

(No Model.)

J. LOWE.
MAKING SHOE SHANK STIFFENERS.

No. 470,763.

Patented Mar. 15, 1892.

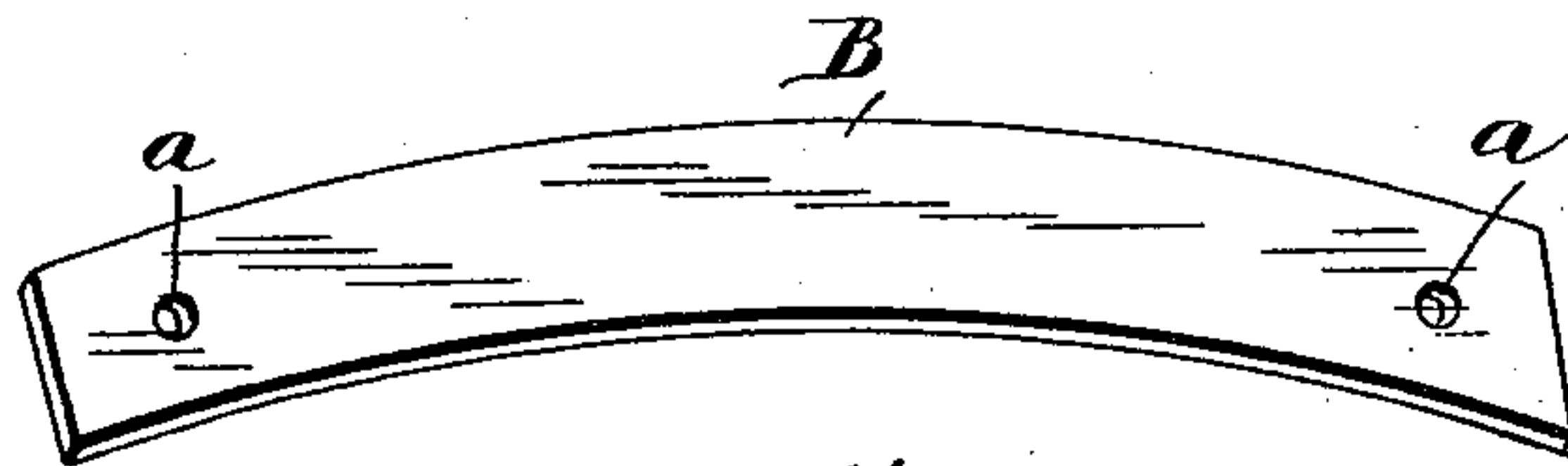


Fig. 1.



Fig. 3.

