F. W. KINNEY.

BED BOTTOM FABRIC.

APPLICATION FILED DEC. 3. 1908.

914,958.

Patented Mar. 9, 1909.

Fig. 1.

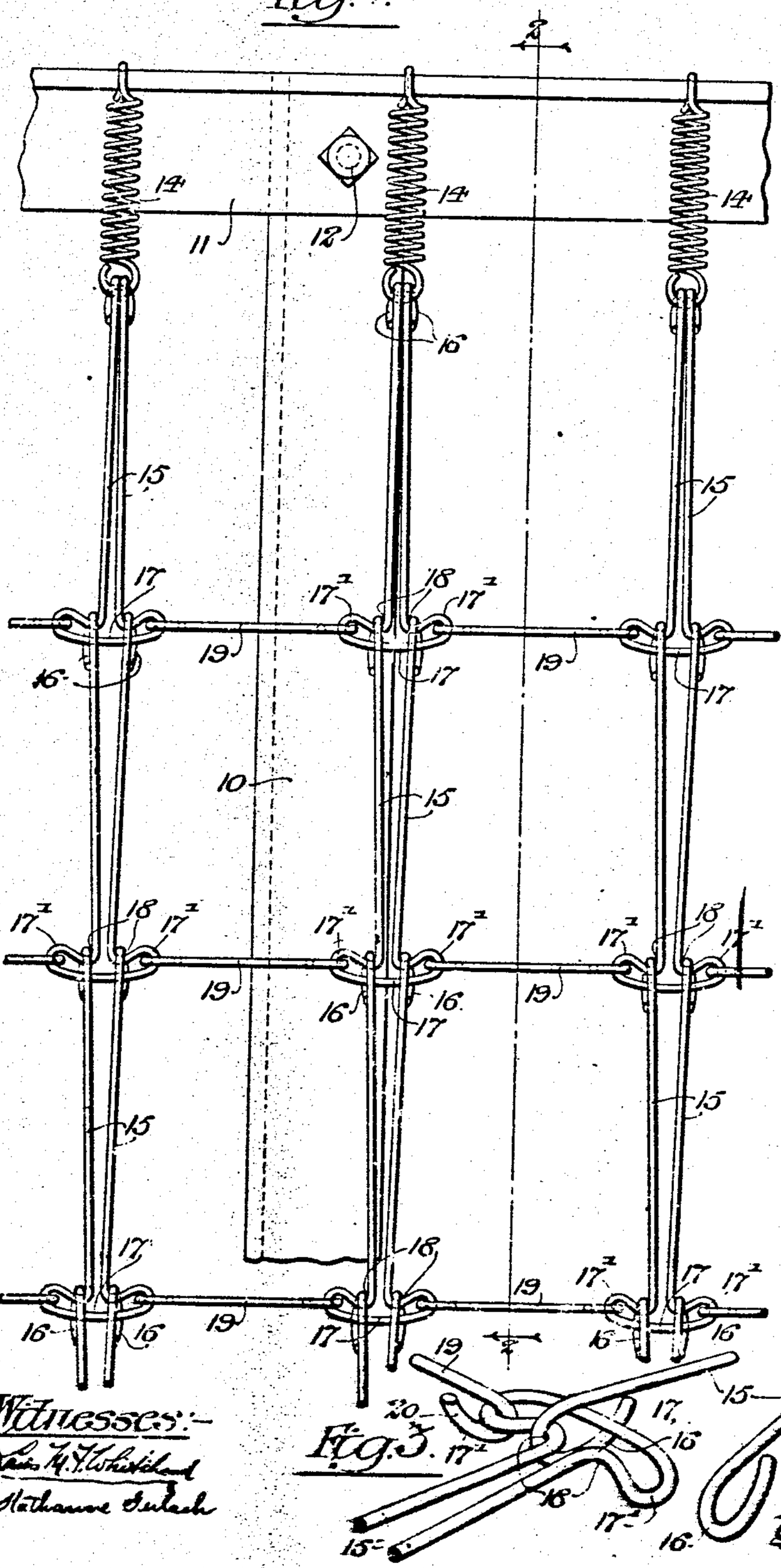
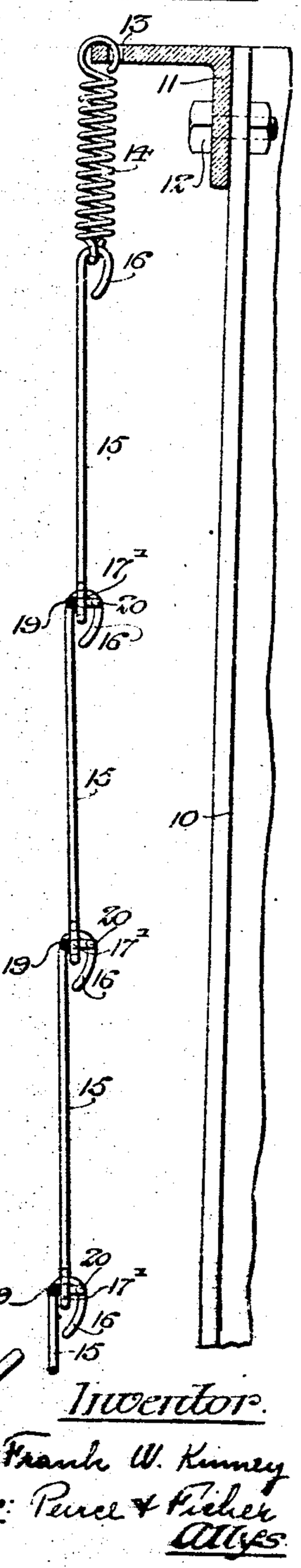


