Sept. 19, 1933. N. L. STOERKEL 1,927,722

SPRING UNIT

Filed April 9, 1932 2 Sheets-Sheet 1

Fig. 1.

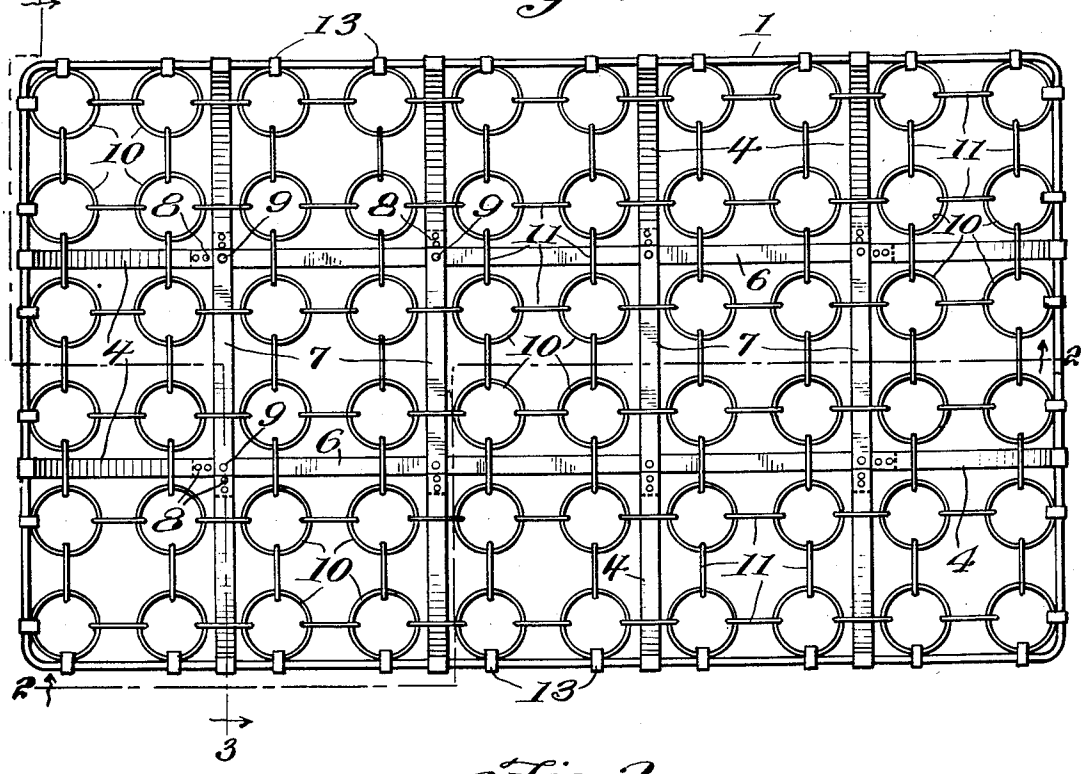


Fig. 2.

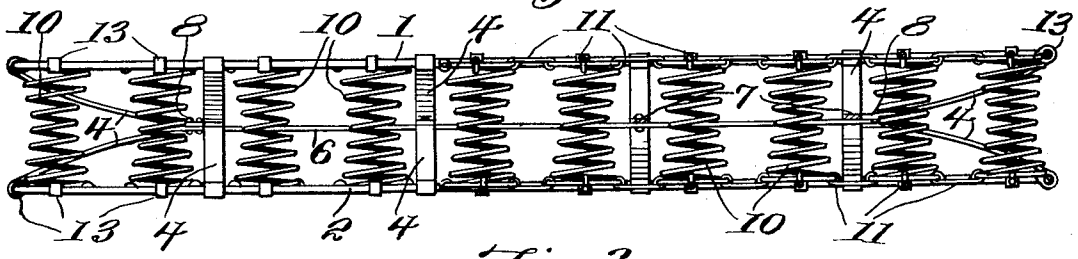
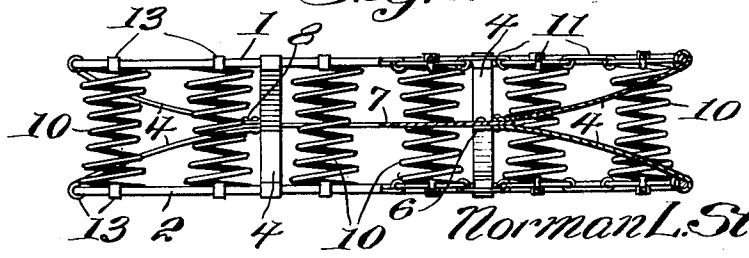


Fig. 3.



Norman L. Stoerkel
INVENTOR

BY Victor J. Evans & Co.
ATTORNEY

WITNESS J. L. Wright

Sept. 19, 1933. N. L. STOERKEL 1,927,722

SPRING UNIT

Filed April 9, 1932 2 Sheets-Sheet 2

Fig. 9.

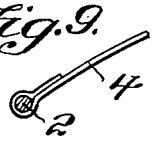


Fig. 10.

