(No Model.)

H. A. DALRYMPLE.

Spring Bed Bottom.

No. 238,490. **Patented March 8, 1881.**

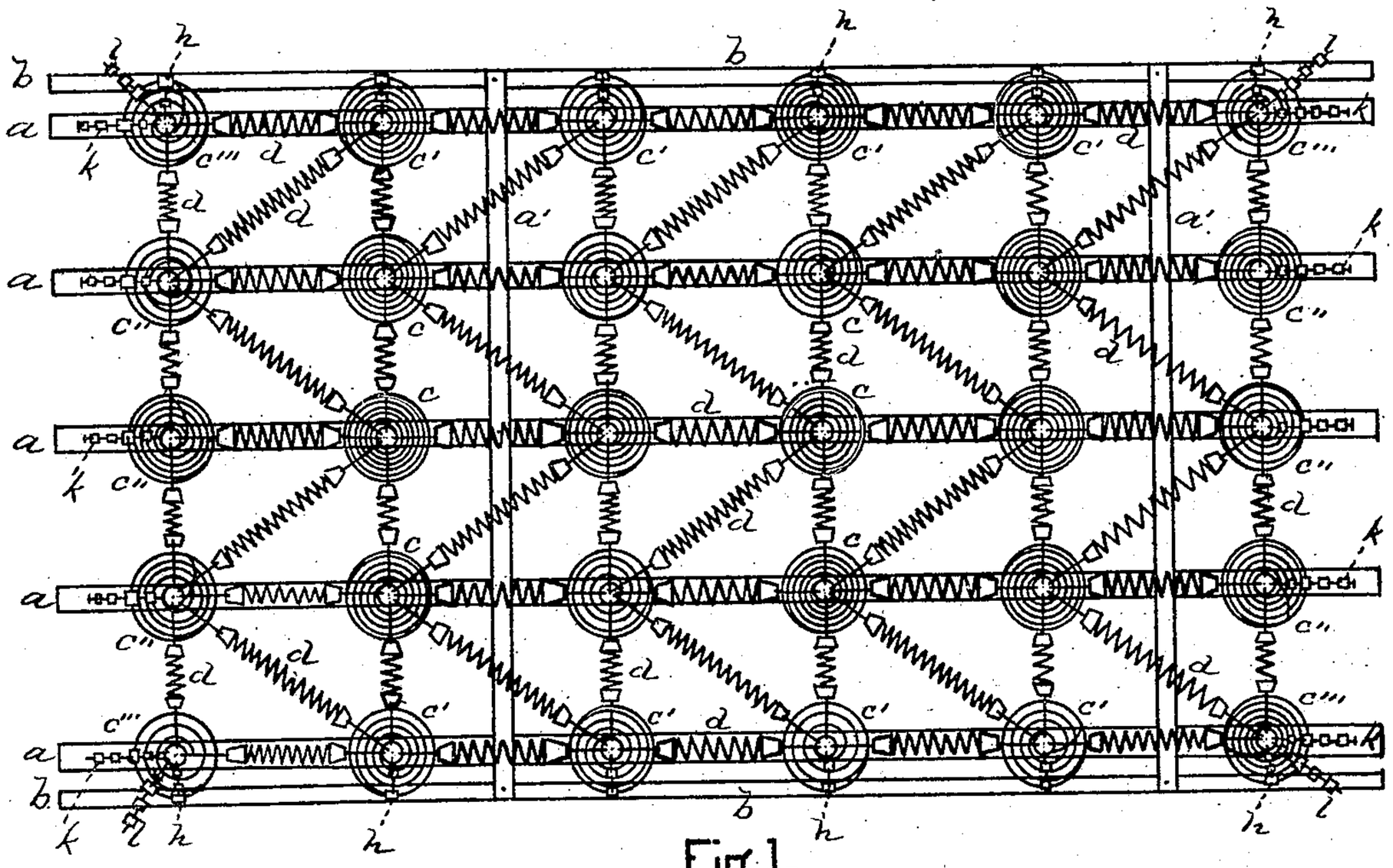

Fig. 1.

