

W. E. KURTZ.
PNEUMATIC CUSHION FURNITURE.
APPLICATION FILED FEB. 26, 1910.

975,258.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

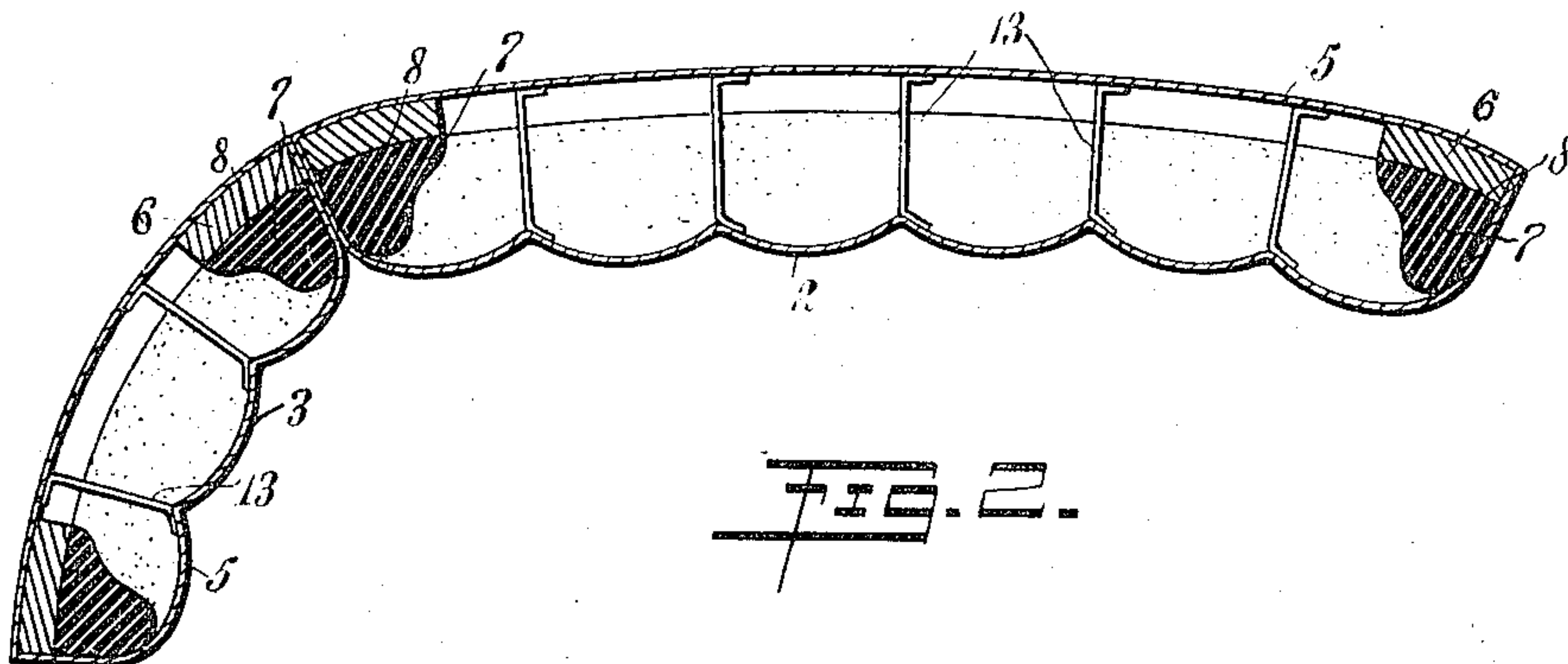
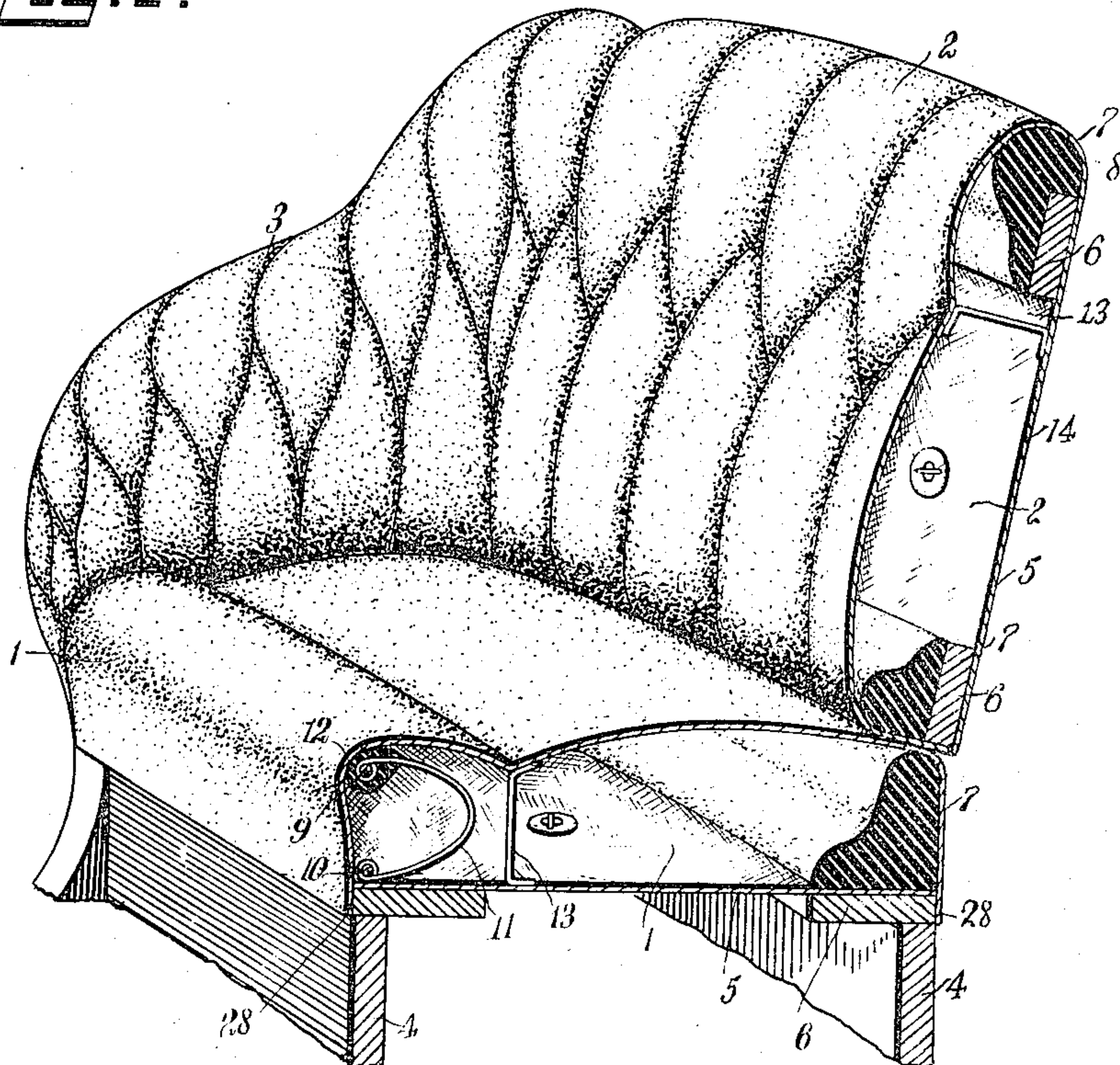


