March 12, 1963 C. C. WIELAND 3,081,130

FURNITURE CONSTRUCTION

Filed June 20, 1960 2 Sheets-Sheet 1

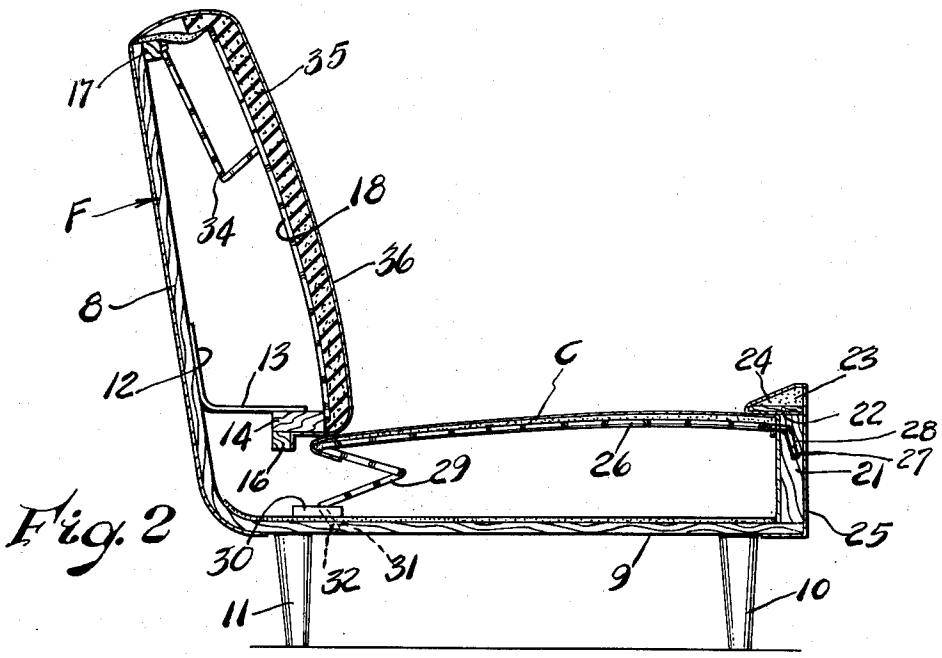


Fig. 2

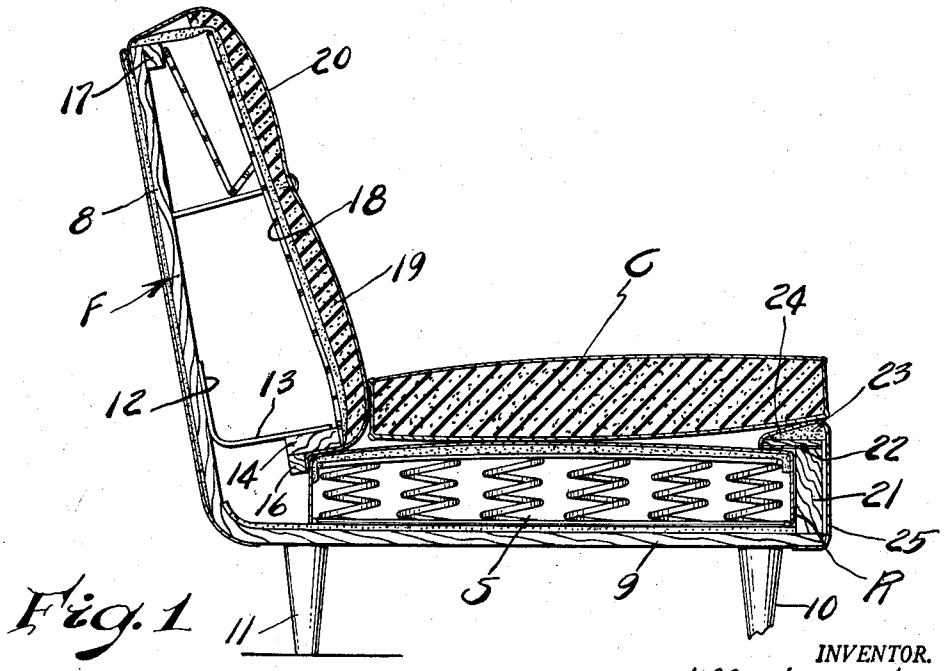


Fig. 1

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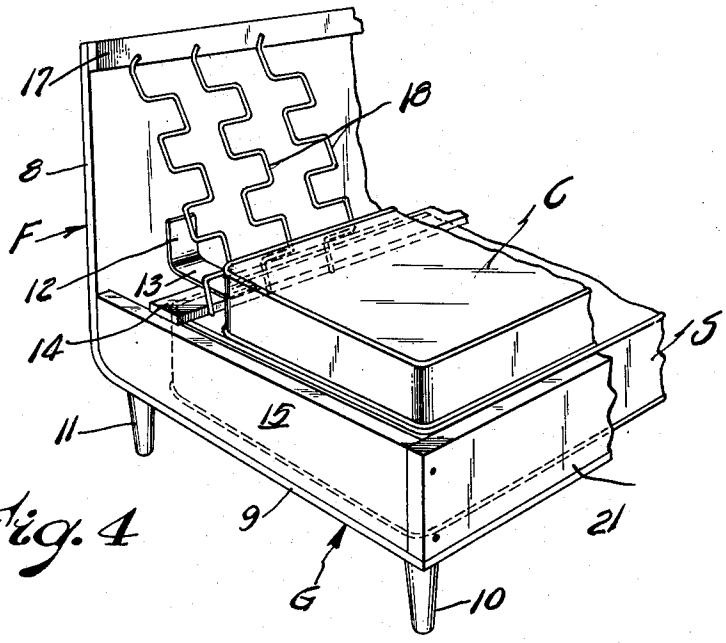


Fig. 4

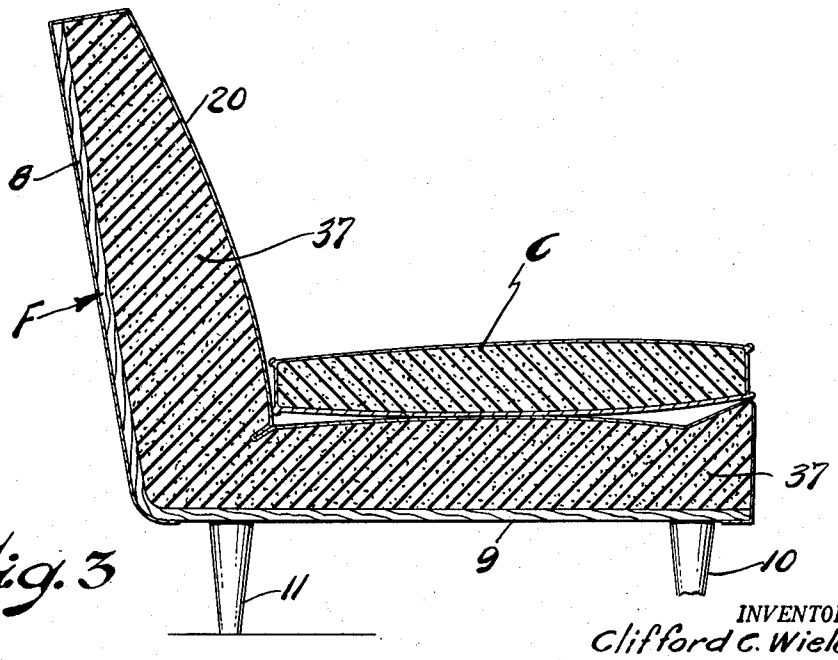


Fig. 3

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FURNITURE CONSTRUCTION

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6 Claims. (Cl. 297—455)

This invention relates to furniture construction, and more particularly to an upholstered construction which can be used for chairs, sofas, davenports and sectionals of all sizes.

