Jan. 31, 1939. A. E. THOMPSON 2,145,669

TAKE-APART FURNITURE

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Fig. 1.

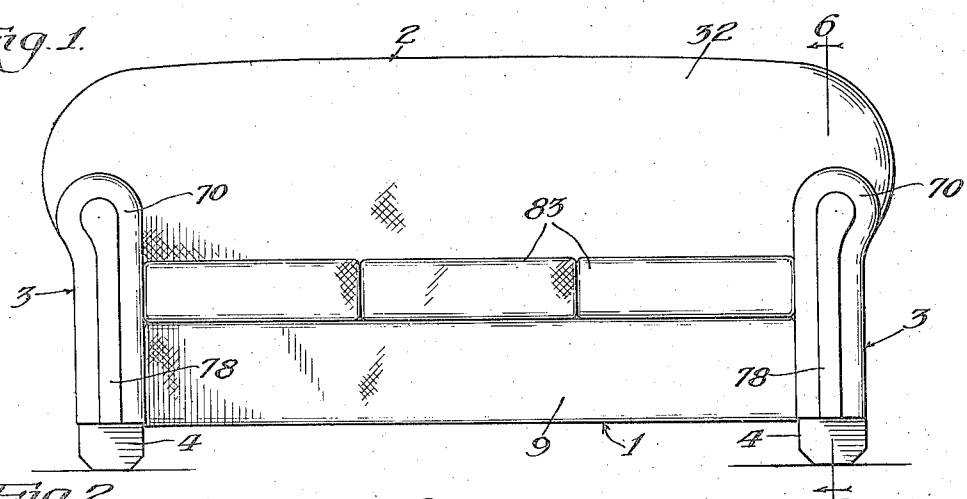


Fig. 2.

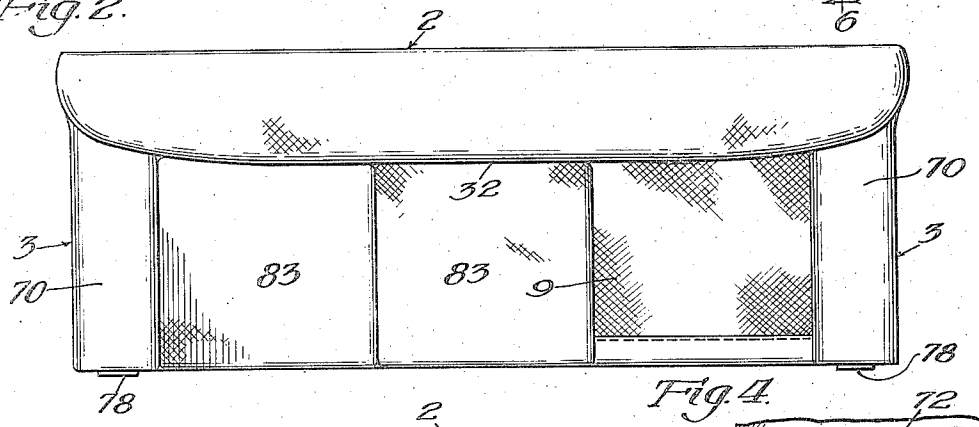


Fig. 4.

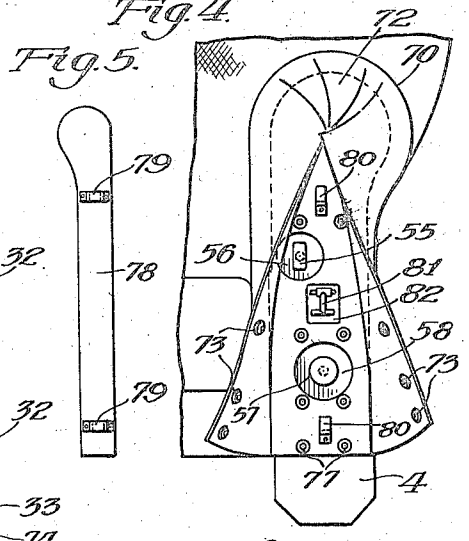
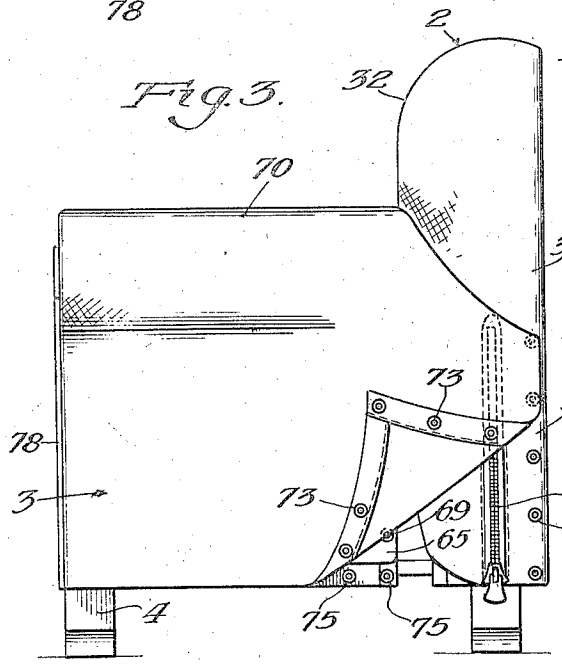


