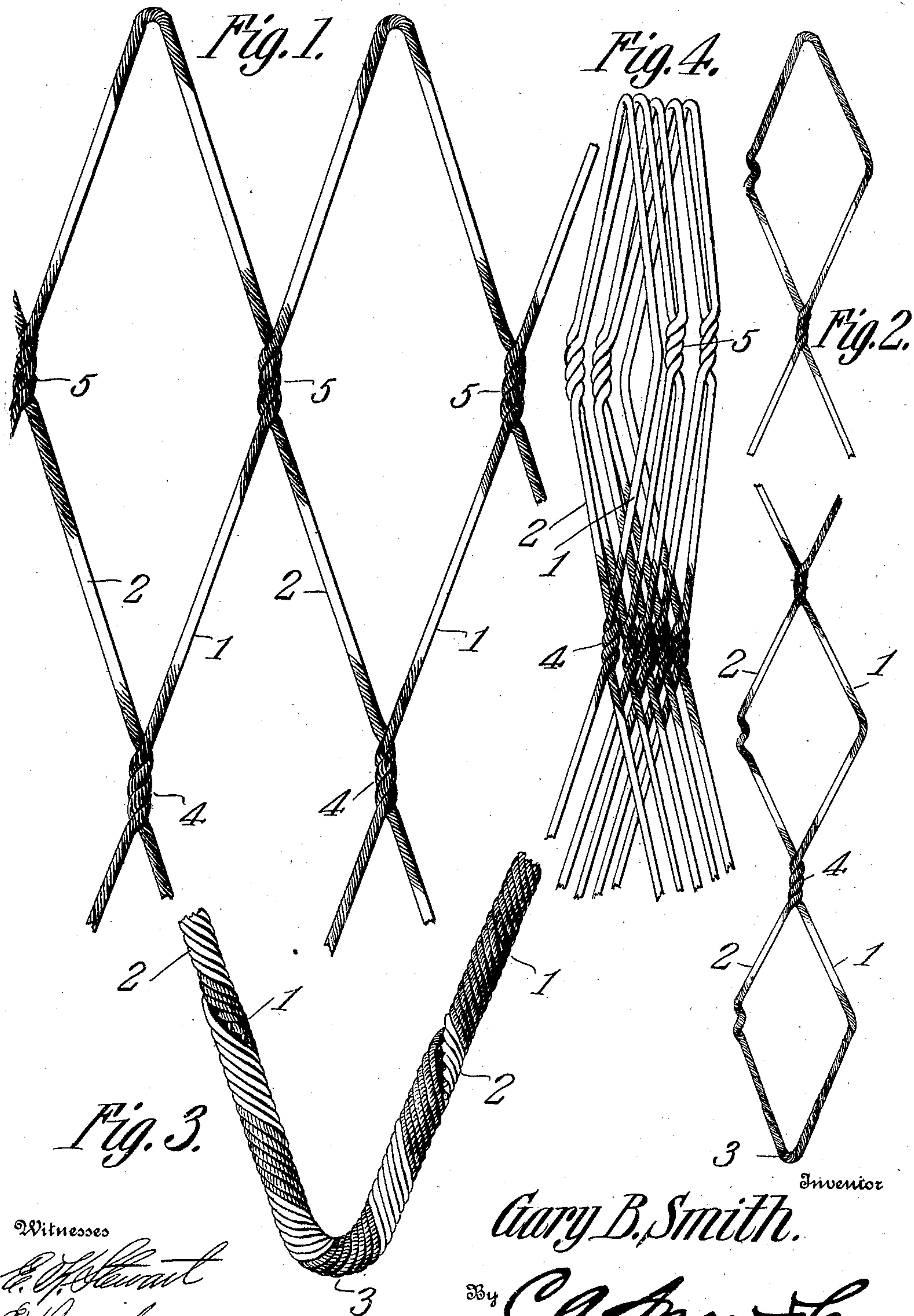


G. B. SMITH.
BED SPRING.

APPLICATION FILED DEC. 28, 1908.

979,042.

Patented Dec. 20, 1910.



Witnesses
E. J. Stewart
E. Davis

Gary B. Smith.
Inventor
By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

GARY B. SMITH, OF MINNEAPOLIS, MINNESOTA.

BED-SPRING.

979,042.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed December 28, 1908. Serial No. 469,557.

To all whom it may concern:

Be it known that I, GARY B. SMITH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Bed-Spring, of which the following is a specification.

This invention relates to bed-bottoms of fabric, and the object of the same is to produce such a bottom wherein the loops will retain their shape but the transverse sections may be folded upon each other so as to occupy but very little space.

