July 14, 1925. 1,546,145

O. G. OTEWALT

SUPPORT FOR MATTRESSES

Filed Sept. 29, 1923 2 Sheets-Sheet 1

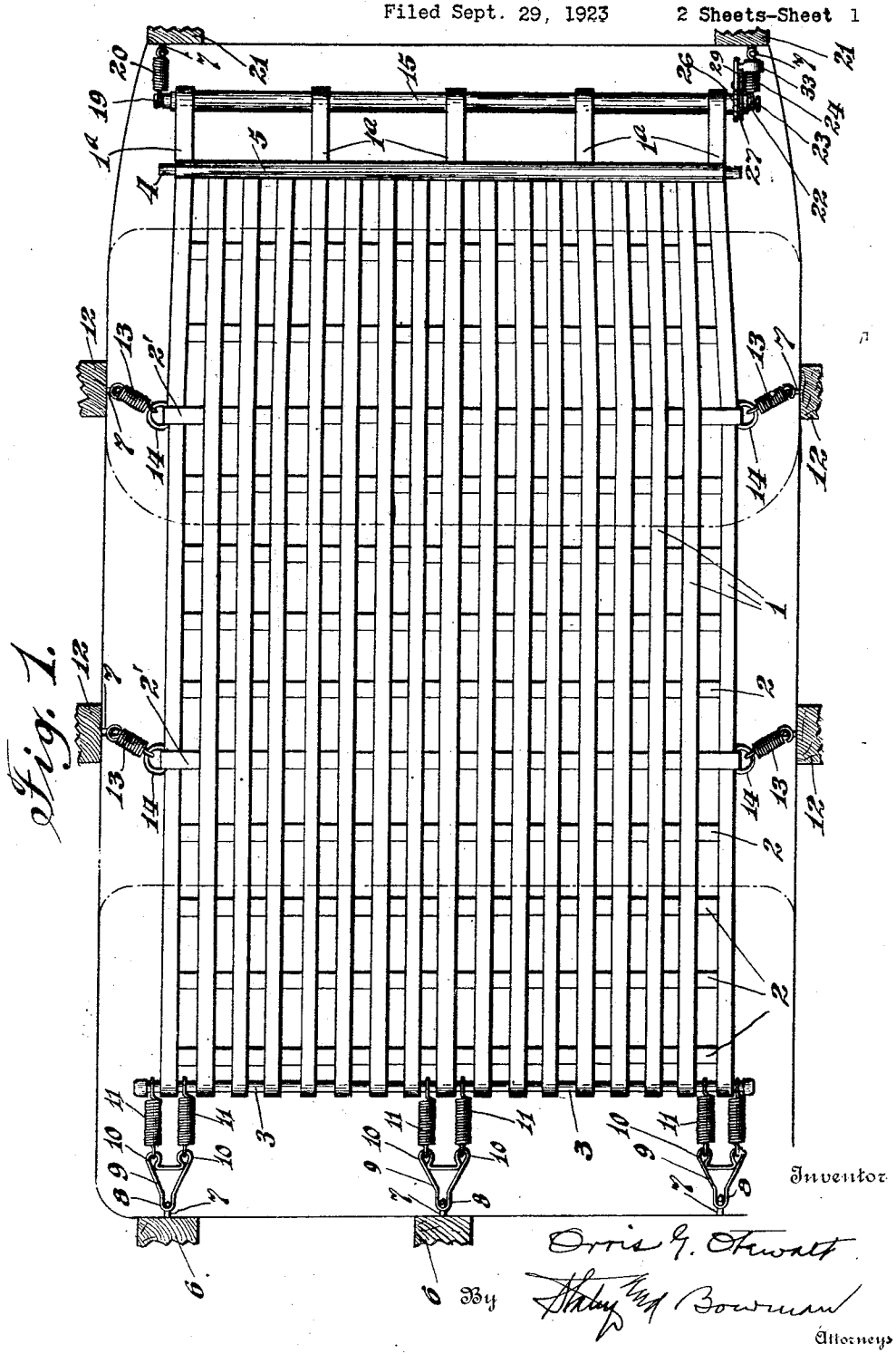


Fig. 1.

