

Sept. 5, 1933.

F. M. COXON

1,925,480

CHAIR FRAME

Filed Feb. 24, 1932

2 Sheets-Sheet 1

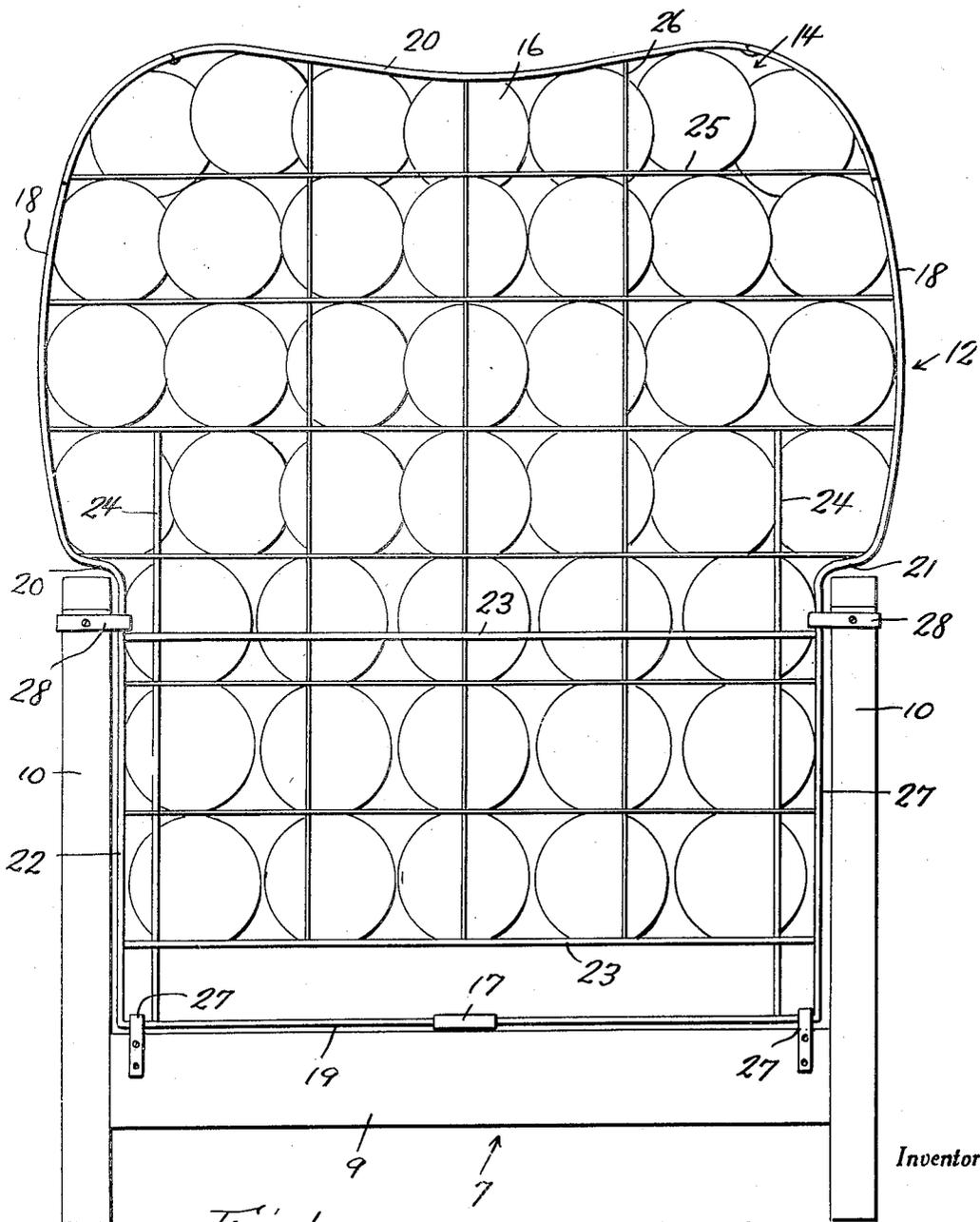


Fig. 1.

