

W. E. FRANK & C. C. TAYLOR.

WIRE FABRIC.

APPLICATION FILED AUG. 18, 1909.

978,149.

Patented Dec. 13, 1910.

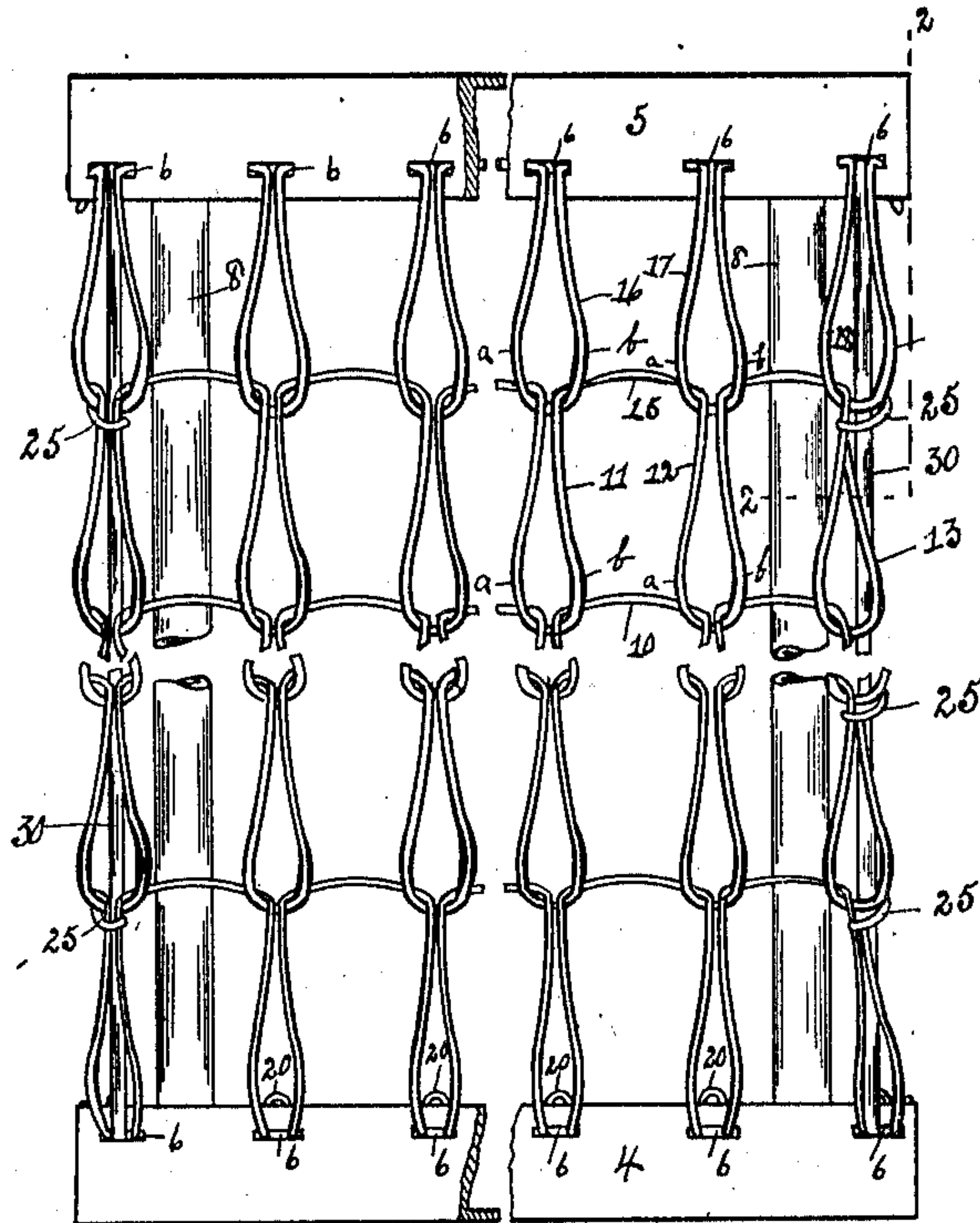


Fig. 1

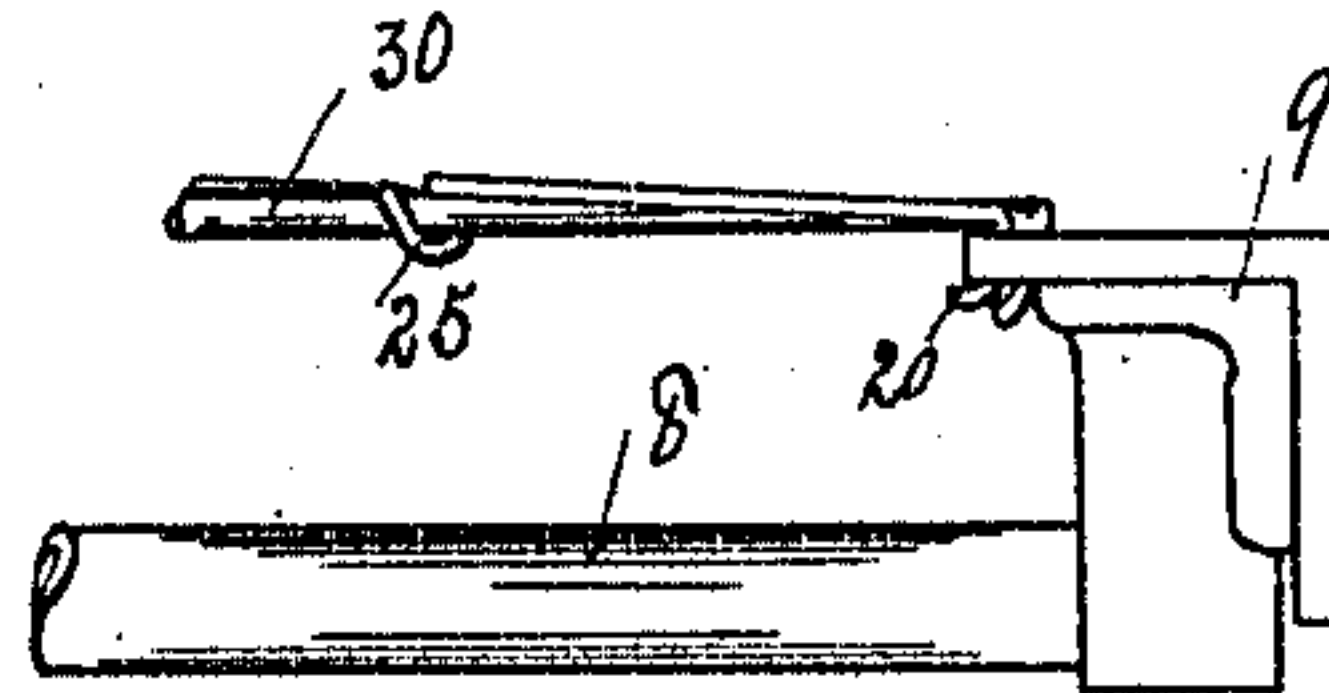


Fig. 2

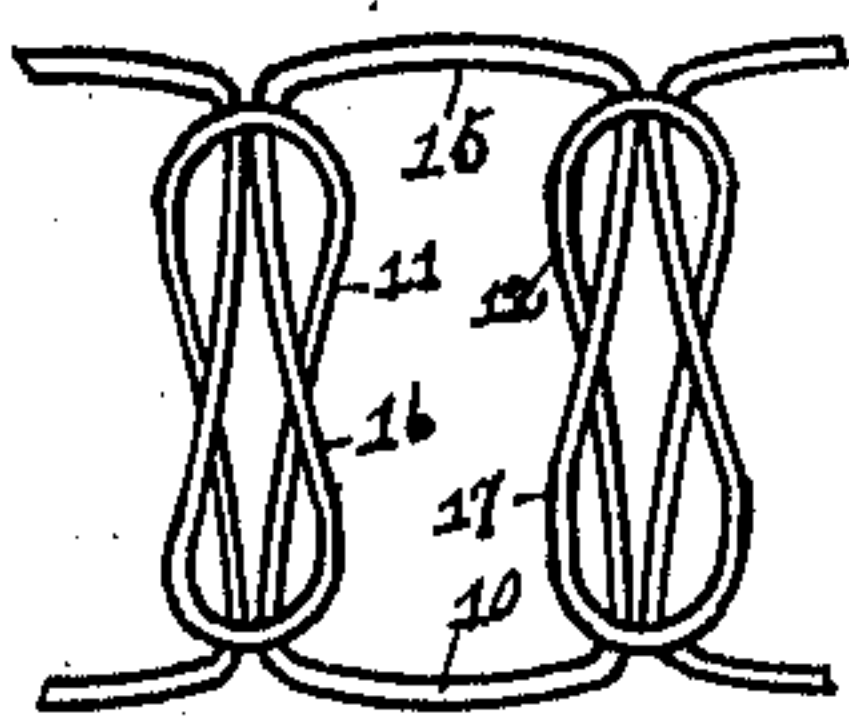


Fig. 4

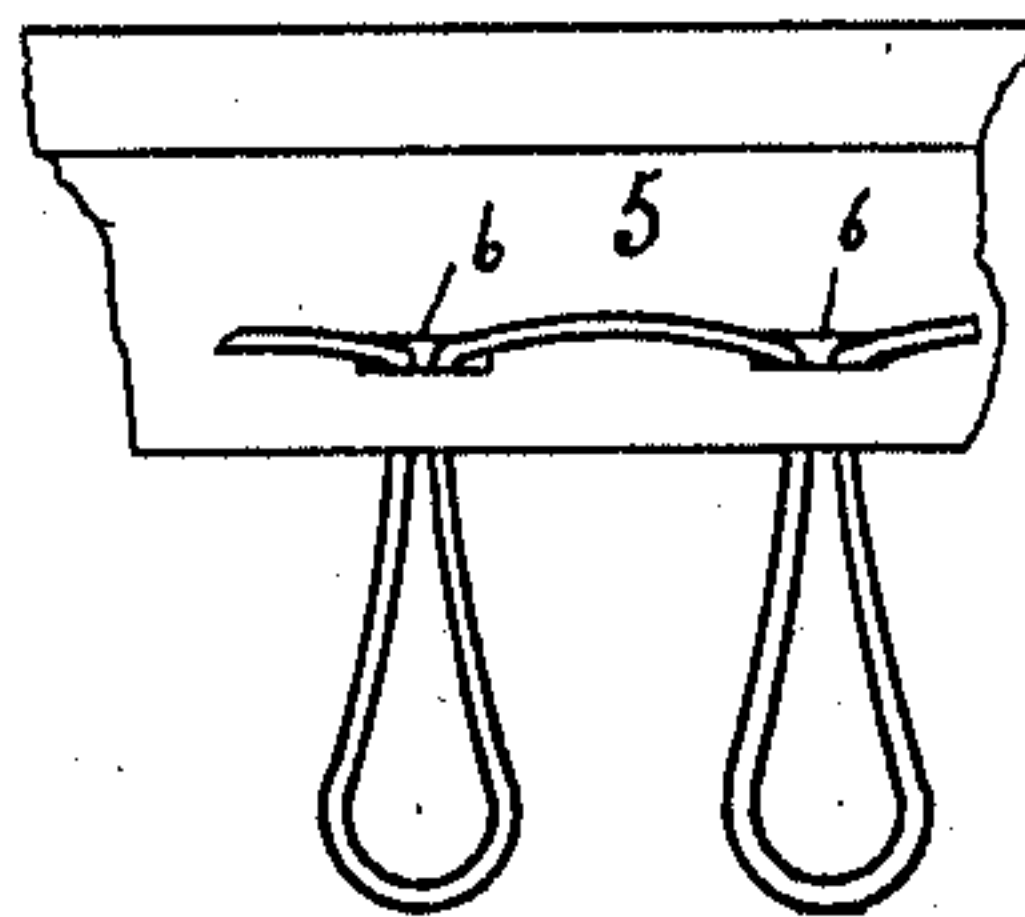


Fig. 3

WITNESSES:

L. Wilder
E. L. De George

INVENTORS

WILLIAM E. FRANK

CALVIN C. TAYLOR

BY *Risley & Love*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM E. FRANK AND CALVIN C. TAYLOR, OF ST. LOUIS, MISSOURI, ASSIGNORS TO
THE FOSTER BROTHERS MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI. A
CORPORATION.

WIRE FABRIC.

978,149.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed August 16, 1909. Serial No. 512,963.

To all whom it may concern:

Be it known that we, WILLIAM E. FRANK and CALVIN C. TAYLOR, citizens of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Wire Fabric, of which the following is a specification, reference being had therein to the accompanying drawing.

Our invention relates to an improved wire fabric, and we declare that the following is a full, clear, concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same reference being had to the accompanying drawings in which like reference characters refer to like parts throughout.

Although the invention is defined in general terms as a wire fabric, it is, perhaps more particularly adapted to use as the form of a bed mattress or mattress support in which form it is illustrated in the drawings. It will be understood, however, that it is adapted to great variety of uses and we do not intend to limit ourselves by the showing herein made.