Inventor

Orris G. Otewalt

By Staley & Bowman

Attorneys

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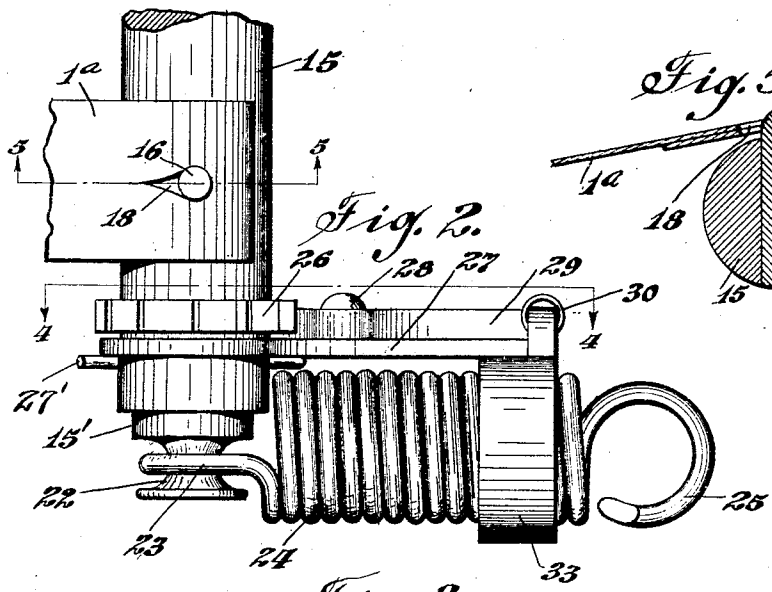


Fig. 2.

Fig. 5.

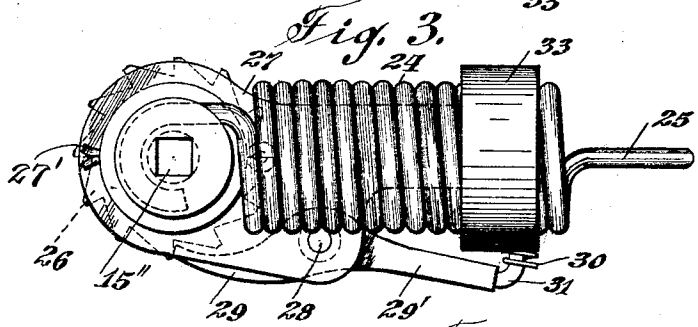


Fig. 3.

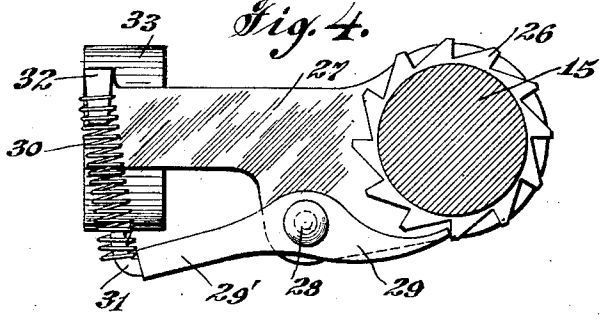


Fig. 4.

Inventor

Orris G. Otewalt

By Stanley Bowman

Attorneys

Patented July 14, 1925. 1,546,145

UNITED STATES PATENT OFFICE.

ORRIS G. OTEWALT, OF SPRINGFIELD, OHIO.

SUPPORT FOR MATTRESSES.

Application filed September 29, 1923. Serial No. 665,636.

To all whom it may concern:

Be it known that I, ORRIS G. OTEWALT, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Supports for Mattresses, of which the following is a specification.

This invention relates to improvements in mattresses particularly designed for automobile bodies.

