May 13, 1969 M. COHN 3,443,290

HOOK FASTENER ELEMENT

Filed Jan. 12, 1967

FIG. 1

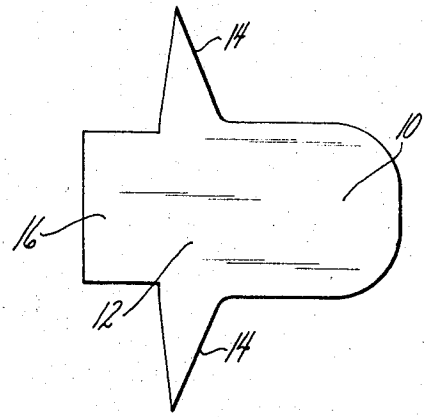


FIG. 2

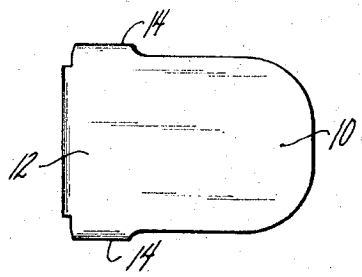


FIG. 3

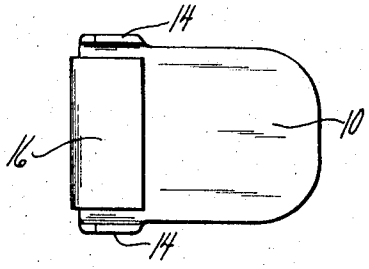


FIG. 4

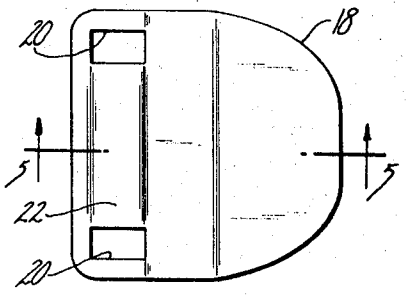


FIG. 5

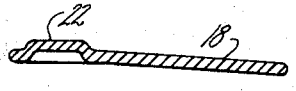
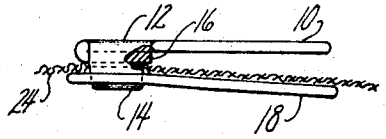


FIG. 6



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United States Patent Office 3,443,290 Patented May 13, 1969

3,443,290

HOOK FASTENER ELEMENT

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Filed Jan. 12, 1967, Ser. No. 608,769
Int. Cl. A44b 11/25
U.S. Cl. 24—227 3 Claims

ABSTRACT OF THE DISCLOSURE

A hook fastener element having a tongue for insertion through an eye, or staple-like element, to releasably secure opposite end portions of a garment waistband. The hook element has transversely spaced prongs for piercing the fabric, which prongs are clinched to an associated backing plate. An integral spacer flange is provided between the prongs to prevent crushing of the element during pressing of the garment.

Summary of invention

This invention relates to hook and eye type fasteners, and deals more particularly with a hook fastener element for use with an eye, or staple-like element, to secure the end portions of a garment waistband.

The general object of the present invention is to provide an improved hook element which is of simple construction, and yet is not susceptible to crushing during pressing of the garment to which it is attached.

Brief description of drawing

FIG. 1 is a plan view of a blank from which a hook element of the present invention can be fashioned.

FIG. 2 is a plan view of the formed hook element of the present invention.

FIG. 3 is a bottom view of the hook element shown in FIG. 2.

FIG. 4 is a plan view of a backing plate for use with the hook element shown in FIGS. 2 and 3.

FIG. 5 is a sectional view of the backing plate shown in FIG. 4, being taken along the line 5—5 of that figure.

FIG. 6 is an elevational view partially broken away and showing the hook element with its associated backing plate attached to fabric.

Detailed description

Turning now to the drawing in greater detail, FIG. 1 shows a hook element of the present invention at an early stage of its construction as comprising a generally flat blank which may be struck from a strip of sheet metal. The blank of FIG. 1 includes a tongue **10** which extends outwardly from and is integrally connected to a body portion **12**. The body portion **12** has transversely extending prongs **14, 14** extending outwardly therefrom and a generally rectangularly shaped tab is provided opposite the tongue as shown at **16** for a purpose to be described in greater detail hereinbelow.

In forming a hook element of the present invention from the blank shown in FIG. 1, the prongs **14, 14** are bent downwardly and inwardly through approximately a 90° angle and the tab **16** is bent inwardly and generally beneath the body portion **12** through approximately 180° to form an inturned flange as best shown in FIG. 3.

