

Aug. 12, 1958

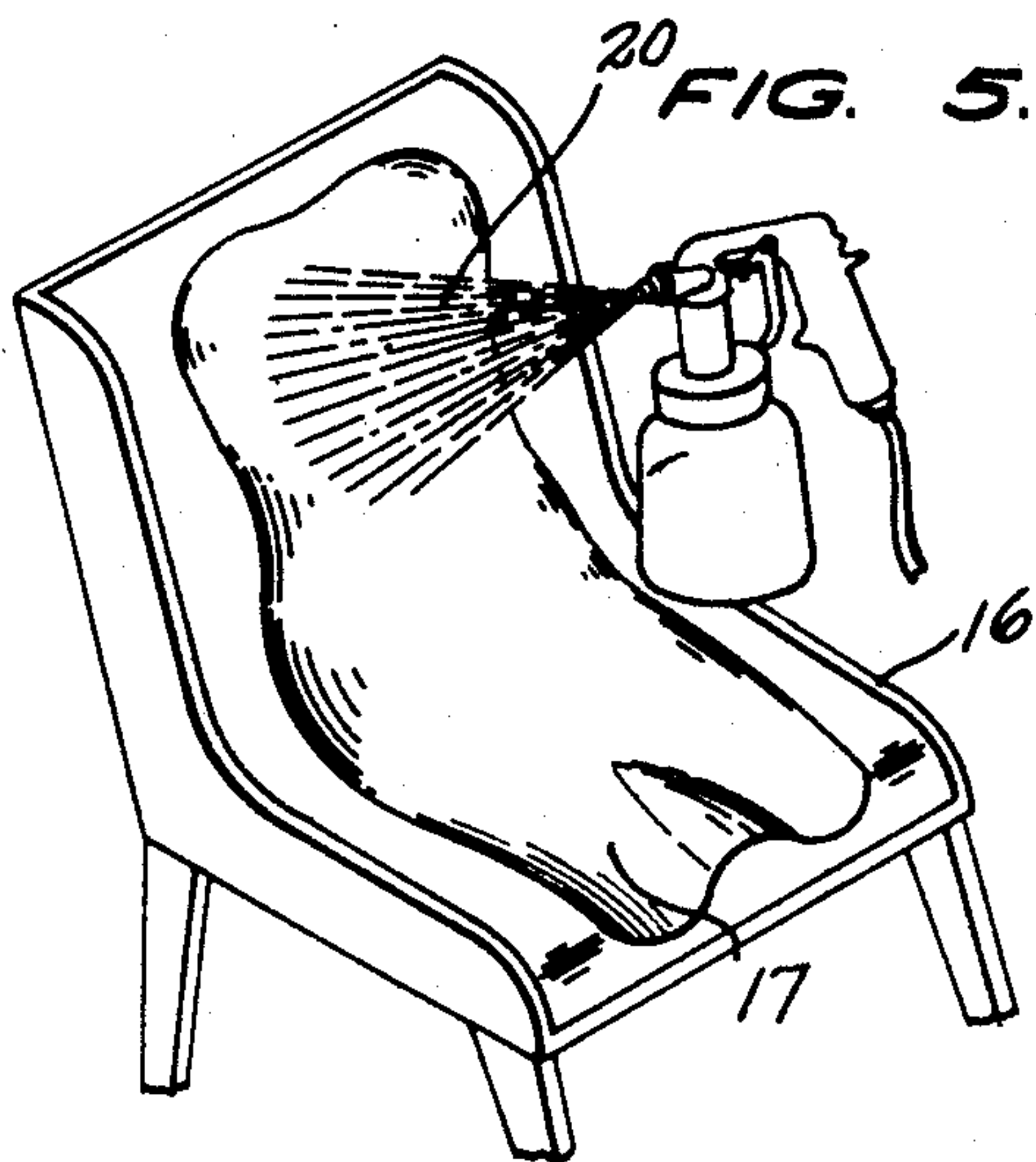
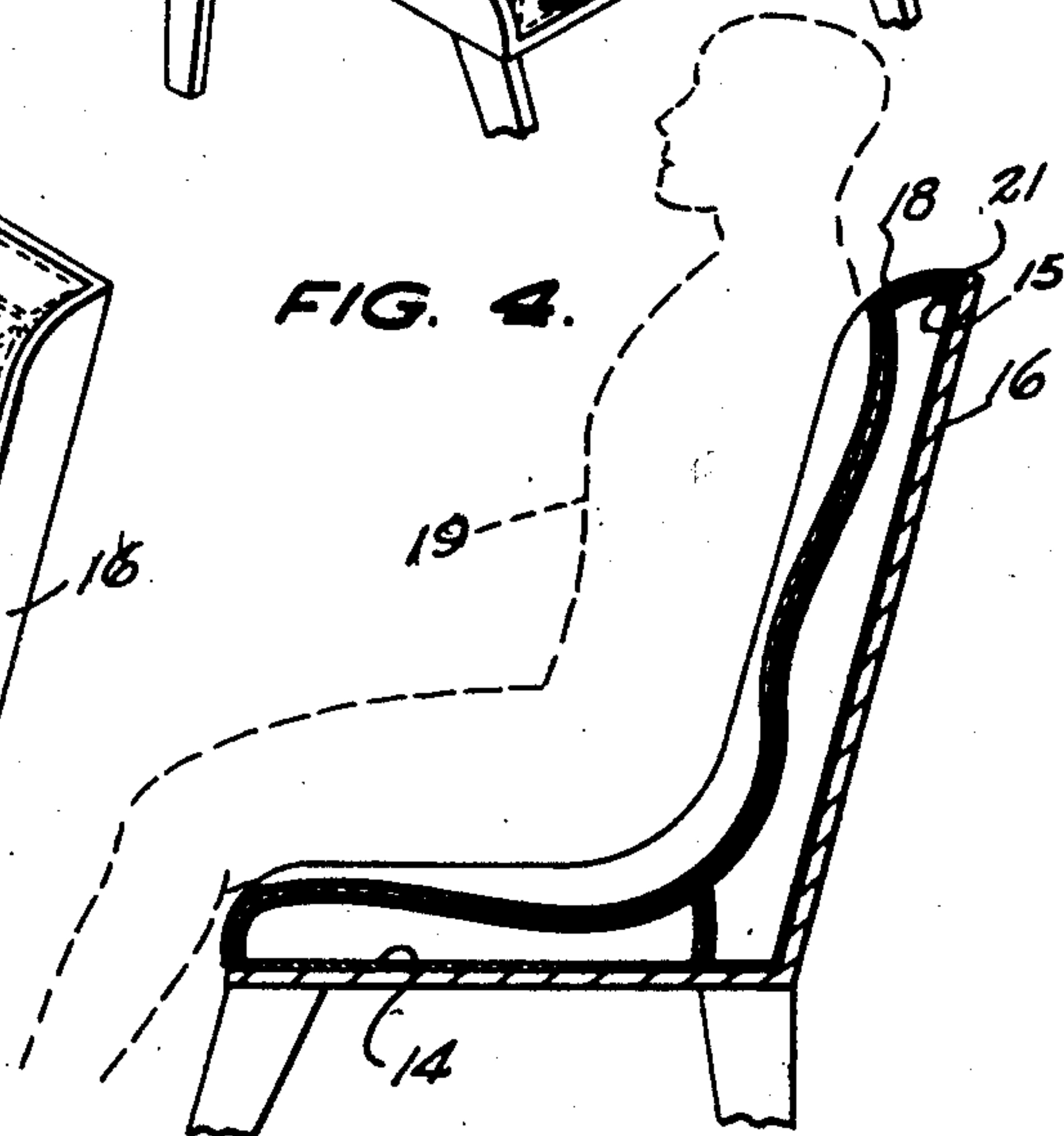
