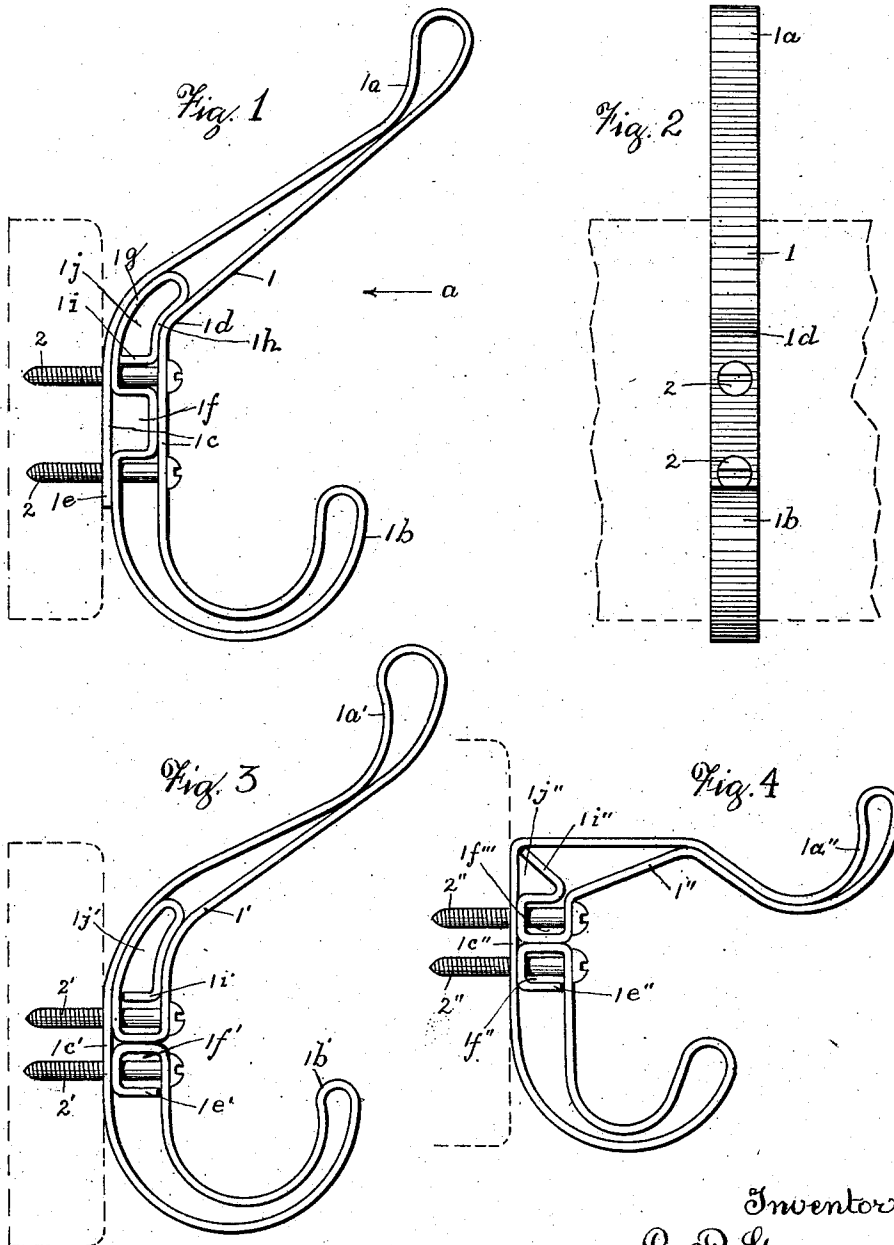


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L. P. GREENMAN.
HOOK.

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HOOK.

No. 891,539.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LAWRENCE P. GREENMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Hooks, of which the following is a specification.

My invention relates to hooks for articles of wearing apparel, etc., and particularly to that class of hooks made of wire or flat stock in one piece, and comprising two hook portions, forming an upper and lower hook, extending in the same vertical plane. Separate means, as screws, are used for securing the hook in position.

The object of my invention is to provide a hook of the class referred to, of improved construction, which will be strong and durable, and capable of sustaining a heavy weight, without yielding or bending.

