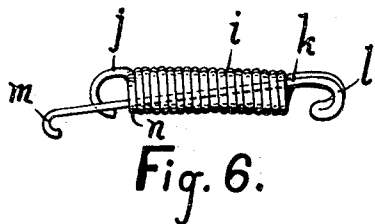
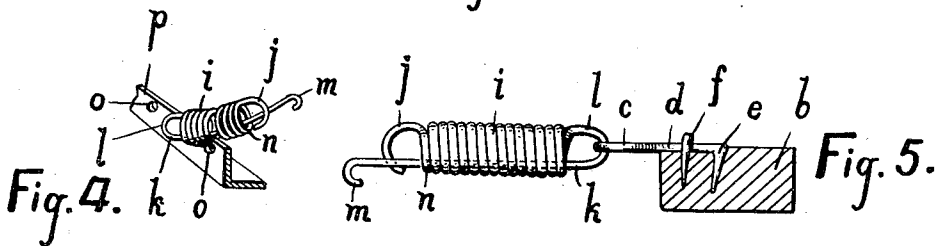
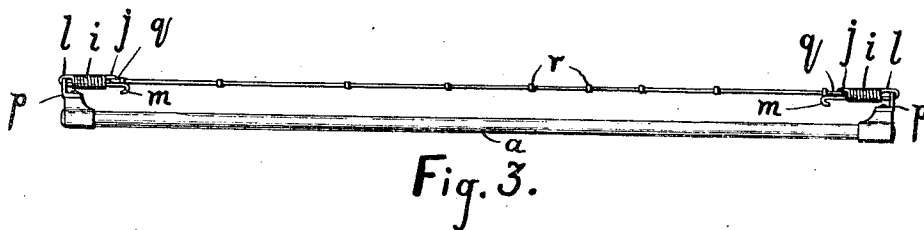
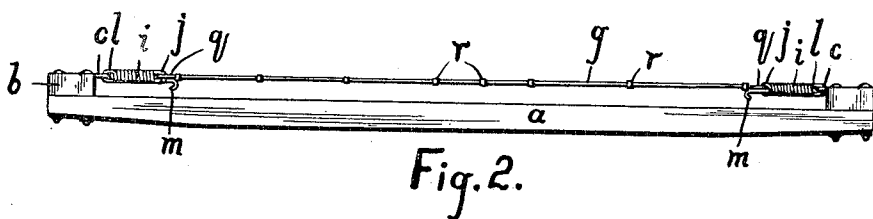
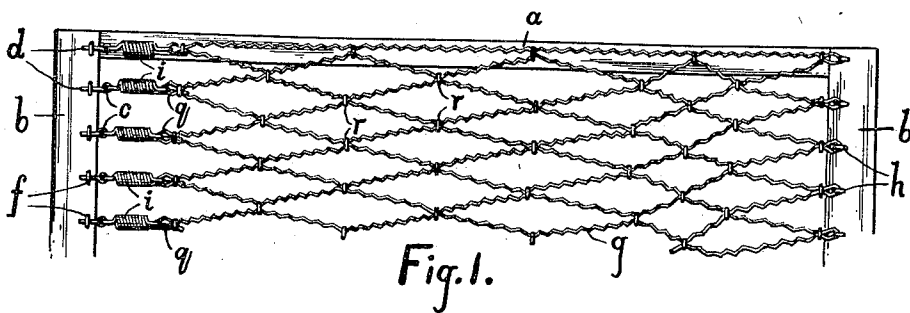


No. 830,320.

PATENTED SEPT. 4, 1906.

K. HENRY.
SPRING MATTRESS.
APPLICATION FILED MAR. 2, 1906.



Witnesses.

Lloyd Blackmore
D. W. Colton.

Inventor.

K. Henry
by C. J. Petersonbaugh
Atty.

UNITED STATES PATENT OFFICE.

KNOX HENRY, OF MONTREAL, QUEBEC, CANADA.

SPRING-MATTRESS.

No. 830,320.

Specification of Letters Patent.

Patented Sept. 4, 1906.

Application filed March 2, 1906. Serial No. 303,885.

To all whom it may concern:

Be it known that I, KNOX HENRY, a subject of the King of Great Britain, and a resident of 74 Tupper street, in the city and district of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Spring-Mattresses, of which the following is a specification.

My invention relates to an improvement in spring-mattresses, and the object of the invention is to devise a mattress of a resilient nature in which the effects of the weight on the main supporting-wires will be minimized and simplicity and durability in construction assured; and it consists, essentially, of a frame, a web of wires formed of longitudinal wires crimped in V shape, and links adapted to be slid therealong and alter the form of the web, and helical springs secured to the end pieces of said frame and to the end loops of said longitudinal wires, as hereinafter more particularly explained in detail.

In the drawings, Figure 1 is a plan view of a portion of a mattress having a wooden frame and helical springs holding the longitudinal wires from one end of said frame. Fig. 2 is an elevation of a mattress having a wooden frame and helical springs holding the longitudinal wires from the frame. Fig. 3 is an elevation of a mattress having a metal frame and showing helical springs extending from both end pieces of said frame and catching the loops of the longitudinal wires. Fig. 4 is a detail showing a perspective view of the helical spring, partially threaded through the end piece of a metal frame. Fig. 5 is a sectional detail of the end piece of a wooden frame construction, showing the fastening for the helical spring. Fig. 6 is a detail showing another form of the helical spring.

