

G. A. WADSWORTH.
TAG FASTENER.
APPLICATION FILED JUNE 3, 1908.

938,446.

Patented Oct. 26, 1909.

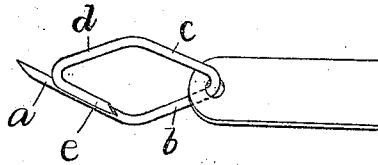


Fig. 1.

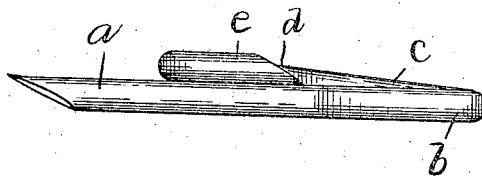


Fig. 2.

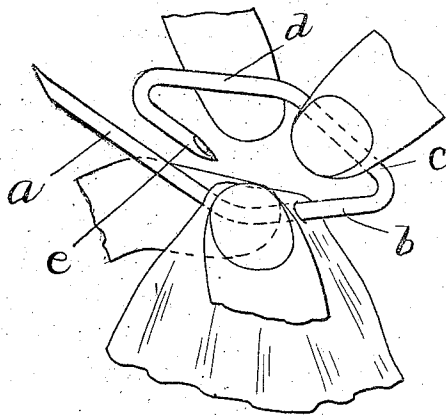


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

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TAG-FASTENER.

938,446.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed June 3, 1908. Serial No. 436,348.

To all whom it may concern:

Be it known that I, GEORGE A. WADSWORTH, of South Framingham, county of Middlesex, State of Massachusetts, have invented an Improvement in Tag-Fasteners, of which the following is a specification:

This invention relates to tag-fasteners of that variety composed of a single piece of wire bent to form a loop having a piercing-point and a reversely arranged hook.

The invention has for its object to improve the construction of the loop by making it wider at the middle than at its ends, as for instance, it may be made diamond shape, whereby a hook having an obtuse-angled shank and an acute-angled end is provided, permitting slight elongation thereof without bending its end, and an obtuse-angled piercing-arm is also provided permitting the end of the hook and the arm to maintain approximately relative positions as the hook is elongated; also whereby it is adapted to receive the tag and also a large pinch of goods, and its hook member employed as a finger-engaging portion to facilitate thrusting the piercing-arm through and withdrawing it from the goods, and whereby it is much stronger than tag-fasteners of this variety having loops which are otherwise formed; also, to arrange the reverse hook so that it overlies the piercing-arm, whereby a greater transverse strain is required to separate the hook and piercing-arm sufficiently to permit of the detachment of the fastener than is required when the hook is arranged in the plane of the loop.

Figure 1 is a side elevation of a tag-fastener embodying this invention. Fig. 2 is an enlarged edge view of the fastener shown in Fig. 1, the tag being removed from the fastener. Fig. 3 is a view showing the fastener attached to the goods and being manipulated to remove it therefrom, the tag being removed from the fastener.

The fastener is composed of a single piece of wire, bent to form an oblong loop, which is made wider at the middle than at the ends. Said loop is herein represented as diamond-shaped. In forming the diamond-shaped loop the wire is bent at a point near the middle to form the two obtuse-angled sides thereof. *a, b*, represent one of the obtuse-angled sides and *c, d*, the other obtuse-angled side. The side *a, b*, is intended to serve

as the piercing-arm, and it will be observed that its end portion *a*, extends in an upward direction from the lower end of the downwardly extended portion *b*, and also projects beyond the end of the loop, and such construction provides for easily operating the arm to pierce the goods. Said side *a, b* is also intended to receive the goods pierced by it, and by bending it at an obtuse angle, as shown, the loop is made much wider at the middle than at the ends, and thereby affords a large unobstructed space for the goods. The end of the portion *a* is pointed. The side *c, d* is intended to serve as a hook to prevent retraction of the fastener and its accidental detachment from the goods, and also as a finger-engaging portion adapted to be engaged by the fingers for the purpose of manipulating the fastener to engage and disengage the goods.

