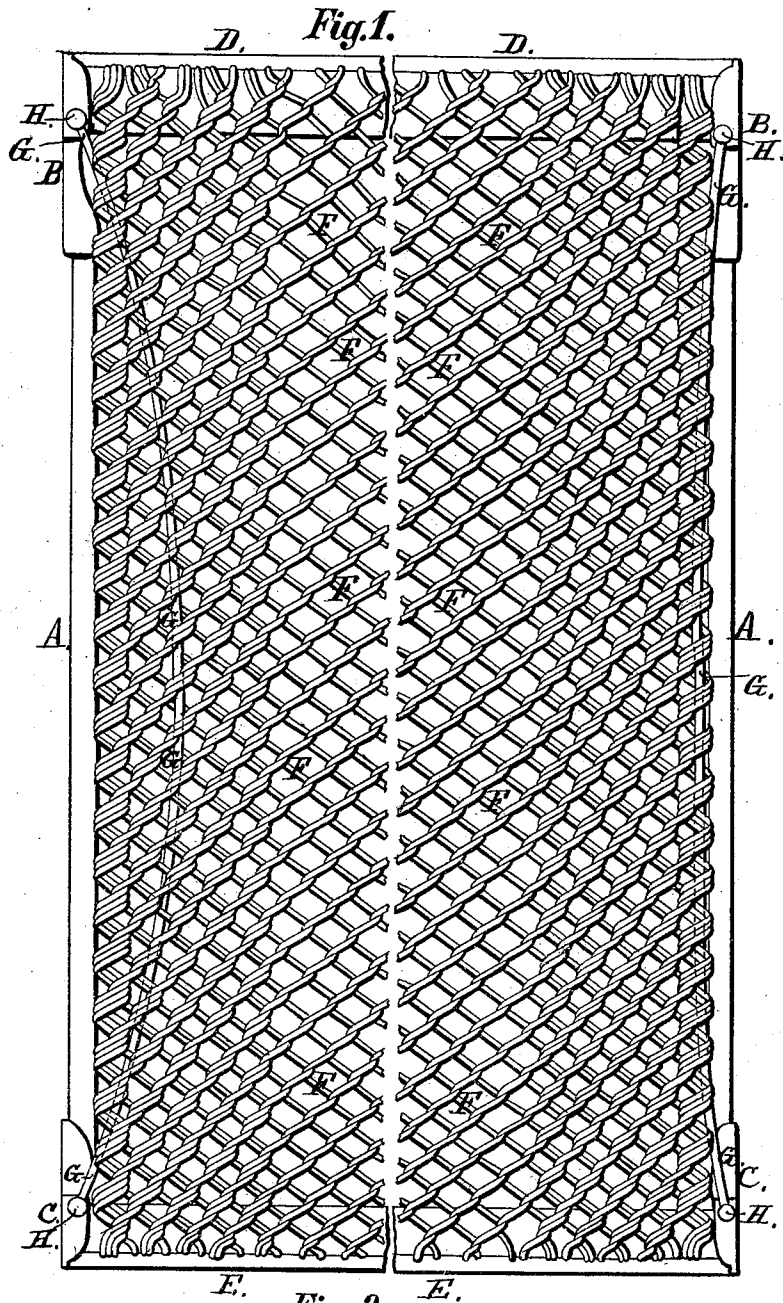


J. G. SMITH.
Wire-Mattresses.

No. 145,249.

Patented Dec. 2, 1873.



ATTEST.

Robert Burns.
Walter Allen



INVENTOR.

John G. Smith
By Knight Bros.
Atty.

UNITED STATES PATENT OFFICE.

JOHN G. SMITH, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN WIRE MATTRESSES.

Specification forming part of Letters Patent No. **145,249**, dated December 2, 1873; application filed September 9, 1873.

To all whom it may concern:

Be it known that I, JOHN G. SMITH, of St. Louis, St. Louis county, Missouri, have invented an Improvement in Wire Mattresses, of which the following is a specification:

The first part of my invention consists in the construction of the webbing or surface of the mattress. This consists of interlocked coils of elliptical wire. The second part of my improvement consists in guy-wires extending from corner to corner down each side, and connected to the edges of said webbing to hold the said edges outward.

Figure 1 is a top view. Fig. 2 is a side view of a short length of the spiral coil, the ends showing transverse sections of the wire.

A A are the side bars of the frame. B B are the adjustable head-brackets, similar to those described in my patent of February 25, 1873, No. 136,271. C C are the foot-brackets, which are not adjustable, but, like those B B, have an extended bearing on the top of the side rails, to prevent the brackets from becoming embedded or indented into the tops of the rails, and so becoming loose. D is the head-bar, to which the upper or head end of the webbing is attached; and E is the foot-bar, to which the other end of the webbing is secured. The webbing consists of interlocked spirals of wire, F. These spirals are secured together or interwound in the usual manner; but the wire, instead of having the usual round section, is made elliptical in section.

This form of wire has two advantages over round wire: First, it presents a broad outer surface, conducing to the comfort of the sleeper in hot weather, when a thin covering only is used upon the mattress. The broad surface also has less destructive effect upon the clothing than the more acute surface of the round wire. Second, the elliptical form imparts to the wire a greater power to resist the endwise strain upon the spirals than is possessed by round wire of the same weight per foot. It will be seen, by reference to Fig. 2, that this strain tends to flex the wire in the direction of its larger diameter.

I do not confine myself to the use of the said webbing made of elliptical wire in the construction of mattresses, as the same may be applied to chair-bottoms and other analogous uses where a moderate amount of flexibility and moderately even surface are required. I do not confine myself to an exactly true elliptical section in the wire, as this is a matter of no practical importance, so that the wire approximates nearly to this form.

G G are iron wires or rods, firmly secured at the ends to the brackets B and C, and passing through the side coils F, to hold the edges of the webbing outward, and to prevent the mattress from becoming narrowed at the middle. These guys or stays may be attached to the brackets in any manner. I have shown them as attached by studs H. These stays may be so attached as to tend to counteract the strain of the spirals of the webbing upon the brackets.

It will be understood that the elliptical wire, by possessing greater rigidity (in the direction of the strain) than round wire of the same weight per foot, enables me to construct my webbing at a smaller cost, as wire of elliptical form can be drawn and manufactured at the same price per pound as round wire.

I am aware that wire has before been made of elliptical and other irregular section for various purposes. This, therefore, I do not broadly claim.

I claim as my invention—

1. The wire fabric or webbing for mattresses formed of the interlocked spirals of wire having an elliptical section, with its shorter diameter radial or transverse to the coil, substantially as set forth.

2. The guys or stay-wires G G, extending from bracket B to bracket C, and connected to the sides of the webbing, substantially as and for the purpose set forth.

JOHN G. SMITH.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.