Fig. 5.

Fig. 3.



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TAKE-APART FURNITURE

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Fig. 6.

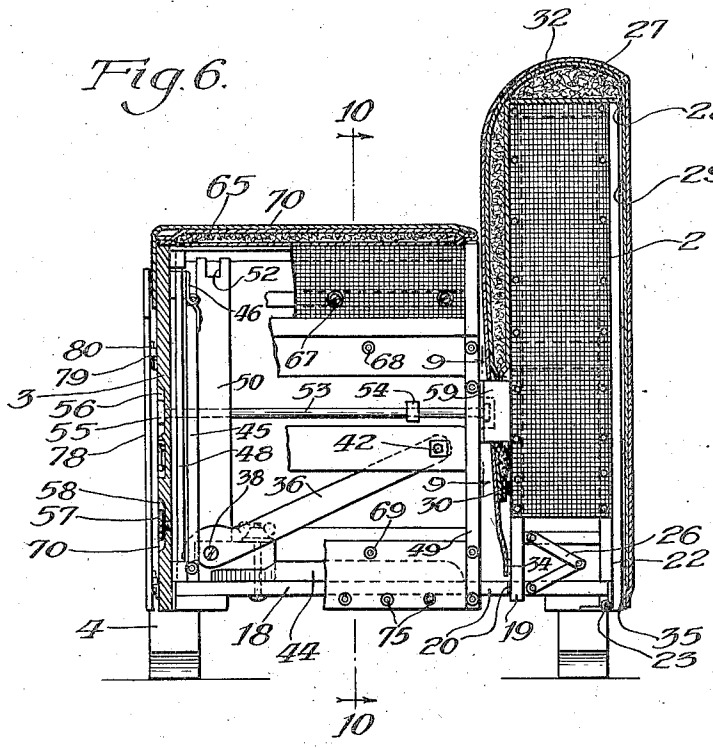
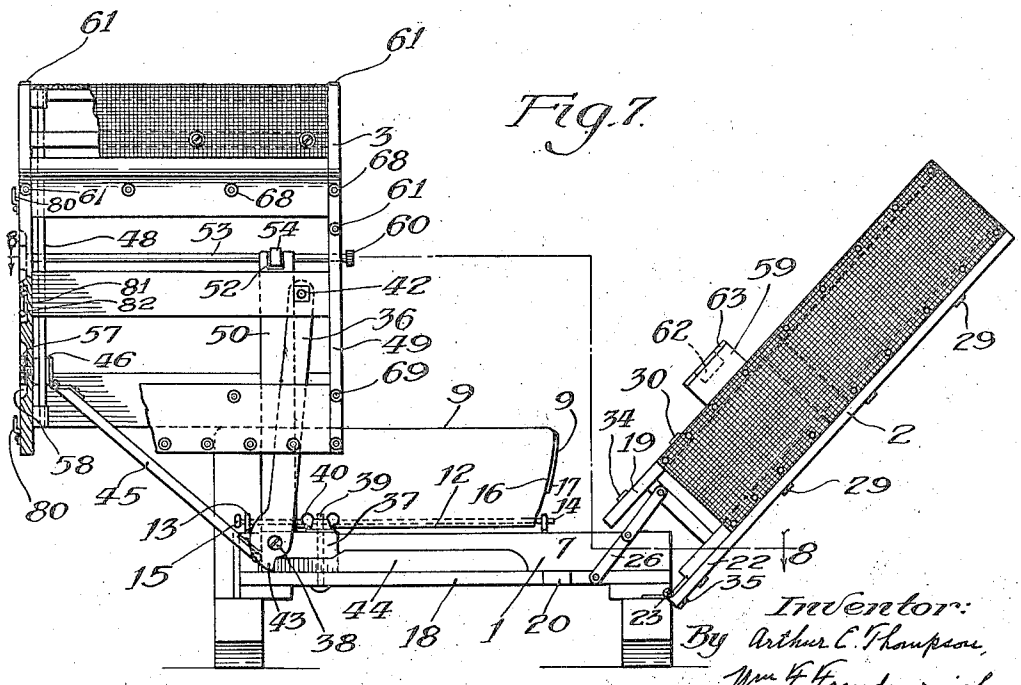