To form the hook the end of the end portion *d* is bent backward, as at *e*, at an acute angle, which, as here shown, corresponds in shape and degree to the acute angle provided at the opposite end of the loop, and said portion *e* extends along against or close to and in parallelism with the portion *a* or thereabout, and terminates a short distance before reaching the obtuse-angled bend in *a, b*. The end of the portion *e* is pointed. As here shown the portion *e* overlies the portion *a* of the loop. The hook is thus arranged in front of the goods which have been pierced by the piercing-arm and hence prevents accidental detachment of the fastener therefrom; for as the fastener is pulled outward said hook enters the puncture made by the piercing-arm; and as the portion *e* overlies the portion *a* it serves as a guard for the piercing-arm, so that considerable pressure is required to move the piercing-arm outward, in a direction to widen the loop at the end, sufficiently to form a space between the piercing-arm and the portion *e* for the detachment of the fastener, and a strain on the fastener which would thus tend to move the piercing-arm is not in the proper direction to detach the fastener from the goods, a transverse strain being required to thus move the piercing-arm, whereas a longitudinal strain is required to withdraw the fastener. Furthermore, by bending the side *c, d*, at an obtuse angle, as shown, the shank of the hook is permitted to bend and

thereby straighten out and correspondingly elongate by a strain or pull upon it in the direction of the length of the loop, which is much less than is required to bend and
5 straighten out the hook which is formed by bending the wire at an acute angle, hence the loop may be slightly elongated by a strain or pull upon it, without bending the hook and thereby disengaging it from the
10 goods, and furthermore the loop is widened at the middle to especially well adapt it to receive a large pinch of goods, and also affords a projecting side portion which is adapted to be easily engaged by the fingers
15 for the purpose of manipulating the fastener to engage and disengage the goods. The points of the piercing-arm and hook are here shown as beveled, so that the points are arranged at one side of the wire, and said
20 points are arranged both on the inside of the fastener, so as to readily engage the material to which the fastener is to be attached.

When manipulating the fastener to engage the goods the finger-engaging portion *c, d*,
25 will be engaged by the fingers and while held the fastener will be advanced and the piercing-arm thrust through the goods, the piercing-arm moving downwardly or laterally or both downwardly and laterally with respect
30 to the finger-engaging portion as it passes through the goods. When manipulating the fastener to disengage the goods the piercing-arm will be held by the goods or the goods will be held by the fingers of one hand, and
35 the finger-engaging portion will be engaged by the fingers of the other hand and then the fastener will be withdrawn, the finger-engaging portion moving upwardly or laterally or both upwardly and laterally with
40 respect to the piercing-arm to permit of the withdrawal of the piercing-arm. As the loop is slightly elongated by a strain or pull upon it, in the direction of its length, the obtuse-angled shank of the hook will
45 straighten, but the acute-angled end of the hook will not bend, and while thus elongating the end of the hook will maintain approximately its relative position to the pierc-

ing-arm, due to forming the piercing-arm with an obtuse-angled bend therein. 50

The diamond-shaped loop is very strong, and is particularly well adapted to furnish the maximum strength to resist the various strains met with in use, with a maximum convenience of operation. 55

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

1. A tag-fastener composed of a single piece of wire bent to form a diamond-shaped loop, one of the obtuse-angled sides of which has its end reversed at an acute angle and forming a hook having an obtuse-angled shank and a V-shaped end, and the other obtuse-angled side of which is extended beyond the end of the loop and forming an obtuse-angled piercing-arm, the single obtuse-angled bend in the shank of the hook permitting elongation of the hook by a strain in the direction of its length, and the V-shaped end of the hook preventing bending of the hook at such point when the hook is thus elongated, and the obtuse-angled piercing-arm providing for maintaining approximate relative positions of the hook and arm when the hook is thus elongated, substantially as described. 60 65 70 75

2. A tag fastener composed of a single piece of wire bent to form a diamond-shaped loop, the two obtuse-angled side portions of which comprise the opposite end portions of the wire, one of said side portions being extended beyond the end of the loop and forming a piercing-arm and the end of the other side portion being reversed to form a hook, said reversed end portion overlying the piercing arm and terminating in front of the obtuse-angled bend therein, substantially as described. 80 85

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses. 90

GEORGE A. WADSWORTH.

Witnesses:

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FRED L. OAKS.