L. HULL.

FURNITURE-SPRING.

No. 173,471 Patented Feb. 15, 1876.

Fig. 1.

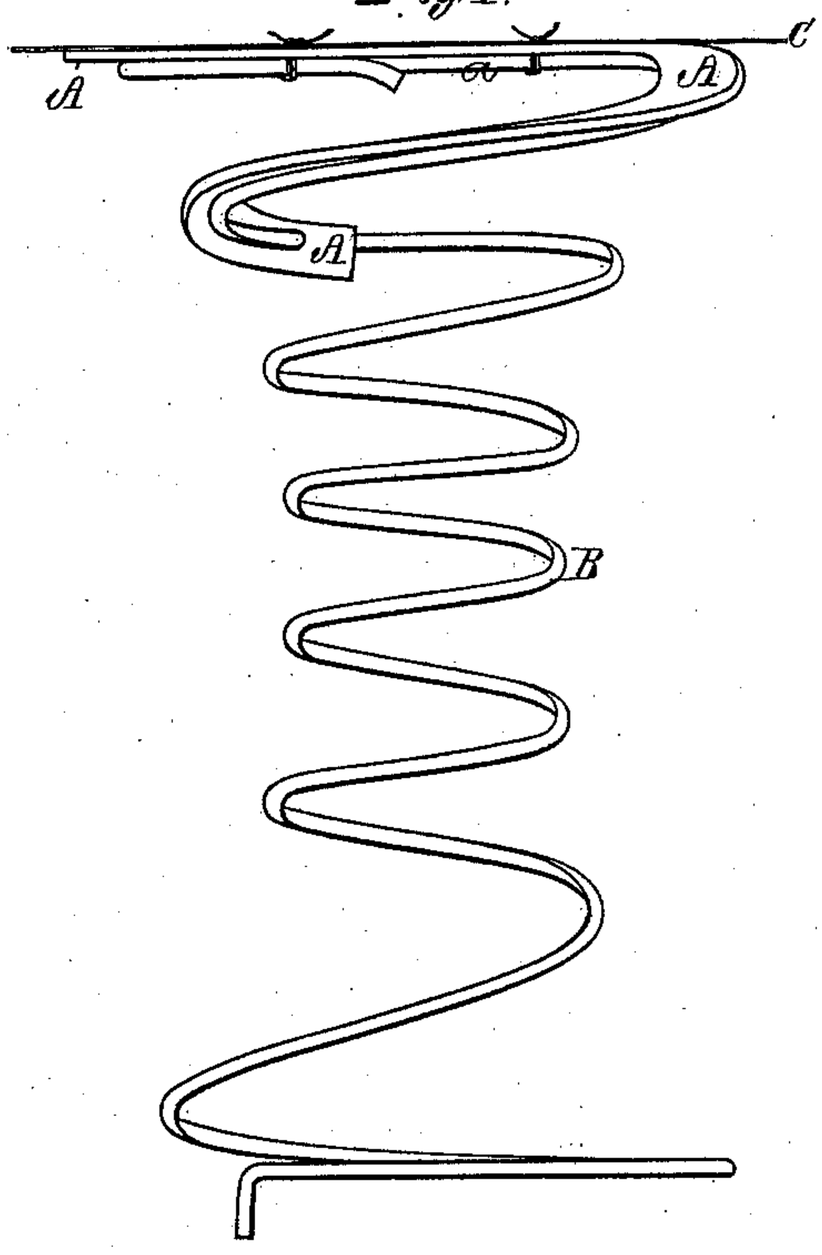


Fig. 2.

