

(No Model.)

G. H. PHELPS.  
GARMENT SUPPORTER.

No. 420,166.

Patented Jan. 28, 1890.

Fig. 1.

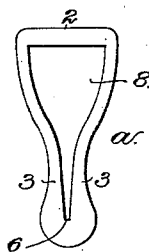


Fig. 2.

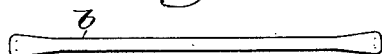


Fig. 3.

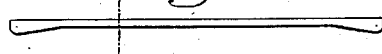


Fig. 4.



Fig. 5.

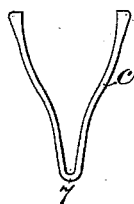


Fig. 6.

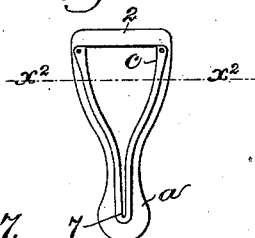
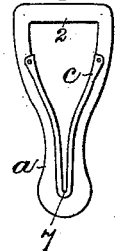


Fig. 7.



Fig. 8.



Witnesses:

John F. L. P. Smith

Frederick L. Emery

Inventor:

George H. Phelps,

by Leroy & Gregory,  
attys.

# UNITED STATES PATENT OFFICE.

GEORGE H. PHELPS, OF NEWTON, MASSACHUSETTS.

## GARMENT-SUPPORTER.

SPECIFICATION forming part of Letters Patent No. 420,166, dated January 28, 1890.

Application filed November 30, 1889. Serial No. 332,144. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. PHELPS, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Catches, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve garment supporters or catches employed in connection with stockings and other articles of wearing-apparel, my invention being more especially applicable to the form or class of supporter or catch known as the "Warren," it being represented in United States Patent No. 159,291, dated February 2, 1875. The Warren catch is cut from sheet-brass, and, in order that the catch shall not be too thick and heavy, and thus be unattractive and unsalable, the sheet-brass employed is about one-fiftieth of an inch in thickness; but in practice the contracted part of the slot forming the holding portion of the catch is so extremely narrow in order to be operative that it is impracticable to cheaply remove the sharp edges or fins left by the punch and die when forming the slot. Attempts have been made to remove the fin and blunt the sharp edges or corners by the operation of "tumbling;" but with the best results this is not satisfactory.

The object of my invention is the production of a sheet-metal catch having a lining at and along its holding V-shaped edges to thereby strengthen the catch and leave a smooth surface which will not tear or injure the fabric of the article to be supported by the catch. For the best results the edges of the slot in the catch should be quite thick, and yet if the entire catch was made from sheet metal as thick as the metal should be left at the edge of the slot in the catch then the catch would be too heavy and clumsy. To overcome the objection to the employment of thin sheet metal having thin sharp edges bounding the slot, certain catches have been made from wire; but a catch made from wire, unless the wire is very heavy and clumsy, has not sufficient strength to withstand the strain to which the catch is subjected in use, and, yielding to the strain, the wire springs, thus destroying the efficiency of the catch.

I have experimented very considerably to produce a metal catch of the class referred to—a catch, the body of which shall not be so heavy as to be objectionable to customers, yet which shall present a thickened smooth holding or acting edge—and as a result of my experiments I have produced the catch to be herein described.

My invention consists, essentially, in the combination, with a metal blank or body having a substantially V-shaped opening, of a metallic grooved lining applied to the inner edges of the blank to line and thicken the same, leaving a smooth thick edge, as and for the purposes to be described; also, in the combination, with a metal blank to form the body of the catch, of a metallic lining applied and secured to the inner edges of the catch to line and thicken the same, leaving a smooth thick edge, as and for the purposes to be described.

Figure 1 represents a metal blank forming part of my improved catch. Fig. 2 represents a strip of metal which, when shaped, constitutes the lining for the blank shown in Fig. 1. Fig. 3 represents the said strip grooved longitudinally; Fig. 4, a cross-section of the strip shown in Fig. 3. Fig. 5 represents the said strip formed into a lining. Fig. 6 represents the said lining as applied to the blank. Fig. 7 is a cross-section in the line  $x^2$ , Fig. 6; and Fig. 8, a modification to be referred to.

The blank  $a$ , preferably cut from sheet metal, is so shaped as to leave an attaching-bar 2 and edges 3 3, the latter converging toward the end 6 of the slot, which is substantially V-shaped.

The strip of metal  $b$ , preferably thin sheet metal, is provided with a longitudinal groove 4, and is thereafter bent into the shape indicated in Fig. 5 to constitute what I call the "lining"  $c$ , the groove being at the outer side of the lining. This lining  $c$  is applied within the open center 8 of the blank  $a$ , and the grooved edges thereof are made to embrace the inner edges 3 of the body of the catch, thus forming a lining therefor, the portion 7 of the lining fitting into the end 6 of the slot or opening in the blank, and in such position, as in Fig. 6, the said lining is secured to the said catch, leaving a thickened rounded edge, as best represented in Fig. 7, such edge bounding and constituting the sides of the narrow

diverging or holding part of the catch, as well as the end of the catch, so that the edge of the blank is covered and protected in such manner that the fabric held in the narrow or  
5 holding part of the catch cannot come in contact with the edge of the blank.

I am aware that a piece of web has had a hole or opening cut in it and that the edges bounding the said hole have been covered by  
10 a metallic binding.

As a means of securing the metallic lining in place, I indent the lining, preferably at the ends, by suitable dies or instruments with sufficient power to at the same time indent  
15 the edges 3 3; or, if desired, said lining may be soldered to the body of the catch.

Referring to Fig. 8, it will be seen that the lining terminates at a point between the ends of the body of the catch, instead of embracing  
20 the edges thereof from end to end.

I do not broadly claim a metallic binding; but,

Having described my invention, I claim as follows:

A catch consisting, essentially, of a metallic 25 blank having a substantially V-shaped opening to leave edges, as 3 3, and a bar 2, and a grooved metallic lining, such as described, and which embraces the said edges 3, thus thickening the holding edges of the catch and 30 presenting a smooth rounded surface, to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. PHELPS.

Witnesses:

GEO. W. GREGORY,  
E. J. BENNETT.