A. S. FELCH.
Spring-Bed Bottom.

No. 207,959. Patented Sept. 10, 1878.

Fig. 1.

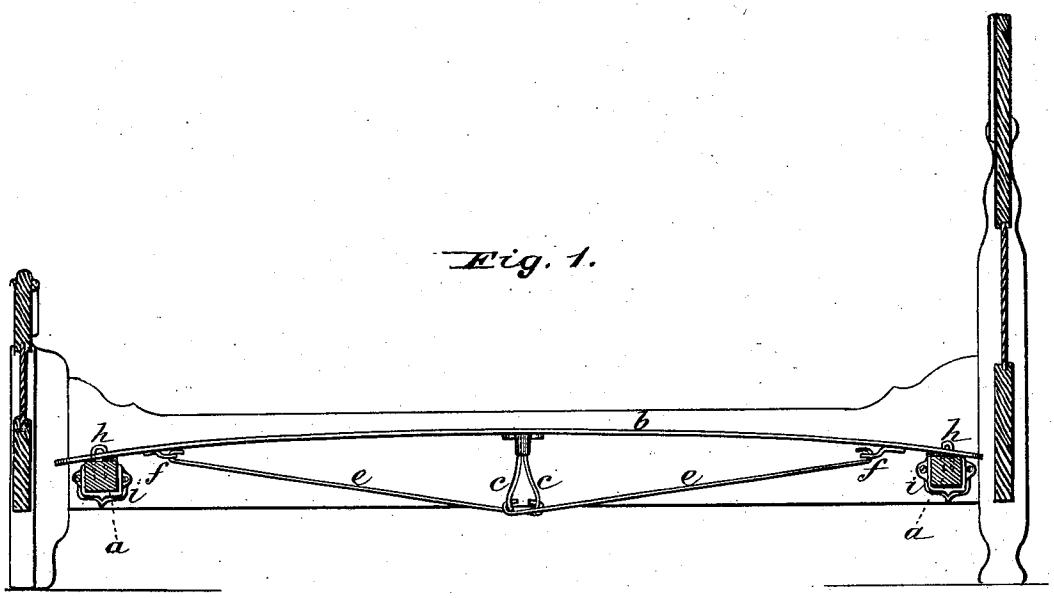


Fig. 2.

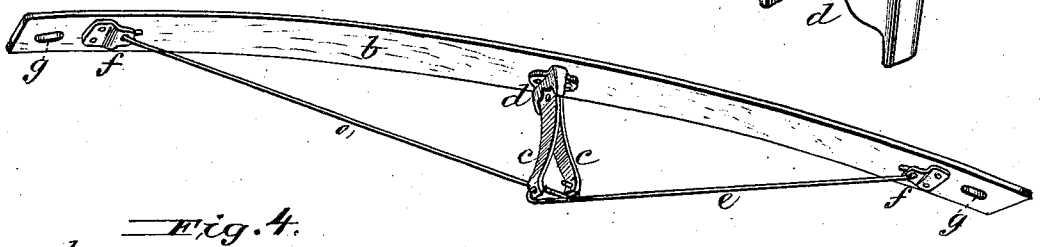


Fig. 5.

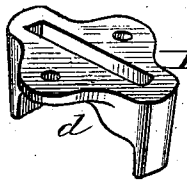


Fig. 4.

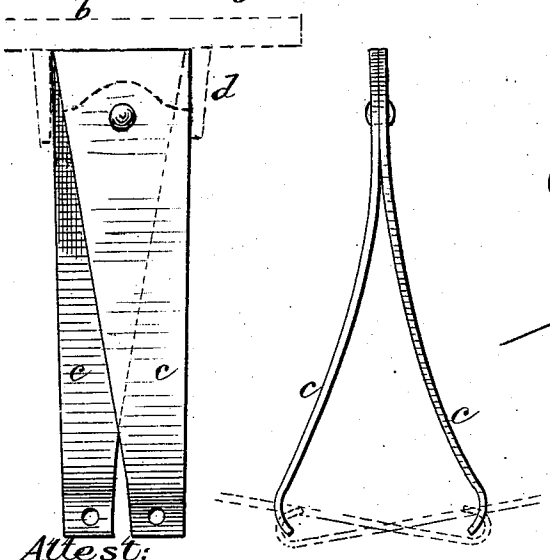
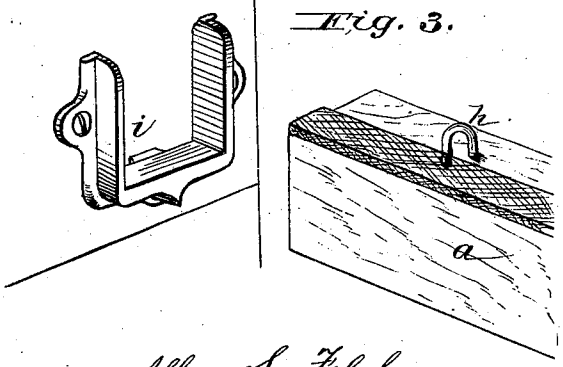


Fig. 3.