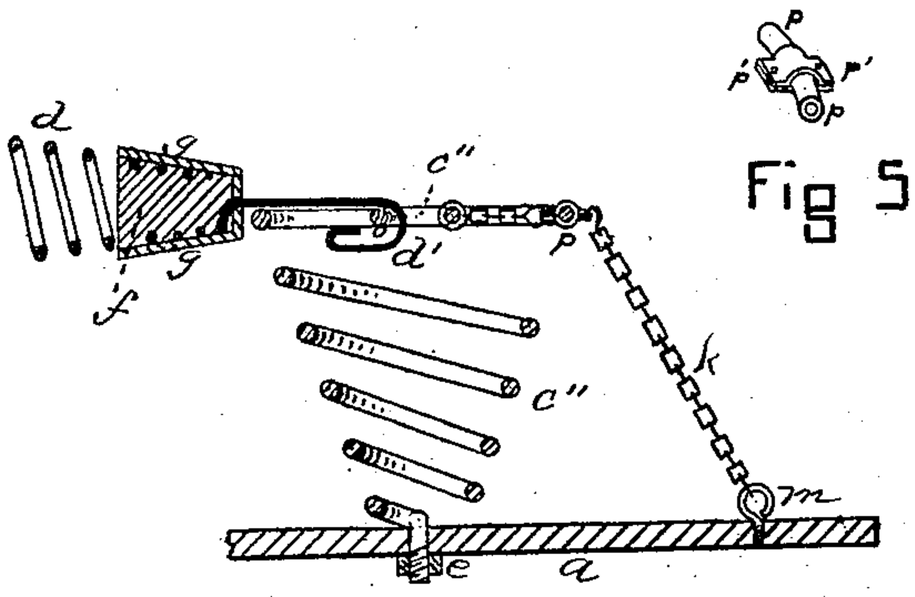

Fig. 2.

Fig 5

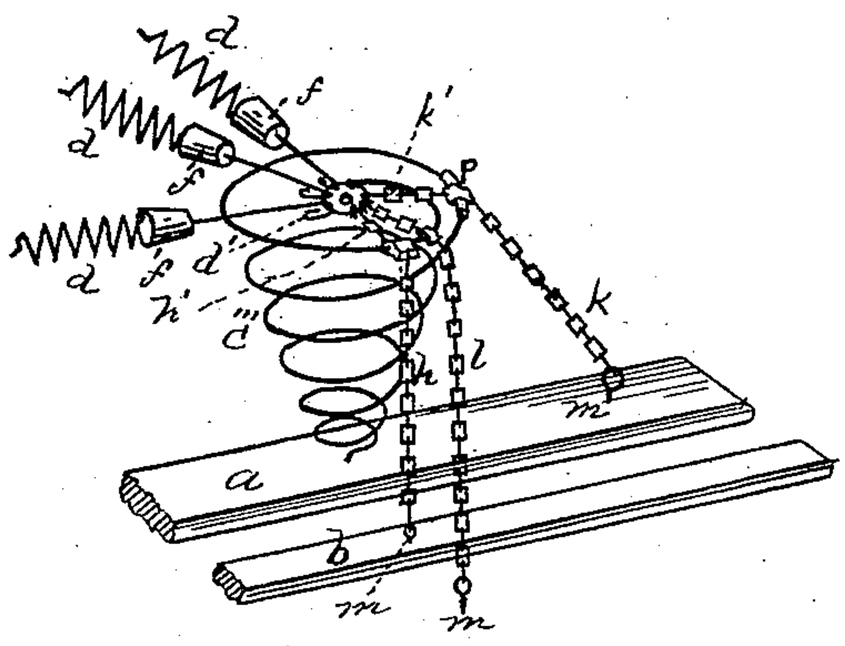

Fig. 3.

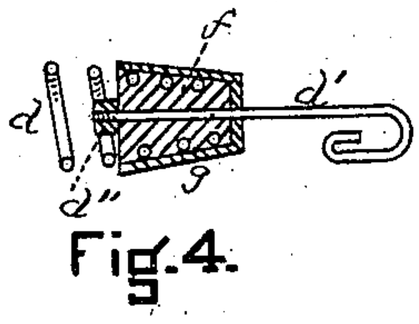

Fig. 4.

