Oct. 8, 1940. H. P. NORDMARK 2,217,290

SPRING UNIT

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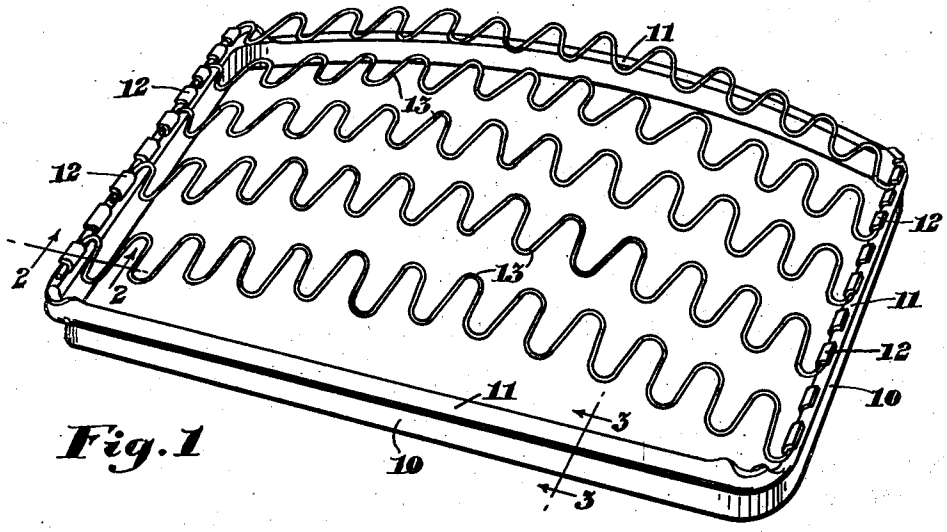


Fig. 1

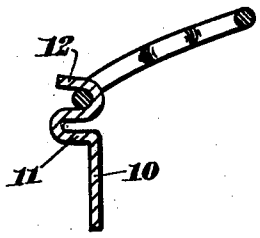


Fig. 2

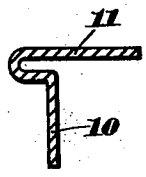


Fig. 3

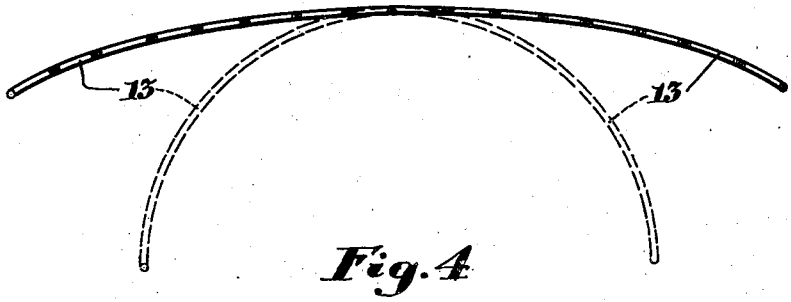


Fig. 4

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SPRING UNIT

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Application April 14, 1939, Serial No. 267,791

5 Claims. (Cl. 155—179)

The present invention relates to spring units and more particularly spring units for supporting chair seats or chair backs.

The primary objects of the instant invention are to provide improved means for securing a plurality of springs of the general character shown in Kaden Patent No. 2,002,399 within a seat or back frame of a chair; to provide an improved form of seat or back frame for a chair having means for readily manually detachably securing a plurality of such springs therewith; and, to provide such a unit which is sturdy in construction and economical in manufacture.

An illustrative embodiment of the invention is shown in the accompanying drawing, wherein:

Figure 1 is a perspective view of a frame to which springs of the general character shown in the above identified patent have been secured;

Figure 2 is an enlarged sectional view on line 2—2 of Figure 1;

Figure 3 is an enlarged sectional view on line 3—3 of Figure 1; and

Figure 4 is a side elevational view of a single spring of the type shown in Figure 1, showing in full lines the approximate arc of curvature the spring is caused to assume when secured to its frame and showing in dotted lines the arc of curvature of its permanent set prior to its assembly with its frame.

Referring then to the drawing wherein like parts of the unit shown are designated by the same numerals in the several views, the spring supporting frame for a chair seat or back comprises the rim generally designated 10, preferably formed of stamped sheet metal.

A pair of the opposite sides of the sheet metal rim 10 are each provided with an inwardly flanged strengthening portion 11 which flanged portions are each reversely turned and equidistantly notched along the other two opposite sides thereof to form oppositely disposed and equally spaced companion pairs of spring retaining tongues or hooks 12.

A plurality of spaced, parallelly disposed, outwardly bowed springs 13, here shown as of the tortuous or sinuous type, are disposed between companion pairs of hooks to which their opposite ends are secrued. Since these springs have a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame 10, each spring when sprung from its permanent set shown in dotted lines in Figure 4 to the arc of curvature shown in full lines in the same view and thereafter secured between and by an oppositely disposed companion pair of hooks 12 in the manner illustrated in Figure 1, the springs are secured to the frame even against pressure thereupon.

It will thus be seen that the spring unit herein shown and described may be readily and conveniently assembled, is sturdy in construction and may be economically manufactured.

While but one specific embodiment of the invention has been herein shown and described, it will be understood that certain details of the construction shown may be altered or omitted without departing from the spirit of this invention as the same is defined by the following claims.

I claim:

1. A supporting frame comprising a rim having a pair of its opposite sides each provided with a like plurality of spaced and outwardly projecting tongues forming oppositely disposed companion pairs of open spring retaining hooks, and an outwardly bowed spring disposed between each companion pair of hooks whose opposite ends are detachably secured thereby, said springs each having a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame.

2. A supporting frame comprising a stamped sheet metal rim having a pair of its opposite sides each provided with a like plurality of spaced and outwardly projecting tongues struck therefrom to form oppositely disposed companion pairs of open spring retaining hooks, and an outwardly bowed spring disposed between each companion pair of hooks whose opposite ends are detachably secured thereby, said springs each having a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame.

3. A frame for supporting a plurality of spaced parallelly disposed springs comprising a stamped sheet metal rim having a pair of its opposite sides each provided with an inwardly flanged strengthening portion which flanged portions are each reversely turned and equidistantly notched along the other two opposite sides thereof to form oppositely disposed companion pairs of open spring retaining hooks, each companion pair of hooks being adapted to secure the opposite ends of an outwardly bowed spring having a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame.

4. A supporting frame comprising a stamped sheet metal rim having a pair of its opposite sides each provided with an inwardly flanged strengthening portion which flanged portions

are each reversely turned and equidistantly notched along the other two opposite sides thereof to form, oppositely disposed companion pairs of spring retaining hooks, and an outwardly bowed spring disposed between each companion pair of hooks whose opposite ends are secured thereby, said springs each having a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame.

5. A supporting frame comprising a rim having a pair of its opposite sides each provided with a like plurality of spaced and outwardly projecting tongues forming oppositely disposed companion pairs of open spring retaining hooks, and an outwardly bowed sinuous spring disposed between each companion pair of hooks whose opposite ends are detachably secured thereby, said sinuous springs each having a permanent set on an arc of greater curvature than the spring assumes after its assembly with the frame.

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