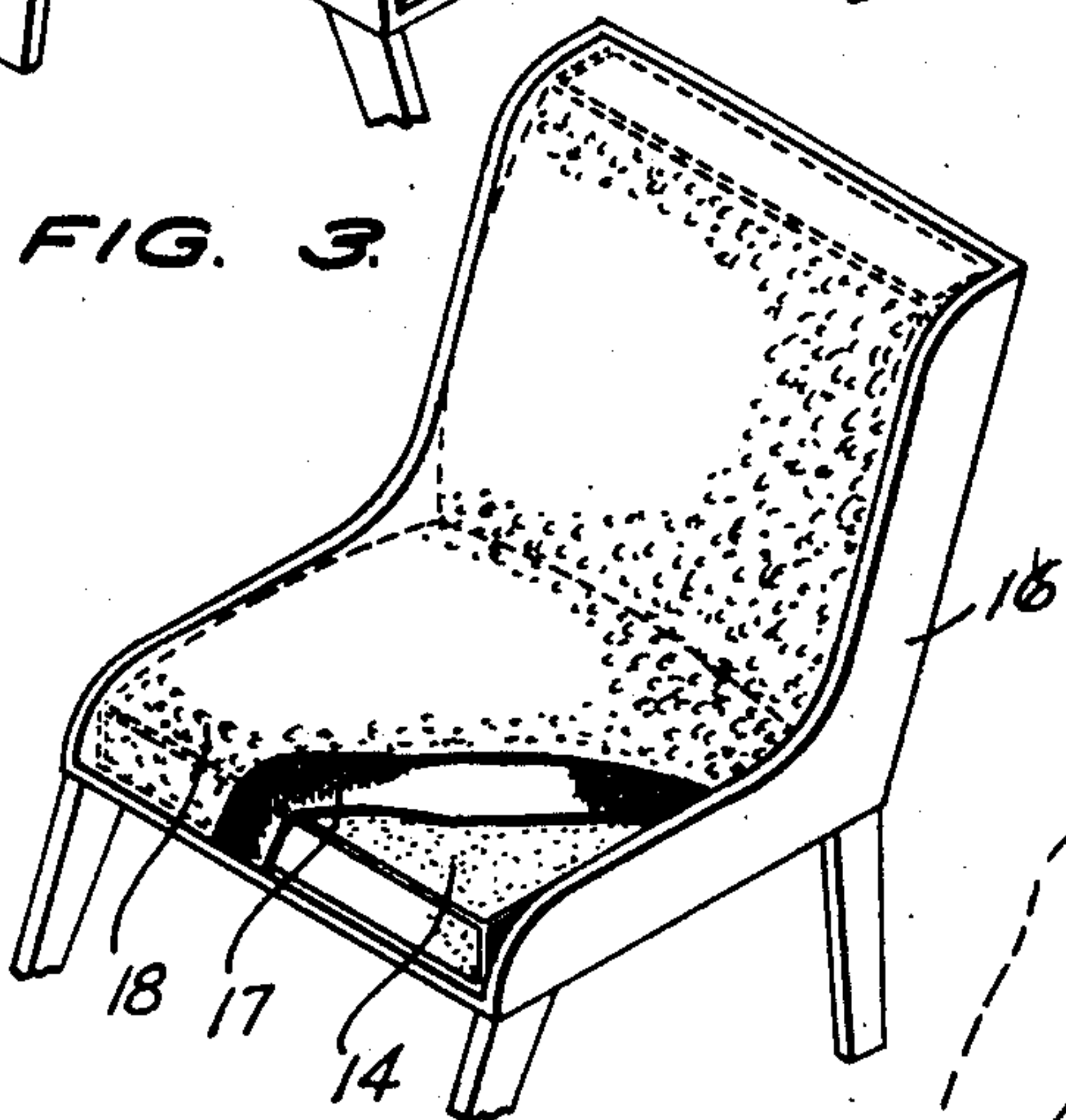
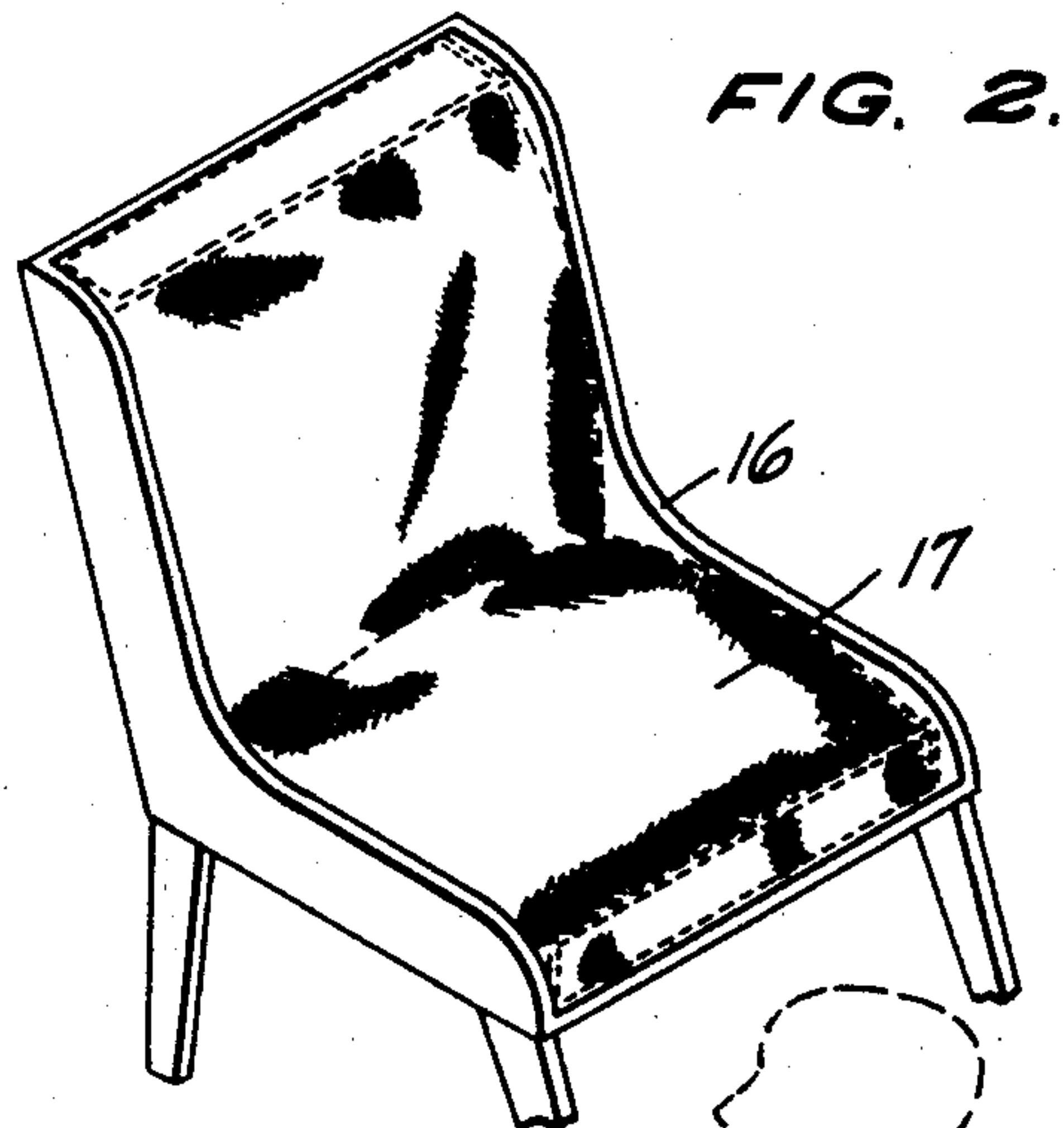
