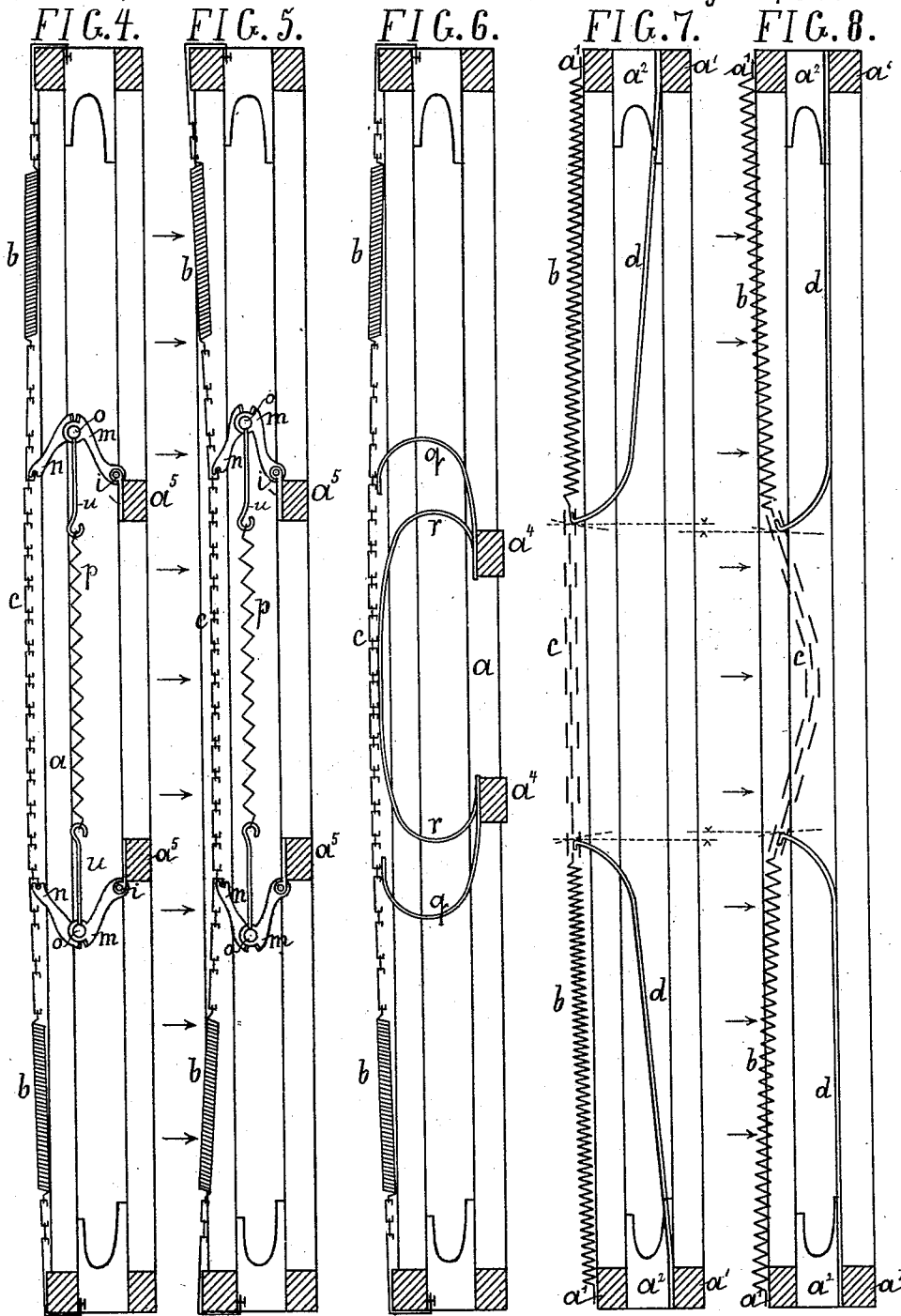




H. WESTPHAL.  
MATTRESS.

No. 428,791.

Patented May 27, 1890.



Witnesses  
 Bernhard Jacobs.  
 Otto Suckert

Inventor:  
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# UNITED STATES PATENT OFFICE.

HEINRICH WESTPHAL, OF BERLIN, GERMANY.

## MATTRESS.

SPECIFICATION forming part of Letters Patent No. 428,791, dated May 27, 1890.

Application filed September 2, 1889. Serial No. 322,725. (No model.) Patented in Germany February 3, 1887, No. 41,691.