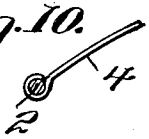


Fig. 4.

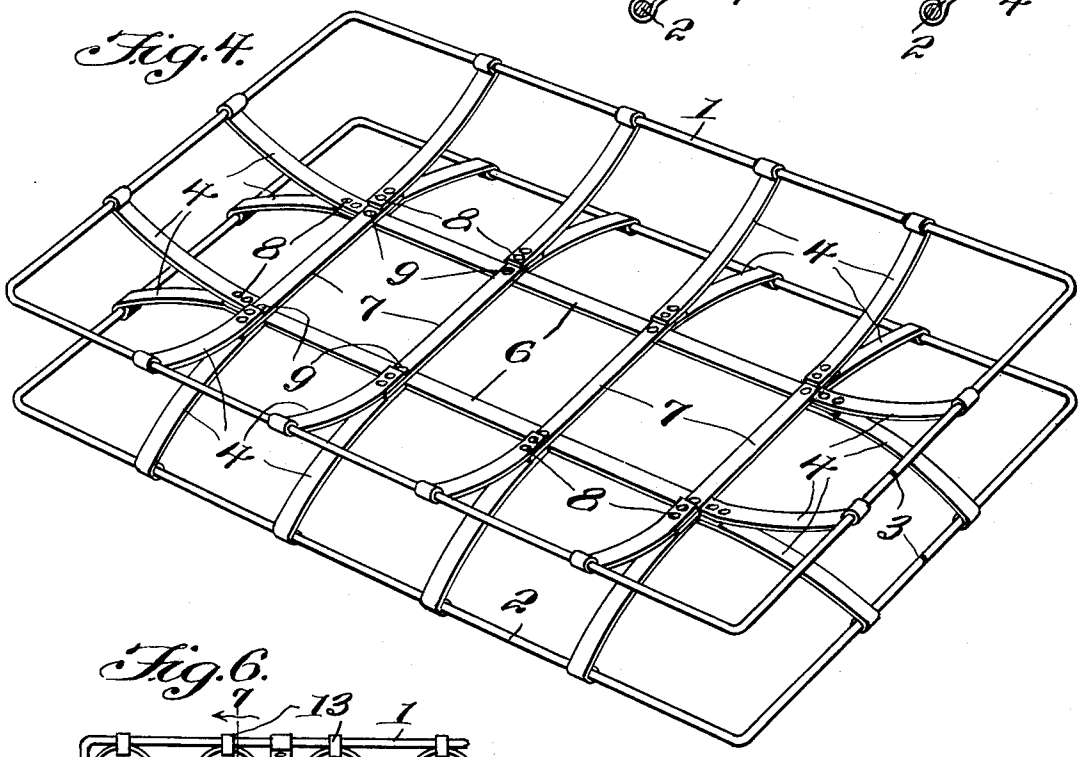


Fig. 6.

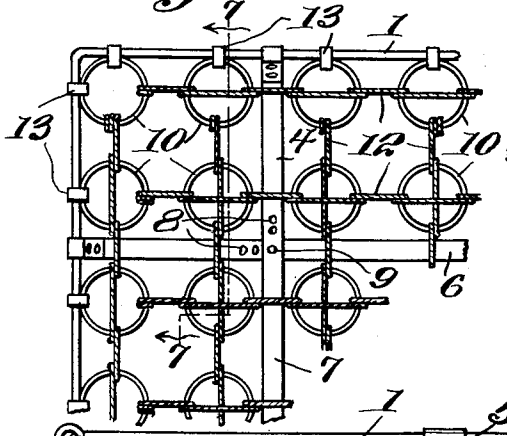
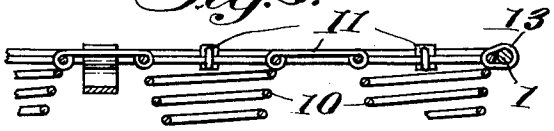


Fig. 5.



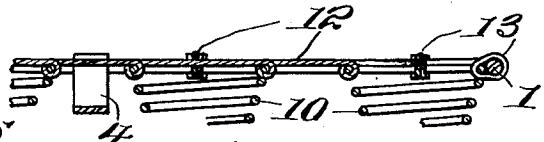


Fig. 7.

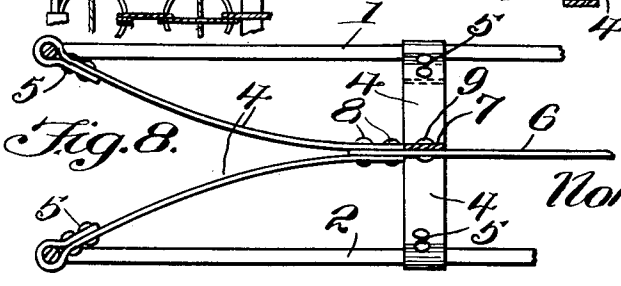


Fig. 8.

Norman L. Stoerkel,
INVENTOR

BY Victor J. Evans & Co.
ATTORNEY

WITNESS: J. L. Wright

Patented Sept. 19, 1933 1,927,722

UNITED STATES PATENT OFFICE

1,927,722

SPRING UNIT

Norman L. Stoerkel, Pittsburgh, Pa.

