Sept. 23, 1952 J. H. BLUM 2,611,423

CHAIR BACK

Filed Nov. 8, 1950 2 SHEETS—SHEET 1

Fig. 1

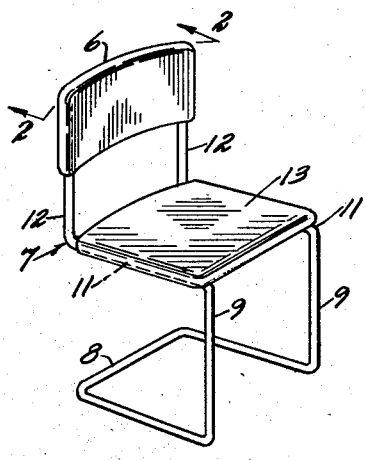


Fig. 2

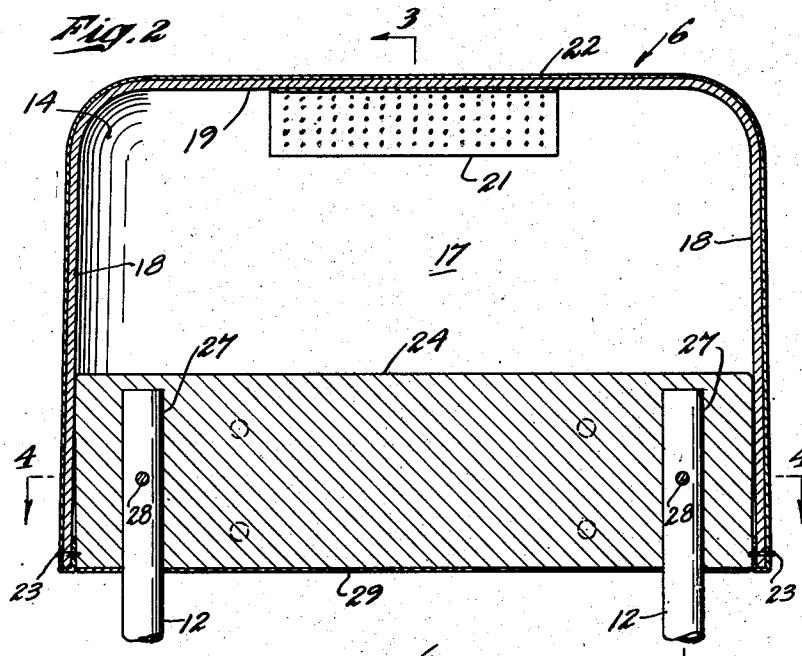


Fig. 3

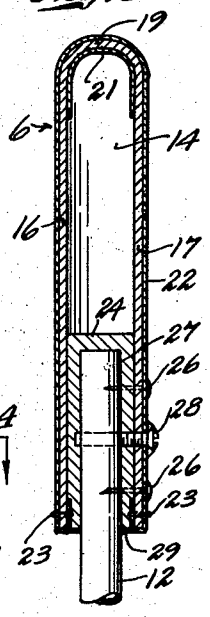
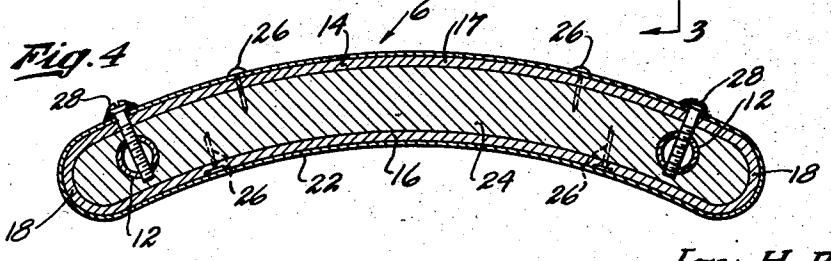


