T. E. Warren,

Furniture Springs.

No. 6,740. Patented Sep. 25, 1849.

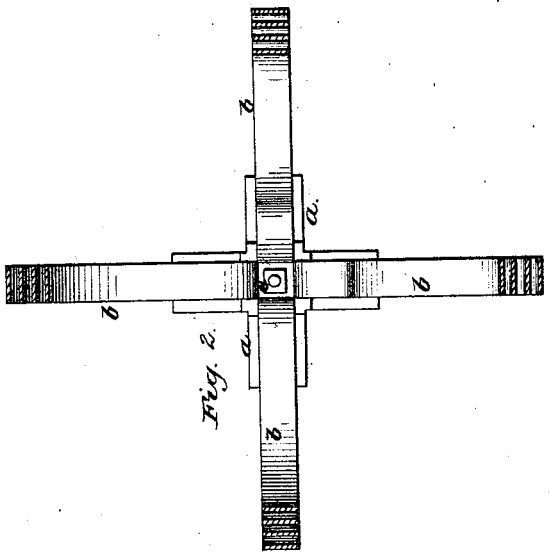

Fig. 2.

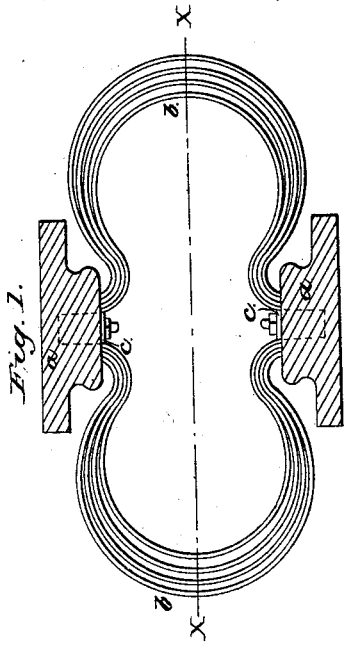

Fig. 1.

UNITED STATES PATENT OFFICE.

THOS. E. WARREN, OF TROY, NEW YORK.

SPRING FOR CHAIRS.

Specification of Letters Patent No. 6,740, dated September 25, 1849.

To all whom it may concern:

Be it known that I, THOS. E. WARREN, of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Mode of Constructing Springs, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanyiing drawings, making a part of this specification.

Figure 1 is a longitudinal elevation of the single spring. Fig. 2 a longitudinal section through the spring in a manner of the dotted line *x x*, of Fig. 1.

The nature of my invention consists in the using of the plates in a reverse position from that adapted in ordinary elliptic springs, by which I am enabled to firmly affix both ends of each and every leaf of which the spring is composed, and at the same time prevent them from wearing by entirely separating them from each other excepting where they may be fastened and not allowing any part of them to slide over any rest or stationary part of the carriage, or other object they are used to sustain.

The construction is as follows: For single springs of any number of leaves, I form a block or box (*a*) into which the ends of the leaves can be inserted, and securely fastened. The leaves (*b*) are of curve approaching the astronomical sign M in form, the two ends being inserted one into the upper, and the other into the lower box, or other fastenings at their bearings and two sets of said leaves form a single spring; each of the leaves is constructed of such a curve as not to touch the next succeeding one except at their ends where they are fastened permanently by means of a wedge (*c*,) acted on by a screw bolt that passes through it, by this arrangement it will be perceived that there is no rubbing of the surfaces of the leaves of the spring one upon another. The leaves instead of straightening as in elliptic springs, are made to contract, and act as braces to each other, by which their strength is greatly increased, and is made to bear the weight with which they may be loaded, more steadily, without what is termed throwing it off by means of sudden jolts; in fact, this spring combines all the advantages of the well known C spring and elliptic spring without being subject to the defects of either, the leaves are nearly or quite of the same thickness and breadth throughout their length and are thus less liable to "tire" and require a less amount of metal to support a given weight than any spring with which I am acquainted.

The double springs are composed of two sets of single ones, placed at right angles to each other, and it is obvious that when only one or two leaves are used, other modes of fastening their ends or bearing than the box above described can be employed.

Having thus fully described the nature of my new and improved spring what I claim therein as new and desire to secure by Letters Patent, is—

The employment of two or more sets of bow shaped or other regular curved leaves, substantially such as herein described, being made of metal of the same thickness and breadth throughout or nearly so and firmly attached by their ends or bearings to the boxes, or other fixture by which they are held in place, each leaf composing said springs working separate from the others, as above specified, and firmly fastened at their ends or bearings, as applied to chairs and other similar purposes as described and represented.

THOS. E. WARREN.

Witnesses:

E. L. BRUNDAGE,

E. BELL.