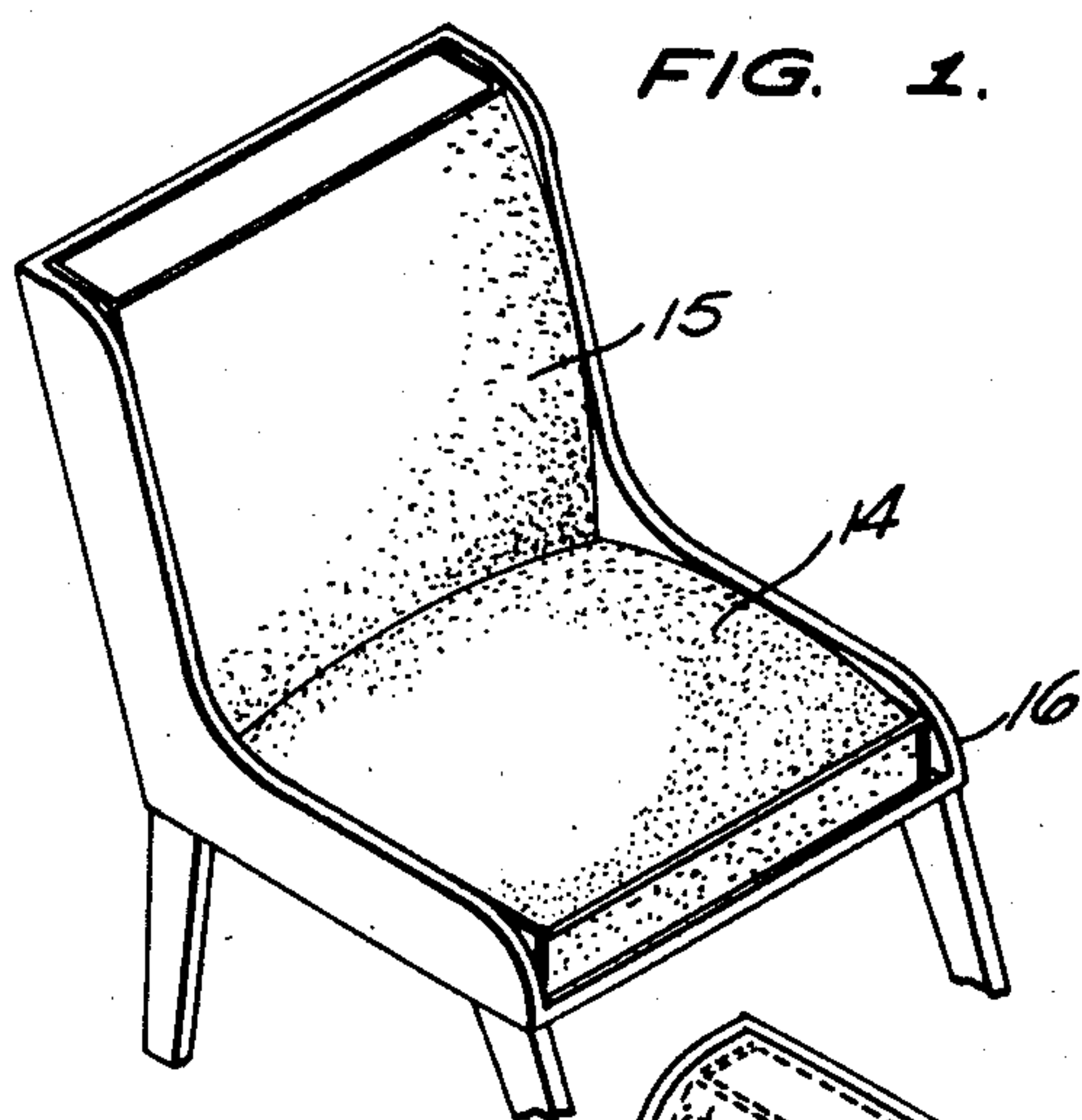
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2,847,061

