Feb. 10, 1942. E. R. GAY 2,272,743

FOLDING DESK FOR USE WITH ARMCHAIRS

Filed April 1, 1940 2 Sheets-Sheet 1

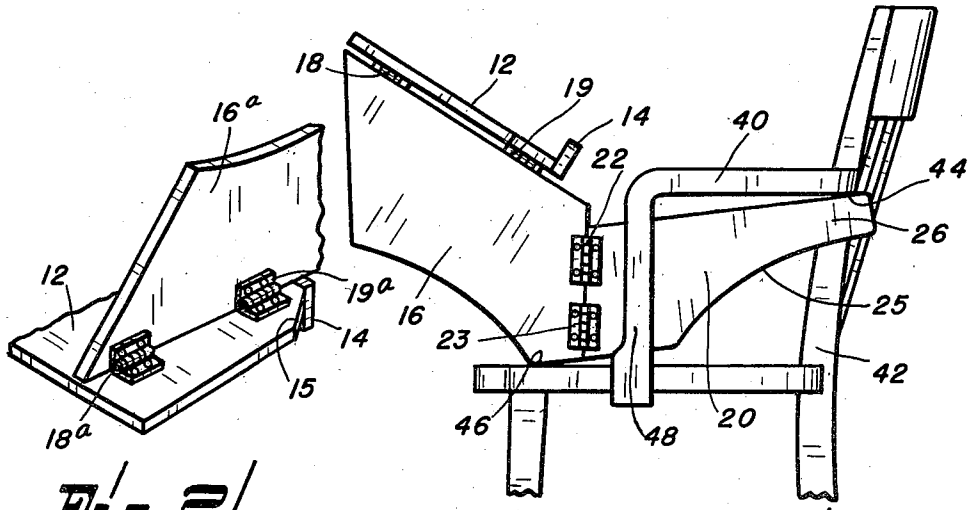


Fig-2

Fig-1

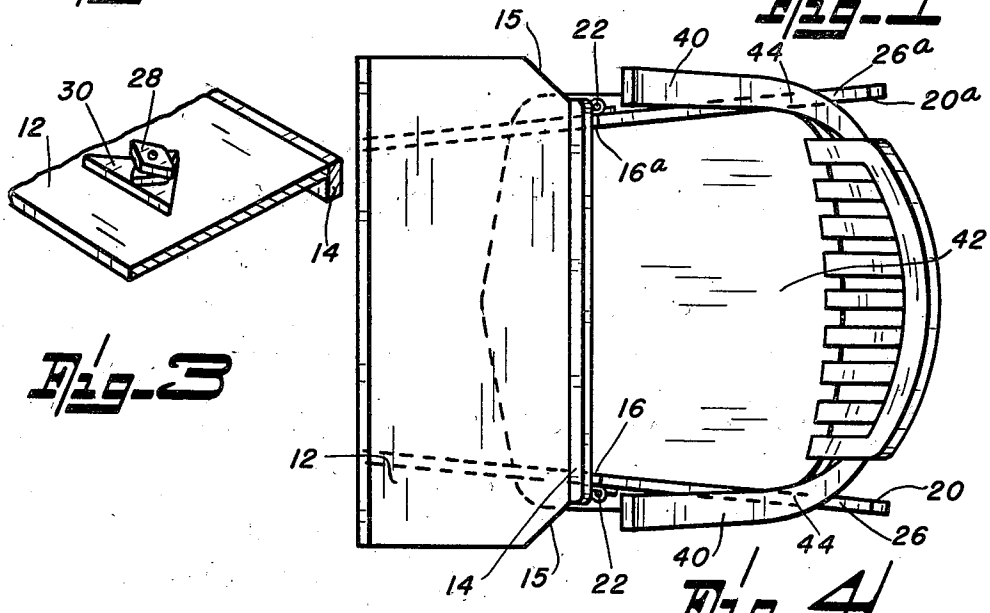


Fig-3

Fig-4

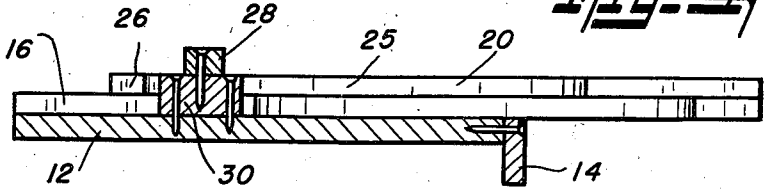


Fig-5

INVENTOR
Edward R. Gay
BY
Smith & Tuck
ATTORNEYS

Feb. 10, 1942. E. R. GAY 2,272,743

FOLDING DESK FOR USE WITH ARMCHAIRS

Filed April 1, 1940 2 Sheets-Sheet 2

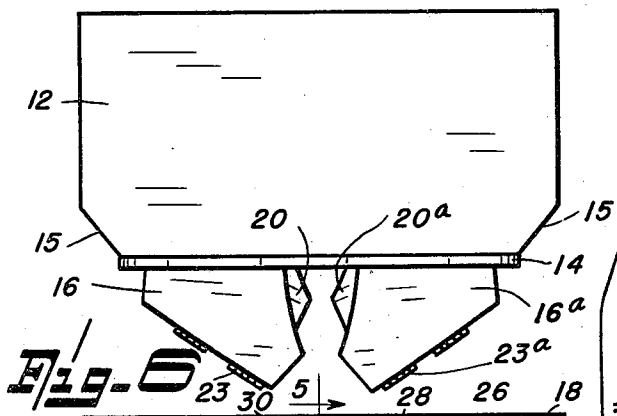


Fig. 6

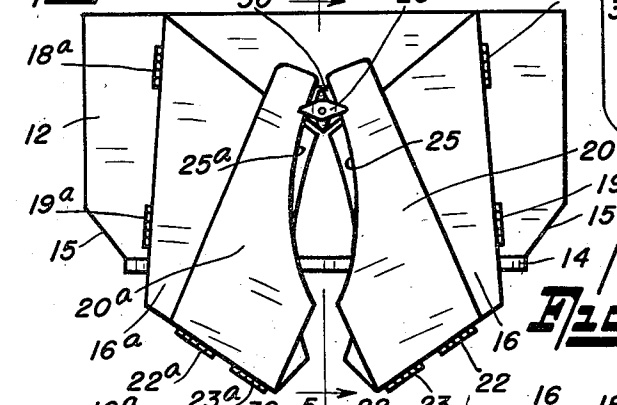


Fig. 7

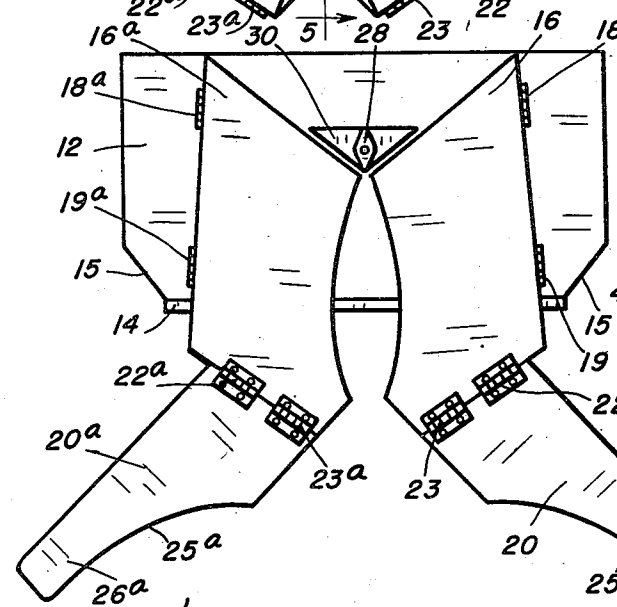


Fig. 8

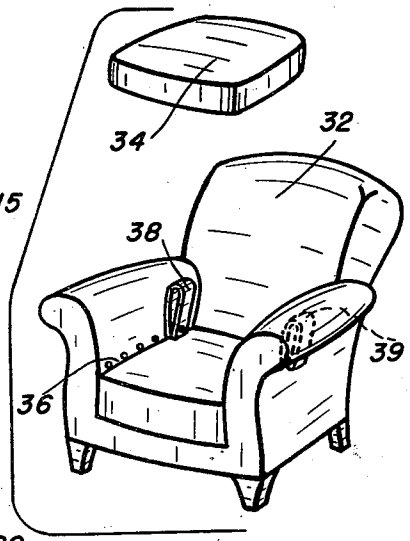


Fig. 9

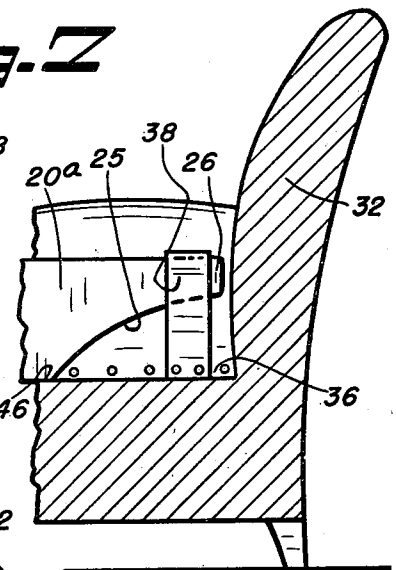


Fig. 10

INVENTOR
Edward R. Gay
BY
Smith & Tuck
ATTORNEYS

Patented Feb. 10, 1942

2,272,743

UNITED STATES PATENT OFFICE

2,272,743

FOLDING DESK FOR USE WITH ARMCHAIRS

Edward R. Gay, Seattle, Wash.

Application April 1, 1940, Serial No. 327,196

7 Claims. (Cl. 155—128)

My present invention relates to the art of folding rests or tables and more particularly to a folding desk for use with arm chairs.

My device consists essentially of a rest, or desk-like surface, which is adapted to be supported in a convenient position for use by a person seated in an arm chair who may wish to read, to have books and papers supported before him, to write, draw, or otherwise use a table in conjunction with an arm chair. I achieve this purpose by providing support members beneath my desk surface which may be put in position to securely hold the desk surface in usable position and, when it is desired to store the same, these supporting members can be folded back on themselves in a very convenient and compact manner.

