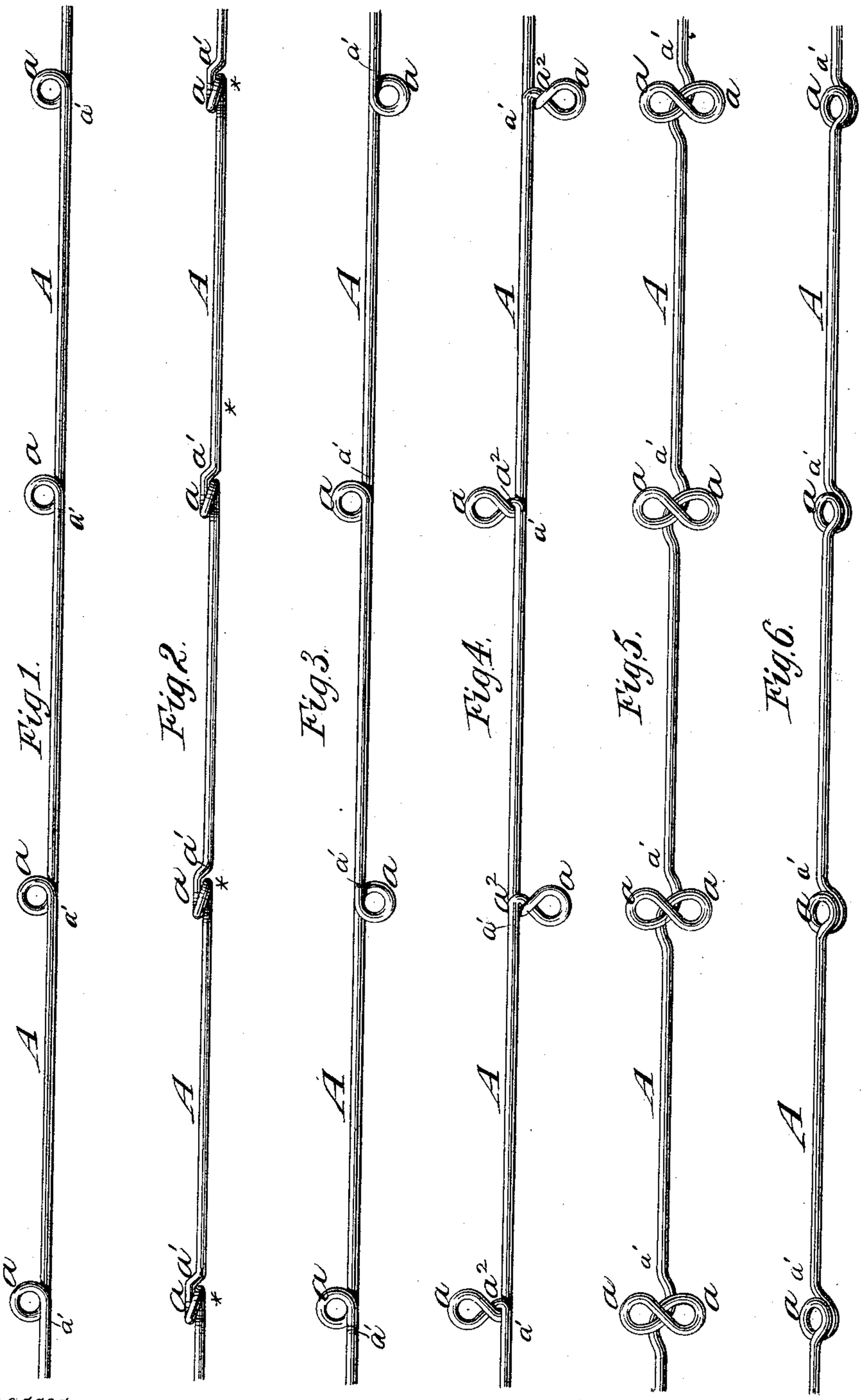
(No Model.)

G. NICHOLSON.

BAND FOR STRAPPING BOXES, &c.

No. 332,356. Patented Dec. 15, 1885.



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UNITED STATES PATENT OFFICE.

GRANVILLE NICHOLSON, OF NEW YORK, N. Y.

BAND FOR STRAPPING BOXES, &c.

SPECIFICATION forming part of Letters Patent No. 332,356, dated December 15, 1885.

Application filed February 24, 1885. Serial No. 156,645. (No model.)

To all whom it may concern:

Be it known that I, GRANVILLE NICHOLSON, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Bands for Strapping Boxes, Bales, &c., of which the following is a specification.