Like letters of reference indicate corresponding parts in each figure.

Referring to the drawings, *a* is the frame of the mattress having the end pieces *b* and formed of either metal or wood. The wood construction is shown in Figs. 1 and 2. *c* is an eye formed at the end of the stem *d*, said stem having the brad *e* at the inner end thereof which is driven into the end pieces *b* in the wood construction of mattress. *f* is a staple straddling the stem *d* and driven into the said end pieces over said stem and firmly securing it to the wooden end piece. In this construction there are a succession of rings *c*, extending inwardly beyond the edge of the

end piece and occurring at intervals across said frame.

g is a wire or wires crimped throughout its or their entire length in V-shape form and in the construction shown in Fig. 1 caught by the staples *h*, and where passing through said staples formed into V-shaped loop ends.

i is a helical spring having the helical portion terminate at one end in the hook *j* and at the other end in the rod *k*, which is curved from said helical portion to form the eye *l*, the remaining length of said rod extending back through the said helical portion against which it bears and beyond the hook *j* and terminating in the outwardly-curved hook *m*, which hook engages the end helix *n* on the spring being drawn to an extra tension.

In the wooden construction of the frame the eyes *c* may be sprung open and passed through the eyes *l* of the helical springs *i*. In the iron construction of the frame the springs, starting with the hooked end *j*, may be threaded throughout the length of the helix, as shown in Fig. 4, through the orifice *o* in the irons *p*. These springs occur at intervals across the end pieces and have their hooks *j*, catching the loop ends *g*, formed in the longitudinal wires *g*.

r are links joining the lengths of wires *g* alternately at intervals throughout and forming a pattern to the mattress and at the same time connecting the wires *g* so that the stress is distributed throughout the several adjoining wires to the springs, no matter where the pressure may be made on the mattress. The links *r* are not tightly clamped around the longitudinal wires *g*, but have sufficient play to be slid along said wires to bring them to any place in the mattress which is liable to receive extra pressure.

It may be here stated that the stiffness of the whole mattress may be altered with the number of links employed, and, as above mentioned, any particular portion may be stiffened by sliding the links toward said portion, thereby securing perfect adjustability as to resiliency throughout the whole surface of the mattress.

It will be further seen that in mattresses where the helical springs, as described, are used the effects of rough usage of a mattress will be much minimized, for on great pressure being brought to bear the hook *m* engages the end helix and prevents a further stretching of the spring, thus obviating any chance of breaking said springs.

In Fig. 6 the eye portion of the helical springs is shown bent to the form of a hook, thus providing a hook at each end of the spring, and consequently facilitating the assembling by having a hook end instead of eye
5 to secure the spring to the frame.

It must be here mentioned that the V-shaped loops caught onto the hooks of the helical springs are very essential to this construction, as they prevent any displacement
10 of the longitudinal wires.

It may be preferable in some constructions to attach the helical springs to the end pieces with distinct connecting-links and similarly
15 the other end of the helical spring to the longitudinal wires with distinct connecting-links; but the manner of fastening, as already described will likely be most commonly used in this invention.

20 What I claim as my invention is—

1. In a device of the class described, the combination with a frame, of a web of wires formed of longitudinal wires crimped in V
25 shape and adjustable links joining said longitudinal wires and adapted to be slid therealong to change the form of the web, said longitudinal wires having a plurality of crimps between each of said links, and a plurality of
30 helical springs joining the said longitudinal wires to the ends of the frame and having the continuous length of wire, forming said spring, returned through the helical portion and crooked to form a stop to limit the stretch of said spring, as and for the purpose
35 specified.

2. In a device of the class described, the combination with a frame, of a web of wires formed of longitudinal wires crimped in V
40 shape and adjustably-arranged links joining said longitudinal wires and adapted to be slid along from V to V, and a plurality of helical springs each having its continuous length of

wire formed in hooks at each end of the helical portion, one of said hooks being doubled and the wire therefrom continued and returned
45 through said helical portion abutting the edge thereof and crooked at the end to limit the stretch thereof, said hooked ends being caught onto said web of wire and onto the ends of the frame, as and for the purpose specified. 50

3. In a wire mattress, the combination with a rectangular frame having a plurality of helical springs secured to each of its end pieces and extending inwardly, of a continuous length of wire formed in V-shaped kinks
55 and arranged within said frame in lengths stretching from spring to spring in angular juxtaposition and having longitudinal loops formed at each end engaging the hooks of
60 said springs, and links joining said lengths at intervals and adapted to be slid along to alter the form of the mesh of the web of wires, as and for the purpose specified.

4. In a device of the class described, a frame, longitudinal wires suitably looped at
65 the ends thereof and a plurality of helical springs having hooked ends suitably caught onto each of the ends of said frame and to the loops of said longitudinal wires and having the continuous length of wire forming said
70 spring, doubled back from the hook, caught to the frame and extending through the helical portion and abutting the lower side thereof and terminating in a crooked end forming a stop to limit the stretch of said spring, as
75 and for the purpose specified.

Signed at the city of Montreal, in the district of Montreal, in the Province of Quebec, in the Dominion of Canada, this 28th day of February, 1906.

KNOX HENRY.

Witnesses:

LLOYD BLACKMORE,
D. W. COLTON.