One of the prime objects of the invention is to design an article of furniture, comprising a one piece back and seat frame, which is of strong and durable construction, and which is relatively inexpensive to manufacture both in small and large volume.

Another object of the invention is to design an article of furniture on which the main frame used is substantially the same for chairs, sofas, sectionals, etc., which frame can be formed of plywood, fiberglass, plastic, or any other desired material, and in which various cushioning means can be installed to provide a comfortable item of furniture of pleasing design and appearance.

A further object is to provide a one piece, unitary, back piece and seat construction, including bracing means for reinforcing the frame and for supporting the cushions, spring means, and back rest in proper position.

Still a further object is to provide an article of furniture of pleasing appearance which can be readily constructed and assembled, which is comfortable in use, and to which various types of cushions and upholstery are readily applicable.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion, and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention.

In the drawings:

FIG. 1 is a longitudinal, sectional, side elevational view of an upholstered chair constructed in accordance with my invention.

FIG. 2 is a view similar to FIG. 1 showing a modified construction of the upholstery and seat spring.

FIG. 3 is a view similar to FIG. 1, showing however a foam rubber back rest and seat section.

FIG. 4 is a fragmentary perspective view of a settee frame.

Referring now more specifically to the drawings in which I have shown the preferred embodiments of my invention. Basically, there is provided a one-piece molded frame F, comprising back and seat sections **8** and **9** respectively, the back section being inclined with relation to the seat, and the frame is supported on front and rear legs **10** and **11** as usual.

This frame F can be formed of plywood, metal, plastic, fiberglass or combinations thereof, and angularly shaped brackets **12** are secured to the inner face of the back section, the lower leg **13** of each bracket projecting inwardly as shown, and is secured to a longitudinally disposed bottom back rail **14** which spans said frame, the ends of the rail being disposed slightly above the side walls **15** to avoid frictional contact and any squeak or noise. A depending section **16** is secured to the lower face of the rail **14** and for a purpose to be later described.

The top back rail **17** is mounted on and secured to the upper, inner, face of the back section **8** by means of clips (not shown), glue, or in any other approved manner, and forms an anchor for a sinuous, wire type spring **18**, the lower end of which is connected to the inner edge of the rail **14** in a similar manner to the upper end, and a foam rubber back strip **19** covers said spring, with a fabric cover **20** disposed over the back strip and forming a finish as usual.

A front rail **21** spans the front end of the frame F (see FIGS. 1 and 2 of the drawing), and an inwardly projecting ledge **22** is secured to the upper edge face thereof, a foam rubber cushioning strip **23** being provided on said ledge, the upper face of the strip being inwardly angled as at **24** so that the loose seat cushion C which rests on the spring unit S, will not shift and float, and a strip of fabric **25** covers the front rail and angled section to provide a neat finish.

The inwardly extending ledge **22** also forms an overhang and upper wall of a recess R to hold the front end of a spring unit S in position, the rear end of the unit butting against the bar **16** which forms a stop to prevent rearward shifting thereof.

This spring unit S, shown in FIG. 1 of the drawing, is a pre-covered unit which is not fastened to the frame, but is forced underneath the back rail **14** and against section **16**, the front end being butted up against the front rail **21**, thus preventing the unit from moving from side to side or so-called floating, and it will be obvious that this spring unit can be readily removed or replaced without in any manner altering the frame or upholstery.

The top back rail **17** strengthens the frame laterally and also serves as a support for the back spring **18**, which is secured to the upper and lower rails **14** and **17** respectively.

The construction shown in FIG. 2 of the drawings employs the basic one-piece frame idea the same as FIG. 1; however, a sinuous wire type spring **26** replaces the spring unit S, and this spring is shaped to form a seat, and the upper edge of the front rail **22** is bored as at **27** to accommodate the downwardly bent ends **28** of the spring to anchor the front end thereof. The rear end of the spring projects beyond the back rest and is reversely bent as at **29** to form a V, and anchor blocks **30** are provided on the inner face of the seat section, being bored as at **31** to accommodate the ends **32** of said spring.