CHAIR AND METHOD FOR MAKING SAME

Filed March 18, 1955

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

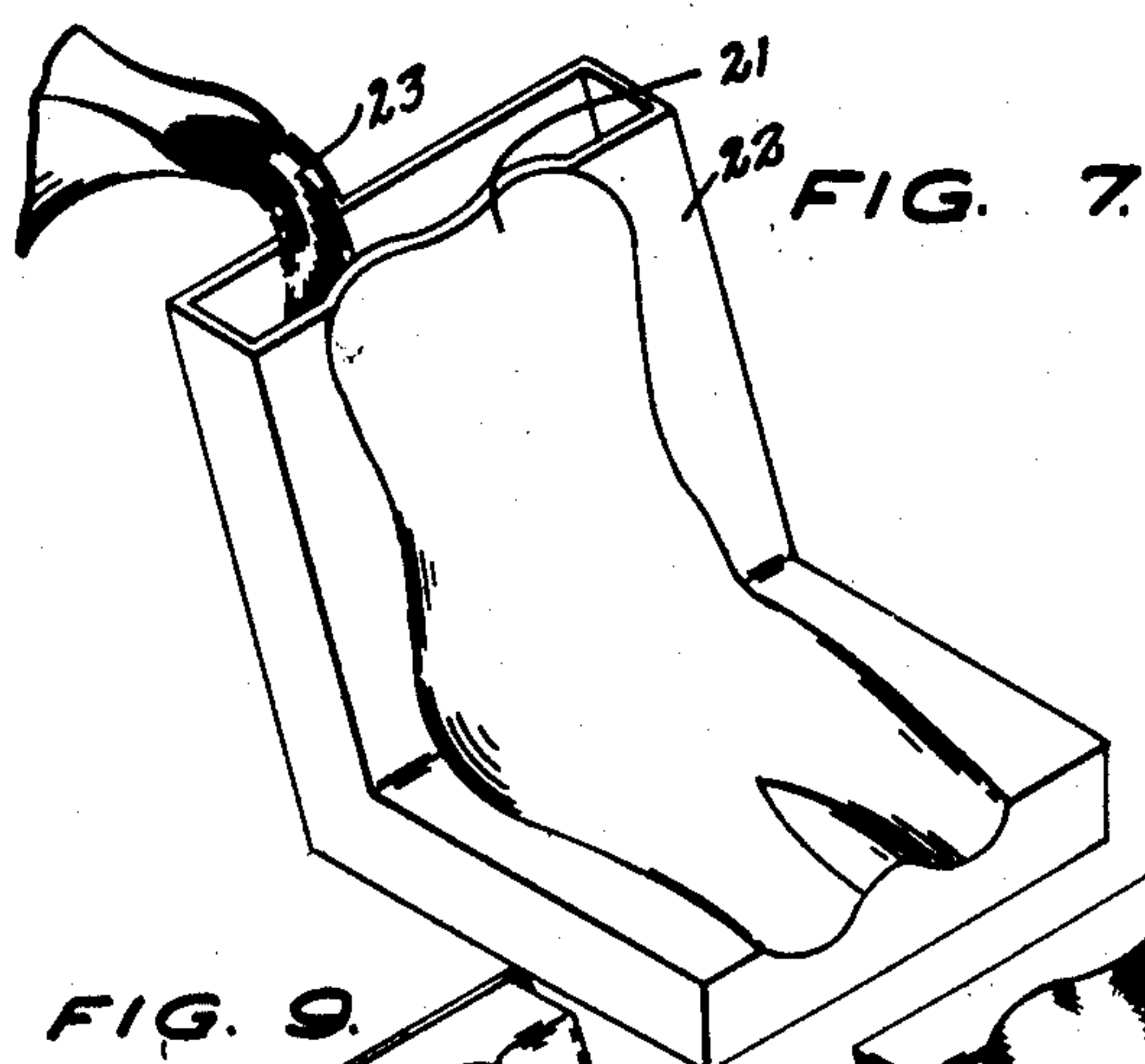


FIG. 8.

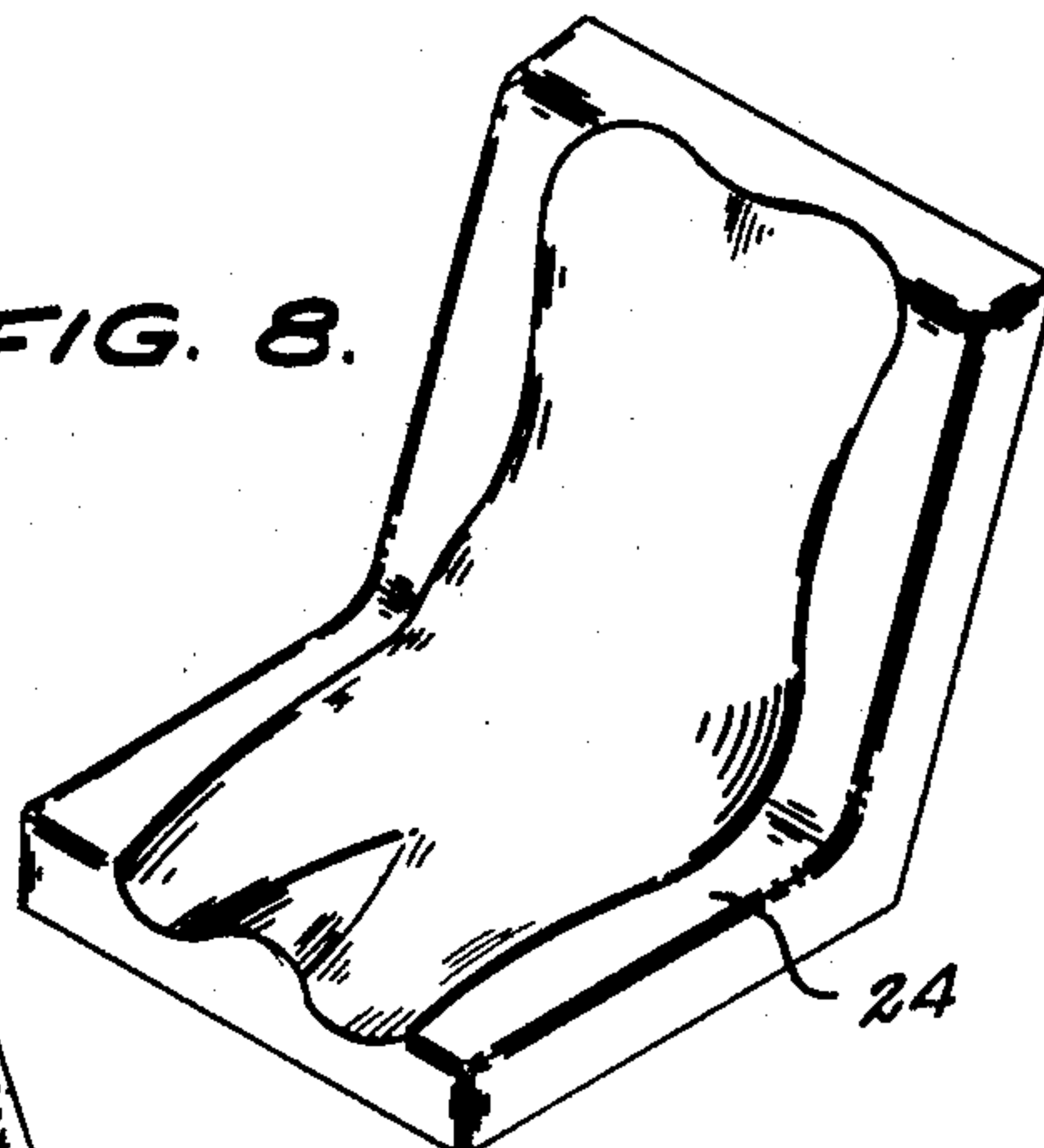


FIG. 9.