Application April 9, 1932. Serial No. 604,269

1 Claim. (Cl. 5—262)

This invention relates to spring construction, and its general object is to provide a spring unit for mattresses, cushions, upholstered furniture seats and the like that includes resilient suspending, bracing and attachment means for coupled coil springs to hold them in proper position at all times, yet will not interfere with the resilient qualities of the unit which due to its construction and cooperation of the suspending, bracing and attachment means with the coil springs, will perform its intended function for a prolonged period of time and will retain its shape accordingly regardless of abuse and hard usage.

A further object of the invention is to provide a spring unit of the character set forth, that is capable of providing utmost comfort in a mattress, cushion, upholstered seat and the like under all conditions, is simple in construction, strong and substantial, inexpensive to manufacture and extremely efficient in operation and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a top plan view of the spring unit, constructed in accordance with the present invention.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a perspective view of the suspension, bracing and attachment means of my unit.

Figure 5 illustrates one means of connection for the coil springs.

Figure 6 is a fragmentary top plan view illustrating another means of connection for the springs.

Figure 7 is a sectional view taken approximately on line 7—7 of Figure 6, looking in the direction of the arrows.

Figure 8 is a fragmentary sectional view taken through the suspending, bracing and attachment means and illustrates a modified form of means for connecting the spring arms to the frame.

Figure 9 illustrates a further modified form of connecting means for the arms.

Figure 10 is a still further modified form.

Referring to the drawings in detail, it will be noted that I have illustrated my spring unit as being rectangular in formation for use in a mattress or the like, but I want it understood that my unit can be made in any shape and size without departing from the spirit of the invention, and the body of the unit which acts in the capacity as a suspending, bracing and attachment means for the coil springs includes a pair of frames 1 and 2 which are identical in shape and are formed from resilient wire, there being a single strand of wire in each frame and the ends of the strands are secured together as at 3 in any well known manner.

The frames are rectangular in the form as shown and secured in spaced relation with respect to each other to the sides and ends of the frame are spring strip arms 4. These arms are arranged in cooperating pairs and the arms of each pair are disposed in converging relation with their outer ends curved about the frames in clamping engagement therewith in the form as shown in Figures 4 and 10. However, these arms 4 can be secured to the frames in various other ways, such as shown in Figure 8 which illustrates the outer ends of the arms as being disposed about the frames and thence extending in parallelism with the remaining portions of the arms and secured thereto by rivets or the like 5. In the form as shown in Figure 9, the rivets are dispensed with and the ends of the arms are spot welded to the remaining portions thereof, after the ends are passed or rolled about the frames.

The inner ends of the arms of each pair are disposed in close proximity with respect to each other and are secured to transversely and longitudinally arranged strips which are formed from resilient material and for distinction the longitudinal strips are indicated by the reference numeral 6, while the transverse strips are indicated by the reference numeral 7. These strips extend between the inner ends of the pairs of arms and are secured thereto by rivets or the like 8, while the transverse strips are secured to the longitudinal strips by rivets or the like 9.

It will be noted that the arrangement of the arms 4 and strips 6 and 7 with respect to each other and with respect to the frames provide what may be termed compartments for coil

springs 10, and in the form as shown, there are arranged in each of the compartments four springs which are connected together as well as to the frame and these springs cooperate with the strips, arms and frame to provide my unit.

The springs may be connected together by various means and in Figures 1, 2, 3 and 5, I have illustrated the springs as being connected together by wire links 11. These links have their ends coiled about the end convolutions of the coil springs, and of course the springs are connected together at their upper and lower ends as shown in Figures 2 and 3.

The springs may be connected together through the medium of strands 12 of flexible wire and in this event the strands of wire are looped about the end convolutions of the coil springs and the ends of the strands are fixed to the end or corner springs as indicated in Figure 6.

The outer coil springs are connected to the frames 1 and 2 by clamping clips 13 and regardless of whether or not the links 11 or the strands of wire 12 are used, for connecting the springs together, the upper convolutions of the springs will be disposed in parallelism with the frame 1, while the lower convolutions of the springs will be disposed in parallelism with the frame 2, with the sections 6 and 7 disposed midway the ends of the coil springs due to the arrangement of the arms 4.

From the above description and disclosure of the drawings, it will be obvious that I have provided a spring unit for mattresses, cushions, upholstered furniture seats and the like that is not only strong and substantial as well as capable of retaining its shape for a prolonged period of time, but is possessed of resilient qualities, to an extent to provide utmost comfort regardless of the use to which the unit is put to.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:

A spring unit of the character described comprising an upper and lower marginal frame, converging arms having their remote ends secured to the frames to hold the latter in spaced relation with respect to each other, transversely and longitudinally disposed spring strips connected to each other and to the opposite ends of the arms respectively for disposal in a plane normally midway between the marginal frames, said strips cooperating with the arms to provide square shape compartments of like size, coil springs arranged in said compartments, means for connecting the coil springs together and means for connecting the outer coil springs to the frames.

NORMAN L. STOERKEL.