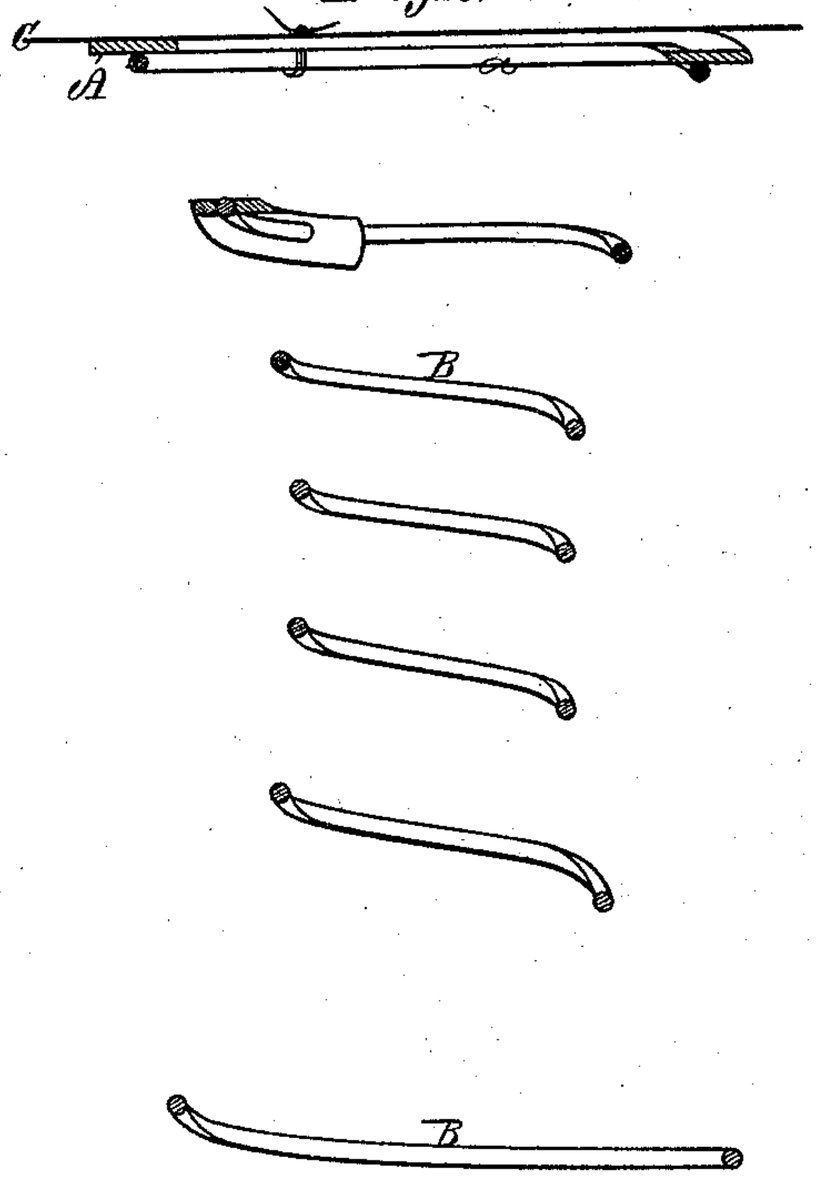
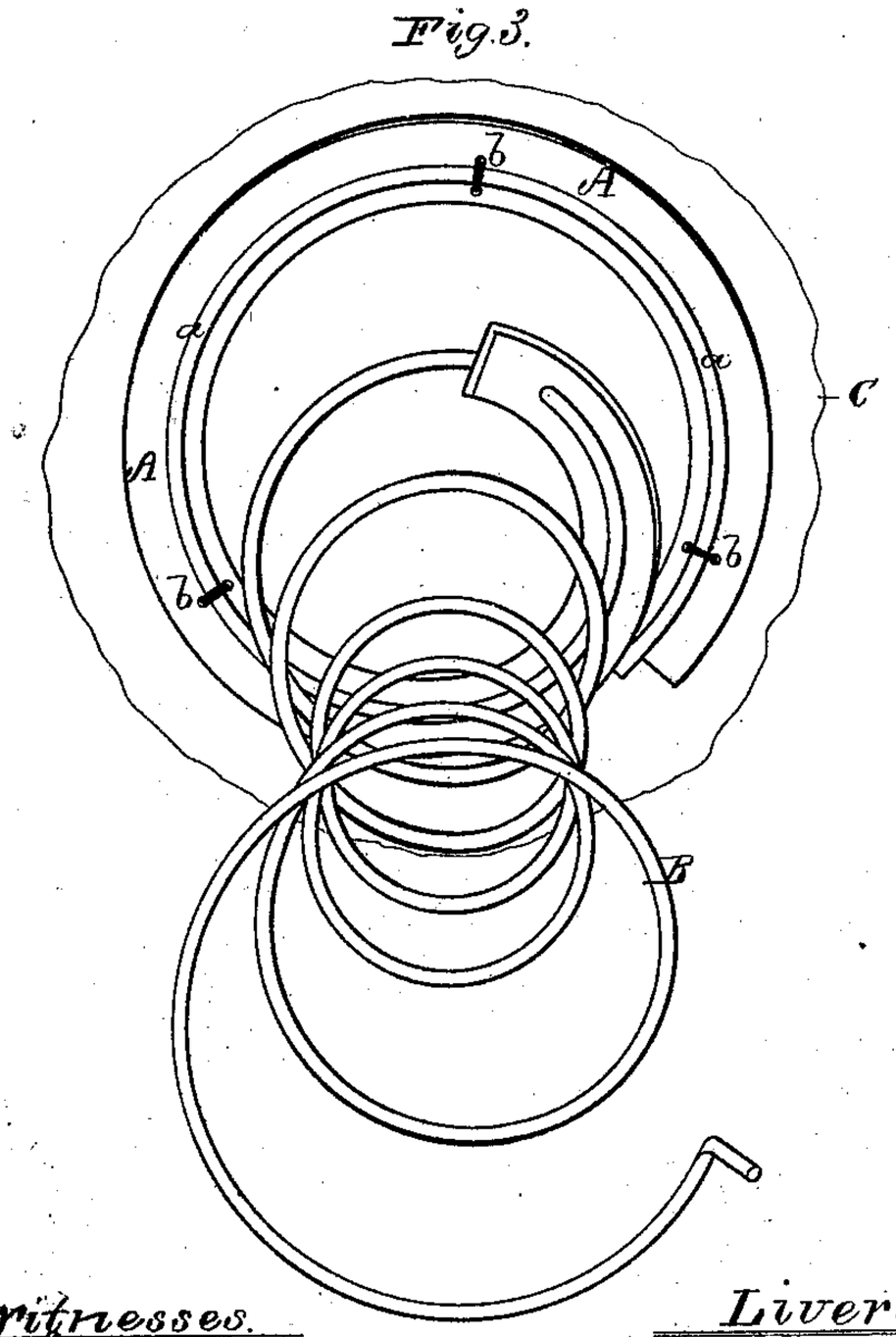