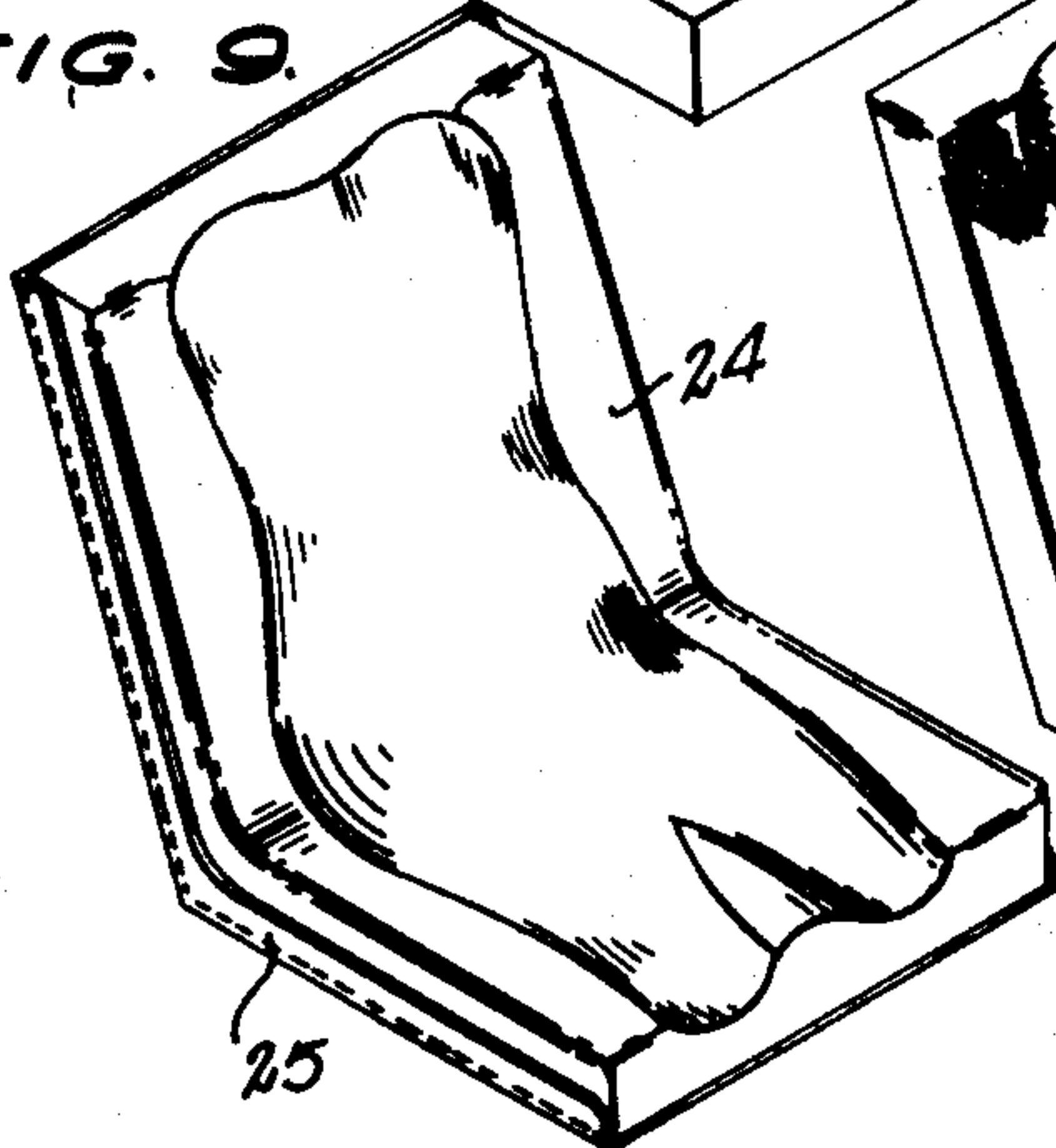


FIG. 10.

