May 24, 1960 E. C. MARSHALL 2,937,464

TAG WITH FASTENING WIRE

Filed Jan. 11, 1957

Fig. 1.

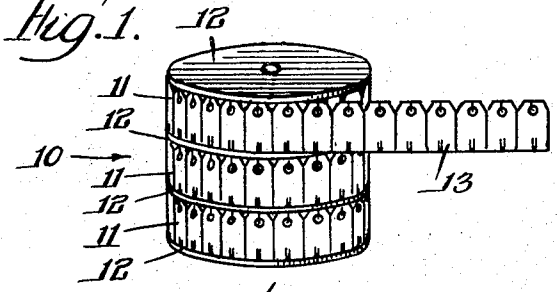


Fig. 2.

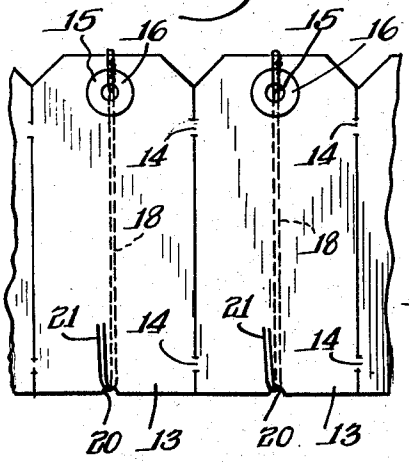


Fig. 3.

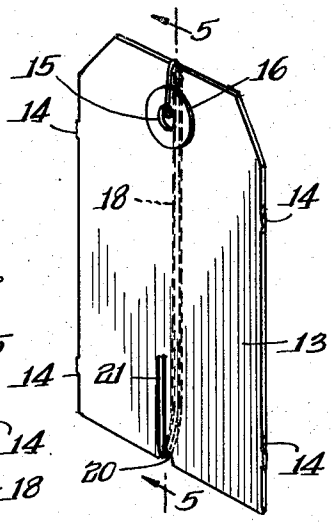


Fig. 4.

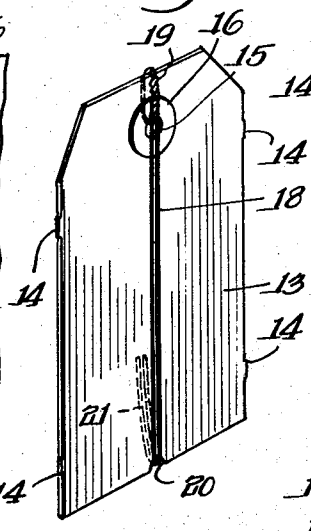


Fig. 5.

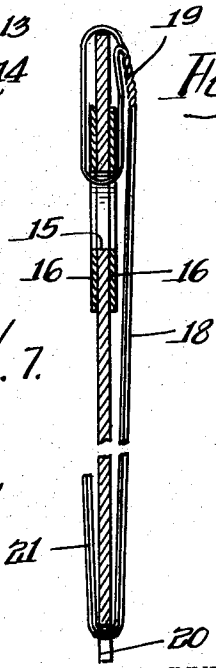


Fig. 6.

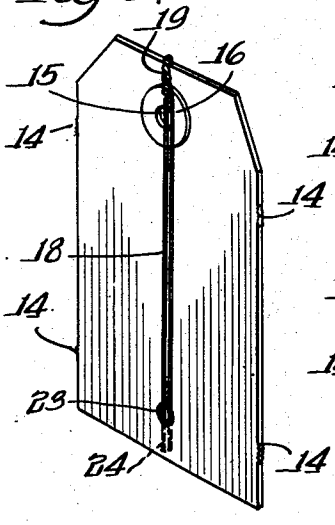
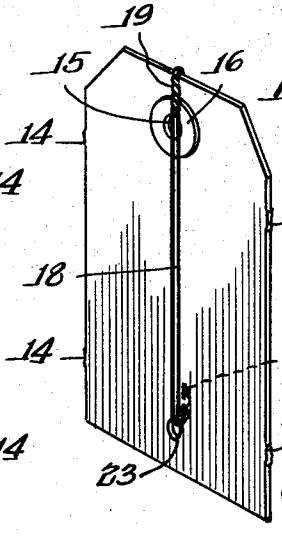


Fig. 7.



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TAG WITH FASTENING WIRE

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15 Claims. (Cl. 40—2)

This invention is directed to tags of the type having fastening wires secured to one end thereof and the principal object of this invention is to provide such tags with means for anchoring the wires to prevent dislocation of the wires during handling of the tags.

The tags of this invention have particular utility where they are to be handled by automatic machinery, as for example, where they are automatically supplied in strip form, such as from rolls of tags, to packaging machinery where it is desired to include tags with articles being packaged. In accordance with this invention, each tag, which is arranged side by side with other tags in a strip of tags with their side edges interconnected, has a fastening wire secured to one end thereof with the wire extending along one face of the tag toward the other end of the tag, and each tag has an opening adjacent its said other end through which the wire extends to the other face of the tag whereby the wire is anchored at both ends to prevent dislocation of the wire with respect to the tag during handling thereof. Also, the free end of the wire does not extend beyond said other end of the tag so that the tag may be readily handled by automatic machinery.