WITNESSES

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HARTWELL A. DALRYMPLE, OF GARDNER, MASSACHUSETTS.

SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 238,490, dated March 8, 1881.

Application filed December 1, 1880. (No model.)

To all whom it may concern:

Be it known that I, HARTWELL A. DALRYMPLE, of Gardner, in the county of Worcester and State of Massachusetts, have invented a new and Improved Spring Bed-Bottom, of which the following is a specification.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan view of my improved bed-bottom. Fig. 2 is a longitudinal vertical section of one of the end springs enlarged. Fig. 3 is an enlarged perspective view of one of the corner springs.

a a are the main slats, usually five in number; *a' a'*, the cross-slats; and *b b* are two supplementary or outside slats.

c c' c'' c''' are thirty helical springs, six being attached to each slat by means of nuts *e* on the under side of the slats. (See Fig. 2.) The side springs, *c'*, end springs, *c''*, corner springs, *c'''*, and inner springs, *c*, are all connected longitudinally, transversely, and diagonally by tensely-drawn spiral springs *d*. Each horizontal spring *d* is provided at its ends with cone-shaped blocks *f*, (see Fig. 2,) around which it is wound, grooves being provided, so that the wire lies flush with the surface of the cones. After being wound around the cones *f* the ends terminate in hooks *d'*, which catch over a coil of the spring *c*, which lies in the center of the top or longest coil for the purpose. Each helical spring terminates at the top with a smaller inner coil, in which the hooked ends of the horizontal spiral springs *d* catch. A cover or wrapper, *g*, is bound around each cone and prevents the wire from uncoiling.

In Fig. 4 a sectional view is shown of a modification in which the wire forming the spring *d* is not continuous to the end of the hook *d'*, but the hook is of a separate piece of wire and pierces the cone, being secured thereto by a nut, *d''*, on the rear side. In either case the spring is firmly held, and is also readily removable in case the bed-bottom is to be taken apart for transportation.

In order to prevent the helical springs from being drawn inward and to keep the horizontal springs tense, vertical chains *h* are provided, which extend from screw-eyes *m*, (see Fig. 3,) secured to the outer slats, *b b*, up to the wing *p'*, extending from the curved tube *p* upon the upper coil of the helical spring. From the opposite wing *p'* a connecting-chain, *h'*, passes from the upper outer coil to the small inner coil, *o*. The object of providing this tube *p*, having wings *p' p'*, an enlarged view of which is shown in Fig. 5, is to prevent the chain from bending or twisting out of shape the upper coils of the helical springs, as it would be liable to do if the chain passed over them without the protection of the tube. Chains *k* also extend from the main slats *a a* at an angle to tubes *p* upon the outer coils and chains *k'* thence to the inner coils, *o*. Thus the bed-bottom is kept firm. Each corner spring is also provided with a loose chain, *l*, which may be secured to the bedstead.

The outer slats, *b b*, may be free, if desired, to be attached to the bedstead, thus drawing the chains outward, giving them the same slant as the end chains, *k*.

Of course the number of slats, springs, &c., may be varied as desired.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the springs *c c' c'' c'''*, secured to the slats *a a*, the horizontal spiral springs *d d*, connecting said springs *c c' c'' c'''* longitudinally, transversely, and diagonally, said diagonal springs being parallel with each other and at an angle of forty-five degrees, and hooking into small central coils at their upper ends, substantially as and for the purpose described.

2. The combination of the horizontal springs *d*, helical springs *c c' c'' c'''*, secured to the slats *a a*, and the chains *h k*, secured to said helical springs and connecting them with the slats *a* and *b*, substantially as and for the purpose set forth.

3. In combination with the springs *c*, the horizontal springs *d*, provided with the grooved covered cones *f* and hooks *d'*, substantially as and for the purpose specified.

4. The combination, with the springs *c c' c'' c'''*, secured to the slats *a a*, and the horizontal springs *d*, of the chains *h k*, connecting the springs *c' c'' c'''* with the slats *a b*, and the loose chains *l*, for attaching the bed-bottom to the bedstead, substantially as and for the purpose described.

HARTWELL A. DALRYMPLE.

Witnesses:

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