March 14, 1933. M. BÄRWINKEL 1,901,720

UPHOLSTERING SPRING

Filed July 10, 1930

Fig. 1.

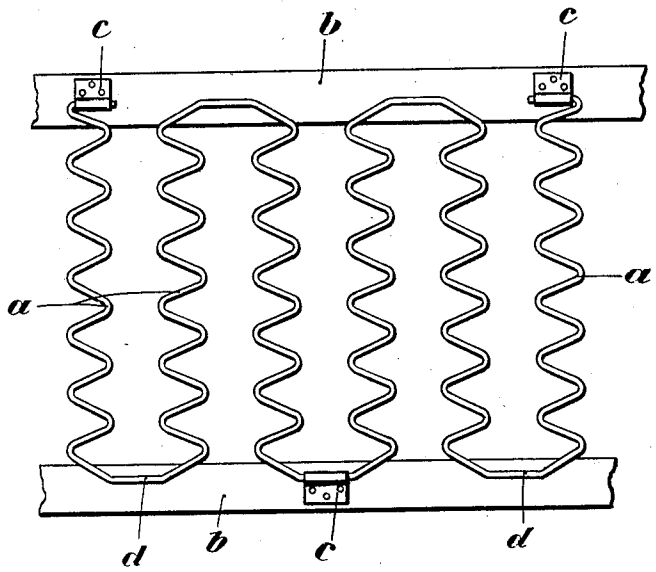
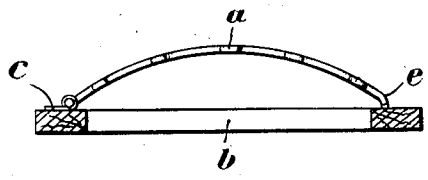


Fig. 2.



INVENTOR

Moritz Bärwinkel,

BY James L. Norris,

ATTORNEY

Patented Mar. 14, 1933 1,901,720

UNITED STATES PATENT OFFICE

MORITZ BÄRWINKEL, OF OHRDRUF, GERMANY

UPHOLSTERING SPRING

Application filed July 10, 1930. Serial No. 467,035.

This invention relates to springs for upholstered seats, especially chairs, in which the springs bearing against the bolster are mounted on a frame shiftable in longitudinal direction. The object of the invention is to simplify and cheapen the construction in that both the holding parts of the springs on the frame as also their fastening means on the frame are entirely or partly done away with. By this means a considerable saving in material and cost of manufacture is effected.

The invention is characterized in that the end of the spring bearing against the frame and shiftable in the longitudinal direction has no direct fastening means on the frame. For example the one end of the spring can be hingedly fastened on the frame, whereas the other end is axially shiftable, but bears otherwise freely on the frame. When using multiple springs only a few arms of these springs are fastened on the frame and these arms are fastened on the front or rear end of the frame missing one or more spring arms alternately. Instead of the hinge like fastening of the springs, cavities or abutments may be formed in or on the frame, which limit the axial shifting of the spring in one or both directions. This type of construction also leads to a cheapening of the cost of production.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:

Fig. 1 shows a top plan view and

Fig. 2 is a side elevation.

Referring specifically to the drawing, the spring *a* is made of spring wire, preferably undulated, is curved according to the curvature of the bolster, and bears at its ends on the chair frame *b*. The bolster may consist of separate springs. The spring may also be made as a double or multiple spring in that a piece of spring wire is bent in such a manner that two or more spring arms are produced (Fig. 1).

According to the invention one end of the spring *a* is hingedly fastened on the chair frame, for example at *c*, whereas the other end of the spring bears loosely on the chair frame *b* at *d*. When using a double spring, the two adjacent arms can be hingedly fastened on one side of the frame, whereas the opposite end of the two spring arms rests loosely on the frame *b*.

When using a multiple spring, as illustrated in Fig. 1, the arrangement may be such that only the first and sixth spring arms are fastened on the front end of the chair frame, whereas the third arm is fastened on the rear end of the frame. By this arrangement a considerable saving in holding parts and fastening work is obtained. Nevertheless the spring is secured not only against slipping off, but also against lateral shifting.

Milled out portions or abutments may also be provided in the frame instead of hinges for fastening the ends of the spring arms.

According to a further feature of the invention the loose end of the spring resting on the chair frame may, as shown in Fig. 2, be bent downwards at *e*. By this means a tipping up of the bearing spring end is prevented on the bolster being loaded.

The holding parts for the springs may also be of different construction. They may be slot bearings, clips, clamps and the like. The holding parts of the springs may further be entirely omitted according to the invention, so that both ends of the spring rest on the frame and the spring is held by the covering upholstery, which is fastened on both sides of the chair frame. Even this bearing of the springs is sufficient, as the spring is sewn to the cushion.

I claim:

1. A device of the class described comprising a frame, a continuous spring member having first, second, and third arched portions extending from one side of the frame to the opposite side thereof, means whereby the terminals of said member are held on the opposite sides of said frame against lateral movement, the device at the connection of the first and second portion and at the connection of the second and third portion being engaged with said frame and free to give under stress.

2. A device of the class described comprising a frame, a continuous spring member,

means anchoring said member adjacent its center to one side of the frame against lateral movement, said member having arched portions extending from said means to the opposite side of the frame and at their terminals being engaged with the frame, arched portions returned from said terminals to and at the terminals remote thereto being engaged with the first mentioned side of the frame, the spring member at each of said terminals being free to give under stress, and arched portions extending from the second mentioned terminals to the second mentioned side of the frame, and means anchoring the free ends of the third mentioned arched portions to the frame.

3. A spring device comprising a continuous spring member and a supporting frame therefor, said spring member including an arched portion having each of its opposite ends free to give under stress, and arched members anchored to the frame extending in opposite directions one from each of said ends.

4. A spring device comprising a continuous spring member and a supporting frame therefor, said spring member including an arched portion having each of its opposite ends free to give under stress, and arched members extending in opposite direction one from each of said ends and each anchored on a different side of said frame.

In testimony whereof I affix my signature.

MORITZ BÄRWINKEL.