The object of the invention is to provide a mattress which may be readily and quickly installed in the body of an automobile, so arranged that it can be rolled into compact form for storage.

A further object of the invention is to provide improved means for supporting a mattress in the body including novel means for applying a tension to the strips composing the mattress.

In the accompanying drawings:

Fig. 1 is a plan view of a mattress embodying the improvements shown supported from the body of an automobile, only so much of the body being shown as is necessary to illustrate the manner of installing the mattress.

Fig. 2 is a plan view of a portion of the tension applying devices.

Fig. 3 is an end view of the same.

Fig. 4 is a section on the line 4—4 of Fig. 2.

Fig. 5 is a section on the line 5—5 of Fig. 2.

Referring to the drawings 1 represents a series of longitudinal strips of fabric webbing, or other suitable material, connected and spaced apart by a series of transverse strips 2 of the same material. The rear ends of the longitudinal strips are connected to a cross rod 3 preferably by forming the strips of two plies sewed together excepting the extreme rear ends, which are left unsewed to form loops which embrace the rod 3.

The front ends of the longitudinal strips 1 are attached to another cross-rod 4 preferably by connecting all of the strips to a pocket 5 of fabric through which the rod extends. The rod 3 is supported from any suitable point of the body such as the posts 6 at the rear end of the body and to this end each of the posts is provided with a hook 7 to receive an eye 8 of a triangular-shaped connecting member 9, the forward end of which is provided with a pair of eyes 10 to receive the ends of coil springs 11, the other ends of the springs being formed with eyes which encircle the rod 3.

Two of the cross-strips of webbing, such as the ones indicated at 2′, are connected with the sides of the vehicle body, such as the posts indicated at 12, and to this end each of these posts is formed with a hook 7 similar to the ones attached to the posts 6, and to each of which is hooked one end of a coil spring 13, the other end of which is hooked to a ring 14 which in turn is embraced by the looped end of the webbing 2′.

There is indicated at 15 a winding shaft for placing tension upon the longitudinal strips composing the mattress. This shaft is provided with a series of hooks 16 (Fig. 5) the shanks 17 of which are in the nature of pins driven into openings in the shaft, and to each of these hooks is connected an extension 1^a projecting through certain of the longitudinal strips, preferably the two side strips and three equally spaced intermediate strips, these extensions being formed with eyes 18 to receive the hooks. One end of the shaft is provided with a grooved portion 19 to receive an eye formed on one end of a coil spring 20, the other end of the spring being connected with a hook 7 secured to a forward post 21, such as the windshield support. The other end of the shaft is reduced as indicated at 15′ and also is provided with a groove 22 to receive the eye 23 formed on one end of a coil spring 24 the other end of the spring being formed with an eye 25 to receive the hook 7 formed on the opposite post or windshield standard 21.

Formed on or rigidly connected with the roll 15 is a ratchet wheel 26. Loosely mounted upon the roll 15 adjacent the outer side of the ratchet wheel is a pawl-carrying arm 27 held in position by a cotter pin 27′ and having pivotally connected therewith, as at 28, a pawl 29, the nose of which is held in engagement with the ratchet wheel by a coil spring 30 one end of which is inserted over a finger 31 on the tail 29′ of the pawl, the other of which is inserted over a finger 32 projecting from the arm 27. The rear end of the arm 27 is provided with a loop or sleeve 33 which encircles the spring 24 and is for the purpose of preventing the arm 27 from rotating.

The operation is as follows: In installing

the device the members 9 are applied to the rear hooks 7 and the springs 13 to the side hooks 7. It will be observed that the springs 13 project at a slight angle with their outer ends forward of the inner ends so that these springs would serve to support the greater portion of the mattress in the event of breakage of the forward supporting devices. The springs 20 and 24 are then secured to the forward hooks 7.

