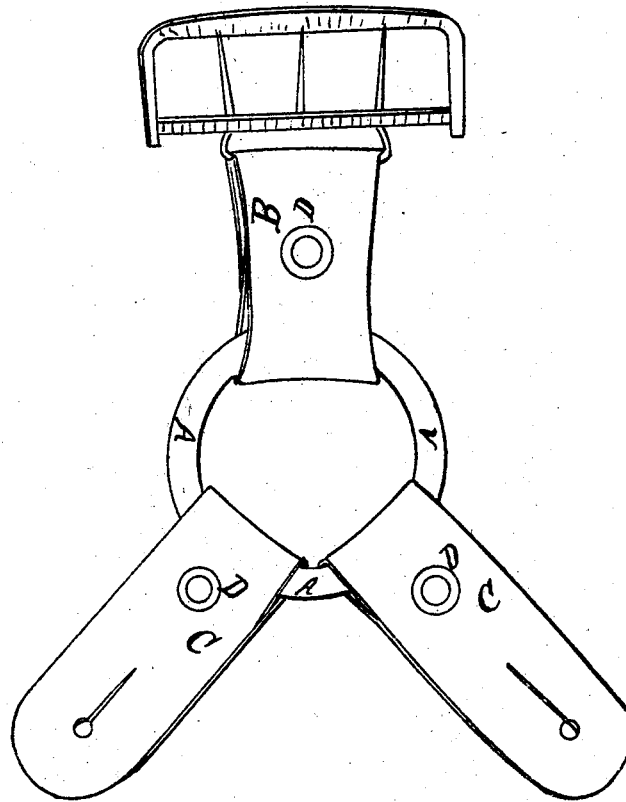


H. H. DAY & F. D. HAYWARD.
SUSPENDERS.

No. 5,904.

PATENTED NOV. 7, 1848



UNITED STATES PATENT OFFICE.

HORACE H. DAY AND FRANCIS D. HAYWARD, OF NEW BRUNSWICK, NEW JERSEY; SAID
HAYWARD ASSIGNOR TO SAID DAY.

SUSPENDERS AND SHOULDER-BRACE.

Specification of Letters Patent No. 5,904, dated November 7, 1848; Antedated May 7, 1848.

To all whom it may concern:

Be it known that we, HORACE H. DAY and FRANCIS D. HAYWARD, of the city of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in the Manufacture of Suspenders, Shoulder-Braces, and other Similar Articles; and we do hereby declare the following to be a full and exact description.

The nature of our invention consists in giving the required degree of elasticity to suspenders, shoulder-braces, and other similar articles, by the use of an elastic ring, to which is attached the buckle and button leathers by means of a loop which will slide along the ring, nearest to the point of draft, whereby we are enabled to have an elastic spring in any required direction, with equal advantage in each.

Hitherto it has been difficult to furnish draft, from more than one point, having the full advantage of the elastic property, except by a complicated arrangement, which besides being expensive is objectionable in consequence of liability to get out of order, whereas by our invention the same end is obtained by a simple means, which is of easy and cheap construction and adjustment.

To enable others skilled in the art to manufacture our improvement we will proceed to describe our mode of constructing the same reference being had to the accompanying drawing which is intended to form part of this specification, representing the end of a suspender A the elastic ring B the triple folded leather embracing the same, C, C. The two buttonhole leathers, having one end attached to the elastic ring by a loop, D. The eyelets which confine the leathers in their proper place.

By the use of a punch-knife we cut three pieces of leather, or other suitable material, about three quarters of an inch in breadth and about three inches long, rounded at the corners. We then take an elastic ring, made of india rubber, gutta percha, or suitable compounds of these materials, we prefer however to use the vulcanized india rubber about two inches in diameter and of a thickness graduated with reference to the power of the spring required say from one eighth to three eighths of an inch. We then take a metallic buckle and proceed to com-

plete the article as follows: We couple the buckle to the elastic ring by triple folding a piece of the leather and passing one end of it through and around the elastic ring, and the other end through and around the ring of the buckle (or loop of the brace) and then confine the two ends of the leathers in this form either by cementing, by stitching through its three thicknesses, or by inserting through these a metallic eyelet as hereinafter described, which latter mode we prefer. We next attach to the elastic ring, the other two pieces of leather in like manner, except that instead of triple folding these we fold one end only around the elastic ring, in the form of a loop, leaving the other ends of each of these two pieces free, and ready to receive the buttonholes which are then made therein, which completes the end. Moreover we allow the loop to be of such a size that it will readily slip along the ring to the point of draft.

In making a shoulder-brace we use the elastic ring, attaching to it, the drawing ligatures or bands by means of loops as above described, always locating the elastic ring, as near the center of the opposing points of draft as the nature of the article to be made, will permit for the reason, to allow a speedy and convenient transit of the strain upon the ring, from one point of draft to another as the position of the wearer may demand.

The mode preferred by us of confining the ends of the leathers, forming the loops above described is to punch a hole through the several thicknesses of leather and insert therein a metallic eyelet, which after being compressed and flattened by the eyelet machine in the customary manner of inserting eyelets, holds the leather firmly in its place, and dispenses with the more tedious process of stitching or cementing the same.

In forming and finishing the back ends of a pair of suspenders, it is found convenient and useful to join the two shoulder pieces or straps (composing that part of the suspender which is not elastic, or only partially so) at the end by securely attaching a loop of leather or other suitable material, which is to receive the elastic ring. And the leather buttonholes are afterward to be attached to the ring in the same manner as described for the front part. Yet we prefer

to use for this purpose, a ring and single buttonhole to each suspender for the back end.

We wish it distinctly understood that we do not claim elastic rings which have been before invented and used for paper files, garters, belts, and other articles.

Having described our improvement, and the best mode known to us of constructing the same, what we claim as our invention and desire to secure by Letters Patent, is—

The forming and rendering elastic; suspenders, shoulder-braces, riding belts, and

other similar articles by the use in combination therewith of the elastic rings for the purpose of giving spring and draft, substantially as herein described.

HORACE H. DAY.

FRANCIS D. HAYWARD.

Witnesses as to H. H. Day:

T. D. WYCKOFF,

WM. H. ROGERS.

Witnesses as to F. D. Hayward:

FREDERICK WAGNER,

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