The back construction is also slightly modified, the wire type spring **18** being secured to the rail **14**, thence projecting upwardly; thence being turned upon itself and extending outwardly at an angle to form a V (as at **34**) with the free end of the spring secured to the upper rail **17** in any approved manner. A curled hair or foam rubber back **35** covers the face of the spring, and here again there is a fabric covering **36** to form a neat finish, and this fabric can be extended over the top and then downwardly on the back section if so desired.

In FIG. 3 of the drawings, I have shown a slightly modified construction, the basic frame F being exactly the same, but the seat spring are eliminated; in this design, the frame is formed of polyurethane foam **37** which is activated. This is poured into the mold (not shown) which fits over the sections **8** and **9**, said mold being so shaped as to provide the desired profile and thicknesses or density to suit.

In FIG. 4 of the drawings, I have shown a fragmentary view of a standard sectional G, the upholstered portion of the back being omitted to more clearly show the construction; the basic frame however, is made in the same manner shown in FIGS. 1, 2 and 3, and the seat section can also be made as shown in these same figures, it is merely a matter of choice by the manufacturer.

While in the instant application, I have shown the exposed portions of the frame as fabric covered, it will be obvious that it can also be covered with a face veneer (not shown).

The fact that the basic frame can be utilized for making up a number of different units of various sizes, greatly simplifies the manufacture and materially cuts production costs, no expensive special equipment is required, and the construction lends itself to both small and large volume.

The invention in its broader aspects is not limited to the specific embodiments shown and described, but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention, and without sacrificing its chief advantages.

What I claim is:

1. An article of manufacture comprising, a one-piece back and seat frame, a horizontally disposed top rail secured to the upper inner edge of the back section, a bracket secured to the inner face of the back section, and a horizontally disposed lower bottom rail secured to the lower face of said bracket, a spring member secured to the bottom rail and top rail respectively, a strip of resilient material secured to and covering the exposed face of said back spring and having a turned upper end, a yieldable strip secured to the upper face of said top rail and to the lower face of the turned end of the resilient material, a self contained spring seat removably mounted on said seat frame, and a seat member provided on said seat frame section.

2. The combination as defined in claim 1 in which a stop is provided on the lower face of the bottom rail, and a front seat rail spanning the front end of the seat frame and having an inwardly projecting overhanging lip forming a pocket, and a spring unit slidably insertable in said pocket and interposed between said front seat rail and bottom rails stop respectively.

3. The combination set forth in claim 1 in which a front seat rail is secured to the end of the seat frame section, an inwardly projecting overhanging lip provided on the front seat rail, and an inwardly pitched resilient strip provided on said lip section for accommodating and securing the seat member.

4. An article of furniture comprising a one-piece back and seat frame, brackets secured to said back frame, a top rail secured to the upper end of the back frame, a bottom rail secured to the lower face of said brackets, a sinuous type, wire spring anchored to said bottom rail and to the top rail respectively, upholstery forming a covering for said springs, a front rail spanning the front of the seat frame, an inwardly projecting overhanging lip member secured to the upper edge thereof and spanning the front end of said frame seat section, and resilient means anchored to said seat frame and forming a support for same.

5. An article of manufacture comprising, a unitary one-piece back and seat frame, a bracket on the back section, a bottom rail mounted on the lower face of the free end of said bracket and spaced from the inner face of said back section, a stop depending from said back rail, a spring secured to the upper end of the back section and bottom rail respectively, a resilient back forming a facing for the spring, yieldable fabric connecting the upper end of the back section and the upper end of the resilient back material, a front rail spanning the seat frame, and a resilient seat unit mounted on said seat frame and interposed between said stop and front rail respectively for securing said seat unit in position therebetween.

6. The combination defined in claim 5 in which the front rail and back rail overlie the front and rear end sections of the seat unit.

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