Tension is then applied to the longitudinal strips of the mattress by rotating the shaft 15 by any suitable means such as by inserting the squared end of a crank in the squared opening 15″ in the extension 15′. The pawl cooperates with the ratchet wheel to hold the shaft against retrograde movement. As tension is applied to the springs the shaft 15 must approach the rear rod 3 and during this movement of the shaft 15 the sleeve 33 slides upon the spring 24, but maintains its engagement therewith so as to prevent the pawl carrying arm from turning. To remove the mattress the pawl 29 is disengaged from the ratchet wheel by pressing upon the tail thereof and the shaft thus allowed to rotate back to its original position until the tension upon the various springs is relieved, after which the springs may be readily detached from the various hooks 7 and the mattress rolled up for storage.

The hooks 7 are so positioned that the mattress when installed will extend just above the backs of the seats. The particular installment shown is one applicable to a closed body but the invention is also applicable to touring car bodies by the provision of suitable removable supports to which the hooks 7 may be attached.

Having thus described my invention, I claim:

1. In a bed structure for motor vehicles, a mattress member, a series of springs for supporting said member at different points from the vehicle body, a bodily movable winding shaft connected with one end of said member, and resilient means suspending said shaft from the vehicle body to permit the shaft to move bodily when turned to apply tension to said mattress member.

2. In a structure of the character described, a mattress member, a series of springs connected to one end and to the sides of said member for supporting the same from the vehicle body, a winding shaft connected to the other end of said member, resilient means for supporting said shaft said shaft being movable in the direction of said member when tension is applied, pawl and ratchet members associated with said shaft and movable therewith, one of said members being connected with said shaft to rotate therewith and the other member loosely mounted on said shaft, and means for holding the last member from turning.

3. In a bed structure for motor vehicles, a mattress member, springs connected with the two sides and one end for supporting said member, a winding shaft connected with the other end of said member, springs for suspending said shaft from the vehicle body to permit said shaft to yield away from the point of support when applying tension to said mattress member, a ratchet wheel connected with said shaft, an arm loosely mounted on said shaft, a pawl on said arm connected with said ratchet wheel, and means for holding said arm from turning.

4. In a structure of the character described, a mattress member, springs connected with the two sides and one end for supporting said member, a winding shaft connected with the other end of said member, springs for supporting said shaft, a ratchet wheel connected with said shaft, an arm loosely mounted on said shaft, a pawl on said arm connected with said ratchet wheel, and a sleeve on said arm surrounding the adjacent supporting spring for holding said arm from turning.

5. In a structure of the character described, a mattress consisting of longitudinal strips and cross-strips, a rod connecting the longitudinal strips at one end of the mattress, springs for supporting said rod, additional springs connected with the side of the mattress structure for supporting the same, a winding shaft at the other end of said mattress, certain of the longitudinal strips being extended and connected with said shaft, springs for supporting said shaft, and a pawl and ratchet device for holding said shaft against rotation in one direction.

6. In a structure of the character described, a mattress consisting of longitudinal strips and cross strips, a rod connecting the longitudinal strips at one end of the mattress springs for supporting said rod, additional springs connected with the side of the mattress structure for supporting the same, a winding shaft at the other end of said mattress, certain of the longitudinal strips being extended and connected with said shaft, springs for supporting said shaft, and a pawl and ratchet device for holding said shaft against rotation in one direction, the ratchet being connected with the shaft and the pawl loosely mounted on the shaft, together with means for holding the pawl from turning.

7. In a bed structure for motor vehicle bodies, a series of springs for supporting the rear end and two sides of said member from stationary points of support, bodily movable tensioning devices connected with

the forward end of said member, together with springs connected with stationary parts for supporting said devices, all of the side supporting springs being disposed at an angle in the same direction with their points of connection to the stationary supports arranged in advance of their points of connection with said mattress whereby said side springs will apply tension to said mattress member in a sidewise direction and act to support the major part of the same in the event of breakage of said tensioning devices.

In testimony whereof, I have hereunto set my hand this 21st day of September, 1923.

ORRIS G. OTEWALT.