A great many people prefer to sit in a comfortable arm chair in their more leisure hours when reading extensively and making notes, or following their normal line of work as an artist or draftsman, or preparing descriptive matter from drawings, and the like. As far as has been observed, the only solution of this problem that is practicable today is to employ the conventional bridge or card table, which is a poor substitute, particularly when an easy chair is used which usually is considerably lower than a standard chair. It is for such people that I have, in part, created my present folding chair-desk. It is very convenient and enables many people to do their best work during periods of quiet in their own homes. It also is an aid to invalids and the like who may not be physically able to hold a book in front of them for extended periods. There is still a third class of people—namely, students, whom this invention will aid. They are now forced to use the so-called student's chair, which is of normal chair structure except that one arm of the same is considerably extended to provide a writing surface. This is neither convenient nor truly satisfactory as the working surface must of necessity be horizontal and is of such a relatively small size that it can only be used with small work books and the like. With my present arrangement, however, a student could have in view before him, books, pamphlets, or the like from which he was making notes or using for references in the preparation of his own work.

The principal object of my present invention, therefore, is to provide a convenient folding rest, or desk, for use with arm chairs.

A further object of my invention is to provide a convenient chair-desk in which the supporting member can be folded very compactly for storage.

Still another object of my invention is to provide means which will securely support a chair-table, or chair-desk, by having support members that rest on the seat portion of the chair and are engaged under the arms of the chair so as to provide a very substantial rest for the same.

A further object is to provide a folding chair-table, or desk arrangement, that can be cheaply and economically constructed, and which will be adaptable, without change, to a wide range of different types of chairs.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein

Figure 1 is a side elevation of my folding desk, or rest, showing the position it assumes when being used with an arm chair.

Figure 2 is a fragmentary view showing the under side of my working, or desk surface, illustrating the manner in which the main supporting members are hingedly secured thereto.

Figure 3 is a fragmentary, perspective view showing the means employed to secure the support members of my table in their folded position.

Figure 4 is a top plan view of Figure 1.

Figure 5 is a cross-sectional view taken along the line **5—5** of Figure 7.

Figure 6 is a top plan view of my device with the supporting members folded in the position occupied when the table is put away for storage.

Figure 7 is a bottom plan view of the table shown in Figure 6.