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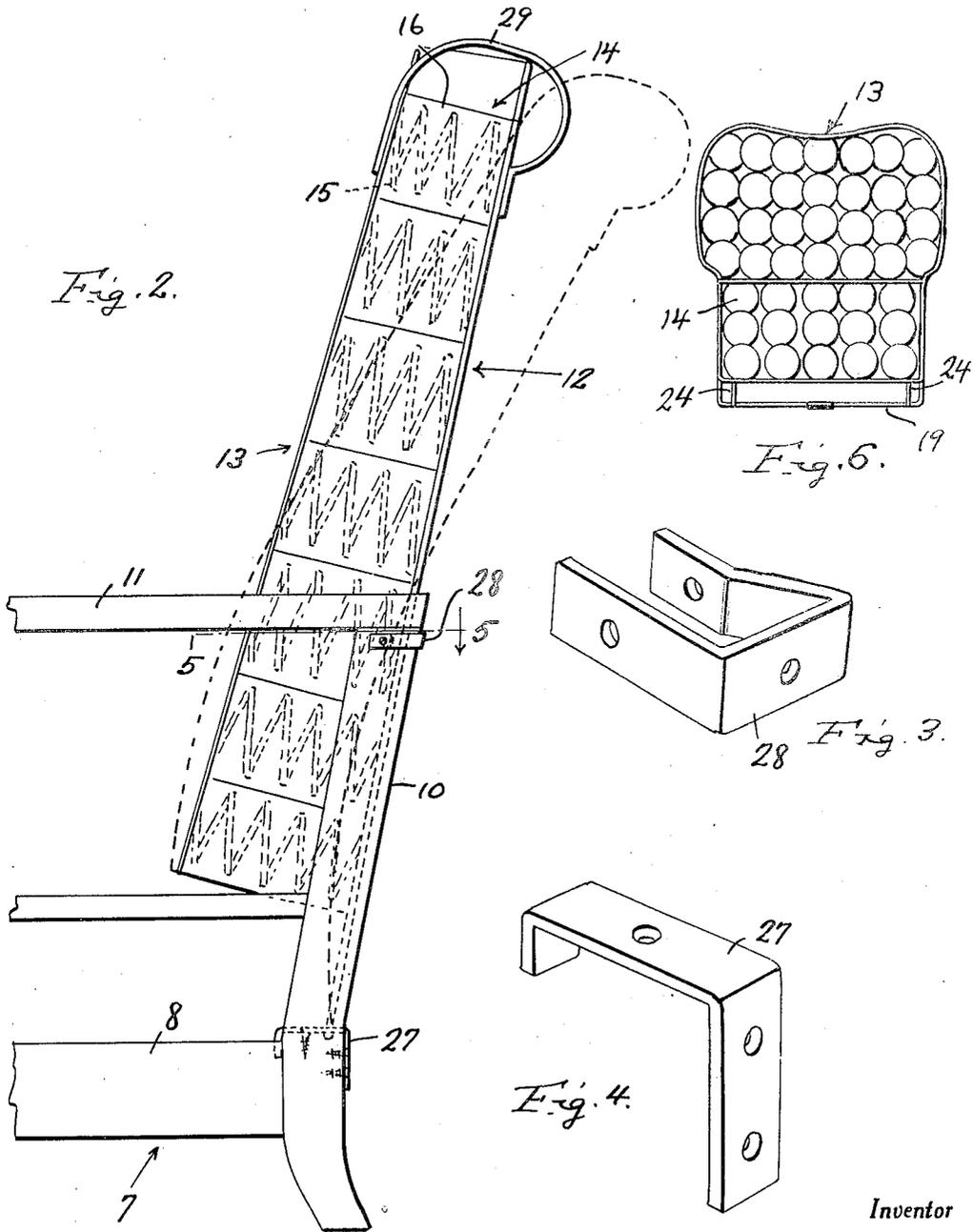
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2 Sheets-Sheet 2



Inventor

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Fig. 5. 22 28 By Clarence A. O'Brien Attorney
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UNITED STATES PATENT OFFICE

1,925,480

CHAIR FRAME

Fred M. Coxon, Wilmette, Ill.

Application February 24, 1932. Serial No. 594,947

1 Claim. (Cl. 155—179)

This invention relates to readily appreciable refinements and improvements in the construction of framework for furniture.

The invention has to do with a novel wood and metal composite frame construction for all types of upholstered furniture including chairs, sofas and the like for domestic or household purposes as well as cushioned seats for all sorts of conveyances, auditoriums and so forth.

Prior to the introduction of this invention it has been customary to construct a skeleton frame for chairs and the like of substantially rigid part and to upholster the frame with a suitable covering and appropriate filling and cushioning spring.

The present invention introduces a new idea which embraces the use of a substantially rigid wooden base and a separately attached back frame possessing desirable inherent resilient properties permitting said frame to flex and conform to the back of the occupant of a chair.

The specific features and advantages derived from this novel contribution to the art and trade will become more readily apparent from the following description and drawings.

In the drawings:

Figure 1 is a rear elevational view of the invention embodied in the frame used in the construction of an upholstered cushioned chair.

Figure 2 is a fragmentary side view thereof.

Figures 3 and 4 are perspective views of fastening brackets or clips.

Figure 5 is a horizontal section taken approximately on the plane of line 5—5 of Figure 2.

Figure 6 is a reduced front elevational view of the back unit per se.

The wooden base is generally denoted by the numeral 7 and includes horizontal side rails 8, a back rail 9 and vertical legs 10 as well as horizontal superposed siding bars or rails 11.