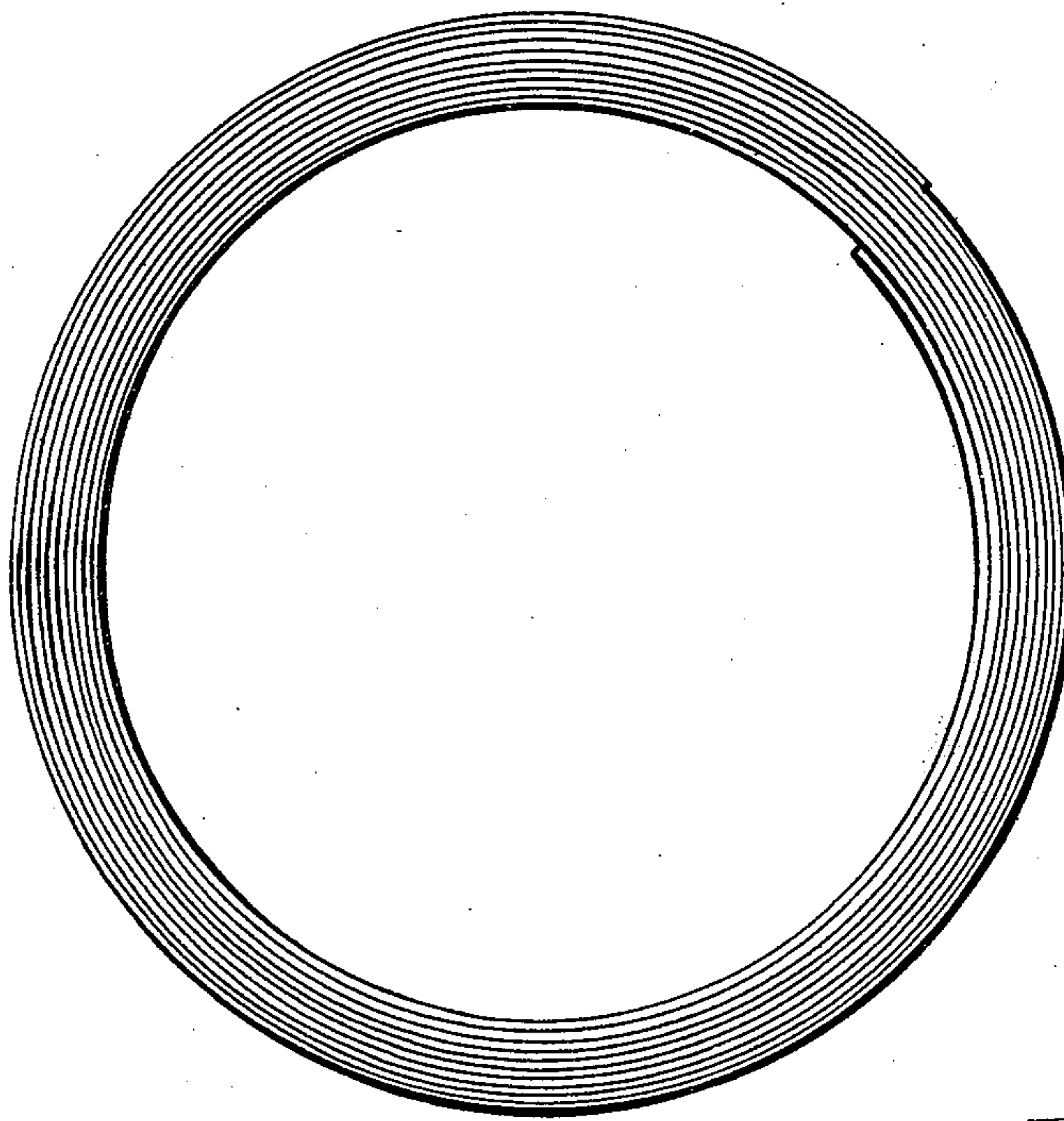


Fig. 2.

Witnesses:

Charles Hannigan

Benj A. Mold

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN LOWE, OF PROVIDENCE, RHODE ISLAND.

MAKING SHOE-SHANK STIFFENERS.

SPECIFICATION forming part of Letters Patent No. 470,763, dated March 15, 1892.

Application filed February 8, 1892. Serial No. 420,633. (No model.)

To all whom it may concern:

Be it known that I, JOHN LOWE, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Making Shoe-Shank Stiffeners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to stiffeners for shoe-shanks, which consist of narrow thin curved pieces of hardened metal inserted in the shanks of boots and shoes to make them stiffer, keep their shape better, and be more elastic or springy in use. As these shank-stiffeners have heretofore been made, they have lacked in a great degree the required uniformity and amount of resilience necessary to satisfactorily answer the purpose of retaining their original shape under the hard usage to which they are subjected in the continual bending and unbending in the motion of walking. I make the shoe-shank stiffener from a ribbon coil of steel, hardened in the coil, in which shape it can be made harder without the liability of breaking or warping in the process than it can be if hardened after being cut to length.

The invention is fully illustrated in the accompanying drawings.

Figure 1 is a perspective view of one of the shoe-shank stiffeners of full size. Fig. 2 represents the coil, a little less than half size, of the steel ribbon from which the stiffeners are cut to the required lengths. Fig. 3 shows a section of a full-sized coil having about the curve required for the stiffener when finished.

The steel is rolled to a ribbon of the right thickness—about one thirty-second of an inch—and to the required width, which is about one-half an inch, varying some according to the size of the boot or shoe to which it is to be applied and the degree of stiffness required. The edges of the ribbon are usually round and smooth and require no finishing.

This steel ribbon is wound in a coil of about twelve inches in diameter outside and about ten inches inside, the average curve of the inner and outer coils of these diameters being about right and not varying enough either way to require alteration for general use. The coil is then heated and hardened in this shape, and unlike a clock-spring, which is hardened while straight and then wound in a coil, the coil will have no tendency to unwind. From this coil the steel ribbon is cut to the proper lengths, varying from two and one-half inches to five inches in length, and the holes *a a* are punched in them to fasten them to the shoe.

By hardening the steel ribbon in a coil and retaining the normal curve resulting from winding and hardening it in that shape for the curve of the shank-stiffeners when finished an article is produced that is much less liable to change its shape afterward by being bent while in use. The cost is also very much reduced, for, besides requiring less labor in the making, there is no loss from breaking and warping in hardening, which, in the usual way of making them, amounts to quite a large percentage of the number made. They are also much less liable to break in use as the grain of the metal runs lengthwise of the stiffener instead of across it, as in other cases.

Having thus described my improvements, what I claim as my invention is—

The within-described process for making shank-stiffeners for boots and shoes, by rolling the steel into a ribbon of the proper width and thickness, winding it into a coil of the size to produce the curve required for the stiffener when completed and hardening it in that shape, and then cutting the ribbon into pieces of the proper length for use and punching the required holes, substantially as set forth.

JOHN LOWE.

Witnesses:

BENJ. ARNOLD,
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