In my improved hook, which preferably has two thicknesses of wire, or flat stock throughout, with the free ends preferably located at the attaching portion of the hook, I have the two thicknesses of wire, or flat stock separated at the attaching portion of the hook, and firmly held apart and braced at the attaching portion in a plane at right angles to the plane of said attaching portion, and also above the attaching portion, at the outward bend of the upper hook portion, to form an additional support for the upper hook portion, and prevent it from yielding or bending downwardly.

My invention consists in certain novel features of construction of my improvements in hooks, as will be hereinafter fully described.

Referring to the drawing:—Figure 1 is a side view of a hook embodying my improvements, shown attached by two screws to a support. Fig. 2 is a front edge view of the hook and support shown in Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 shows a modified construction of the hook shown in Fig. 1. Fig. 4 shows a modified construction of the hook shown in Figs. 1 and 3.

In the accompanying drawing, 1, Fig. 1, is a hook embodying my improvements, made of two thicknesses of wire, or flat stock, preferably in one piece, and bent or formed in substantially the shape shown, to make an

upper hook 1^a, and a lower hook 1^b, extending in the same vertical plane.

The two thicknesses of metal of which the hook is made are separated from each other, particularly at the attaching portion 1^c of the hook, and above the attaching portion at 1^d, where the upper hook 1^a extends upwardly and outwardly. The two thicknesses of metal are preferably held apart, at the parts 1^c, and 1^d, referred to, by bending one, or both of the free ends of the metal, between the two thicknesses, to form braces or rigid blocks between said two thicknesses, to permanently hold said thicknesses apart in a plane at right angles to the plane of the attaching portion of the hook, and thus strengthen the hook, particularly at the ordinarily weak point in the hook, where it extends outwardly above the attaching portion thereof.

In Fig. 1, the hook 1 has one free end, 1^e, extend in a vertical plane at the rear of the attaching portion 1^c of the hook. From said free end 1^e the metal extends upwardly and then outwardly, forming the upper edge of the hook, and is bent, preferably in curved shape, to form the end of the upper hook 1^a, and then extends downwardly and inwardly, to form the lower edge of the upper hook portion 1^a, which extends substantially parallel to the upper edge, and then extends downwardly in a vertical plane, at a distance from and substantially parallel to the free end 1^e, and then outwardly and upwardly to form the upper edge of the lower hook portion 1^b, and is then bent, preferably in curved shape, to form the end of the lower hook portion 1^b, and then extends downwardly, inwardly and upwardly in curved shape, to form the lower edge of the lower hook portion 1^b, which edge is preferably separated from the upper edge and substantially parallel thereto.

From the lower hook portion 1^b, the metal on the lower edge of the hook, extends in a vertical plane, at the attaching portion 1^c of the hook, and in front of the free end 1^e, and is then bent outwardly in a horizontal plane, to extend to the outer edge of the hook, and then upwardly to extend in a vertical plane, and then inwardly in a horizontal plane, to extend to the rear of the hook, forming the brace or block 1^f, between the front edge of the hook and the rear edge, as shown in Fig.

1, and then bent upwardly and outwardly, within and contiguous to the upper edge of the hook, as shown at 1^g, and then forwardly and downwardly, preferably in curved shape, within and contiguous to the front edge of the hook, as shown at 1^h, with the free end 1ⁱ bent inwardly in a horizontal plane, to extend between the front edge and rear edge of the hook, as shown in Fig. 1, at its attaching portion 1^c, and forming a brace or block 1^j between the upper edge and lower edge of the hook, above the attaching portion 1^c of the hook, and where the hook is bent outwardly.

15 The wire or flat stock of which the hook is made, is provided with openings therein below the lower brace 1^f, and between the lower brace 1^f and the upper brace 1^j, for the attaching screws 2, as shown in Fig. 1.

20 In Fig. 3 is shown a modified construction of the hook shown in Fig. 1. The shape of the hook is slightly modified, and the free ends of the wire or flat stock are bent in a somewhat different way, to form braces or blocks between the two thicknesses of metal of which the hook is made, at the attaching portion thereof, and above the attaching portion, where the upper portion of the hook extends outwardly.

30 In Fig. 3, one free end 1^{e'} of the wire or flat stock, at the lower portion of the hook 1', extends from the front edge of the hook in a horizontal plane to the rear edge, and is then bent upwardly in a vertical plane, and then forwardly in a horizontal plane to the front edge of the hook, and then downwardly in front of the end 1^{e'}, forming a brace or block 1^{f'}, between the front edge and the rear edge of the hook 1', at its attaching portion 1^{e'}.