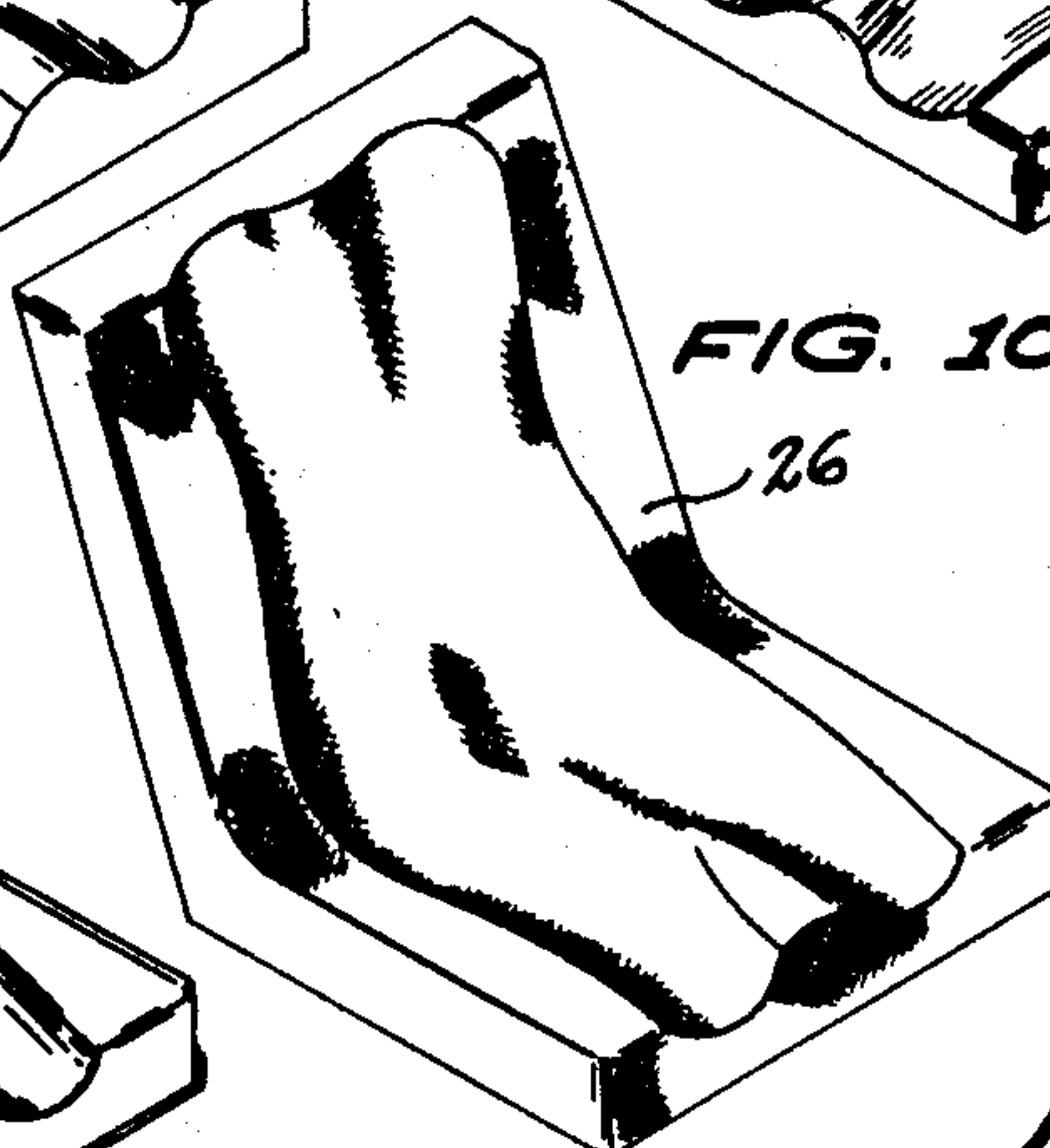


FIG. 11.

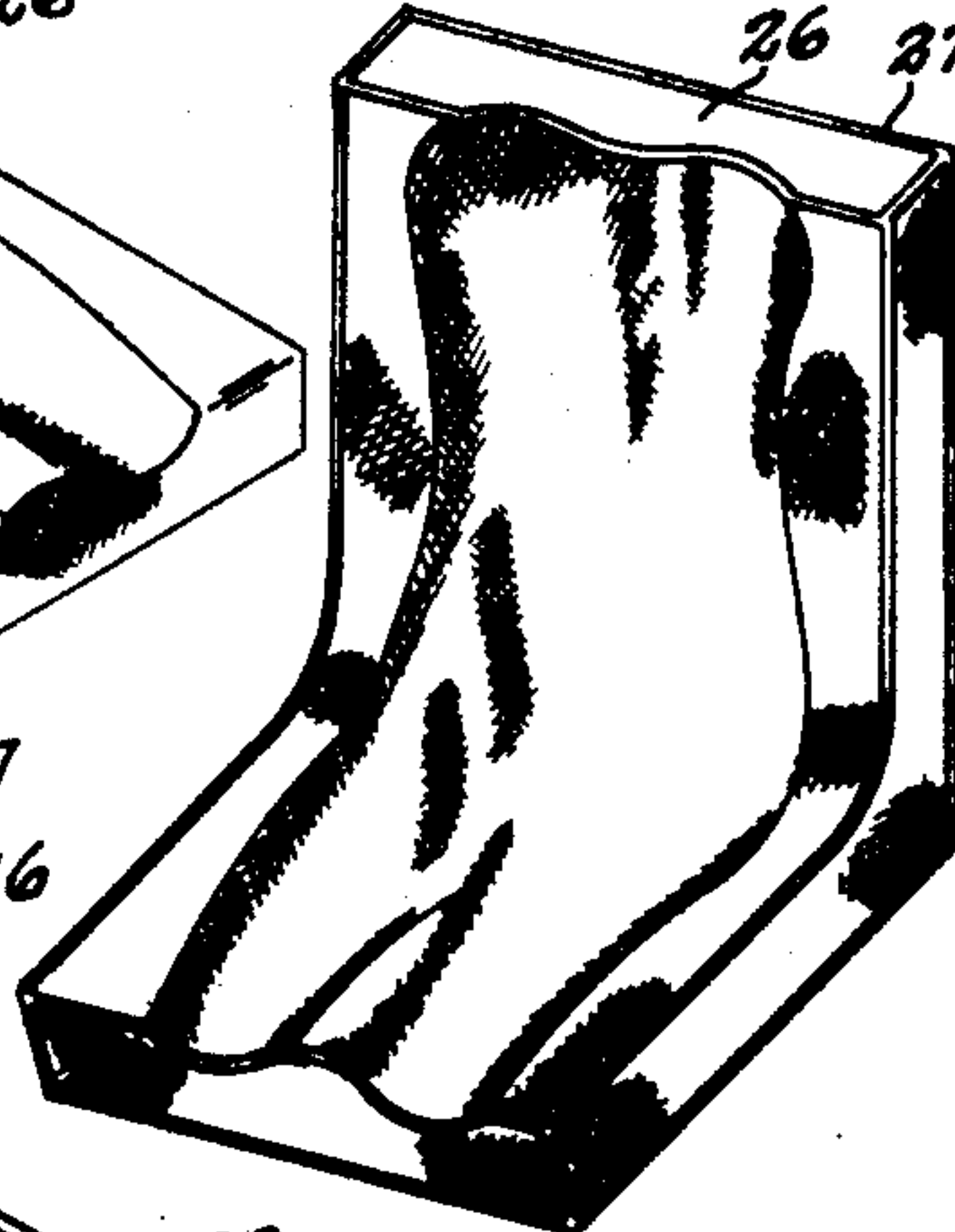


FIG. 13.

