36 and 38 on seat 32, the holder 44 does not project beyond the free edges of these flanges 34, 36 and 38 when the holder 44 is in the position appearing in FIGURE 4. Thus, any number of chairs 10 can be stacked together without occupying any more space than the chair should take if not equipped with my holder or rack 44.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportions of the parts without departing from the scope of my invention as set forth in the appended claims.

What is claimed:

1. In combination with a foldable chair having a seat provided with downwardly directed marginal flanges, a book holder comprising:

(a) a panel member having upwardly directed marginal flanges at its sides;

(b) said upwardly directed flanges being closer together than said downwardly directed flanges and having a lesser height than said downwardly directed flanges, and

(c) a plurality of link members pivotally connected at one end to said downwardly directed flanges nearer one end of said flanges than the other and said link members being pivotally connected at their other end to said upwardly directed flanges,

(d) whereby when said foldable chair is erected with said seat generally horizontal said panel member can be suspended therebeneath for the accommodation of books or the like and when said chair is in a folded

condition said panel member can be swung into an adjacent relation with said seat.

2. The combination of claim 1 in which:

(a) said one ends of said link members are offset outwardly from their said other ends.

3. In combination with a foldable chair including a seat having downturned marginal flanges at the front, rear and sides, a pair of forward legs, a pair of rear legs, a pair of spaced pivot members at each side pivotally connecting said forward and rear legs to said side marginal flanges, a book holder comprising:

(a) a panel member having upturned marginal flanges at the front and sides,

(b) a pair of link members at each side having their upper ends pivotally connected to said pivot members, and

(c) additional pivot members pivotally connecting the lower ends of said link members to said upturned said flanges.

4. The combination of claim 2 in which:

(a) said pivot members constitute rivets, and

(b) washers carried by the rivets constituting said first-mentioned pivot members for imparting a frictional drag on said link members to retain said panel in a selected position with respect to said seat.

5. In combination with a foldable chair having a seat with downwardly directed marginal flanges at the front, back and sides, a book holder comprising:

(a) a panel member having upwardly directed marginal flanges at the front and sides but not at the rear, said panel member being open at the rear,

(b) said upwardly directed side flanges being closer together than said downwardly directed flanges,

(c) a plurality of link members pivotally connected at one end to said downwardly directed side flanges and at their other end to said upwardly directed side flanges,

(d) whereby when said foldable chair is erected with said seat generally horizontal said panel member can be suspended therebeneath for the accommodation of books or the like and when said chair is in a folded condition said panel member can be swung into an adjacent relation with said seat,

(e) said link members being pivoted to said downwardly directed side flanges sufficiently toward the rear so that when said panel member is swung upwardly into said latter position said upwardly directed front flange is inset from said downwardly directed front flange.

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