FIG. 2.

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2 SHEETS—SHEET 2.

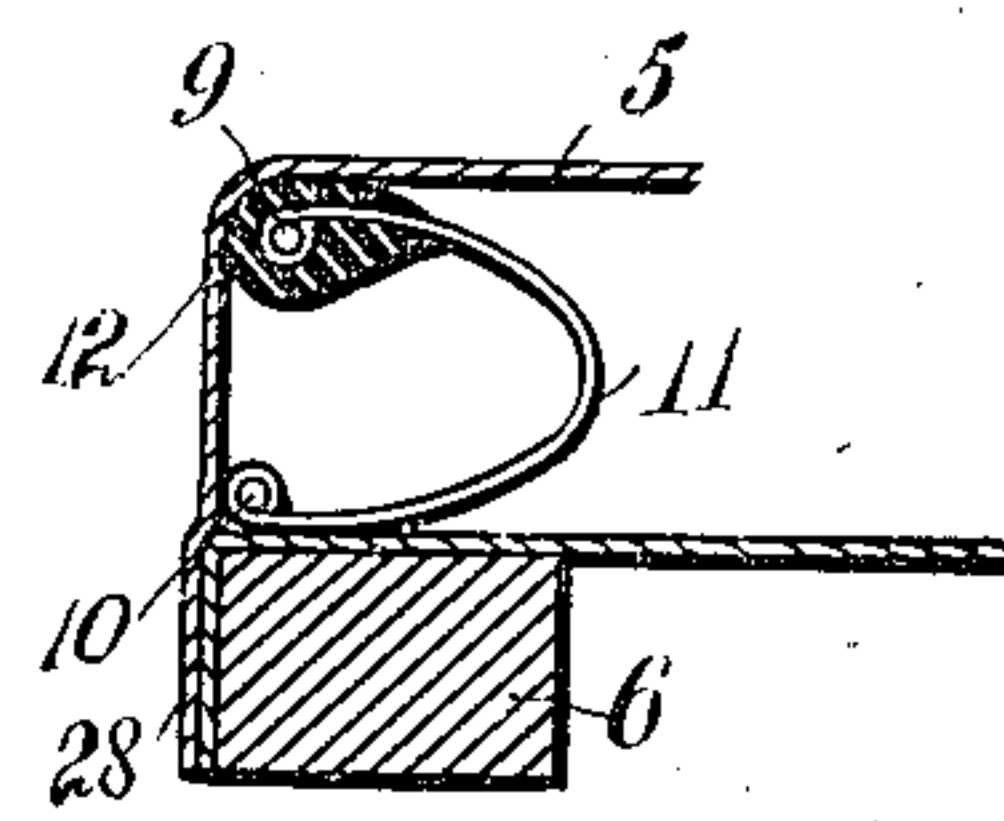