The object of my invention is to provide a very strong and inexpensive band which may be made and cut off by the purchaser in any lengths desired for strapping or banding boxes or bales of merchandise.

In carrying out my invention I employ a band consisting of a single wire, preferably of steel, and having formed therein at intervals in its length eyes, which are produced by coiling the wire or otherwise complete from the single wire, and adapted to receive the bodies and exclude the heads of nails or other fastening devices by which the band or strap may be secured upon a box, or to receive the rivet whereby the band or strap my have its ends secured together to confine a bail.

The invention consists in a band for strapping boxes and bales, composed of a single wire having at intervals in its length eyes which are formed complete from the single wire and are of a size to receive the bodies and exclude the heads of securing devices, the wire being deflected or set down at the point of crossing to form the eyes, so that one side or face of the band will be flat, with the eyes approximately coincident with the flat side of the wire.

The invention also consists in a band or strap for strapping boxes and bales, composed of a single wire having at intervals in its length eyes which are formed complete from the wire by coiling the same and deflecting the wire at its point of crossing to form the eye, and each eye being twisted at its junction with the wire, whereby the eyes will be preserved in form and will not be contracted or drawn out by longitudinal pull on the wire, the wire being continuous in and between the eyes and straight between the eyes.

In the accompanying drawings I have represented five different forms of band, slightly differing from each other, and all embodying my invention.

Similar letters of reference designate corresponding parts in all the figures, and in all of them A designates the single wire of which the band is composed, and which is preferably of steel, but may be of iron or other metal.

Referring to the band shown in plan in Figure 1 and in edge view in Fig. 2, *a* designates eyes, with which the wire is provided at proper intervals in its length. As shown, these eyes are made by forming simple coils in the wire at proper intervals, and in this example of the invention the eyes are all formed on one side of or project in the same direction from the wire. I have also represented the wire as slightly offset or deflected at the point of crossing of the wire to complete the coil, as is shown at *a'*, so that one side or face, *, of the band will have the wire straight and in line with the faces or sides of the eyes, as shown in Fig. 2, thereby forming a band which has one flat face, and will therefore bend well and be straight and flat when bent around a box. The eyes *a* are to receive nails or screws or other devices whereby the band is secured to or around a box; or, if the band be used as a bale-band, the eyes may receive rivets, whereby the ends the band are secured together to confine a bale of merchandise. The eyes must therefore be of sufficient size to receive the bodies and exclude the heads of the nails, rivets, or other securing devices.

The band shown in Fig. 3 differs from that above described only in having the simple coils or eyes *a* made at and projecting alternately from opposite sides of the wire in opposite directions.

The band shown in Fig. 4 has the coils or eyes *a* projecting alternately from opposite sides of the wire; but instead of the eyes being formed by simple coils, as above described, each eye has a twist, a^2, at the juncture with the wire, and is therefore much stronger.

The band shown in Fig. 5 has at each point in its length pairs of eyes or coils *a* projecting in opposite directions from the wire.

In the several forms of the invention above described where the band has single eyes they are formed wholly on and project from the side of the wire in but one direction; but in Fig. 6 I have shown a band having single eyes or coils *a* formed by coiling the wire to a slightly greater extent, and which project equally from opposite sides of the wire, the eyes or coils being central or in line with the wire.

In each example of my invention shown the wire at its point of crossing to form the eyes *a* is to be slightly deflected or offset, as shown at *a'*, so that one side of the face of the band will have the wire in line with the faces or sides of the eyes, as shown in Fig. 2. This deflection or offsetting of the wire at the point of crossing to form the eyes thereof forms a feature which is common to all the bands shown in my drawings.

It is advantageous to provide a twist in the wire, as shown at a^2, Fig. 4, at the junction of the coil *a* with the wire, because then the eyes *a* will not be liable to be pulled out or contracted by a strong longitudinal pull, to which the band might be subjected in applying it around a box.

The wire may be formed in continuous length or in bands of definite length.

I do not claim, broadly, as of my invention a single wire having at intervals in its length eyes which are formed complete from the wire itself.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The band for strapping boxes and bales, consisting of a single wire having at intervals in its length eyes, which are formed complete from the single wire and are of a size to receive the bodies and exclude the heads of securing devices, the wire being deflected or set down at the point of crossing to form the eye, so that one side or face of the band will be flat with the eyes coincident with the wire, substantially as herein described.

2. The band for strapping boxes and bales, consisting of a single continuous wire having at intervals eyes *a*, formed complete from the wire and each having a twist, a^2, at its junction with the wire, the wire being straight between the eyes and deflected at its points of crossing *a'* to form the eyes, and the wire being continuous in and between the eyes, substantially as herein described.

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