The improved back is made as a single attachable unit and comprises a steel spring wire rear frame 12, a correspondingly shaped wire front frame 13. These frames are of the configuration shown in Figure 1. They are suitably attached together in spaced parallelism and the cushioning spring 14 appropriately fastened therebetween. These springs 14 are made of individual units each including a coil spring and a fabric casing therefor. The spring is denoted by the numeral 15 and the numeral 16 by the casing in Figure 2. These cushioning spring units are tied together and are fastened to the frames 12 and 13 in a practical manner to readily assume the ensemble relationship depicted in Figure 1. Each

of the frames 12 and 13 is formed from a single length of flexible wire of appropriate gauge, the free ends of the wire being secured together as at 17. The shape of the frame is such as permit it to be defined as including vertical side members 18 a horizontal bottom member 19 and a suitably curved crown member 20.

The intermediate portions of the vertical members 18 are bent laterally inward as indicated at point 21 so as to allow the lower half portion 22 to be disposed in close proximity to the upstanding portions of the legs 10. The frame 12 includes a multiplicity of additional wires which are connected to form a sort of a grille. For example there are two heavy gauge horizontal wires 23 and a pair of perpendicular heavy gauge wires 24 joined to the wires 23 at the points of intersection. In addition I provide small gauge horizontal wires 25 which like the wires 23 are appropriately attached at their ends to the frame 12. Then too I provide similar gauge vertical wire 26 joined to the wires 25 at the points of intersection. The arrangement is such that the lower half portion of the grille is more rigid than the upper half portion, thus allowing the upper half portion to flex rearwardly under the action of pressure from the occupant of the chair. In addition this rigid lower half portion is desirable to insure more positive maintenance of the back unit in the position shown in Figure 1. I provide four distinguishable cups or brackets for securing the back in place. The numerals 27 designate the long pair of brackets which are screwed or otherwise fastened to the rail 9 and which engage over lower frame bar 19 to secure the frame at the point. A pair of substantially U-shaped clips or brackets 28 are provided for securing the intermediate portion of the member 18 to the upper end portions of the legs, these two brackets being bolted to the legs as shown in Figure 5. This arrangement provides a four-point mounting for the back.

If desired metal straps or wires 29 of the shape seen in Figure 2 may be attached to the upper ends of the two frames 12 and 13 to provide a form over which the upholstering or covering material may be stretched to provide the requisite shape.

The gist of the invention is in the provision of a back comprising front and rear resilient wire frames of the shape seen in Figure 1, these frames being joined together in spaced parallelism and the rear frame being of grille like form and the front frame of open or unobstructed design so as to expose the toggle end portions of

the spring units 14 and provide the desired back-
ing for the rear end portion of said units. The
frames thus jointed together with the spring
units arranged therebetween form a complete
5 flexible unit capable of expeditious installation
in the wooden base, the entire unit being secured
in place by four appropriately constructed and
positioned fastening clips or brackets. The resil-
10 iency of the wires constituting the frame is such
as to permit the back to take the normal inclined
position seen in full lines in Figure 2 or to be
flexed to the dotted line position or to any inter-
mediate portion according to the degree of pres-
15 sure brought to bear against the back when in
actual use.

From the foregoing description it will be ob-
served that the back unit is fabricated upon tem-
pered and untempered steel wires appropriately
20 assembled to provide the open work front frames
and grille like back frames, these being joined
together to permit the upholstering springs and
covering material to be conveniently attached.
As before indicated the entire back is a separate
25 chair frame by four simple clips. Under this
arrangement a person sitting in the chair, sofa
or other article of furniture provided with this
back may recline with the full weight against
the back, said back automatically flexing and
30 compressing to a point permitting complete com-
fort and relaxation. The degree of flexation of
the back is dependent on the pressure or weight
placed thereagainst by the occupant of the chair.
35 Heretofore it has been necessary in order to se-
cure this self conformation action to depend en-
tirely on the cushioning springs and filling mate-
rial selected by the upholsterer in constructing
the back. Admittedly then under present day

arrangements an undue degree of rigidity is en-
countered whereas because of the unusual flexi-
ble and fabricated arrangement of the units here-
in illustrated, the desired results are acquired and
80 this without requiring unnecessary added expense
in the manufacture of the chair.

So far as I have been able to ascertain the idea
of providing a back unit including a bendable
marginal wire frame with cushioning springs at-
85 tached thereto, and the simplified way of securing
the units to the main frame by four simple clips
or clamps is unique and new in this line of
endeavor.

It is thought that the description taken in con-
nection with the drawings will enable a clear
understanding of the invention to be had. There-
90 fore, a more lengthy description is thought unne-
cessary.

While the preferred embodiment of the inven-
tion has been shown and described, it is to be
understood that minor changes coming within the
field of invention claimed may be resorted to if
95 desired.

Having thus described my invention, what I
100 claim as new is:

A chair back unit of the class described com-
prising a rear spring steel frame of appropriate
configuration, a plurality of horizontal and verti-
cal wires connected to said frame and connected
105 to each other at points of intersection to form a
grille, additional horizontal and vertical wires of
a heavier gage than said first named wires con-
fined and connected to the lower portion of said
frame, a steel spring wire front frame fastened
110 in spaced parallelism to the rear frame, and a
plurality of cushioning springs located between
and secured to said frames.

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