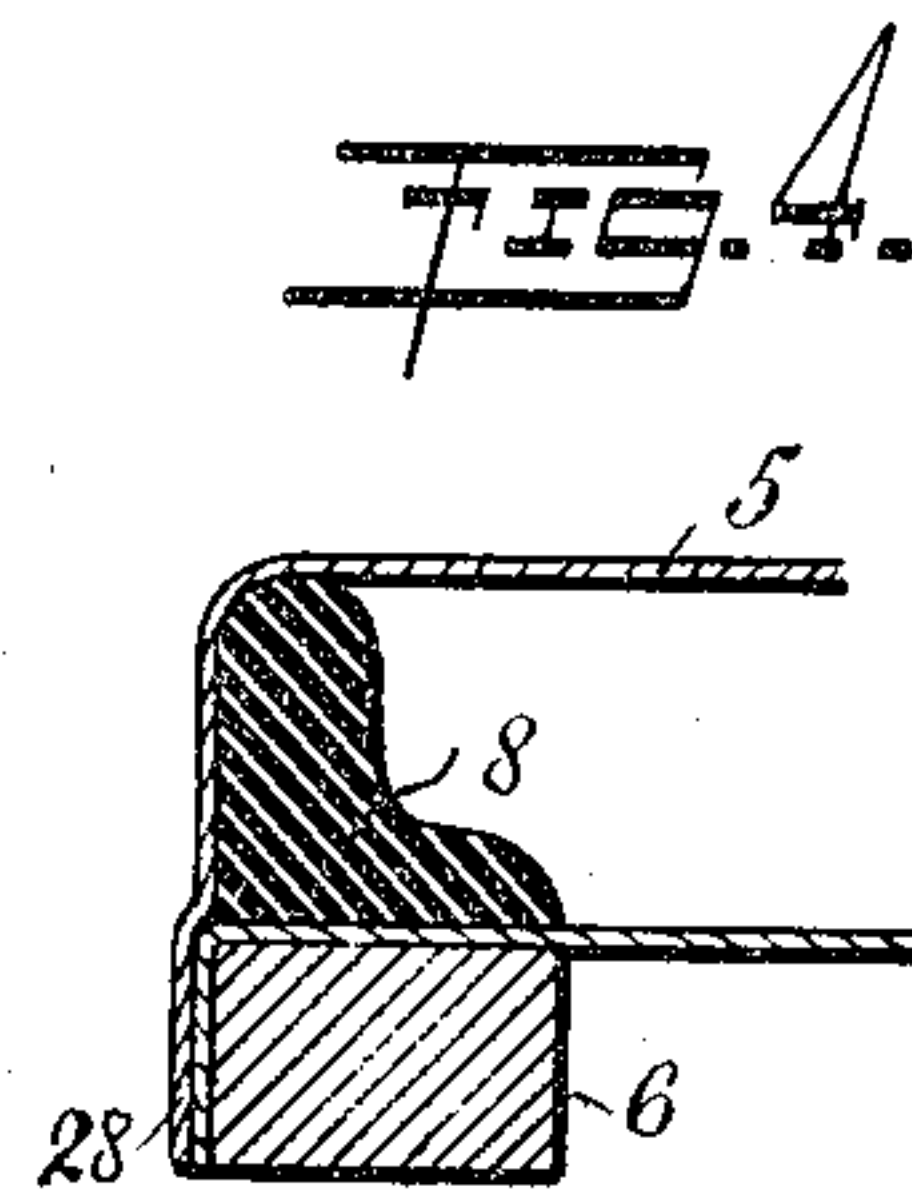
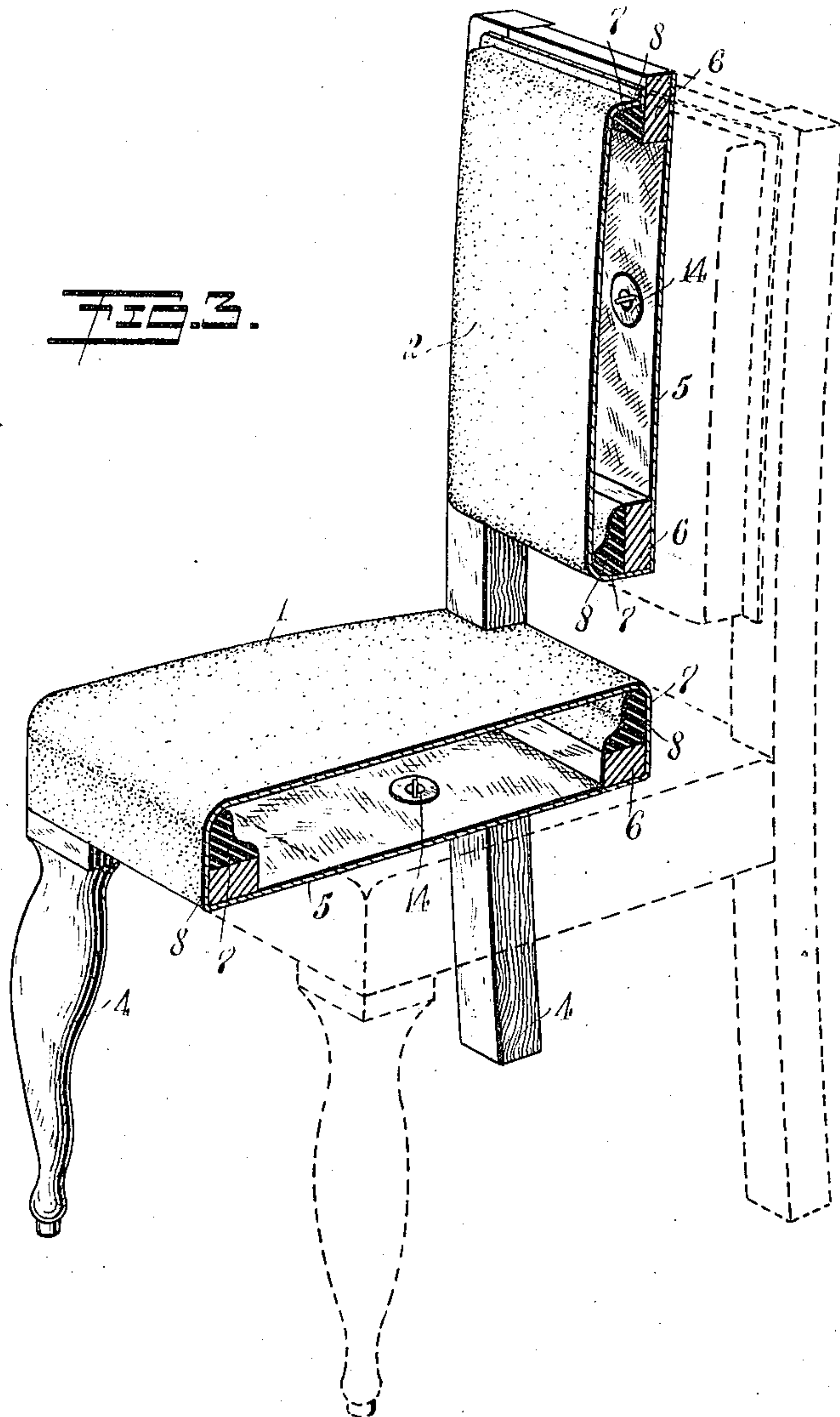