Fig. 7.



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TAKE-APART FURNITURE

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Fig. 8.

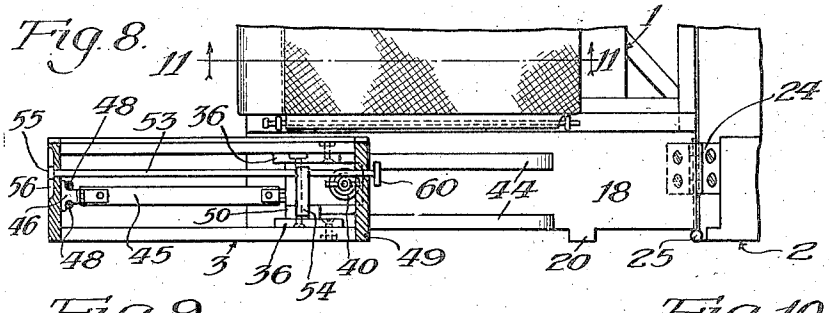


Fig. 9.

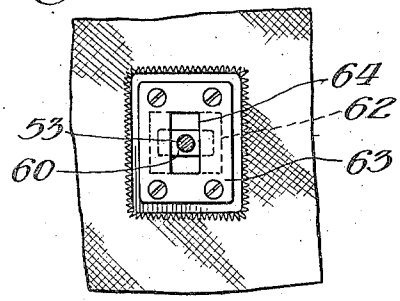


Fig. 10.

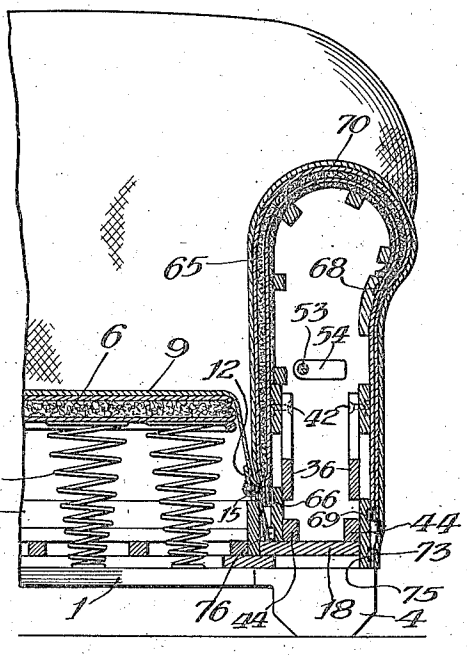


Fig. 11.

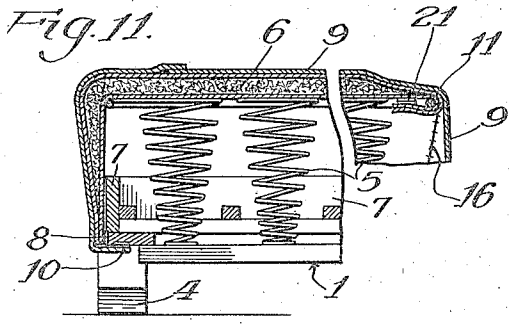
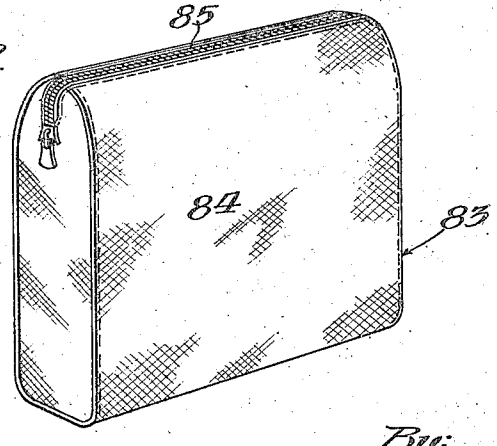


Fig. 12.