Fig. 4



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CHAIR BACK

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Fig. 5

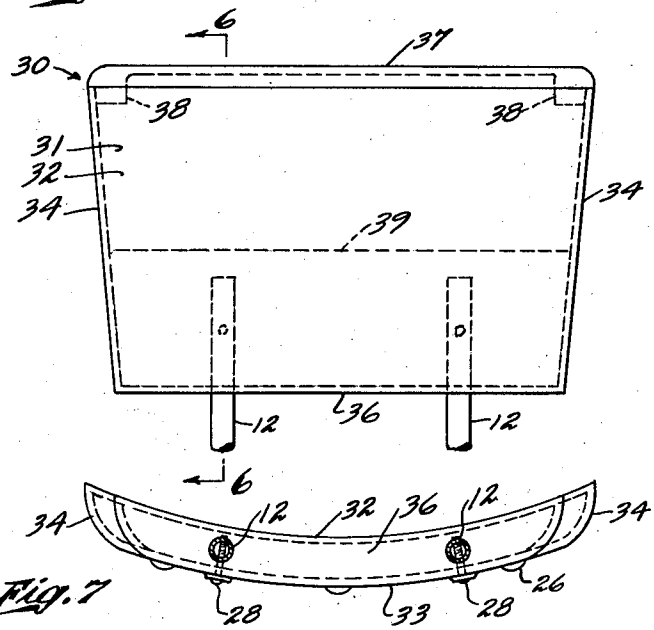


Fig. 7

Fig. 6

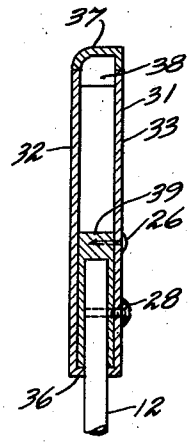


Fig. 8

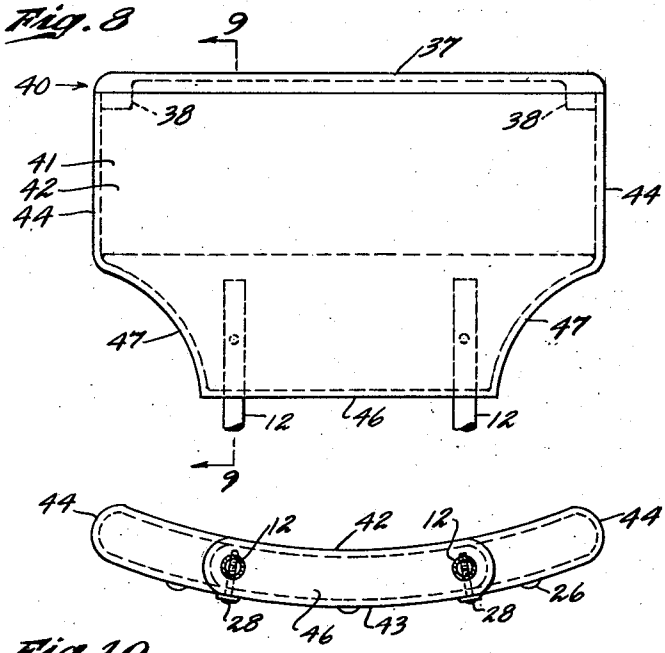
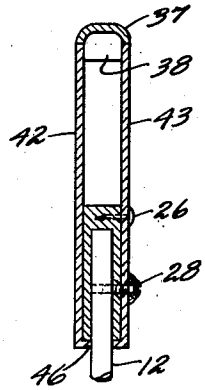


Fig. 10

Fig. 9



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UNITED STATES PATENT OFFICE

2,611,423

CHAIR BACK

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Application November 8, 1950, Serial No. 194,651

12 Claims. (Cl. 155—178)

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This invention relates to chair backs and is more particularly concerned with the provision of a chair back for a chair of the type embodying a tubular metal frame formed to provide two upright portions to receive and support the chair back.

Heretofore, chair backs of this type have embodied numerous pieces of wood cut to predetermined sizes and shapes and secured together by means of glue and/or metal fasteners to provide a form or frame to receive and engage a fiberboard cover. It will be appreciated that this method of prefabricating and assembling chair backs involved a considerable amount of labor and expense.

Briefly, the present invention contemplates the provision of a chair back embodying an upholstery foundation formed from a fibrous material, such as paper pulp, impregnated with a binder, such as a natural or manufactured bitumen, and pressed in suitable dies to the desired shape and size, the molded foundation being secured to a suitable filler block formed with apertures to receive the upright portions of a tubular metal chair frame, and adapted to be covered with a suitable fabric.

It is an object of the present invention to provide a chair back which is sturdy in construction and simple and inexpensive to manufacture.

It is a further object of this invention to provide a chair back construction embodying an upholstery foundation adapted to be molded to a predetermined size and shape.

It is a further object of this invention to provide a molded upholstery foundation on which a suitable fabric slip cover may be secured by means of staples or other types of metal fasteners.

It is a further object of this invention to provide a molded upholstery foundation in the form of a hollow shell to snugly receive a wooden filler block formed with apertures to receive tubular metal upright portions of a chair frame, the molded foundation being secured to the filler block by means of nails or screws.