Fig. 2.



Witnesses:-

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Fig. 3.

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BED-BOTTOM FABRIC.

No. 914,958. Specification of Letters Patent. Patented March 9, 1909.

Application filed December 3, 1908. Serial No. 465,877.

To all whom it may concern:

Be it known that I, FRANK W. KINNEY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bed-Bottom Fabrics, of which the following is a specification.

The invention relates to wire fabrics for the bottoms of beds, couches and the like, and more particularly to that type of fabric comprising longitudinal strands that are formed of bent wire links or units connected end to end, the separate longitudinal strands of the fabric being connected by cross links which assist in supporting the mattress upon the bed bottom and also hold the longitudinal strands, which take the greater part of the strain, in proper parallel relation. The joints between the longitudinal and cross links are substantially hinge joints, so that the fabric is readily flexible in a direction transverse to its own plane, and so also that the fabric may be employed in folding couches and the like.

The present invention seeks to provide a flexible and foldable fabric of this sort, with which the longitudinal and cross links are securely held in position against displacement, in which the connections between the longitudinal links will properly distribute and resist the tension strains upon the longitudinal strands and which connections are of such construction as to permit the ready assembling of the links, preferably by the machine in which they are formed.

A further object of the invention is to provide a connection between the longitudinal links and between the longitudinal and cross links of such a nature that, while the links may be readily assembled, the engagement of the cross links with the longitudinal links will prevent the disengagement of the longitudinal links and the connections between the latter will hold the cross links against displacement.

The invention consists in the features of improvement hereinafter set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a portion of the improved fabric. Fig. 2 is a longitudinal section on line 2—2 of Fig. 1. Fig. 3 is an enlarged detail view of one of the joints between the longitudinal links and between the latter and the cross links.

The frame of the bed-bottom may be of usual form. In the drawings, one of the end bars 11 and one of the longitudinal bars 10 of the frame are shown. These bars are preferably angle-irons, as indicated, and are suitably connected by bolts 12. The upstanding flange of the end bar 11 is, as usual, provided with a series of openings 13 which receive the outer ends of the helical springs 14. The longitudinal strands of the fabric are connected to the inner ends of these helical springs, each longitudinal strand extending from a spring connected to one end of the bed-bottom frame to a spring connected to the other end.

It will be understood, however, that other means may be employed for mounting the improved fabric in the bed bottom frame.

The improved fabric is made up of a number of parallel, longitudinal strands, each of which is formed of a number of similar links connected end to end, together with the cross links which flexibly unite the adjacent strands. Each of the longitudinal links is made from a single length of wire that is doubled or bent centrally to form two substantially parallel, straight tension members 15 which are bent at their ends to form terminal eyes 16 at the open end of the link. These eyes are preferably down-turned and arranged in a plane substantially at right angles to the plane of the fabric. The central portion of the length of wire from which the link is made, is bent to form an anchor-shaped head or eye 17 at the closed end of the link. All portions of the anchor-shaped head or eye, including the laterally projecting anchor arms 17′, preferably lie in the same horizontal plane and in the same plane with the two tension members 15 of the link. The double wire anchor-arms 17′ at the closed end of each link are arranged to project laterally through the terminal eyes at the open end of the next adjacent link, the terminal eyes being sufficiently larger than the anchor-arms to form a flexible hinge joint between the connected longitudinal links. The adjacent portions of the anchor-arms 17′ and of the tension members 15 are shaped to form V-shaped seats 18 for the terminal eyes 16 of the next link, said seats being closely adjacent the tension members 15, so that the two tension members of each link will be substantially in line with the tension members of the other links in the same longitudinal strand. The longitudinal strands are