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2,145,669

UNITED STATES PATENT OFFICE

2,145,669

TAKE-APART FURNITURE

Arthur E. Thompson, Chicago, Ill.

Application November 18, 1937, Serial No. 175,210

12 Claims. (Cl. 155—184)

Upholstered furniture, having fabric coverings, have the serious disadvantage that it is a difficult and expensive process to clean them effectively when they need it. The usual method of upholstering makes it impossible, without requiring a substantial rebuilding of the upholstering by skilled artisans, to effect more than a mere surface cleaning of the coverings. If it be desired to clean a couch, davenport or chair thus upholstered, by workmen skilled in that art, it is necessary for the entire piece of furniture to be transported to and from a cleaning establishment. The cost of transporting a large piece of furniture and of laboriously cleaning the fabric while it remains in place is great, so that cleaning of upholstered furniture, according to the old practices, can be accomplished only at great expense.

The object of the present invention is to make it possible for a housewife or other person unskilled in the art of upholstering to remove and replace the fabric coverings, so that these may be cleaned in an inexpensive manner as are curtains, clothing or other articles made from similar goods.

A further object of the present invention is to make it possible for a person unskilled in the art of furniture making or upholstering, not only to remove and replace the outer fabric coverings, but also to effect a complete cleaning of the spring cushions, where such be employed, of pads, and of interior spaces in which dust may collect.

In carrying out my invention, I so construct pieces of furniture that the backs and arms may easily be shifted into positions which leave them clear of each other and of the seat portion, so that the upholstering of backs, arms and seats is entirely accessible; the coverings being secured in such a manner that they can then readily be taken off and replaced. The coverings being detachable, it is possible for a housewife to change coverings, as well as clean them.

Therefore, viewed in another of its aspects, the present invention may be said to have for its object to produce upholstered furniture of such construction that the coverings for the individual elements thereof, such as arms, backs and seats, are provided with easily detachable fastenings and said elements are so connected together that they may be shifted relatively to each other in order that the covering of each element may be manipulated to remove and replace the same as conveniently as though that element were completely detached and suitably supported in a convenient position.

In addition to making the arms, backs and seats movable relatively to each other, I prefer to provide for completely detaching them from each other, whereby they may be formed in a smaller package, for shipping, then could the piece of furniture, set up for use, comprising the same elements.

Therefore, viewed in still another of its aspects, the present invention may be said to have for its object to produce a simple and novel piece of furniture which may be separated into several sections and formed in a package for shipping, and the sections being readily assembled at the destination.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a front view of a davenport embodying the present invention; Fig. 2 is a top plan view, of the davenport one of the seat cushions being omitted; Fig. 3 is an end view of the davenport, showing a corner of the side covering unfastened and turned back; Fig. 4 is a front elevation of one of the arms and adjacent fragments of the davenport, the batten being removed and the arm covering being partially unfastened and turned back; Fig. 5 is a rear view of one of the battens which are detachably mounted on the front faces of the arms; Fig. 6 is a section on line 6—6 of Fig. 1, on the same scale as Fig. 3, the framework being mainly in elevation; Fig. 7 is an end view, the upholstering being omitted from the back and arm, the back and arm being in the positions into which they are brought for the removal and replacement or renewal of the upholstering; Fig. 8 is a section on the broken line 8—8 of Fig. 7; Fig. 9 is a section, on an enlarged scale, on line 9—9 of Fig. 6; Fig. 10 is a section on line 10—10 of Fig. 6; Fig. 11 is a vertical section through the front part and also through an upper rear portion of the seat member, on line 11—11 of Fig. 8; and Fig. 12 is a perspective view of one of the seat cushions.

In the drawings I have illustrated my invention as applied to an upholstered davenport having a seat, a back and arms and, since the principle of my invention as applied to upholstered furniture of other kinds can be fully understood by reference to the davenport, the detailed de-

scription will be confined to the single embodiment of the invention disclosed in the drawings.