FIG. 5.

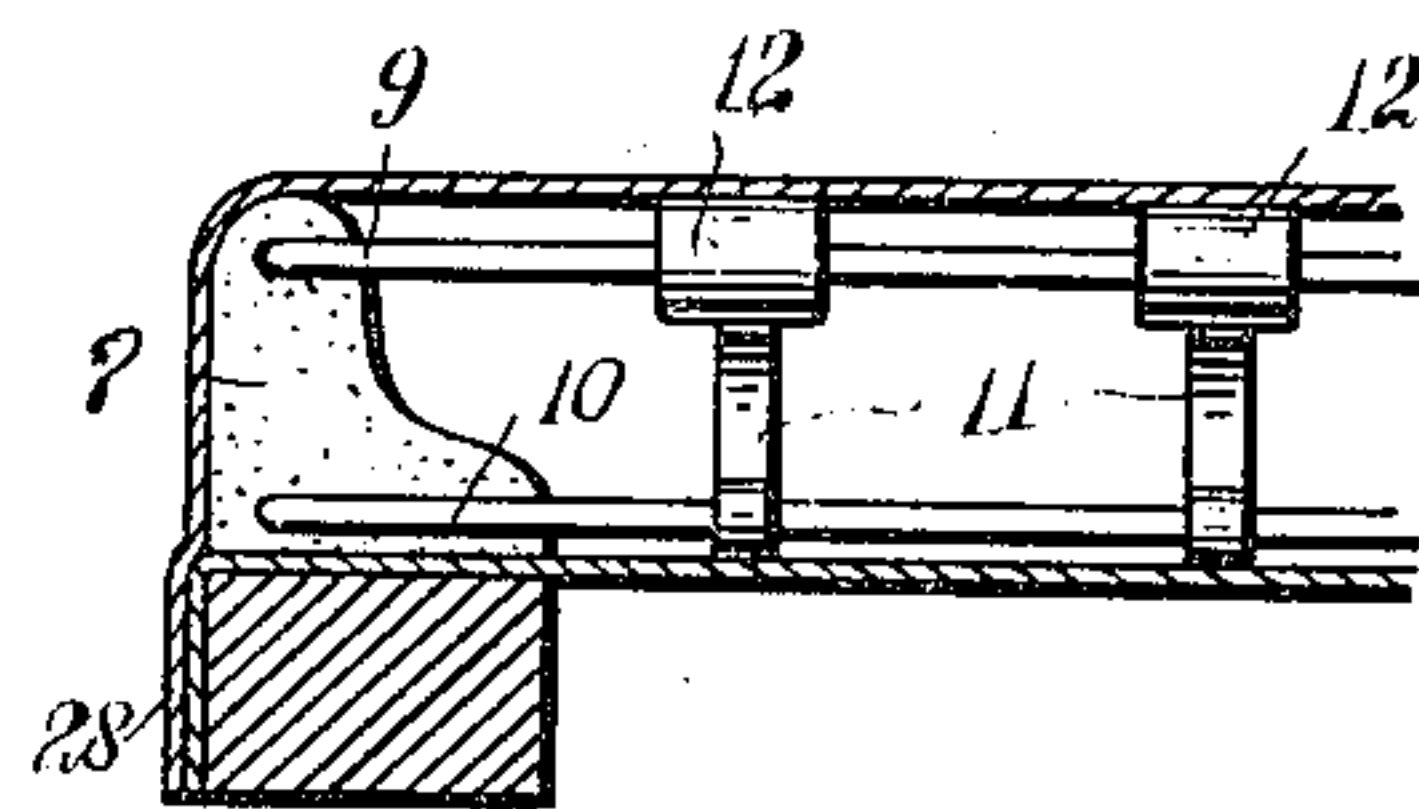