This invention embodies other novel features, details of construction and arrangement of parts which are hereinafter set forth in the specification and claims and illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view illustrating the chair back as applied to a chair of the type embodying a tubular metal frame.

Fig. 2 is an enlarged sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is a transverse sectional view taken along the line 3—3 of Fig. 2.

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Fig. 4 is a sectional view taken along the line 4—4 of Fig. 2.

Fig. 5 is a front elevational view illustrating a modified form of chair back.

Fig. 6 is a transverse sectional view taken along the line 6—6 of Fig. 5.

Fig. 7 is a bottom plan view of the chair back.

Fig. 8 is a front elevational view illustrating another modified form of chair back.

Fig. 9 is a transverse sectional view taken along the line 9—9 of Fig. 8.

Fig. 10 is a bottom plan view of the chair back.

Referring now to the drawings for a better understanding of the present invention and more particularly to Figs. 1 to 4 therein, the chair back 6 is shown as applied to a chair embodying a frame 7 formed from a single length of metal tubing bent to provide a U-shape support 8, a pair of risers 9—9, a pair of horizontal seat supporting portions 11—11, and a pair of upright back supports 12—12 disposed in spaced parallel relation. A seat 13 is secured to the horizontal portions 11—11 of the frame by means of screws or clips (not shown).

The chair back 6 is shown as comprising an upholstery foundation 14 preferably composed of fibrous material and a binder and formed with a front wall 16, back wall 17, end walls 18—18, and a top 19. If desired, the medial portion of the top 19 may be strengthened by embedding a metal plate 21 therein. A fabric slip cover 22 is mounted over the foundation 14 and has its lower edge turned inwardly and thence upwardly along the inner surface of the foundation for attachment to the latter by means of staples 23.

A filler block 24 is snugly mounted within the lower portion of the upholstery foundation 14 and is secured to the latter by means of metal fasteners 26, such as nails or screws. As illustrated in the drawings, the fasteners 26 disposed along the back side of the seat back may have their heads exposed, and the fasteners disposed along the front side of the seat back may have their heads covered by the slip cover 22. If desired, a soft padding material (not shown), such as felt, may be interposed between the slip cover 22 and the upholstery foundation 14. The filler block 24 is preferably formed of wood shaped to conform to the inner surface of the upholstery foundation 14, but it is apparent that the block could be formed from sheet metal, molded plastic or other materials, if desired.

The filler block 24 is formed with apertures 27 disposed in spaced parallel relation and formed to snugly receive the upper ends of the upright back supports 12—12 of the chair frame 7, the

supports being formed with threaded apertures to receive screws 28—28 which extend through apertures formed in the chair back 6. If desired, the lower surface of the filler block may be covered with a piece of fabric 29.

In the forming of an upholstery foundation 14 from a mixture of fibrous material and a binder, I preferably form a preliminary body of substantially the size and shape of the desired final product by means of the well known method of accretion felting. The fibrous material is preferably paper stock and for the present purpose waste paper stock is suitable. The binder may be composed of one or more of the various synthetic or natural heat formable plastics or resins, preferably those which are thermo-plastic, and I have found various types of synthetic or natural bitumens or mixtures thereof to be most suitable.

In the employment of a fibrous-bituminous composition, there is first formed, in accordance with one well known process, a preliminary mass of slightly wet fibers and binder, and after an intimate admixture is formed in a suitable mixer, water is added and the mass is transferred to a beater and reduced to the form of a workable pulp, after which water is added to provide an aqueous pulp of about 2% solids consistency. In forming this composition I may employ a premix of 30% to 50% waste paper stock by dry weight together with 50% to 70% of 150° F. melting point petroleum base asphalt.

The resulting dilute stock is then deposited by the accretion method on a foraminous form having substantially the size and contour of the inner surface of the upholstery foundation, accretion being formed by either vacuum or suction to build up the desired thickness of stock along the outer surface of the form. The preliminary felted body is then removed from the form and placed in an oven and thoroughly dried. After the body is dried, it is subjected to a repressing treatment in heated dies to bring it to its final shape and dimensions, the body being subjected to a pressure of about 500 to 1000 pounds per square inch and to a temperature of 250° F. to 350° F., depending upon the component materials and the surface finish desired.

Upholstery foundations made in accordance with the process thus described are rigid, dense, waterproof and sufficiently strong and rugged to withstand severe abuse. They will not warp or deteriorate after long exposure to the elements and are not appreciably affected as to size responsive to variations in temperature.