made up by simply spreading the open ends of each link apart, as shown in Fig. 3, and projecting the anchor-arms of the next adjacent link through the terminal eyes 16. The helical spring 14 at one end of each longitudinal strand is engaged with the two terminal eyes of one end link and the helical spring at the other end of the longitudinal strand is engaged with the V-shaped seats 18 of the opposite end link, so that the strains upon each longitudinal strand are properly distributed to both tension members 15 of the several longitudinal links.

The cross links 19, which flexibly connect the longitudinal strands, are arranged at right angles thereto and engage the projecting anchor-arms 17′ of the longitudinal links. These cross links are provided with bent end portions 20 which are hooked into the outer ends of the anchor arms. The separate longitudinal strands of the fabric are first made up and are then connected by the cross links 19, the hooks 20 thereof extending through the anchor arms 17′ outside of the terminal eyes 16. The peculiar manner of connecting the longitudinal and cross links prevents the displacement of the separate members of the fabric, since the bent end portions or hooks 20 of the cross links are of sufficient size to prevent the disengagement of the terminal eyes 16 from the anchor arms 17′. At the same time, the terminal eyes through which the anchor-arms project, prevent the displacement of the cross-links 19. Moreover, since both terminal eyes of each longitudinal link project over the double wires of the anchor arms of the next adjacent link, a very strong, though flexible, joint is formed between the separate links of the longitudinal strands which bear the greater amount of strain imposed upon the fabric. By reason of the fact that it is not necessary to open the terminal eyes in order to connect up the longitudinal links, these strands can be readily and cheaply manufactured, since it is possible to bend them to form and connect them up in a single machine.

I claim as my invention:—

1. A bed-bottom fabric comprising a number of longitudinal, parallel strands formed of bent wire links, each of said links consisting of a doubled wire having terminal eyes at the open end of the link and anchor arms at the closed end thereof that project laterally through the terminal eyes of the next link, and cross-links engaging the projecting anchor arms of laterally adjacent strands, substantially as described.

2. A bed-bottom fabric comprising a number of longitudinal, parallel strands formed of bent wire links, each of said links consisting of a doubled wire having terminal eyes at the open end of the link and anchor arms at the closed end thereof, the double wires of which arms project laterally through the terminal eyes of the next link, and cross links having bent end portions hooked into the projecting arms of laterally adjacent strands, substantially as described.

3. A bed-bottom fabric comprising a number of longitudinal, parallel strands formed of bent wire links connected end to end, each of said links consisting of a wire doubled to form substantially straight, parallel tension members with terminal eyes at the open end of the link and an anchor-shaped head or eye at the closed end thereof, the double-wire arms of the anchor eye of each link projecting laterally through the terminal eyes of the next link, and cross links having bent end portions hooked into the projecting anchor arms of laterally adjacent strands, substantially as described.

4. A bed-bottom fabric comprising a number of longitudinal, parallel strands formed of bent wire links connected end to end, each of said links consisting of a wire doubled to form substantially straight, parallel tension members with terminal eyes at the open end of the link and an anchor-shaped head or eye at the closed end thereof, said anchor eyes or heads lying in the plane of the fabric and said terminal eyes at right angles thereto, the anchor arms of each link projecting laterally through the terminal eyes of the next link, and cross links engaging the projecting end portion of the anchor arms of laterally adjacent strands, substantially as described.

5. A bed-bottom fabric comprising longitudinal, parallel strands formed of bent wire links connected end to end, each of said links consisting of a wire doubled to form two substantially parallel, straight tension members and bent to form downturned terminal eyes at the open end of the link and an anchor-shaped head or eye at the closed end thereof, all portions of said anchor-head or eye lying in the same plane and the arms thereof projecting laterally through the terminal eyes of the next link, and cross links having bent ends hooked through the projecting end portions of the anchor arms of laterally adjacent strands, substantially as described.

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Witnesses:
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