In the arrangement illustrated, there is a frame structure composed of four elements: a horizontal bed or base 1, a back 2 hinged at its lower end to the rear edge of the base, and two arm elements 3, 3. The base or body member may be provided with suitable feet 4 to rest upon the floor and, supported upon and rising from the same is a suitable seat cushion containing vertical upholstering springs 5. Overlying the spring cushion is a suitable loose pad 6 extending down past the front of the cushion and past the vertical front wall of the base member 1 which may be roughly described as being tray shaped, thus having a low upwardly-projecting wall 7 around and on top of the base thereof. The front end of the pad 6 has along the free edge thereof a series of elements complementary to other elements fixed to the base 1 and constituting snap fasteners indicated conventionally at 8 in Fig. 11. These snap fasteners are similar to those more fully illustrated at other points on the davenport, and it is believed to be unnecessary to say more concerning them than that they are distributed at suitable intervals along the entire length of the base or seat member or element. The pad 6 is further held in place by folding the rear marginal portion thereof underneath the rear border wire 11 around the top of the spring cushion and fastening the same to the overlying portion of the pad by means of snap fasteners 21. The padding is covered and the front side of the seat cushion is attractively sheathed by a covering 9 which fits over the top of the padded cushion and down across the front side thereof and underneath the frame of the base member, where the free marginal portion is detachably secured to the base portion by means of snap fasteners 10 distributed lengthwise of the davenport. The covering sheathing 9 is wide enough from front to rear to permit it to be folded down behind the seat cushion, as shown in Figs. 7 and 11, and it is long enough to reach into the vicinity of the upper edge of the wall 7 on the base member. The end portions of the covering 9 are sewn to produce tubes 12 running along the same from front to rear. Rising from the side members of the frame-like wall 7 are two perforated ears 13 and 14, one close to the front end of the base section and the other in the vicinity of the rear end of the seat cushion. Long rods 15 are adapted to be inserted through the ears 13, through the tubular marginal portions 12 of the seat covering and then through the ears 14, thereby drawing the seat covering taut in the lengthwise direction.

It will thus be seen that by removing the rods 15, the entire seat covering may be swung forwardly and then be unsnapped at the front, while the pad may then be removed in a like manner. For greater security, the rear portion of the seat cover is preferably shaped and sewn together at the rear corners of the cushion proper; there being a short vertical seam 16 at each of these corners, so that the seat cover cannot be pulled forwardly without first lifting the rear end up to raise what may be termed the rear skirt or flange 17 above the top of the spring structure.

The back element 2 is a hollow box-like structure which, in its upright position, is adapted to rest upon horizontal outwardly projecting ledges 18 at the ends of the base element; the back element having at the front strong fingers 19 adapted to extend down behind lugs 20 on the corresponding ledges 18. The back element also has depending portions 22 that abut against the rear edges of the ledges 18 when the back element is in its upright position; the back element being connected to the base element by suitable hinges 24, preferably of the type having removable hinge pins 25, as best shown in Fig. 8. The hinge pins 25 may be withdrawn when it is desired to disconnect the back from the base. I prefer, also, to employ a suitable holding connection between the members 1 and 2, as, for example, a link 26 having a hinge midway between the ends thereof, to limit the angle through which the back may be swung rearwardly. In other words, when the back is swung rearwardly, it does not drop into a horizontal position, but stands at a convenient angle to permit work to be done thereon.

The back may be cushioned in any suitable way. Since the present invention is not concerned with the details of such cushion, except the padding, there is no illustration thereof given. The important thing is that there is a padding 27 that fits over the edges of the back frame and extends down over the front thereof below the top of the seat cushion. This pad is preferably preshaped so that it need only be slipped upon the back frame structure and present on the rear side of the latter a relatively narrow frame-like flange 28 that may be detachably fastened to the back frame by suitable snap fastenings 29. Similarly, the free lower end of the pad on the front of the back section is fastened to the latter by means of snap fastenings 30.

The decorative covering 32 for the back 2 conveniently takes the form of a slip cover which, like a pillow case, can be slipped down over the padded back frame from above. The ends of the bag-like cover 32 are preferably slitted for a considerable distance from the bottom upwardly, the meeting edges being provided with suitable hookless fastening devices 33 by which they may be secured together after the cover is in place. The extreme lower ends of the cover 32 are detachably fastened to the back frame at both the front and the rear by snap fasteners 34 and 35 respectively.

It will thus be seen that by undoing the snap fastenings 34 and 35 and the hookless fastener devices, the cover 32 is freed so that it may be lifted off the back frame and then, as heretofore explained, the padding may also be lifted off.