Where the fastening wire does not exceed the length of the tag, the opening adjacent said other end of the tag is in the form of a hole through which the free end of the wire is projected. Where the fastening wire is longer than the length of the tag, it is bent back over the tag so as not to project beyond the tag and therefore not to interfere with the handling of the tag. It has been found that there is a tendency for the wires on a strip of tags to catch on stationary objects as the strip of tags moves through the automatic machinery, tending to displace the wires from their original vertical positions, and where the wires are merely bent over straight end edges of the tags, the wires are often displaced to a diagonal position which buckles the tags with consequent jamming and fouling of the feeding mechanism of the automatic machinery. To prevent this accidental displacement of the wires and hence to prevent buckling of the tags, this invention contemplates the bending back of the wires at the tag openings, as at notches in the ends of the tags, which effectively prevents displacement of the wires into diagonal tag buckling positions.

Because the fastening wires of the tags do not extend beyond the confines of the tags and are firmly anchored at each end on the tags and cannot be displaced with respect to the tags, tangling of wires on adjacent tags, and distortion or buckling of adjacent tags are effectively prevented, and the tags may be readily handled by automatic machinery.

Further objects of this invention reside in the details of construction of the tags and in the cooperative relationships between the component parts thereof.

Other objects and advantages of this invention will become apparent to those skilled in the art upon reference to the accompanying specification, claims and drawing in which:

Fig. 1 is a perspective view of several rolls of tags of this invention arranged in a stack;

Fig. 2 is an enlarged view of a portion of a strip of tags corresponding to one form of the invention;

Fig. 3 is a perspective view of a tag illustrated in Fig. 2 showing one face of the tag;

Fig. 4 is a view similar to Fig. 3 but showing the other face of the tag;

Fig. 5 is a vertical sectional view taken substantially along the line 5—5 of Fig. 3;

Fig. 6 is a perspective view similar to Fig. 4 but showing another form of the invention;

Fig. 7 is a perspective view similar to Fig. 4 but showing still another form of the invention.

In Fig. 1 a plurality of rolls of tags are shown stacked one upon the other as indicated at **10**. Each roll **11** of tags is supported by a disc **12** so that the rolls of tags may be conveniently stacked one on top of the other. The roll **11** of tags is formed from a continuous strip of tags **13**, the tags **13** being arranged side by side in the strip with their side edges interconnected as indicated at **14**.

As shown more clearly in Figs. 2 to 5, each tag **13** is provided at one end with a hole **15** reinforced by patches **16** adhesively secured to the tag. A fastening wire **18** is extended through the hole **15** and is twisted together as indicated at **19** for securing the wire to said one end of the tag **13**. The wire **18** extends along one face of the tag toward the other end of the tag and in this form of the invention, the wire **18** would normally extend beyond said other end of the tag. Said other end of the tag is provided adjacent said ends with an opening, in the form of a notch **20** in the end of the tag, through which the wire **18** extends to the other face of the tag. The wire **18** is bent back in the notch **20** with its free end **21** extending along said other face of the tag toward said one end thereof. The notch **20** cooperates with the wire **18** where it extends therethrough to anchor the wire for preventing dislocation of the wire with respect to the tag during handling of the tag. Also by bending the wire the free ends **21** thereof do not project beyond said other end of the tag so that the wire is maintained primarily within the marginal confines of the tag. Because the wire **18** is received in the notch **20** it cannot slide sidewards with respect to the end of the tag into a diagonal position and, therefore, buckling of the tag which might be brought about by such sidewise movement into diagonal position is effectively prevented. Since the tag **13** remains in a flat condition, since the wire **18** is firmly anchored at both ends and since the wire does not project beyond the confines of the tag **13** the tag may be readily handled by automatic machinery.

As a specific example of the use of the tags of this invention, the tags are supplied in loose rolls of perhaps ten thousand tags supported horizontally on paper board discs as illustrated in Fig. 1. The tags are fed from the rolls through a feeding machine which employs a pin-wheel which engages the holes **15** in the patches **16** at said one end of the tags. This pin-wheel revolves continuously in timed relation to a carton filling machine. The feeding machine includes a chopper for separating the tag strip at desired intervals for supplying the desired number of tags to the package being filled. The tags of this invention are particularly adaptable for this use.

In the form of the invention illustrated in Fig. 6 the opening adjacent said other end of the tag, through which the wire extends, is in the form of a hole **23** instead of a notch. Here the wire **18** which extends

along one face of the tag projects through the hole **23** to the other face of the tag for anchoring the wire with respect to the tag during handling thereof. Here the free end **24** of the wire extends along said other face of the tag toward said other end thereof and the wire **18** terminates short of said other end of the tag so as not to interfere with the handling of the tag.

In the form of the invention illustrated in Fig. 7 the same hole **23** is utilized and here the free end **25** of the wire is bent back at the hole **23** and extends along said other side of the tag toward said one end thereof. Here also the wire **18** may, if desired, be longer than the wire **18** of Fig. 6 since it is bent back upon itself as indicated at **25**.