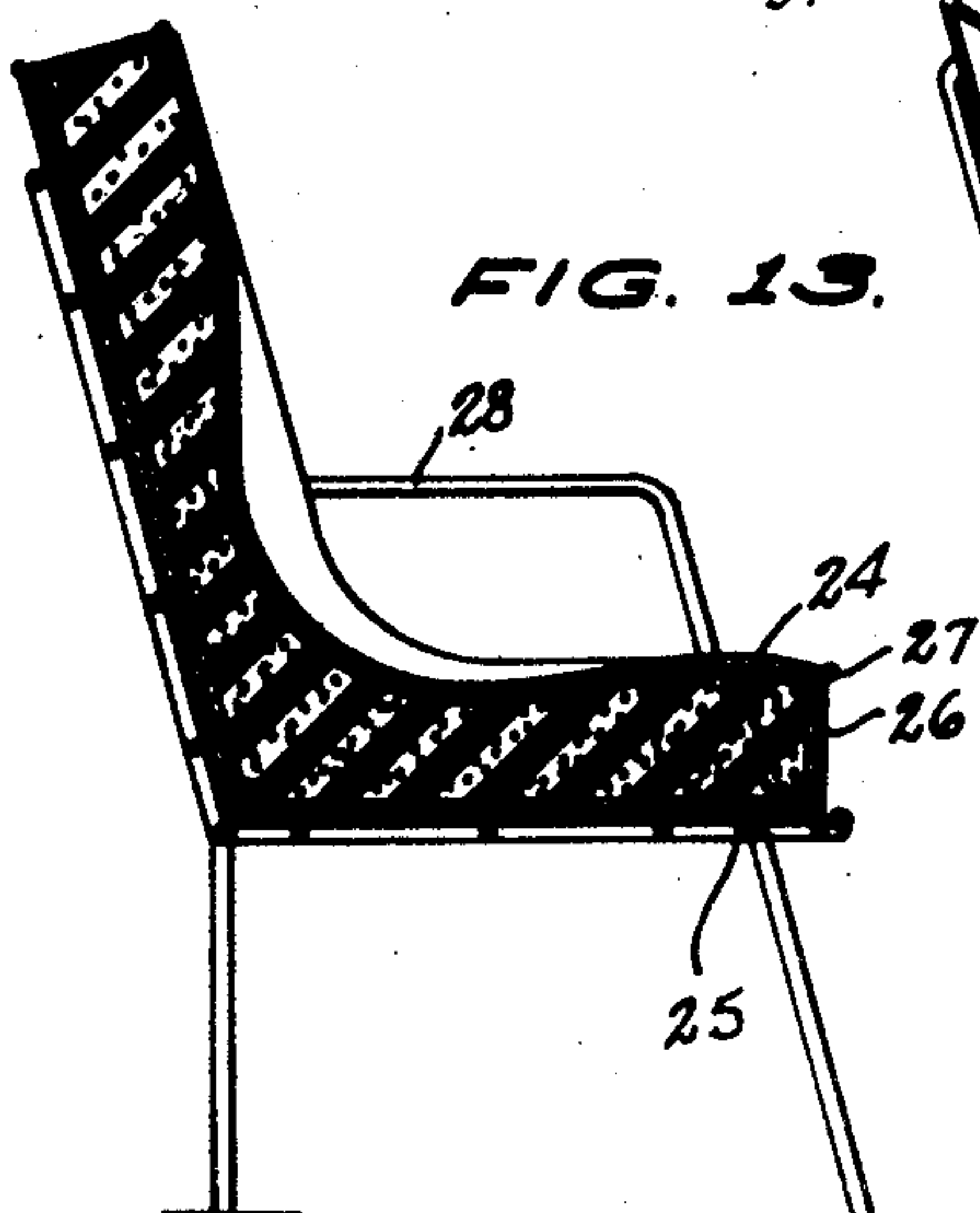
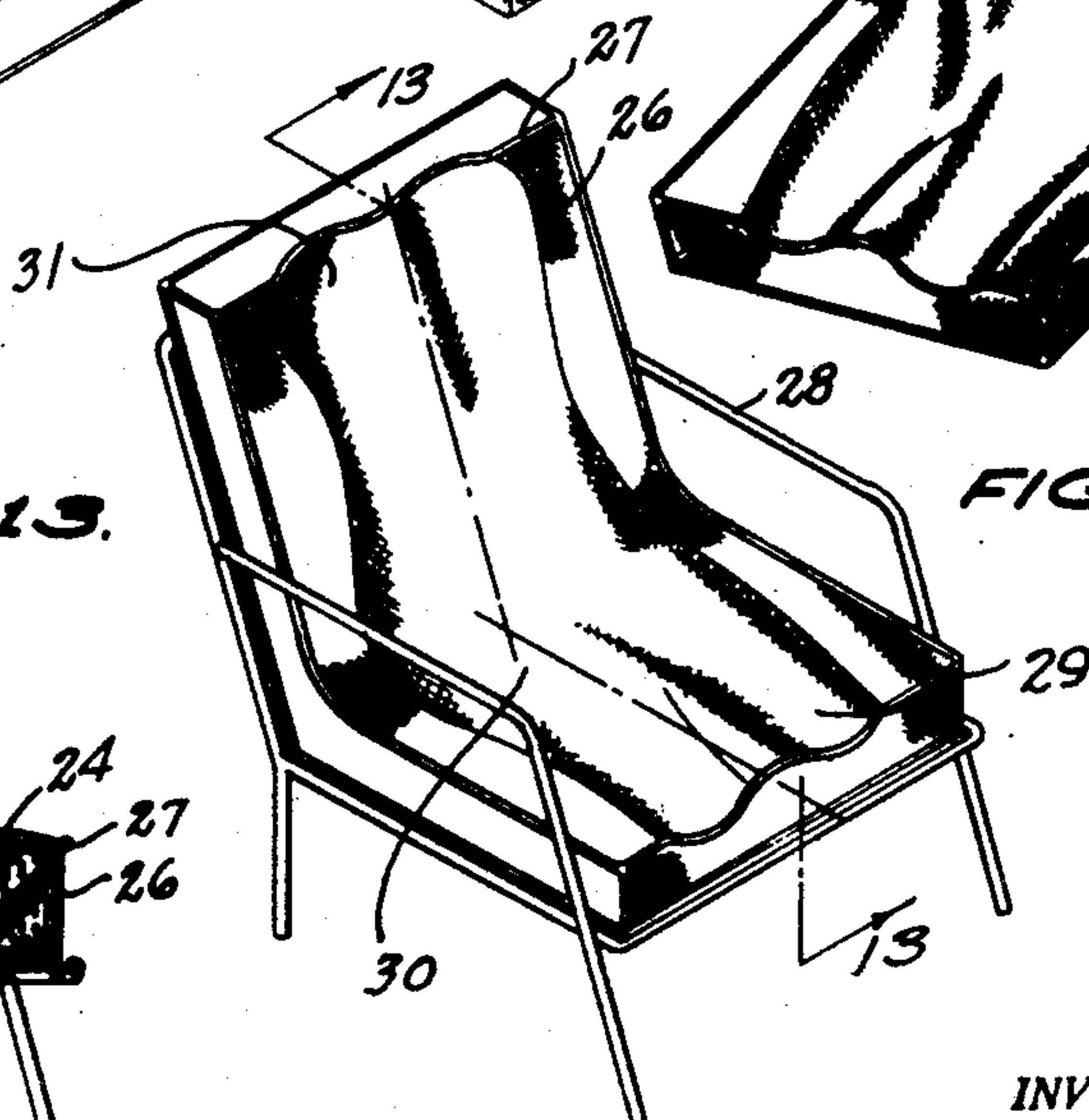


FIG. 12.



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CHAIR AND METHOD FOR MAKING SAME

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Application March 18, 1955, Serial No. 495,085

1 Claim. (Cl. 155—191)

The present invention relates to a chair conformably shaped to fit an individual and to a method for making the same.

The primary object of the present invention is to provide a method for making a chair in which the portion of the seat and back occupied by an individual is conformably shaped to fit the back, buttocks, and posterior thighs of such individual.

