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A diagram of a mechanical assembly, possibly a joint or a fastener. It shows a horizontal rod passing through a U-shaped bracket. The rod is labeled C_3 at both ends. The bracket has a central opening where the rod passes, and this area is labeled C_2 . The two sides of the bracket are labeled C_1 and C_4 .

A diagram of a bolted joint. A horizontal bolt passes through a vertical plate. The bolt has a central threaded section and two unthreaded sections. The central section is labeled 'd'. The unthreaded sections are labeled 'e'. The vertical plate is labeled 'e2' and 'e3'.

A diagram of a beam element. It is a horizontal line with three nodes. The left node is labeled e_3 , the middle node is labeled e , and the right node is labeled e_2 . The nodes are represented by small circles with a cross inside.

f^3 f f^2

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BED-SPRING FABRIC.

989,916.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MICHAEL R. MANGAN and FRANK B. BOSNIC, citizens, respectively, of the United States and Austria-Hungary, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bed-Spring Fabrics, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to bed or mattress springs and the object thereof is to provide a bed or mattress which consists of separate link members adapted to be detachably connected by hand whereby the assembling of the separate parts of the bed or mattress springs is facilitated, and the manufacture of the bed or mattress springs made less expensive; and with these and other objects in view the invention consists in a device of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a plan view of a bed or mattress spring made according to our invention; Fig. 2 a partial section on the line 2—2 of Fig. 1; Fig. 3 a partial section on the line 3—3 of Fig. 1; Fig. 4 a partial section on the line 4—4 of Fig. 1; Fig. 5 a perspective view of one of the link members which we employ in the manufacture of our improved bed spring or mattress; Fig. 6 a similar view of another link member, and;—Figs. 7 and 8 side views of the other link members which we employ.

In the drawing forming part of this specification we have shown at a and a^2 end bars of the bed or mattress spring, and with which, in practice, the said bed or mattress spring is connected by means of helical springs b as hereinafter described.

The central body portion of the bed or mattress spring is composed of L-shaped link members c , each consisting in the form of construction shown, of a short arm c^2 and a longer arm c^3 . The arms c^2 and c^3 of the L-shaped link members c are formed at the point of their connection into a loop, ring or eye c^4 having a neck portion c^5 ,

said loop and neck portion being in the same plane as the arms c^2 and c^3 , and the arm c^2 is provided at its free end with an open U-shaped hook c^6 , and said hook and arm are in a vertical plane, while the arm c^3 is provided at its free end with a closed oblong loop c^7 , said arm and loop being also in a vertical plane. In connecting these link members c to form the body portion of the bed or mattress spring, the loop, ring, or eye c^4 of one of the link members c is passed laterally through the closed oblong loop c^7 of the arm c^3 of another of said link members as shown at c^8 in Figs. 1 and 3, the loop member c^6 of the arm c^2 of another of said link members is connected with the loop, ring or eye c^4 as shown at c^9 in Figs. 1 and 3, and by proceeding in this manner the central body portion of the bed or mattress spring may be formed, and made of any desired length and width.

In forming one side portion of the bed or mattress spring we employ transverse link members d , one of which is shown detached in Fig. 8, and a number of which are shown in use in Fig. 1, in connection with longitudinal link members e , a number of which are shown in Fig. 1, and one of which is shown detached in Fig. 6.

The link members e are provided at one end with a ring or eye e^2 arranged in a horizontal plane and at the opposite end with a U-shaped closed loop e^3 , and the link members d are provided at both ends with U-shaped hooks d^2 , and in practice one end of the link members d is connected with the loops, rings or eyes c^4 of the link members c , as shown in Fig. 1, while the rings or eyes e^2 at one end of the link members e are passed through the closed loops e^3 at the other ends of said link members, and the link members d are connected with the rings or eyes e^2 as clearly shown at e^4 in Fig. 1.

On the opposite side of the bed or mattress spring we also employ the link members e and in this use of said link members the rings or eyes e^2 at one end thereof are passed through the closed oblong loops e^3 at the other end thereof and the short arms c^2 of the link members c are connected with the rings or eyes e^2 as clearly shown at e^5 .

At one end of the bed or mattress spring the helical springs b are connected with the longer arms c^3 of the link members c , and with the link members e as clearly shown in

Fig. 1, while at the opposite end of said bed or mattress spring we employ link members f , one of which is shown in Fig. 7, and these link members f are provided at one end with a U-shaped loop f^2 and at the opposite end with an oblong closed loop f^3 , and in practice the loops, rings or eyes c^4 are passed through the loops f^3 before the shorter arm c^2 of the link members c are connected with said loops, rings or eyes c^4 , and the helical springs b are connected with the hook members f^2 at the opposite ends of the link members f as clearly shown at f^4 in Fig. 1.

It will be seen that the use of the link members d , e and f at one side of the bed or mattress spring and the use of the link members e and f at the opposite side thereof in the manner shown and described, gives the bed or mattress spring a finished form and appearance; and it will be understood that in the manufacture of our improved bed or mattress spring the separate links d , e and f are made separately in the manner shown and described and may be quickly and easily assembled by hand without the use of any instrument or tool of any kind or class, and the helical springs b may be connected therewith in the same manner, and the entire construction and assemblage of the separate parts of our improved bed or mattress springs is thus facilitated and rendered much less expensive than when bed or mattress springs are made by the usual processes.

Having fully described our invention

what we claim as new, and desire to secure by Letters Patent, is;—

A bed or mattress spring, the body portion of which is composed of four different styles of link members, one of said link members being L-shaped in form and being provided at the corner where the arms thereof connect with a loop in the same plane as said arms, one of said arms being provided at its end with a closed loop and the other arm being provided at its end with an open hook, said loop and said hook being in planes at right angles to the first-named loop, the other three link members consisting of short rods, and one of said link members being provided at one end with a closed loop and at the other with an open hook, said loop and said hooks being in planes at right angles to each other, another of said link members being provided at one end with a closed loop and at the other with an open hook, said hook and said loop being in the same plane, and the other of said link members being provided at both ends with an open hook, said hooks being in the same plane, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of the subscribing witnesses this 17th day of June, 1910.

MICHAEL R. MANGAN.
FRANK B. BOSNIC.

Witnesses:

C. E. MULREANY,
B. M. RYERSON.