40 From the brace or block 1^{f'}, the metal extends downwardly, forwardly and upwardly to form the upper edge of the lower hook portion 1^{b'}, and the end of the hook 1^{b'}, and then extends downwardly, rearwardly, and upwardly to form the lower edge of the lower hook portion 1^{b'}, separated from the upper edge, and then extends upwardly in a vertical plane, at the rear of the brace or block 1^{f'}, to form the rear edge of the hook at the attaching portion, and then extends upwardly and outwardly to form the upper edge of the upper hook portion 1^{a'}, and is then bent in curved shape to form the end of the upper hook 1^{a'}, and then extends downwardly and inwardly to form the lower edge of the upper hook portion 1^{a'}, which extends at a distance from the upper edge until it meets the brace or block 1^{f'}, then it is bent inwardly, to extend in a horizontal plane, to the rear edge of the hook, at its attaching portion, and then upwardly and inwardly on the inner side of the inner edge of the hook, and contiguous thereto, and then bent in curved shape, and downwardly on the inner

65 side of the outer edge of the hook, and con-

tiguous thereto, and the free end 1^{i'} is then bent to extend in a horizontal plane, and butt against the inner part of the hook, as shown in Fig. 3, to form a second brace or support 1^{j'} above the attaching portion of the hook, and at the point where the hook extends outwardly, corresponding to the brace or block 1^j in the hook 1, Fig. 1. Openings are made through the metal at the attaching portion of the hook 1^{e'} to receive attaching screws 2', as shown in Fig. 3.

In Fig. 4 is shown another modified construction of the hook shown in Figs. 1 and 3. In said Fig. 4, the bending of one free end 1^{e''} of the metal, to form the brace or block 1^{f''}, corresponds to the bending of the metal to form the brace or block 1^{f'} in Fig. 3, but the bending of the other free end of the metal, to form the brace or block for the part of the hook above its attaching portion, is somewhat different. The free end 1^{i''} is bent to form a brace or block 1^{j''}, corresponding to the brace or block 1^{j'}, and the free end 1^{i''} is then bent upwardly and backwardly, to the upper inner corner of the attaching portion 1^{e''} of the hook 1'', to form an angularly extending brace or support, between the upper corner, from which the upper edge of the hook extends in a horizontal plane, and the bend in the lower edge of the upper hook portion 1^{a''}, which extends in an inclined upward direction from the upper part of the attaching portion 1^{e''} of the hook. Two attaching screws 2'' extend through openings in the metal, at the braced attaching portion, to secure the hook to the support.

It will be understood that the details of construction of my improvements may be varied if desired.

I prefer to make my hook in one piece, with the braces or blocks therefor integral with the other parts of the hook, but if preferred the braces or blocks may be made separate from the hook, and combined therewith, and held in place by the attaching screws, or otherwise. Hooks embodying my improvements may be made in different shapes, and of round wire, flattened at the attaching portions of the hook, or of flat stock, and two or more hooks embodying my improvements may be used as brackets or supports for rods, for a towel rack, etc.

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

1. A hook made from wire or flat stock, looped upon itself with the strands overlapping, and braced against compression by an integral brace or block between the strands and above the attaching portion of the hook.

2. A hook of wire or flat stock, shaped to form an upper hook and a lower hook of two thicknesses or strands, which are separated from each other at the attaching portion of the hook in a plane at right angles to the

plane of said attaching portion, and held separated, and braced or reinforced, by two braces or blocks between said two thicknesses, said braces or blocks formed by bending the two ends of the wire or flat stock.

5 3. A hook made of wire or flat stock, shaped to form an upper hook and a lower hook of two thicknesses or strands, which are separated from each other at the attaching portion of the hook in a plane at right angles to the plane of said attaching portion, and braced or reinforced above the attaching portion, by a brace or block between said two thicknesses, said brace or block formed by bending one end
10 of the wire or flat stock.

15 4. The combination with a hook made of

wire or flat stock, and shaped to form an upper hook and a lower hook of two thicknesses or strands, which are separated from each other at the attaching portion of the hook in a plane at right angles to the plane of said attaching portion, and integral means for holding them separated at said attaching portion, and above said attaching portion, of two screws or attaching devices in vertical alinement, and extending through openings in the hook at the attaching portion, and made separate from the hook.

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