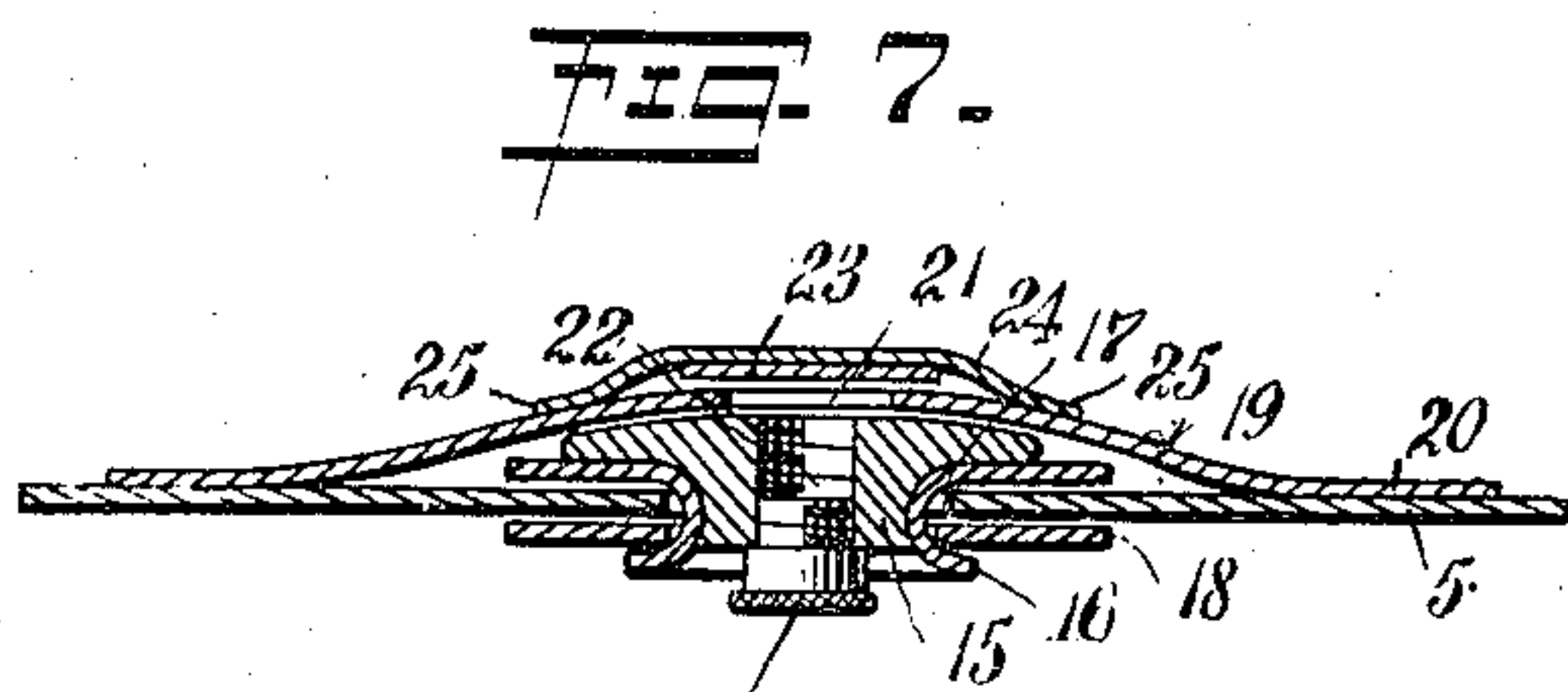