Fig. 4.

Fig. 3.



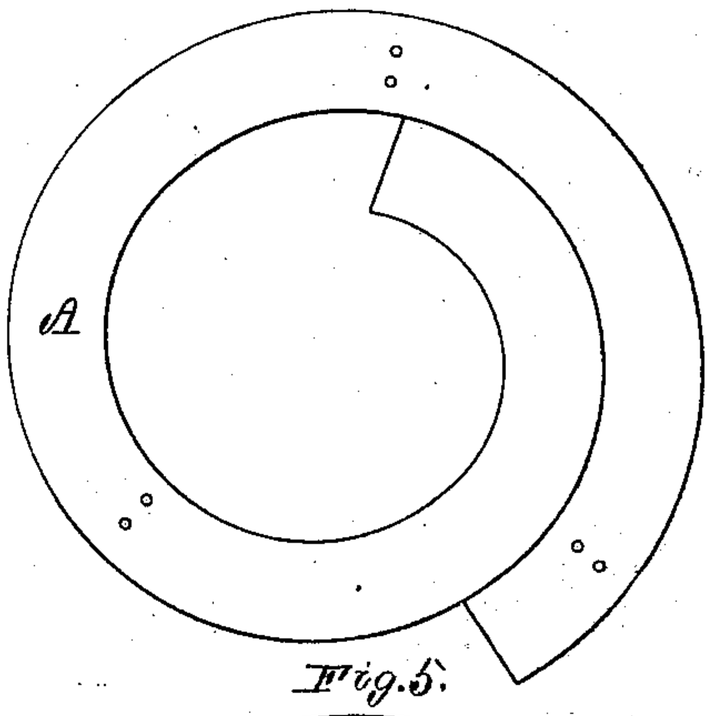
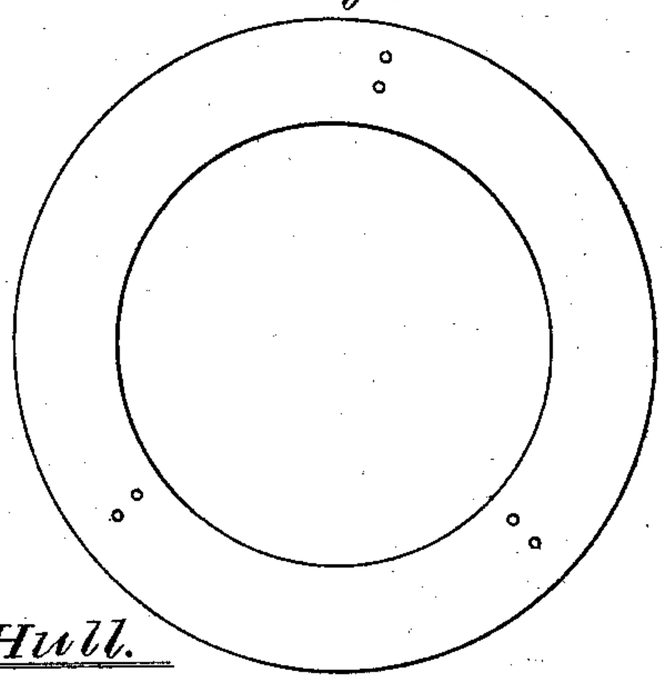