Figure 8 is a bottom plan view similar to Figure 7, but showing the secondary support members unfolded so as to better illustrate the manner in which the different support members are hingedly secured to the working surface.

Figure 9 is a bracketed view in perspective, showing an additional use for my folding table.

Figure 10 is a cross-sectional view of the rear portion of the chair of Figure 9, with my table's supporting member in position.

Referring to the drawings, throughout which like reference characters indicate like parts, the numeral **12** designates the top, or working surface, of my device. This may be formed to the dimensions best suited for the work at hand. However, as most convenient use entails that it be placed so that it presents a sloping surface to the user, substantially as shown in Figure 1, it is quite important that a retaining rail, or

ledge, 14 be employed so that books, papers, drawing boards, and the like can come to rest on this rail and will thereby be held in position. I have found it convenient, normally, to make the width of my working surface 12 at least equal to the width outside the arms of the chair with which it is to be used. In most cases it is handier in use if the corners are relieved as indicated at 15.

Hingedly secured to the bottom surface of the desk top 12 are the main supporting members 16 and 16*a*. These are preferably secured to top 12 as by hinges at 18 and 18*a*, 19 and 19*a*. Hingedly secured to the support members 16 and 16*a*, preferably on a vertical line after the showing of Figure 1, are the secondary support members 20 and 20*a*. They are best secured to the members 16 and 16*a* by spaced hinges as 22 and 22*a*, 23 and 23*a*. A secure joint is thus effected so that considerable pressure can be applied to the working surface 12. The secondary support members 20 and 20*a* are preferably relieved at 25 and 25*a* as to provide arms as 26 and 26*a* of reduced width. This arrangement makes the folding of the support members simple and, because of their narrow width, the support members may be employed with certain types of chairs whereas if the members 20 and 20*a* were made of a width equal to the width at the hinge points they would interfere with arm rungs and other configurations of the chair.

When my desk is not in use, it is desirable that the support members fold inwardly in a manner to permit the easy storage of the desk assembly. This arrangement can probably best be understood from a study of Figures 7 and 8 where it will be noted that in Figure 7 the entire assembly is folded flat. First, the support members 16 and 16*a* are hinged inwardly toward each other so that the members lie flat against the under side of top 12. Then, the secondary support members 20 and 20*a* are hinged upwardly as viewed in Figure 7 so that they in turn lie on top of their respective support members 16 and 16*a*. This arrangement, using the proportions shown throughout my illustrations, brings the two ends 26 and 26*a* of members 20 and 20*a* in close proximity so that they may be easily engaged by a single turnbutton 28. It will be noted that turnbutton 28 is spaced away from the underside of top 12 by a spacing block 30 of a height equal to the combined height of members 16 and 20. This relationship is probably best illustrated in Figures 3 and 5. The central portion of the spacing block 30 (that disposed under the turn button 28) is of a thickness greater than that portion of the block on either side thereof. The latter side portions are each equal to the thickness of the members 16, so that, when the device is locked in the position shown in Figures 5 and 7, the members 16 each lie alongside of a relatively thin side portion of the block 30 as can be more clearly seen in Figure 8. Subsequently, when the members 20 and 20*a* are folded by means of the hinges 23 and 23*a* respectively, so that those members are superimposed upon members 16, the former will rest upon the thin side portions of the members 30. The turn button 28 can then be turned to lock members 20 and 20*a* in their folded position.

In Figure 9 I have illustrated, in a perspective view, an easy or club type chair 32 in which the seat cushion 34 has been removed. This brings into view a nailing line or strip 36 where the covering upholstery is nailed to the wood frame of the chair. If at this point a pair of loops as 38 and 39 are tacked or otherwise secured to this same nailing strip, means will be provided so that, after the showing of Figure 10, ends 26 and 26*a* of support members 20 and 20*a* may be engaged under these loops and thus serve in the same manner as the arm of an arm chair. When the table is not to be used, the loops 38 and 39 can be folded down flat on the cushion-supporting surface of the chair and the cushion 34 placed on them so that they will be hidden from view. In some instances it might even be desirable to make straps 38 and 39 adjustable so that various angles might be given to the table top 12.