FIG. 6.



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WILLIAM E. KURTZ, OF OAKLAND, CALIFORNIA.

PNEUMATIC-CUSHION FURNITURE.

975,258.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed February 26, 1910. Serial No. 546,238.

To all whom it may concern:

Be it known that I, WILLIAM E. KURTZ, a citizen of the United States, and a resident of Oakland, in the county of Alameda and State of California, have invented new and Improved Pneumatic-Cushion Furniture, of which the following is a full, clear, and exact description.

This invention relates to a new and improved article of furniture, of a type in which the back, front and sides are formed of pneumatic cushions which provide exceedingly soft, comfortable supporting members.

An object of this invention is to provide a device which will be simple in construction, inexpensive to manufacture, comfortable in use, and its resilience, when lost, easily renewed.

A further object of this invention is to provide an article of furniture in which the supporting members are provided with resilient pneumatic cushions which may be readily inflated when deflated, so as to form a soft and yielding support for the body.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view of one form, having a portion removed to form a vertical section disclosing the underlying structure; Fig. 2 is a horizontal sectional view of the form illustrated in Fig. 1; Fig. 3 is a fragmentary perspective view of a modified form, with portions thereof cut away to show the underlying structure; Fig. 4 is a transverse section illustrating one form of resilient reinforcing member; Fig. 5 is a transverse sectional view illustrating another form of resilient reinforcing member; Fig. 6 is a vertical section illustrating a face view of the reinforcing member utilized in Figs. 1 and 5; and Fig. 7 is a detail sectional view of the pneumatic valve.

Referring more particularly to the separate parts of the device, Figs. 1 and 2 illustrate my invention as applied to an article of furniture of a type similar to an automobile seat, in which there is provided a bottom 1, a back 2, and sides 3. These members 1, 2

and 3 may be formed integral with each other, but I prefer to form them separate and secure them together by any suitable means. The bottom 1 may be spaced apart from the floor of a building or frame of an automobile in any suitable manner, as by means of legs 4. In order that the members 1, 2 and 3 may be resilient and offer a yielding comfortable support for the body, I prefer to make them of suitable air-cushions 5, which are formed of any suitable material impervious to air, such as rubber, oiled silk, linen, or the like. While the cushions 5 may be secured in any well known manner to a framework 6, either with the framework interior of the cushion, as indicated in the back 2 of Fig. 1, or exterior of the cushion, as indicated in the bottom 1 of Fig. 1, I prefer to provide the cushions with flanges 28, as will be seen by reference to Figs. 1, 4, 5 and 6, whereby the cushions may be attached to the chair. This permits the manufacture of a cushion for any chair on the receipt of a templet of the chair, as the cushion can be readily tacked onto the rabbet edge of the chair by means of the flanges 28.

In order that the facing and backing sides of each cushion may be spaced apart so as to take up in a resilient manner any excessive jar, and also for the purpose of properly rounding and forming the corners and side edges of the supporting members, I provide spaced members 7, arranged preferably interiorly of the cushion and extending along the side edges thereof. These spacing members may be of any suitable form.