The tags illustrated in Figs. 6 and 7 may be beneficially used in the same manner as the tags of Figs. 1 to 5. While for purposes of illustration several forms of this invention have been disclosed, other forms thereof may become apparent to those skilled in the art upon reference to this disclosure and, therefore, this invention is to be limited only by the scope of the appended claims.

I claim as my invention:

1. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, and each tag having a hole adjacent said other end thereof through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during handling thereof, and the free end of the wire extending along said other face of the tag toward said other end thereof and terminating short of said other end of the tag.

2. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, and each tag having a hole adjacent said other end thereof through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during handling thereof, and the free end of the wire being bent back along said other face of the tag toward said one end thereof.

3. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag and each tag having a notch in said other end thereof receiving the wire, the wire being bent back in the notch with its free end extending along the other face of the tag toward said one end thereof for anchoring the wire to prevent dislocation of the wire with respect to the tag during handling thereof.

4. A tag, a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, said tag having a hole adjacent said other end thereof through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during the handling thereof, and the free end of the wire extending along said other face of the tag toward said other end thereof and terminating short of said other end of the tag.

5. A tag, a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, said tag having a hole adjacent said other end thereof through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during the handling thereof, and the free end of the wire being bent back along said other face of the tag toward said one end thereof.

6. A tag, a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, said tag having a notch in said other end thereof receiving the wire, the wire being bent back in the notch with its free end extending along the other face of the notch toward said one end thereof for anchoring the wire to prevent dislocation of the wire with respect to the tag during handling thereof.

7. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, and being sufficiently long to extend beyond said other tag end, and each tag having an opening therein through which the wire extends to the other side of the tag for anchoring the wire to prevent dislocation of the wire with respect to the tag during handling thereof, and the free end of the wire being bent back so as not to extend beyond the other end of the tag.

8. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, and being sufficiently long to extend beyond said other tag end, and each tag having a hole therein through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during handling thereof, and the free end of the wire being bent back so as not to extend beyond the other end of the tag.

9. A tag, a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag, said tag having an opening therein through which the wire extends to the other side of the tag for anchoring the wire to prevent dislocation of the wire with respect to the tag during handling thereof, and the free end of the wire being bent back and being completely within the confines of the tag.

10. A tag, a flexible fastening wire secured to one end of the tag and extending along one face of the tag toward the other end of the tag and being sufficiently long to extend beyond said other tag end, said tag having a hole therein through which the wire projects to the other face of the tag for anchoring the wire with respect to the tag during the handling thereof, and the free end of the wire being bent back so as not to extend beyond the other end of the tag.

11. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire means secured to one end of the tag and having a pair of generally parallel extending, unconnected, manually twistable end portions extending along one face of the tag toward the other end of the tag for securing each tag to an article by manually twisting the wire end portions together, and each tag having an opening adjacent said other end thereof through which the wire end portions extend to the other face of the tag for anchoring the wire means to prevent dislocation of the wire means with respect to the tag during handling thereof, and the end portions of the wire means being within the confines of the tag.

12. A plurality of tags arranged side by side in a strip with their side edges interconnected, each tag including a flexible fastening wire means secured to one of the tag and having a pair of generally parallel extending, unconnected, manually twistable end portions extending along one face of the tag toward the other end of the tag for securing each tag to an article by manually twisting the wire end portions together, and each tag having a hole adjacent said other end thereof through which the wire end portions extend to the other face of the tag for anchoring the wire means to prevent dislocation of the wire means with respect to the tag during handling thereof, and the end portions of the wire means being within the confines of the tag.

13. A tag, a flexible fastening wire means secured to one end of the tag and having a pair of generally parallel extending, unconnected, manually twistable end portions

extending along one face of the tag toward the other end of the tag for securing each tag to an article by manually twisting the wire end portions together, said tag having an opening adjacent said other end thereof through which the wire end portions extend to the other face of the tag for anchoring the wire to prevent dislocation of the wire means with respect to the tag during handling thereof, and the end portions of the wire means being within the confines of the tag.

14. A tag, a flexible fastening wire means secured to one end of the tag and having a pair of generally parallel extending, unconnected, manually twistable end portions extending along one face of the tag toward the other end of the tag for securing each tag to an article by manually twisting the wire end portions together, said tag having a hole adjacent said other end thereof through which the wire end portions extend to the other face of the tag for anchoring the wire means to prevent dislocation of the wire means with respect to the tag during handling thereof, and the end portions of the wire being within the confines of the tag.

15. A tag, a flexible fastening wire means secured adjacent one end of the tag and having a pair of generally parallel extending, unconnected, manually twistable end

portions extending along one face thereof toward the other end of the tag for securing each tag to an article by manually twisting the wire end portions together, said tag including means forming an opening through which said wire end portions extend for anchoring the wire means to prevent dislocation thereof with respect to the tag during handling thereof, and the free end of said wire means being completely within the confines of the tag.

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