Attest:
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UNITED STATES PATENT OFFICE.

ALLEN S. FELCH, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO ANDREW GREENER, OF SAME PLACE.

IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. **207,959**, dated September 10, 1878; application filed August 1, 1878.

To all whom it may concern:

Be it known that I, ALLEN S. FELCH, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Spring Bed-Bottoms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In my improved bed-bottom I use the cambered slats in connection with springs of peculiar construction and adaptation for maintaining the camber or curved form of the slats and giving them the desired elasticity, while said springs act, by brace-connections, as a positive truss when subjected to undue weight.

In the formation of the spring two oppositely-staggered leaves are riveted together so that their ends will stand apart, and thus permit the braces which connect them with the slats to pass each other, or cross the space between the staggered spring ends, and, while affording the requisite elasticity and strength, adapt the spring-connections to form an unyielding or positive truss to resist undue weight, in which the slat forms the cord, the staggered leaves of the spring the strut, and the connecting-rods the braces, and thus gives security against breaking.

The riveted lapped junction of the spring-leaves is seated in a socket riveted across the middle of the length of the slat, so that said spring can be easily removed when desired, and the braces are secured in slotted ears to the slats near their ends, to admit of readily hooking and unhooking said braces when desired.

Referring to the drawings, Figure 1 represents a vertical section of a bed-bottom embracing my invention; Fig. 2, one of the cambered slats, with its spring and connected braces adapted for use according to my invention; Fig. 3, one of the socket-castings for supporting the head and foot cross-bars to which the slats are secured; Fig. 4, the staggered spring of riveted leaves, removed from its free holding-socket; and Fig. 5, the socket for the spring.

My improved bed-bottom can be applied to any kind of bedstead by the addition of a head and foot cross-bar, *a*, upon which the slats *b* are arranged and supported in proper positions.

The slats may be of any suitable material, and when applied for use they have the camber form. The device for maintaining this form, and for giving the necessary elasticity to the slats, consists of a novel adaptation and connection of a staggered spring of two leaves with each slat. The springs are composed of two leaves, *c c*, of cast-steel, riveted together at their lapped ends, which I call "the base end" of the spring, because I prefer to make these ends wider than their other ends, which stand open in staggered positions and form the spring-leaves, adapted to exert their resisting force in closing only. The riveted lapped end of the spring is seated in a socket, *d*, screwed or otherwise secured across the under side of the middle of the length of the slat, so that its staggered open ends stand down beneath the slat. To these the braces *e e* are hooked, so that their ends cross each other and the space between the open spring ends, while the connection of said braces with the slats is made by slotted ears *f*, riveted near the ends of said slat.

The staggering of the open ends of the springs is to allow the braces to cross each other in being hooked therewith, and to allow of the closing movement of the leaves in resisting the weight upon the slats. In this action the tension of the braces keeps the spring in its socket without fastening. This construction and closing action of the spring-leaves also gives the advantage of forming a positive truss when the slats are subjected to great strain by undue weight; for under such strain the leaves close, and form a rigid strut to the slat through the connection of the braces, so that as the camber straightens the spring-leaves close, and when brought close together the sinking movement of the slat is arrested, and the braces become as a single rod.

The slats are provided with slots *g* near each end, to fit over staples *h* in the head and foot cross-bars, and thereby hold the slats properly in place.

The slats are of any suitable width and thickness to give the desired elasticity and strength.

The leaves of the springs should stand about

two and a half inches apart, and be of such width and thickness as to give the required strength. The cross-bars for sustaining the slats are held in place by socket-brackets *i*, screwed to the side rails of the bedstead near the head and foot rails, so that the slat-bottom may be removed bodily, or the slats may be separately removed and replaced. These cross-bars are provided with any suitable fabric that will allow the ends of the slats to move with the springing of the slat without creaking.

The slats may be held in place when in use by a cord or elastic strap fastened to the cross-bars across the ends of said slats.

I claim—

1. The combination, with a bed-bottom composed of spring-slats, of the spring formed of riveted leaves, curved and staggered, substantially as and for the purpose stated.

2. The combination, with the spring-slat of a bed-bottom and its spring of riveted leaves, of the socket secured to the slat, for receiving and holding the riveted ends of said spring.

3. The combination, with the spring-slats of a bed and the riveted leaf-spring, of the brace-rods connecting the slats, and crossing each other at their spring-connecting end, whereby they resist the straightening of the slats by the closing of the spring-leaves and form a positive truss, as stated.

4. As a new manufacture, a slat for bed-bottoms provided with means for attachment to the cross-bar, and having the following springing device, to wit: riveted staggered spring-leaves in a socket at the truss-point, in combination with connecting brace-rods or strut-pieces crossing each other at the spring-connecting point.

In testimony that I claim the foregoing I have affixed my signature in the presence of two witnesses.

ALLEN S. FELCH.

Witnesses:
R. T. CLARKE,
CHAS. F. HINDS.