In certain of the supporting members, I have shown the spacing member formed of a rectangular framework of resilient, solid material 8, such as rubber, and in another supporting member, particularly the bottom, where it is desired to have a particularly sharp corner, I have shown the spacing member formed of a pair of wires 9 and 10, held in spaced relation by a plurality of springs 11 secured at intervals to the wires 9 and 10. In order that these springs 11 may not injure the fabric of the cushion, I provide at their point of contact therewith, suitable resilient coverings 12, which may be of any form and of any suitable material, such as rubber.

In order that the surfaces of the cushion may be given a neat and attractive form by providing corrugations therein, and also for the purpose of preventing excessive bellying

of the sides of the cushion, there are provided retaining strips 13 of any suitable form and material, secured to the inner surfaces of the sides of the cushion so as to tie the sides of the cushion together at various points.

In order to inflate the cushions, there is provided for each of them a valve 14, which may be of any suitable form, but preferably consists of a particular form to be described. Each of the valves 14 is provided with a nipple 15, which is secured to a collar 16 extending through an opening 17 in the material of the cushion. The collar 16 is secured to the cushion 5 by means of a gromet 18.

Overlying the nipple 15 on the interior of the cushion 5, there is provided a disk 19, which may be of any suitable impervious material, such as a sheet of rubber, and is hermetically sealed in any well known manner along its edge at 20, as by means of cement. This disk 19 is provided with an opening 21 which extends in alinement with an opening 22 in the nipple 15. Overlying the opening 21, and adapted to close the same, there is provided a disk or plate 23, which may be of any suitable form and material, but preferably consists of a piece of metal of sufficient size to completely close the opening 22. This disk 23 is secured in any well known manner, as by means of cement, to a resilient member 24, which may be of any suitable material, such as a strip of rubber, and is secured in any well known manner at its ends 25 to the disk 19, as by means of cement. It is to be noted that the strip 24 does not entirely inclose the opening 21, so that the air can readily pass through the opening and into the interior of the cushion when the disk 23 is away from said opening. It is thus to be seen that by blowing from the outside of any one of the valves 14, the pressure of the air within any of the cushions can be increased, thereby forming a sufficiently resistant supporting member. When the excessive pressure is decreased from the outside, the disk 23 will automatically close the opening 21 by reason of the air pressure within the cushion. The opening 22 in the nipple 15 may be closed by any suitable means, such as a plug 26, so as to prevent any possible leakage of air from the interior of the cushion.

The form shown in Fig. 3 is similar to

the structure as applied in the other figures, merely showing it adapted to a chair having the bottom and back alone, and the parts are indicated by the same numerals as the corresponding parts in the other figures. In this form, the separating members within both cushions are entirely formed of solid rubber. There is thus formed a convenient resilient article of furniture, which will prove exceedingly comfortable, durable, and attractive to the eye.

While I have shown one embodiment of my invention, I do not wish to be limited to the specific details thereof, but desire to be protected in various changes, modifications and alterations which I may make within the scope of the appended claims. For example, this invention may be adapted to other types of furniture besides those described, such as a sofa, couch, or Morris chair.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. An article of furniture having a supporting member formed of a pneumatic cushion, the sides of said pneumatic cushion being spaced apart by a resilient rubber spacing member.

2. An article of manufacture having a supporting member formed of a pneumatic cushion, the sides of said pneumatic cushion being spaced apart by a separating member, said separating member comprising wires spaced apart from each other, a plurality of springs secured to said wires and adapted to yieldingly hold said wires in spaced relation, and rubber coverings for portions of said springs.

3. An article of manufacture comprising bottom, back and side supporting members, each of said supporting members being formed of pneumatic cushions, the sides thereof being spaced apart by spacing members, said spacing members being formed in part of solid resilient rubber and in part of wires held in spaced relation by resilient means.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM E. KURTZ.

Witnesses:

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M. L. BERRY.