Each arm frame member comprises a box-like structure open at the bottom and having sides in the form of boards or slats spaced apart from each other, if desired. Each arm member is pinned to the upper end of a strut 36 which is hinged at its lower end to the base member in such a manner as to swing from front to rear. In the arrangement shown, the strut is connected to a block 37 by a pivot pin 38, which block is secured upon the corresponding ledge 18 of the base member by a single bolt 39 having thereon a nut 40 that may be easily unscrewed and thus permit the entire arm device to be detached from the base. The strut 36 extends up through the open bottom of the arm member and the connection between the upper end of the same and the arm member is somewhat below the middle and close to the rear end; the connecting means between the strut and the arm member being conveniently a bolt or pin 42 paralleling the hinge pin 38. The strut 36 has at its lower end a downwardly projecting nose 43 that strikes against the front end of a rib 44 rising from and extending lengthwise of the corresponding flange 18. Preferably there are two of these struts, each lying close to one of the side walls of the arm struc-

ture, whereby a more balanced effect can be obtained than with a single strut. Thus, there will also be two of the ribs 44 for each arm, and these may be so disposed that when the arm is in its normal position of use the ribs 44 lie close to the inner sides of the side walls of the arm and thus hold it fixed so far as lateral movements or turning movements about vertical axes are concerned.

Hinged to the front end of the block 37 is a rigid bar 45 that extends forwardly and has hinged to its forward end a shoe 46 that is interlocked with and slidable vertically along a pair of stationary guide rods 48 within the arm structure. This bar serves as a brace to prevent the arm structure from swinging about a vertical axis but which, in cooperation with the struts, holds the arm structure in the same plane as the arm structure swings upwardly and forwardly from the position shown in Fig. 6 to that illustrated in Fig. 7. The parts are so proportioned that when the arm structure is swung up into the position shown in Fig. 7, the removal and replacement of the upholstering material, to be described, can be conveniently and easily done.

It will be seen that when the arm structure is in its normal position of use, as in Fig. 6, the rear wall 49 of the box-like structure drops down upon the corresponding ledge 18 just behind the rear end of the upwardly projecting ribs 44. Consequently, if the front end of the arm be grasped and a lifting force be applied, the arm will not rotate about the hinge pin or bolt 42 because the lower end of the wall 49 would have to move forwardly to permit such turning movement of the arm, whereas any forward movement of the lower end of the arm is prevented by the ribs 44 which serve as a fixed stop.

After the arm has been swung upwardly and forwardly, it is desirable that it be locked in that position and not be permitted accidentally to drop back upon the base member. This locking of the arm is done in two ways. Rising from the base of the davenport just beside the lower end of the strut 38 is a stationary post 50. In the upper end of this post is a notch 52. Extending through the arm structure, from front to rear, beside the upper end of the post 50 is a rotatable rod 53 having fixed thereto a radially projecting finger 54. The parts are so proportioned that when the finger is swung upward and forward to the position indicated in Fig. 7, the path in which the finger 54 travels, when the rod 53 is turned, intersects the notch 52 in the post 50. Therefore, upon turning the rod or shaft 53 in the proper direction, the finger 54 may be entered into the notch 52 and the arm structure 3 be locked in its forward, raised position. The rod or shaft 53 has on the front end thereof a handle or finger piece 55 seated in a suitable depression 56 in the front face of the arm frame structure, by which the rod or shaft may be turned.

The arm structure may be additionally locked by means of a large headed screw 57 extending through the front wall of the arm structure just in front of the position which the shoe 46 occupies at this time. By turning this screw, the shoe 46 is clamped against the guide rods. The head of the screw 57 is set in a recess or depression 58 in the front wall of the arm structure, so as not to constitute an obstruction.

The rod or shaft 53, in addition to serving to lock the arm structure in its forward raised position, acts also to lock the arm and the back together. To this end the back frame has a block 59 secured to the front side thereof in position to register with the rod or shaft 53 when the back and arm are in their normal positions of use. The rear end of the rod or shaft 53 has thereon a head 60, see Fig. 9, which is longer than it is wide, and the block 59 contains a recess 62 large enough to receive the head 60 and permit the latter to turn freely therein. The recess 62 is closed by a suitable plate 63 having therein a slot 64 that forms the entrance to the recess; this slot being of about the same size and shape as the corresponding dimensions of the head 60. Therefore, when the back member and the arm member are in their normal positions of use, the rod or shaft 53 having been turned into the proper position to permit the head 60 to enter the slot 64: the turning of the rod or shaft 53 through an angle of ninety degrees results in interlocking the head with the plate 63, so that the back cannot be swung rearwardly or the arm member forwardly. When it is desired to open up the davenport, the rod or shaft 53 is turned by its handle 55 until the head 60 is brought into the position to move freely out through the slot 60 upon a relative separating movement between the arm and the back.