Fig. 5.



Witnesses.
S. W. Pipes.
L. W. Mollead

Liverus Hull.
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

LIVERUS HULL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FURNITURE-SPRINGS.

Specification forming part of Letters Patent No. **173,471**, dated February 15, 1876; application filed October 28, 1875.

To all whom it may concern:

Be it known that I, LIVERUS HULL, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in or having reference to Bed or Furniture Springs; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, and Fig. 2 a vertical section, of a duplex conical furniture-spring applied to a cloth or canvas sacking in accordance with my invention. Fig. 3 is a perspective view of such, showing the spiral and open cloth-guard disposed between the sacking and upper base-coil of the spring. Fig. 4 is a top view of such guard, which I usually make of leather or leather-board, or some other suitable material.

This guard, as represented in the drawings, consists of a flat spiral, A, arranged between the upper base-coil *a* of the spring B and the canvas sacking C, and secured thereto by staples or twine *b*, looped around the coil, and extended through the spiral and sacking, and tied on the latter. The wire of the spring goes through the spiral near its inner end, by which the spiral, near the said end, becomes connected to the wire. In the place of the spiral I sometimes use a flat ring, as shown in top view in Fig. 5; but the spiral is to be preferred in some respects. By using either the ring or spiral guard to prevent the wire spring from abrading or wearing the sacking, I have an opening within the guard where the sacking is unsupported. This renders the sacking softer and easier to a person than it would be with an entire disk interposed between the sacking and the upper coil of the spring. By connecting the coil directly with the sacking and the guard by the ties *b b*, &c., as and arranged as described, I am able to avoid the use and expense of a metallic cross, or a series of arms, and a rivet for effecting the connection.

I do not claim a rivet, a cap or disk, and connecting-straps, or a metallic cross, arranged and combined together, and with a canvas or cloth cover, all as shown in the United States Patent No. 164,189, as, in carrying out my invention, I entirely dispense, as hereinbefore stated, with such connecting-straps or cross and its rivet. In so doing I am enabled to avoid all danger of tearing away of the cloth by and its disconnection from the rivet, the connections, in my case, being by ties going around the base-coil and directly through both the guard and the canvas or cover. Nor do I claim the base-coil of a spring, connected with two crossed metallic strips by wire staples going through the strips and coil, all being in manner as represented in the United States Patent No. 71,014, for I employ a canvas cover or sacking and a flexile guard therefor, and connect both and the spring by ties or loops going through both guard and cover, and about the base-coil, whereby all are connected within or directly over the space encompassed by the coil, without having any metallic crossed bars to affect the flexibility of the canvas; therefore,

I claim—

The open guard A, as described, combined and arranged with the spring B and cover or canvas C, and connected therewith, as specified.

LIVERUS HULL.

Witnesses:
R. H. EDDY,
J. R. SNOW.