To all whom it may concern:

Be it known that I, HEINRICH WESTPHAL, a subject of the Emperor of Germany and King of Prussia, residing at Berlin, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Mattresses, (the same having been patented in Germany on the 3d day of February, 1887, No. 41,691,) of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to spring bed-bottoms or wire mattresses; and it has for its object to provide such a mattress of wire-netting with end stretchers and with adjustable intermediate spring-supports for yieldingly carrying the weight of the occupant in the most comfortable manner; and with these objects in view my invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a plan view of the mattress; Fig. 2, a longitudinal vertical section of the same; and Figs. 3, 4, 5, 6, 7, and 8 are similar sections of modified devices.

Corresponding letters of reference in the several figures of the drawings designate like parts.

The wooden frame-work for this mattress consists of two rectangular frames of equal size, each composed of side rails *a* and end rails *a'*, and both frames secured one on top of the other with separator-pieces *a<sup>2</sup>* between their corners. Over the end rails *a'* of the upper frame are placed wire hooks *g*, engaging rings *g'*, that again by links *g<sup>2</sup>* are coupled to the ends of spiral springs *b*, the opposite ends of which again by chains *g<sup>3</sup>*, composed of hooks and rings in alternate order, connect with the central sheet of wire-netting *c*, also composed of hooks and rings diagonally engaging to be flexible in every direction, and the hooks at the side edges of this wire-netting *c* engage eye-screws *h*, secured into the side rails *a* of the upper frame. This net-work *c* thus being spread between side rails *a*, the tension of springs *b* will stretch it to be flush and level, yet when occupied by a person for night rest the center would sag down too much to be comfortable were not

other elastic supports provided to assist in sustaining the mattress-sheet.

In carrying out my invention I may attach auxiliary supports for the central netting *c*, as shown by Figs. 7 and 8, and as described and shown in my German Patent No. 41,691, consisting of a series of spring-arms *d*, each rigidly secured with one end upon the lower end rails *a'*, and upwardly curved at their inward ends and with a hook at its extreme end engaging one of the end links of the central netting *c*, and because, with being compressed, the end of each such spring *d* will describe a curve-line, the ends of opposing springs *d* will approach, whereby the springs *b* will be increased in length and the central netting *c* will be released of its tension, allowing it to sag down, as illustrated by Fig. 8; or I may provide angular props *d'*, each with a hook at one end for engaging the netting *c*, and with a loop at its opposite end engaging the end eye of a spiral spring *f*, having to its opposite end a screw-threaded shank *e*, passed through a hole in a cross-rail *a<sup>3</sup>* of the frame, and provided with a nut *s* for adjusting the tension of spring *f*, all as shown in Figs. 1 and 2. Thus arranged, with depressing the mattress, not only the springs *b* will be expanded, but the springs *f* will at the same time exert their elastic force to support the central portion *c* of the mattress.

This device can be modified by placing the props *d'* to cross each other and by uniting them to eyebolts *e'*, passed through holes in transverse rails *a<sup>4</sup>*, and by placing a spiral spring *f'* over the end of each eyebolt *e'* between rail *a<sup>4</sup>* and nut *s*, when the springs *f'* will elastically resist the yielding of props *d'* by being compressed, all as shown by Fig. 3.

In Figs. 4 and 5 I have shown another modification in which toggle-joints *m n*, pivotally connected by pin *o*, are coupled to hinge-plates *i* upon transverse beams *a<sup>5</sup>*, while the upper end of each toggle *n* engages the wire-netting *c*. The center pins *o* of each two opposing toggles are coupled by hook *u* to the opposite ends of a spiral spring *p*, which will be expanded for the wire-netting to yield to pressure.

Still another modification is shown by Fig. 6, in which bow-shaped springs *q* are secured

upon transverse rails  $a^1$  for supporting the ends of the netting  $c$ , and a C-shaped spring  $r$  is secured with its ends upon both rails  $a^1$  for supporting the center of the netting  $c$ .

5 What I claim is—

1. A mattress consisting of a frame having transverse rails on the bottom thereof, a central netting  $c$ , spring-wire connections therefrom to the end rails of the frame, and supplemental spring-connections consisting of elastic props or arms mounted beneath the netting and having hooks at one end engaging the netting and being supported at the other end by the transverse rails, as set forth.

15 2. A mattress consisting of a frame having

transverse rails, a central netting  $c$ , spring-wire connections therefrom to the end rails of the frame, and angular props  $d'$ , secured beneath the netting, having hooks at one end for engaging the netting, eyebolts passed 20 through the transverse rails and having adjusting-nuts and spiral springs  $f$  on each eyebolt, the opposite ends of said props being coupled with said eyebolts.

In testimony whereof I affix my signature in 25 presence of two witnesses.

HEINRICH WESTPHAL.

Witnesses:

ULRICH R. MAERZ,

JULIUS STUCKENBERG.