Each arm structure is upholstered in much the same way as the back. In other words, there is a long flat pad 65 that fits over the top of the arm and extends down both sides thereof. The pad on the inner side of the arm preferably extends well down below the level of the top of the seat and is detachably fastened to the lower part of the arm frame by snap fasteners 66. Along the sides, at the front and rear, are snap fasteners 61.

On the outer side of the arm frame structure, which is rounded on top and has an outward overhang at the top, are two horizontal rows of elements of snap fasteners, 68 and 69, one above the other, as shown in Fig. 7. The pad 65 has fastener elements complementary to those on the arm frame. The outer covering 70 for the arm is a sheet of material crimped or puckered and stitched to be a partial fit for the arm; the only forming, however, being at what may be termed the upper front corner of the arm, as indicated at 72, to produce a cap-like section fitting over a small portion of the arm where the top, sides and front of the arm meet. The covering 70 has snap fastener elements 73 along the border thereof; those along the rear and lower edges on the outer side of the arm being adapted to engage respectively with the complementary elements 74 on the back covering 32, and with elements 75, along the lower end of the arm frame, as best shown in Fig. 3. Other snap fastener elements 76, as shown in Fig. 10, extend along the lower end of the inner side of the arm frame to receive the elements 73 on the lower end of the covering 70 on the inner side of the arm. As best shown in Fig. 4, the two rows of fastener elements 73 along the two vertical edges of the covering on the front face of the arm cooperate with parallel vertical rows of fastener elements 77 on the front face of the arm frame. When the elements of the snap fasteners at the front of the arm are separated from each other, the covering may be folded back, as in Fig. 4, to give access to the handle 55 and locking screw 57.

Normally the joints between the vertical, free edges of the covering 70 at the front of the arms are covered by batten strips 78, as shown in Fig. 1. These strips are connected to the arms in a manner to facilitate quick attachment and detachment thereof. In the arrangement shown,

(see Fig. 5,) each strip 78 has on the rear face a pair of loops 79, one above the other. Each arm frame has on the front side a pair of hooks 80 spaced the same distance apart as the loops 79. To apply a batten, it is simply laid against the front end of one arm, with each loop a little above the corresponding hook on the arm frame structure, and is then moved down until the loops engage the hooks and thus secure the strip in place. To remove the strip, it is simply lifted off the hooks.

I prefer to provide each arm with a suitable handle or hand hold which may be grasped for the purpose of pulling the arm forwardly and upwardly. In the arrangement shown in Fig. 4 of the drawings, there is a hand hold 81 mounted in a recess 82 in the front face of the arm frame structure so that it normally lies in the recess but may be swung out when it is to be used.

There may be a seat cushion lying loosely upon the upholstered spring cushion of the base or seat member. In that case the outer covering of the loose cushion should also be detachable. In the arrangement illustrated, the loose cushion 83 is in three sections, each having a box-like fabric cover 84 whose open end is closed by a hookless fastener device 85. Thus these covers also may be easily removed and replaced.

It will thus be seen that I have made it possible easily and effectively to clean the outer covering or sheathing of a piece of overstuffed furniture, as well as the cushioning pads and interior spaces or chambers; the cleaning of the coverings being done in precisely the same way as in the case of individual pieces of fabric, curtain or clothing. Consequently, the cost of the actual cleaning is very small compared with that of cleaning outer coverings while they remain in place on the furniture and, at the same time, the cleaning is much more thorough. It will also be seen that worn outer coverings may be easily replaced by new ones and that a piece of furniture may have several sets of interchangeable coverings. These novel results are due not only to the use of detachable coverings of some kind but also to the manner of fastening the coverings and pads and, particularly to the construction of the frame work that permits a piece of furniture to be opened up and spread out so as to make it easy for an unskilled person to apply and remove the coverings and the pads, if desired.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. A piece of upholstered furniture having a seat member, a back member and arm members, the upholstering including an individual cushioning pad and an individual outer covering for each member, easily-releasable fastenings securing each pad to the member with which it is associated, easily-releasable fastenings holding each covering in place, and means supporting said members in normal positions of use and also permitting the arm members to be shifted upwardly and forwardly into and be held in positions for convenient removal and replacement of the pads and coverings thereon, as well as the pad and covering on the back member.