Another object of the present invention is to provide a method for making a chair which is simple in execution, and commercially feasible.

A further object of the present invention is to provide a chair for individuals deformed by reason of injury, arthritis, poliomyelitis, or due to surgical amputation, and which supports with even pressure the back, buttocks, and posterior thighs of the individual.

A still further object of the present invention is to provide a chair which may be constructed with interchangeable seats and backs and which may be produced in several sizes and shaped to fit individuals of varying stature and which affords to the occupying individual the maximum amount of comfort and rest consistent with correct posture.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

Figure 1 is a view in perspective of a chair frame provided with a separate seat cushion and a separate back cushion, both filled with air to provide a resilient support.

Figure 2 is a view in perspective showing the seat and back cushion of the chair frame of Figure 1 covered with a mesh fabric coated with a settable material.

Figure 3 is a view in perspective showing the fabric web of the assembly of Figure 2 covered with a sheet of rubber protective material.

Figure 4 is a side view in cross section of the assembly of Figure 3 showing in dotted lines the figure of a person seated upon such assembly before the settable material has hardened.

Figure 5 is a view in perspective of the assembly of Figure 4 showing the application of a stiffening material thereto.

Figure 6 is a view in perspective showing the formed impression separated from the assembly of Figure 5.

Figure 7 is a view in perspective of a mold having the impression of Figure 6 incorporated therein, with the moldable material in process of being poured into such mold.

Figure 8 is a view in perspective showing the cast form removed from the mold of Figure 7.

Figure 9 is a view in perspective showing the cast form of Figure 8 with a rigid supporting backing applied thereto.

Figure 10 is a view in perspective showing the form of Figure 9 wholly encased in an upholstery fabric.

Figure 11 is a view in perspective showing the assem-

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bly of Figure 10 with a beading applied to the corner edges of the upholstery fabric.

Figure 12 is a view in position on a chair frame.

Figure 13 is a sectional view taken on the line 13—13 of Figure 12.

In carrying out the method of making a chair having a seat and back conformably shaped to fit the back, buttocks and posterior thighs of an individual, an impression of the back, buttocks and posterior thighs of an individual is first formed. This is done by providing, Figure 1, a chair frame 16 having a flexible seat cushion 14 and a flexible back cushion 15, both preferably air filled and with the seat cushion 14 under appreciably more air pressure than the back cushion 15. The seat cushion 14 and the back cushion 15 are arranged in whatever position is desired in the finished chair, in an erect position if an office chair is to be constructed, for instance, or more or less in a reclining position if a reclining chair is to be constructed.

A coating of a settable impression forming material is next applied to the seat cushion 14 and the back cushion 15. This is done by applying a web of mesh fabric 17 impregnated with the impression forming material, such as plaster of Paris, to the portion of the seat cushion 14 and the back cushion 15 occupied by a seated individual, as shown in Figure 2, whereupon a flexible waterproof sheet 18 of rubber, or the like, is immediately stretched over the impregnated fabric web while still in its unset stage, as seen in Figure 3.

An individual whose impression is desired is then seated upon the sheet 18 as shown in Figure 4 in dotted lines and indicated by the reference numeral 19, and such individual is permitted to remain so seated until the plastic material in the impregnated mesh fabric 17 has set or hardened. At this point the individual arises from the sitting posture of Figure 4, and the rubber sheet 18 promptly removed. Next, a layer of plastic settable at room temperature in a liquid state is applied to the impression containing fabric 17 in quantity to form a rigid impression of the desired thickness, as by spraying indicated by the numeral 20 in Figure 5. After the plastic has set, the thus formed impression is removed from the chair frame 16, Figure 5, such formed impression being indicated by the reference numeral 21, Figure 6.

From the thus formed impression 21, Figure 6, a flexible casting is next formed. This is effected by forming a seat and back mold 22, Figure 7, having the impression 21 incorporated in the front face thereof. Into the mold 22 is poured a flexible material, such as foam rubber 23 in a liquid uncured state, as also shown in Figure 7, in quantity sufficient to fill the mold, and the mold then subjected to a curing treatment. When the foam rubber has been cured, the thus formed casting is removed from the mold 22, the casting being shown in Figure 8 and indicated by the reference numeral 24. It is to be noted that the front face of the casting 24 has the shaping of the impression 21, namely, a shaping conformably shaped to fit the back, buttocks, and posterior thighs of the individual 19. To the casting 24 is next applied a rigid supporting backing 25 which may be either of metal, wood, or like rigid material, as shown in Figure 9 to form a seat and back assembly. The seat and back assembly of Figure 9 is then totally encased in a sheet of upholstery fabric 26, as shown in Figure 10, and suitable edging or trim 27 is applied to the corners of the fabric 26, as shown in Figure 11. The encased seat and back assembly is then mounted in a chair frame 28, as shown in Figures 12 and 13 and here shown to be constructed of tubes or solid metal rods and bars fabricated of such materials as aluminum, magnesium, wrought iron, steel, or the like.

The foam rubber seat and back assembly thus formed

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by the method of the present invention as seen in Figure 12 has depressions 29, 30 and 31 conformably shaped to fit the posterior thighs, buttocks, and the back, respectively, of the individual and providing points of equal pressure between such portions of the body so as to result in a comfortable chair giving perfect posture to the body of such individual.

In the case of individuals deformed by disease, surgery, or due to other conditions, the seat and back assembly of the present invention may provide such support to the individual as will permit him to engage in his normal occupation.

It is contemplated that the seat and back assembly of the present invention may be made in a variety of shapes and sizes, and may be interchangeably mounted within the chair frame 28, permitting economical manufacture and sale of perfectly contoured chairs conformably shaped to several sizes of persons of various statures.

In place of forming a casting of the impression 21, a layer of flexible material may be applied to the front face of the impression, the layer being applied in a thickness such to give the resultant impression flexibility without destroying or altering the formed shaping in the front face of the impression. The layer of flexible material may be made of foam rubber or any like material giving flexibility to the impression when applied thereto. The impression may then be totally incased in the upholstering fabric 26, suitable edging or trim 27 applied to the

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corners of such fabric, and thence mounting in a chair frame 28.

If desired, the impression 21 may be employed without further treatment as a seat and back for a chair.

What is claimed is:

A chair comprising a frame including a seat and a back, and a one-piece foam rubber casting fitted in said frame and including a seat portion supported on the frame seat and a back portion supported against the frame back, the front of said one-piece foam rubber casting having formed therein a single continuous impression, said impression conforming to the shape of a person's back, buttocks, and posterior thighs, the thickness of said foam rubber casting throughout its entire extent being sufficient to give full, comfortable support to the back, buttocks and posterior thighs of a person seated in said chair.

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