To this end the invention consists in the provision of a particular form of twist between the sections of the fabric where they meet which will permit them to flex in one direction but prevent them from slipping on each other in the other direction. Details will be found below.

In the accompanying drawings:—Figure 1 is a plan view of the portion of the bed spring. Fig. 2 is a plan view of one of the sections of the bed spring. Fig. 3 is a plan view showing the spliced ends of one of the sections of the bed spring. Fig. 4 is a perspective view showing the manner in which the sections of the bed spring may fold one upon another.

The bed fabric herein shown is to be composed of wire cable which as usual consists of several strands twisted together. The cable is cut into lengths a little greater than twice the width of the fabric, and each length is bent at about its center at 6 and then formed as follows and constitutes one section of the fabric.

The two arms of the fabric are designated by the numbers 1 and 2, and one arm forms one side of all the loops in a transverse row and the other arm the other side. The loops herein are shown as of diamond shape which I prefer, although that shape is not essential. Proceeding along each section from its bend, each arm is given a series of twists 7 perhaps best seen at the left of Fig. 2 where each twist comprises first an upward bend 71, then a downward bend 72, and then another upward bend 73; but it will be seen in Fig. 1 that in the next twist the first bend 81 is downward, the next 82 is upward, and the third 83 is again downward, so that while each twist 7 comprises three bends the respective position of the bends is alternated along the arm. This arrangement prevails in all sections except that at the end of the

entire fabric where the outer arm 10 may have plain bends 11 as usual. Assuming otherwise that from the end bend 6 of each section the next adjacent twist in one arm 1 comprises the bends 81, 82, 83 while the twist 7 directly opposite in the other arm 2 comprises the bends 71, 72, 73, if these are alternated in the second twists of the same arms of this section their bends will come together and engage each other. It follows then that the first pair of twists form the sides 5 of the diamond adjacent the bend 6 and must engage the sides of the diamonds in the next two sections, while the next pair of twists which engage each other form the end 4 of the first diamond, and so on across the fabric. While the manner of or machine for making this fabric forms no part of the present invention, the fact that the construction of the twists is such that they can all be made in a single die is important as showing the cheapness and ease with which the fabric can be manufactured. The opposite and alternated disposition of the series of bends constituting the twists presents them in exactly the proper positions to engage the side twists of the next two sections so as to form the sides 5 of the loop, while the arms 1 and 2 come next together and their twists engage each other to form the end 4 of the loop, then they again diverge, and so on across the fabric. But an important feature of the present invention lies in the fact that this disposition of the twists permits the loops of one section to flex at their sides with those of the next, without permitting any loop to be distorted out of shape at either end. It is obvious therefore that the said sections may be swung laterally so that they may be folded one upon the other in the manner as indicated in Fig. 4 of the drawing whereby the said sections will occupy but small space and are in convenient form for storage and shipping purposes. The hinged joints formed at the points 5 are also of such nature that the sections cannot move longitudinally with relation to each other, therefore the sections cannot become displaced throughout the bed spring and they cannot move transversely of the bed and thereby cause creaking sounds. It will also be observed that the hinged joints or connections 5 will assist materially in preserving the shape of the loops throughout the sections of the bed spring.

Fig. 3 of the drawing illustrates the man-

ner in which the ends of the sections are spliced together. The extremity of the side 2 of the cable of which the section is formed is carried around the end of the terminal
5 or initial loop and the extremity of the side 1 of the said cable is also carried around the end of the said initial or terminal loop. The said extremities are then spirally twisted together in the manner as shown in
10 Fig. 3 so that each side has an extremity passing around the end of the loop and projecting into the opposite side. As the end of the loop is adapted to engage a securing device such for instance as a peg or other
15 support, the said securing device will occur at the end of the loop and consequently the end portions of the cable are projected into the returned bend of the loop as an entirety. By so joining the ends of the cable
20 together a very strong splice is provided and one which may be easily opened by straightening out the end of the loop when the extremities of the side portions 1 and 2 of the cable may be readily untwisted from each
25 other. The cables of which the sections are formed are preferably made up of a series

of wires helically twisted together, although single resilient wires may be employed if desired.

Having described my invention what I 30 claim as new and desire to secure by Letters Patent is:—

A bed bottom fabric composed of wire cable formed in sections, each having a plain bend at its center and its arms formed 35 throughout their length with a series of twists alternately separated from and connected with each other, each twist comprising a bend in one direction, a bend in the other, and a third bend in the first direction, 40 the twists in each arm being disposed with their bends alternating so that they will engage the twists in the other arm where said arms are connected, and the ends of the arms having their strands twisted together. 45

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GARY B. SMITH.

Witnesses:

F. W. SMITH,
C. C. LELAND.