2. A piece of upholstered furniture having a seat member, a back member mounted on the seat member, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, and means to lock the arm members to the back member.

3. A piece of upholstered furniture having a seat member, a back member mounted on the seat member, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from the normal positions of use, a movable rod extending through each arm member from front to rear, and cooperating means on the back member and the rear ends of said rods to lock the arm members and the back member together.

4. A piece of upholstered furniture having a seat member, a back member mounted on the seat member, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, a rod that is rotatable and held against lengthwise movement extending through each arm member from front to rear, each rod having on its rear end a lateral projection, said back member having recesses to receive said projections when the arm members are in their normal positions of use, and said recesses having inlet openings each shaped to permit the corresponding projection to pass through the same when the rod is in a predetermined angular position and to prevent the escape of the projections from the recess in another angular position of the rod.

5. A piece of upholstered furniture having a seat member, a back member mounted on the seat member, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, movable means having a handle thereon and on the front face each arm member engaging means on the back member to lock the arm members to the back member, and a batten detachably secured to the front faces of said arm members and concealing said handles.

6. A piece of upholstered furniture having a seat member, a back member mounted on the seat member, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, movable means having handles thereon and on the front faces of the arm members engaging means on the back member to lock the latter to the back member, battens adapted to fit against the front faces of the arm members over said handles, and cooperating elements on each arm member and the corresponding batten detachably to secure the battens through relative movements between the same and the arm members.

7. A piece of furniture comprising a base member, a back member and hollow arm members, said back member normally resting on top of the rear marginal portion of the base member and

having a downward extension lying behind and engaged with the rear edge face of the base member, hinge means connecting the lower end of said downward extension to the base member, said arm members normally resting upon said base member, upward projections on the base member extending into said arm members and engaging portions of the latter to prevent forward or sidewise movements of the arm members while resting on the base member, and elongated elements housed within the arms and each pivoted at one end to the base member and at its other end to the corresponding arm member and thus connecting the base and the arms to permit the latter to be swung upwardly and forwardly.

8. A piece of furniture comprising a base member, a back member and hollow arm members, said back member normally resting on top of the rear marginal portion of the base member and having a downward extension lying behind and engaged with the rear edge face of the base member, hinge means connecting the lower end of said downward extension to the base member, said arm members normally resting upon said base member, upward projections on the base member extending into said arm members and engaging portions of the latter to prevent forward or sidewise movements of the arm members while resting on the base member, elongated elements housed within the arms and each pivoted at one end to the base member and at its other end to the corresponding arm member and thus connecting the base and the arms to permit the latter to be swung upwardly and forwardly, and a manually-operable locking device between each arm member and the back member normally to secure them together.

9. In a piece of furniture, a base, a hollow arm, open at the bottom, normally resting on the base, a strut extending up into the arm from the base and pivotally connected at its lower end to the front end of the base and at the upper end to the arm at a point toward the rear of and a considerable distance above the lower end of the arm, a stationary post rising from the base near the forward end of said arm, a rod extending through the arm from front to rear at an elevation which causes the rod to lie near the top of the post when the arm member is swung up and forwardly as far as it will go, said rod having thereon a handle accessible from without the arm for turning the same, and cooperating elements on the post and on said rod for engagement with each other in one angular position of the rod, while the arm is raised, to lock the arm in its raised position.

10. In a piece of furniture, a base, a hollow arm, open at the bottom, normally resting on the base, a strut extending up into the arm from the base and pivotally connected at its lower end to the front end of the base and at its upper end to the arm at a point toward the rear of and a considerable distance above the lower end of the arm, a stationary post rising from the base near the forward end of said arm, vertical guides within the arm at the front end of the latter, a bar hinged at one end to the base in the vicinity of the hinge connection between the strut and the base, and a shoe connected to the other end of said bar and slidably interlocked with said guides.

11. A piece of upholstered furniture having a seat member, a back member hinged to the seat member so as to be capable of swinging rearwardly through a small angle, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, and means to lock the arm members and the back member in their normal positions of use.

12. A piece of upholstered furniture having a seat member, a back member hinged to the seat member so as to be capable of swinging rearwardly through a small angle, and arm members, the upholstering including an individual easily-detachable outer fabric covering for each member, means supporting said arm members from the seat member for forward and upward movements from their normal positions of use, a rotatable rod extending through each arm member from front to rear, and means on the back member and the rear ends of said rods arranged to interlock with each other upon rotation of the rods to lock the arm members and the back member together.

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