J. R. DEAN.

GARMENT STAY.

APPLICATION FILED JUNE 30, 1913.

1,113,758. Patented Oct. 13, 1914.

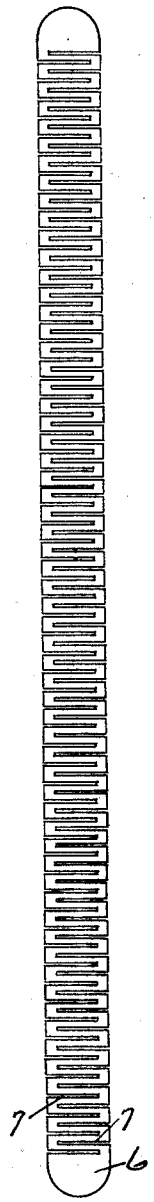


FIG. 1.

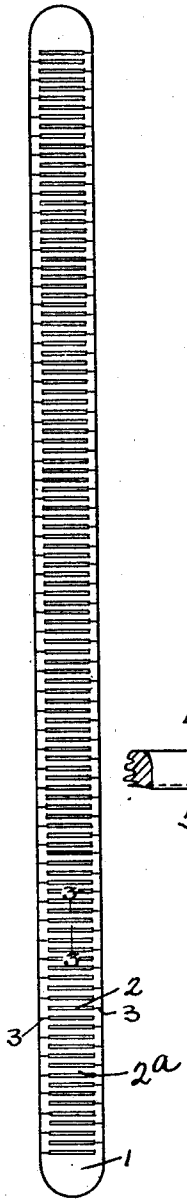


FIG. 2.

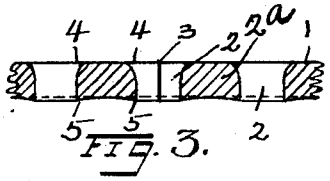


FIG. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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GARMENT-STAY.

1,113,758. Specification of Letters Patent. Patented Oct. 13, 1914.

Application filed June 30, 1913. Serial No. 776,504.

To all whom it may concern:

Be it known that I, JOHN R. DEAN, a citizen of the United States, residing at North Girard, county of Erie, and State of Pennsylvania, have invented new and useful Improvements in Garment-Stays, of which the following is a specification.

This invention relates to garment stays and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims. It is desirable to form such stays as light as possible yet with sufficient stiffness to give form to the garment and with such resiliency as to sustain the bending to which they are subjected. Ordinarily garment stays are subjected to the greatest bending in one direction. If, therefore, its stiffness and resiliency can be increased as to bending in that direction the stay as a whole for all practical purposes is improved.

The object of the present invention is to improve a stay formed of a flat strip of metal along these lines.

The invention is illustrated in the accompanying drawings as follows:—

Figures 1 and 2 show alternative forms of stays. Fig. 3 is a section on the line 3—3 in Fig. 2.

The preferred form of stay is shown in Fig. 2. It is formed of the plate 1 in which are formed the transverse slots 2 extending from side to side of the stay and nearly out to the edge of the stay. These slots 2 have their opposing faces out of contact. The slots are alternately cut through to the edge of the stay forming the slits 3 the faces of which are in contact. The crossings 2^a are formed between the slots. The metal of the stay, therefore, extends in a zig zag direction, the crossings 2^a between the slots 2 being subjected to torsional strain as the stay is flexed in a flatwise direction. In this way the stay is very much extended along the course of the metal and the stay as a whole thereby made more flexible and by contacting the faces of the slits 3 the crossings are slightly separated as the stay is flexed so that they are not only subjected to torsional strain but also to some lateral bending strain due to the action of the faces of the slits. This particular structure of stay does not form the subject matter of this application but is included in an application filed by me Nov. 16, 1912 Serial Number 731,739.

In forming this stay I preferably utilize a punch for punching the slots 2 afterward shearing the slits 3. In punching these slots the metal adjacent to the edges of the slots along the upper corners 4—4 of the crossings 2^a is compressed and the metal at the bottom corners 5—5 of the transverse portions slightly bent down as clearly indicated in Fig. 3. This compression of the metal along the transverse portions 2^a stiffens the stay against flexure in a flatwise direction with the direction of bend making the corners 4—4, the outer surface of the stay so bent and at the same time the stay is made more resilient or capable of taking a greater bend without permanent set in this direction. As heretofore stated the greatest stress on stays of this kind is usually in one direction and by arranging the stay so as to have the greatest bend in the direction bringing the corners 4—4 on the outer surface the efficiency of the stay is increased.

In the alternative construction shown in Fig. 2 the stay is formed of a metal plate 6 having alternate slots 7 of uniform width and extending inwardly alternately from opposite edges.

It will be observed that in the forms of stay illustrated the transverse portions are joined by longitudinal portions and that the longitudinal portions connected to the opposite sides of the same transverse portion are out of alinement so that the part of the transverse portion between the longitudinal portions is subjected to twist as the stay is flexed flatwise.

Heretofore stays have been formed of the general outline of the stay shown in Fig. 1 by casting or some method of cutting, but casting or ordinary cutting as by sawing does not compress the metal along the edges of the transverse portions or give to the stay greater stiffness or elasticity when flexed in one flatwise direction.

What I claim as new is:—

1. A garment stay formed of a flat resilient metal strip, said strip having transverse slits therein forming transverse portions joined by longitudinal portions, the longitudinal portions at the opposite sides of the transverse portions being out of alinement leaving the parts of the transverse portions between the longitudinal portions free to twist as the stay is flexed flatwise the metal at the edges of said slits being compressed.

2. A garment stay formed of a flat resilient metal strip, said strip having transverse slits therein forming transverse portions joined by longitudinal portions, the longitudinal portions at the opposite sides of the transverse portions being out of alinement leaving the parts of the transverse portions between the longitudinal portions free to twist as the stay is flexed flatwise the metal at the edges of said slits being compressed, and with the greater density of each of the crossings at same side of the stay.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN R. DEAN.

Witnesses:
CHARLES G. BREVILLIER,
B. M. HARTMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."