Method of operation

My device is normally stowed away in the form shown in Figures 6 and 7. The first step in its operation will be to unfold members 20 and 20*a* after the showing of Figure 8, by turning the turnbutton 28 into the vertical position, as viewed, so as to release ends 26 and 26*a* of members 20 and 20*a*. The next operation, in sequence, is to fold members 16 and 16*a* outwardly or away from each other, then the prospective user should seat himself in the arm chair he intends to use and bring the working surface 12 in the position most readily adapted to his purpose; at the same time passing ends 26 and 26*a* of the now extended support members under the arms 40 of the arm chair 42. This will bring a point of bearing of the support members under the chair arms at 44. The other point of bearing of the support members on the seat will be on the seat of the chair at 46. It will be understood that the support members, being of considerable width, will generally be held in their expanded position against the vertical support portion 48 of the arm chair by the limbs of the user. It will then be apparent that a very sturdy arrangement has been provided and that any reasonable weight may be placed upon surface 12. The user can rest his elbows on the same and place heavy books or other objects thereon without any fear of injuring the folding desk arrangement, even though the same be made of light material. At present it appears that plywood, of rather light weight, is adequate for this purpose and provides a material that is easily obtained, cheap in first cost, and one which may be made into desk arrangements with a minimum of machine equipment and labor.

In the modified form of use shown in Figures 9 and 10, the operation will be identical, excepting that the ends of the support members 20 and 20*a* will be held against upward movement by straps 38 and 39 with the lower point of bearing 46 resting, not upon the cushion but upon the cushion supporting surface. It will be apparent that in some instances where very thick cushions 34 are used, it might be desirable to increase the width of members 20 and 20*a* with the corresponding increase in the width of members 16 and 16*a* so as to bring the working surface to the height desired above the upper surface of cushion 34.

The foregoing description and the accompanying drawings are believed to clearly disclose a preferred embodiment of my invention, but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

I claim:

1. A desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other for positioning at the sides of a chair and adapted to rest on the seat thereof, said main supporting members having pitched upper edges a substantial distance above the lower supporting edges, a rear extension supporting member on each said main member adapted for engagement with a member of the chair to retain the desk in position thereon, and a desk top secured to said pitched upper edges of the main supporting members and having means thereon for holding papers and the like from slipping therefrom.

2. A desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other for positioning at the sides of a chair and adapted to rest on the seat thereof, said main supporting members having pitched upper edges a substantial distance above the lower supporting edges, a rear extension supporting member on each said main member adapted for engagement with a member of the chair to retain the desk in position thereon, and a desk top secured to said pitched upper edges of the main supporting members and having a lower retaining rail.

3. A desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other for positioning at the sides of a chair seat and having pitched upper edges, a pair of rear extension supporting members hingedly attached to the rear edges of the main supporting members adapted for cooperation with a chair and a desk top secured to said pitched upper edges of the main supporting members, and having a lower retaining rail.

4. A folding desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other and having pitched upper edges and upright rear edges, a desk top secured to said pitched upper edges of the main supporting members and having means thereon for holding papers from slipping therefrom, and a pair of secondary support members hingedly secured to said upright rear edges of the main supporting members and adapted for cooperation with a chair whereby the desk top will be supported above the forward edge of the chair.

5. A folding desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other and having pitched upper edges and upright rear edges, a desk top secured to said pitched upper edges of the main supporting members and having a lower retaining rail, and a pair of secondary support members hingedly secured to said upright rear edge of the main supporting members and adapted for cooperation with a chair whereby the desk top will be supported above the forward edge of the chair.

6. A folding desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other and having pitched upper edges and upright rear edges, a desk top hingedly secured to said pitched upper edges of the main supporting members and having means thereon for holding papers from slipping therefrom, and a pair of secondary support members hingedly secured to said upright rear edges of the main supporting members and adapted for cooperation with a chair whereby the desk top will be supported above the forward edge of the chair.

7. A folding desk for use with arm chairs and comprising a pair of main supporting members spaced apart from each other and having pitched upper edges and upright rear edges, a desk top secured to said pitched upper edges of the main supporting members and having a lower retaining rail, and a pair of secondary support members having lower rear cut out portions and hingedly secured to said upright rear edges of the main supporting members and adapted for cooperation with a chair whereby the desk top will be supported above the forward edge of the chair.

EDWARD R. GAY.