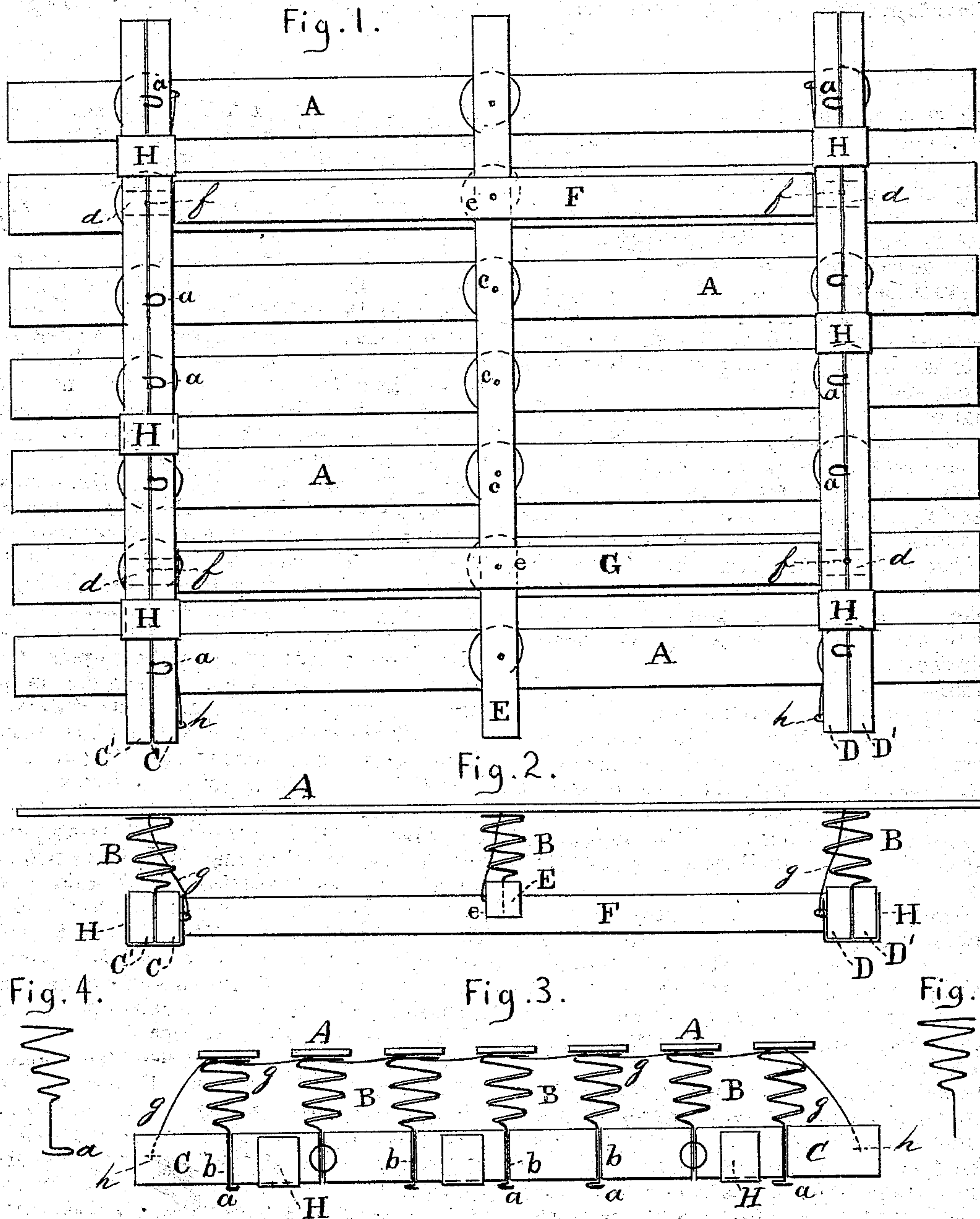


E. W. GRAFTON & L. M. GRANE.
Spring Bed-Bottoms.

No. 154,388.

Patented Aug. 25, 1874.



Witnesses:

W. a. Daniels
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UNITED STATES PATENT OFFICE.

EDWIN W. GRAFTON AND LEWIS M. GRANE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. 154,388, dated August 25, 1874; application filed May 21, 1874.