Figs. 5, 6 and 7 illustrate a modified form of this invention in which the chair back 30 is shown as comprising an upholstery foundation 31 formed of a fibrous material and a binder by the method heretofore described, the foundation being provided with a front wall 32, a back wall 33, side walls 34—34 and a bottom wall 36. Mounted upon the upper end of the foundation is provided a cover 37 which may be formed of wood, metal, or a fibrous material and binder similar to that employed in forming the foundation. The cover 37 is preferably formed with one or more bosses 38 for snug engagement against the inner surface of the foundation 31 and is secured to the latter by means of metal fasteners and/or adhesive.

In this form of the invention the foundation is formed with downwardly converging side walls 34—34 which terminate at the bottom wall 36, and a filler block 39 is snugly engaged within the bottom of the foundation and secured against

displacement by means of metal fasteners 26. The filler block 39 and the bottom wall 36 of the foundation are formed with apertures to receive the upper ends of the back supports 12—12 which are secured to the chair back by means of screws 28. The chair back 30 is adapted to be provided with a fabric covering held in place by any suitable means.

Figs. 8, 9 and 10 illustrate another modified form of this invention in which the chair back 40 is shown as comprising an upholstery foundation 41 formed with a front wall 42, back wall 43, side walls 44—44 and a bottom wall 46. In this form of the invention the side walls 44—44 extend downwardly in parallel relation and then curve inwardly and downwardly at 47—47 to terminate at the bottom wall 46. A filler block 48 is snugly fitted within the bottom portion of the foundation and secured against displacement by metal fasteners 26. This form of the invention is otherwise similar to the form illustrated in Figs. 5, 6 and 7 in the drawings.

It will be noted that chair backs made in accordance with the present invention are sturdy in construction and simple and inexpensive to manufacture due to the use of an upholstery foundation formed of fibrous material and a binder adapted to be pressed to a predetermined size and shape. It will also be noted that upholstery foundations of this type are adapted to be secured to filler blocks and fabric coverings by means of nails and other types of metal fasteners which facilitate assembly of the chair backs.

While this invention has been shown in several forms, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit and scope of the claimed invention.

I claim as my invention:

1. In an upholstery foundation for chair backs, a hollow member having an open upper end and comprising a front wall, a back wall, side walls, and a bottom wall, said member being composed of a fibrous-plastic composition, and a cover mounted on the upper open end of the member.

2. In an upholstery foundation for chair backs, a hollow member having an open upper end and comprising a front wall, a back wall, side walls, and a bottom wall, said member being composed of a fibrous-plastic composition, and a cover mounted on the upper open end of the member, said side walls being disposed in downwardly converging relation.

3. In an upholstery foundation for chair backs, a hollow member having an open upper end and comprising a front wall, a back wall, side walls, and a bottom wall, said member being composed of a fibrous-plastic composition, and a cover mounted on the upper open end of the member, the lower end of the member being formed with side walls curving inwardly and downwardly and terminating at the bottom wall.

4. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within and secured to said upholstery foundation for engagement with an upright support of a chair.

5. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within the lower

end of said foundation and secured to the latter for engagement with an upright support of a chair.

6. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, a filler block disposed within and secured to said upholstery foundation for engagement with an upright support of a chair, and a fabric slip cover enclosing and secured to said foundation.

7. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within the lower end of said foundation and secured to the latter for engagement with an upright support of a chair, said foundation comprising a front wall, back wall, side walls, and a top wall.

8. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within the lower end of said foundation and secured to the latter for engagement with an upright support of a chair, said foundation comprising a front wall, back wall, side walls, and a bottom wall.

9. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, a filler block disposed within the lower end of said foundation and secured to the latter for engagement with an upright support of a chair, said foundation comprising a front wall, back wall, side walls, and a bottom wall, and a cover mounted on the upper end of the foundation.

10. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within and secured to said upholstery foundation for engagement with an upright support of a chair, said filler block being formed with an aperture to receive the upper end of an upright support of a chair.

11. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, and a filler block disposed within the lower end of said foundation and secured to the latter for engagement with an upright support of a chair, said foundation comprising a front wall, back wall, side walls, and a top wall, a bag-type slip cover positioned over said foundation and having its lower marginal edge engaged between said filler block and the inner surface of the foundation.

12. In a chair back adapted to be mounted upon an upright support of a chair, a hollow upholstery foundation formed of a fibrous-plastic composition, a filler block disposed within the lower end of said foundation and secured to the latter for engagement with an upright support of a chair, said foundation comprising a front wall, back wall, side walls, and a top wall, a bag-type slip cover positioned over said foundation and having its lower marginal edge engaged between said filler block and the inner surface of the foundation, and means to secure said filler block to an upright support of a chair.

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