A generally conventional backing plate **18**, best shown in FIG. 4, is provided with transversely spaced openings **20, 20** adjacent one of its ends for receiving the inturned prongs **14, 14**. The backing plate **18** may have a raised portion **22** intermediate the prong receiving openings **20, 20** as best shown in FIG. 5 at **22** to accommodate the prongs when they are clinched on an anvil in a clinching machine or the like as the hook element and its associated

backing plate are attached to fabric as shown in FIG. 6. Preferably, and as best shown in FIG. 6, the backing plate **18** is canted slightly so as to provide an opening with the tongue **10** of the hook element having a slightly larger width adjacent the end portions of the tongue and the generally coextensive backing plate **18**. The relatively wide entry thus provided facilitates engagement with an associated eye element or the like. One type of eye element with which the hook element of the present invention can be used is shown in Patent No. 3,290,749 issued to Cohn Dec. 13, 1966.

As shown in FIG. 6, the hook element is clinched to its associated backing plate **18**, and the prongs **14, 14** are turned inwardly toward one another and are generally located in the space provided by the raised portion **22** of the backing plate **18**. The fabric to which the hook element is attached is indicated generally at **24**, and it will be seen that the spacer tab, or flange **16**, serves to space the tongue **10** above the outer surface of the fabric **24** in such a way as to prevent crushing of the hook element during pressing of the fabric. Finally, and still with reference to FIG. 6, it will be seen that the right-hand transverse edge of the spacer flange **16** opposite the 180° bend provides a convenient abutment for engaging an eye element when the hook **10** is inserted therein.

It should be noted that the hook element described hereinabove is particularly well suited to withstand the tendency of some prior art devices to open up due to the upward pulling force of an associated eye element which engages the underside of the tongue **10**. As a result of providing the prongs **14, 14** on the body portion **12**, instead of on the spacer element **16** as in some prior art devices, it will be seen that the hook element shown exhibits a greater resistance to opening up during use.

Still with reference to the spacer tab, or flange **16**, it is further noted that this integral portion of the hook element described and claimed herein is defined as being inturned to lie intermediate the prongs **14, 14** in order to space and support the tongue **10** outwardly from the front side of the fabric. The use of the term "inturned" as adopted herein, is intended to include any spacer portion integrally formed with the body portion **12**. For example, a segment of the body portion **12** might be indented to a depth of approximately the thickness of the body portion to provide a hook element equivalent to the hook element shown and described herein. Therefore, the use of the term "inturned" in the appended claims should be interpreted to embrace equivalent constructions such as the indented spacer flange just described. It should also be understood that while the integrally formed flange or tab **16** has been shown and described herein as being inturned from opposite the tongue **10**, it can be struck from a portion of the tongue and inturned in the opposite direction, or it can be otherwise formed.

I claim:

1. A hook element for attachment to the outside of a fabric in association with a backing plate on the other side of the fabric, said hook comprising a sheet metal body having two transversely spaced integral prongs for piercing the fabric and to extend through spaced openings in said backing plate to clinch the hook element to the fabric, a tongue formed integrally with the body to extend longitudinally in one direction from the prongs for insertion in a complementary eye element, a flange formed integrally with the body to extend in the opposite direction from the prongs but which is bent inwardly along a transverse bend line to lie in close proximity to the inside of said body between its prongs and substantially parallel to the body for spacing and supporting the tongue outwardly from the fabric when the prongs are clinched behind the backing plate, the tongue being approximately

coextensive in length with said backing plate, and the backing plate being formed to facilitate entry of the complementary eye element between the tongue and backing plate.

2. A hook element for attachment to the outside of a fabric in association with a backing plate on the other side of the fabric, said hook comprising a sheet metal body having two transversely spaced integral prongs for piercing the fabric and to extend through spaced openings in said backing plate to clinch the hook element to the fabric, a tongue formed integrally with the body to extend longitudinally in one direction from the prongs for insertion in a complementary eye element, a flange formed integrally with the body to extend in the opposite direction from the prongs but which is bent inwardly along a transverse bend line to lie in close proximity to the inside of said body between its prongs and substantially parallel to the body for spacing and supporting the tongue outwardly from the fabric when the prongs are clinched behind the backing plate, said transverse bend line being located closely adjacent the prongs at the side thereof opposite said tongue and the length of the flange being such that it does not extend substantially beyond said prongs in the direction of the tongue when bent into contact with the body between the prongs, whereby the prongs substantially cover the overlapped side edges of the body and the flange.

3. A hook element for attachment on the outer side of a fabric in association with a backing plate on the other side of the fabric, said hook comprising a sheet metal body having two transversely spaced integral prongs for piercing the fabric and to extend through spaced openings in said backing plate to clinch the hook element to the fabric, a tongue formed integrally with the body to extend longitudinally in one direction from the prongs for insertion in a complementary eye element, and a flange formed integrally with the body to extend in the opposite direction from the prongs but which is bent inwardly along a transverse bend line to lie in close proximity to and substantially parallel to the inside of said body between its prongs for spacing and supporting the tongue outwardly from the fabric when the prongs are clinched, the tongue being approximately coextensive in length with said backing plate.

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