To all whom it may concern:

Be it known that we, EDWIN W. GRAFTON and LEWIS M. GRANE, of the city of Chicago, county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring Bed-Bottoms; and we do hereby declare that the following is a clear and exact description of our invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the drawing forming part of this specification, and in which—

Figure 1 is a bottom plan of a spring bed-bottom having our improvement. Fig. 2 is a side elevation of the same. Fig. 3 is an end elevation with the detachable half of one of the spring-holding cross-bars removed to show the method of securing the springs, as hereinafter more fully described. Fig. 4 is a side view of one of the forms of springs which we employ in our invention; and Fig. 5 is a side view of another form of spring also used in our invention.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention consists in the peculiar construction and arrangement of the frame carrying the slats to which the springs are affixed; and also, in combination with said frame, of the peculiar conformation of the springs, all substantially as we shall now proceed to explain.

A denotes the slats, which may be of any suitable length and width, and varied in number. B is the springs, which are secured to the under side of the slats in the usual manner. We prefer to use three springs on each slat, but a greater or smaller number may be used without deviating from the spirit of our invention. Some of the springs terminate in a straight projection or staple bent at its lower end into a U shape, and curved at right angles to the staple, as shown at Fig. 4. On some of the springs, however, as seen in Fig. 3, this double curvature is omitted, and the spring terminates simply in a straight staple or prolongation of the spring-wire. A spring so constructed is shown detached in Fig. 5.

The frame of our improved spring bed-bottom consists of three cross-bars, C, D, and E, united by the connecting-bars F and G, which

latter run parallel to the slats, crossing E at right angles. At the points of crossing, *e*, the bar E, and also the longitudinal bars F and G, are recessed or mortised so as to fit and clamp each other and prevent lateral or longitudinal motion. The end bars C and D consist each of two separate pieces, C C' and D D', as shown in the drawing. These are kept together by the tenons *d* of the bars F and G passing through corresponding mortises in C C' and D D', and also by the clamps H, which straddle both pieces of each end cross-bar and secure them to each other, as shown. In Fig. 3 the piece C' has been removed, showing the other half, C, and the staples *b* of the springs B, which are laid bare by the removal of the piece C'. Each of the four pieces constituting the end bars C and D is recessed vertically on the inside to afford room for the staples *b* of the springs B, as shown in Fig. 3; and it will readily be perceived that when in their position, as shown in the bottom plan, Fig. 1, the two pieces clamp the staples of the springs, while the U-shaped angular projections *a* come below the bars, where they serve to retain the staples and prevent the springs from being drawn out of the recesses in the bars C D or working loose therefrom. *c c c* denote a series of perforations in the central cross-bar E, for the insertion of the staples of the middle row of springs, which are not provided with the projection *a*. Similarly the four end springs at *f*, Fig. 1, are left without this projection, so that they may be inserted through the recesses made for their accommodation in C and D into and through corresponding holes which perforate the tenons *d* of the beams F and G vertically.

By this arrangement, when the frame is made up, and the pieces C C' and D D' are brought together and properly clamped, all the projecting staples of the springs will be in position and accordingly be prevented from moving in any direction laterally, while such of the springs as are provided with the curved catch *a* are also prevented from moving up or down. These latter are sufficient in number and are so distributed (as will be seen by reference to Fig. 1) that they will keep the entire series of slats immovably in their position on the frame, with no possibility of working

loose or getting out of order. *g* represents cords, which are stretched across the slats on their under side and run through each row of springs parallel with and directly above the cross-bars C, D, and E. Each slat is permanently secured to each of these three cords, which serve to keep them an equal distance apart, besides serving to equalize and distribute the pressure on the top of the slats. The ends of these cords are secured to hooks or staples in the ends of the cross-bars, as seen in Fig. 3.

To take our improved spring bed-bottom apart for shipping or cleansing, the cords *g* are first emptied from the staples *h*, where they run from the slats down to the frame; the clamps H are next removed; the pieces C' and D' are then removed, and the remainder of the frame may be easily lifted off from and drawn out under the springs. The slats may then be rolled up in a bundle, while the pieces composing the frame are taken apart and laid together longitudinally, when the whole may be boxed or tied up together, so that it will

occupy but very little room. In putting up the spring bed-bottom this operation is simply reversed.

Instead of the clamps H, screws or equivalent devices may be used for keeping the pieces composing the end bars together.

Having thus described our invention, we claim and desire to secure by Letters Patent—

In a spring bed-bottom, substantially as described, the combination of the springs having the projecting necks and catches with the divided clamping-bars, substantially in the manner and for the purpose set forth.

In testimony that we claim the foregoing, we have hereunto set our hands this 16th day of March, 1874, in the presence of two subscribing witnesses.

EDWIN WESLEY GRAFTON.
LEWIS M. GRANE.

Witnesses:

GEO. I. HOFFMANN,
WM. BAGGER.