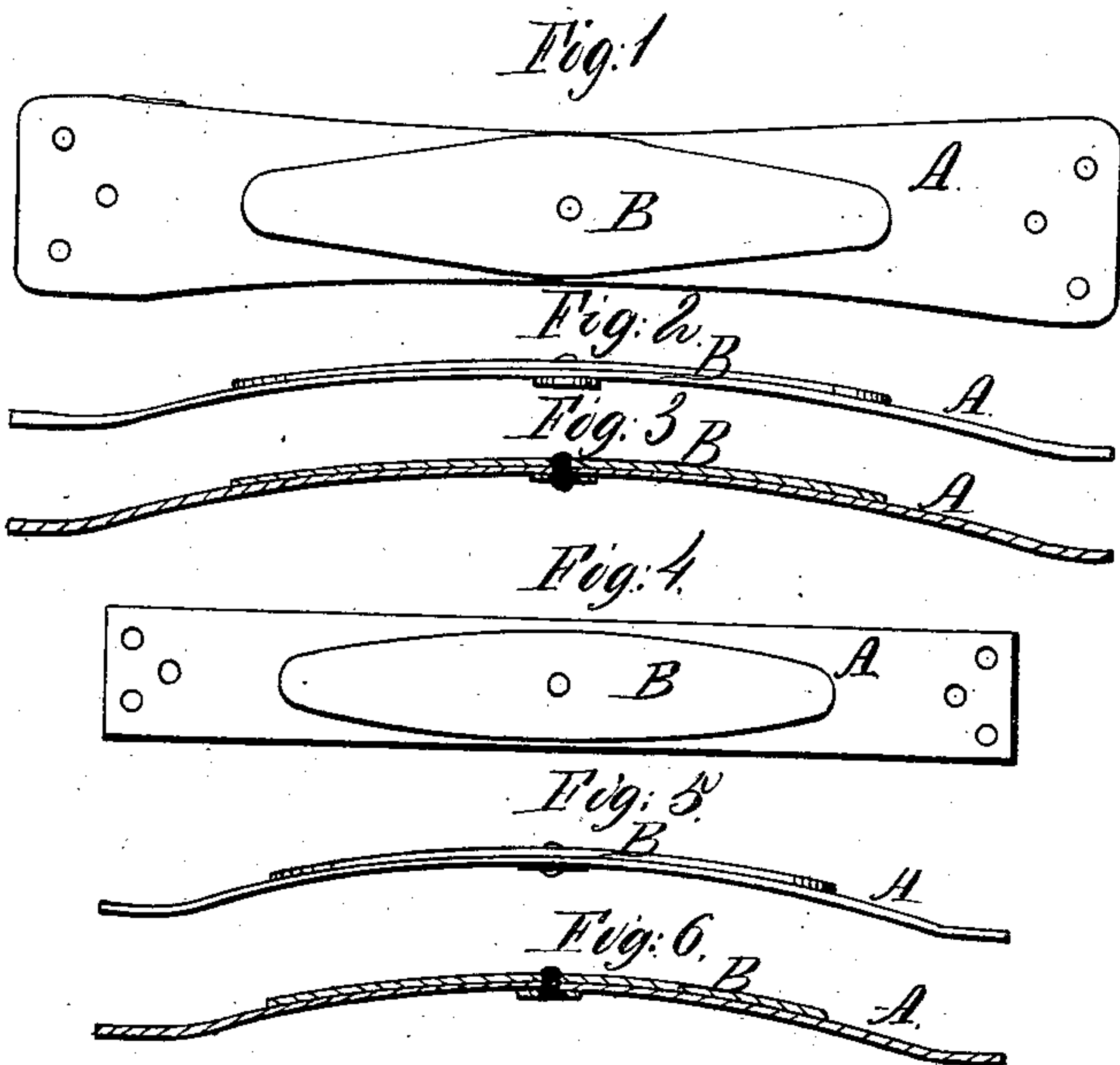


*E. Heaton,*

*Boot-Shank Spring.*

*N<sup>o</sup> 7,003.*

*Patented Nov. 19, 1867.*



*Witnesses:*

*John W. Shumway*  
*a. of Testator*

*Inventor:*

*Edward H. Balow*

*By his Attorney,*

*Wm. E. Earle*

# UNITED STATES PATENT OFFICE.

EDWARD HEATON, OF NEW HAVEN, CONNECTICUT.

## IMPROVED SHANK-SPRINGS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **71,003**, dated November 19, 1867.

*To all whom it may concern:*

Be it known that I, EDWARD HEATON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Shank-Springs for Boots and Shoes; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, a top view; Fig. 2, an edge view; Fig. 3, a longitudinal central section; and in Figs. 4, 5, and 6, corresponding views of a spring of different form.

This invention relates to an improvement in the spring for which Letters Patent were issued to me, February 23, 1864, and designed to be inserted into the shank of boots or shoes during the process of manufacture, for the purpose of supporting the shank; the object of the invention being to produce a shank which will not cut the leather or injure the awl of the workman—difficulties experienced in the employment of other springs; and my invention consists in an elastic wood spring, combined with tempered steel spring, the two united so that the steel supports and gives greater elasticity to the wood spring.

In order to the clear understanding of my invention, I will proceed to describe the same, as illustrated in the accompanying drawings.

In my patent, before referred to, I united a tempered steel spring to an untempered or non-elastic steel plate; but a hard steel plate, although untempered, does, in wearing, cut into

and sometimes through the sole, and manufacturers find an objection in the liability of injury to the awl. To overcome these objections, as well as to produce a spring at less cost, I form a spring, A, from a thin piece of suitable elastic wood, as hickory, or any other similar wood, and of the form required, so as to be suitable for insertion into the shank during the process of manufacture of the boot or shoe, and I perforate the ends for the purpose of securing the spring in its proper position, as denoted in the drawings. Then, upon one side of the wood spring, I fix a tempered steel spring, B, by means of a rivet passing centrally through the two parts, or in any suitable manner, so that the steel spring will give form, strength, and elasticity to the wood spring, as seen in the drawings.

The wood spring is produced at a very slight cost, and reduces the expense of manufacture very materially, and the spring produced is better, in that it is not liable to the objections existing to springs of other construction.

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

As a new article of manufacture, the herein-described shank-spring, consisting of a wood spring, A, combined with a tempered metallic spring, B, united in the manner substantially as set forth.

EDWARD HEATON.

Witnesses:

JOHN H. SHUMWAY,  
A. J. TIBBITS.