In the drawings Figure 1 is a plan view of the device, showing it as a mattress and Fig. 2 is a side elevation on the line 2—2 of Fig. 1. Fig. 3 is a partial plan view showing the reverse side of cross bar 5; Fig. 4 shows how the fabric may be folded for compactness for shipment.

Referring to the figures in detail a portion of a mattress frame is shown in Fig. 2 having any suitable means for the support of the mattress entire or means to which it can be connected by any common device, so as to form and support the head and the foot pieces of the bed-stead. In other words the construction may be used as a mattress proper combining means for connecting the end pieces of the bed-stead, or as a mattress simply to be supported on a bed-stead. The frame of the mattress, which supports the wire fabric consists of an end piece or cross-rail 4 shown as made of angle-iron though it may have any other suitable form, and of a corresponding cross piece 5 at the opposite end. The cross-rail 4 has cuts shown a 6 in which to secure the end of the fabric which consists of loops with their smaller ends bent into hooks. A side-rail 8 is shown, in this instance as of pipe, which may be suitably mounted at each end by any

suitable means in the end rail or cross-piece. In this case a bracket 9 is secured to the cross rail, being formed with a recess or bore to receive the end of the pipe. The fabric is here shown as made of a plurality of wires of the proper gage and character, which are shown at 10 and here extend substantially parallel across the mattress frame, in either direction and spaced a suitable distance apart. At proper intervals each wire is formed with a loop, each loop being passed, in making the fabric, through the loop of the wire which has been laid immediately preceding. The wire shown at 15 has, to illustrate, been formed with a series of loops 11, 12 and 13 passed through loops 16, 17 and 18 in the wire first laid and which holds the end of the mattress in the frame. The wire 10 is then formed with like loops passing through loops 11, 12 and 13, each of the last named loops having been passed, in the making of the fabric through the loops 16, 17 and 18, respectively. A peculiar adaptability of this construction for the use here specified lies in the form given to these loops. It is to be noted that near the head of the loop the wire strands are more widely separated, as between *a* and *b*, than at the base of the loop, which meshes with the head of the loop in the adjacent wire. By this construction which in effect is a spring connection of the wires a yield is provided in the fabric, as each loop can yield laterally by spreading slightly at the head or lengthwise by the drawing of the opposite strands more closely together. Although this give is slight in each loop it is sufficient for the desired effect in the entire extent of the fabric, but is not so great but that the fabric is marked by a very desirable firmness and endurance under weight thereon.

In connecting the fabric to the end piece or cross bar 5, the wire, being one piece from side to side, has one end hooked into a bore in the cross piece 5 and looped as described with the loops passed through like bores 6, disposed along the cross piece 5, until the opposite side of the spring or frame is reached where its other terminal is likewise hooked securely. At the opposite end of the spring, at cross bar 4, the loops next to the cross piece are secured to it by the end of the loop being passed through openings 6 and bent back forming a hook as seen by 20

or in place of these connecting loops a series of small helical springs may be used.

At the edge of the fabric and along the edge of the mattress is a rod 30, hooked at each end in the corresponding cut 6 in each cross-piece. One purpose of this rod is to give stiffness to the edge of the fabric, in this case at the edge of the bed, and prevent undue stretching of the fabric, which does not there have the same resistance as at other points because the cross-wires have not the tension or hold of any outward adjacent loop formation. The end of the loop wire, as 25, after coming from its connected loop is bent upward and backward over the strands of its loop and the rod 30.

It will be noted that this construction has greater resistance against buckling from edge to edge. Although there is some yield, by so much as the strands are separated at the foot of the loop, it is only by torsional strain that the fabric can buckle since that is possible only by the twist of the wire in the loop. The fabric can also be readily folded for shipping as seen in Fig. 4 where

one wire has been turned so that its loops lie in the opposite direction.

Having described our invention, what we claim as new and desire to secure by Letters Patent, is:—

In a bed mattress of the character described, the combination of end pieces held apart by side rails, said end pieces having a plurality of holes adapted to hold a wire fabric composed of strands of wire by hooking one end of said wire into one of said cross bars and passing it therealong with a loop passed through each of said holes and having the loops of a remote strand of said wire passed through the holes of the other end piece and bent back to form hooks, in the manner substantially as described.

In testimony whereof we have affixed our signatures in presence of two witnesses.

WILLIAM E. FRANK.
CALVIN C. TAYLOR.

Witnesses:

ADDIE M. CLECKLER,
GEORGE E. PRINGLE.