

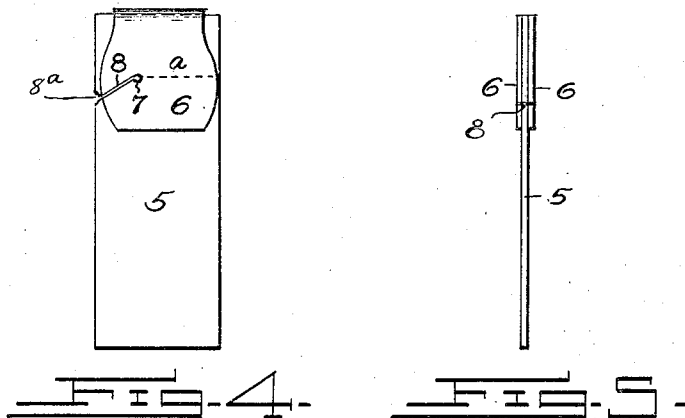
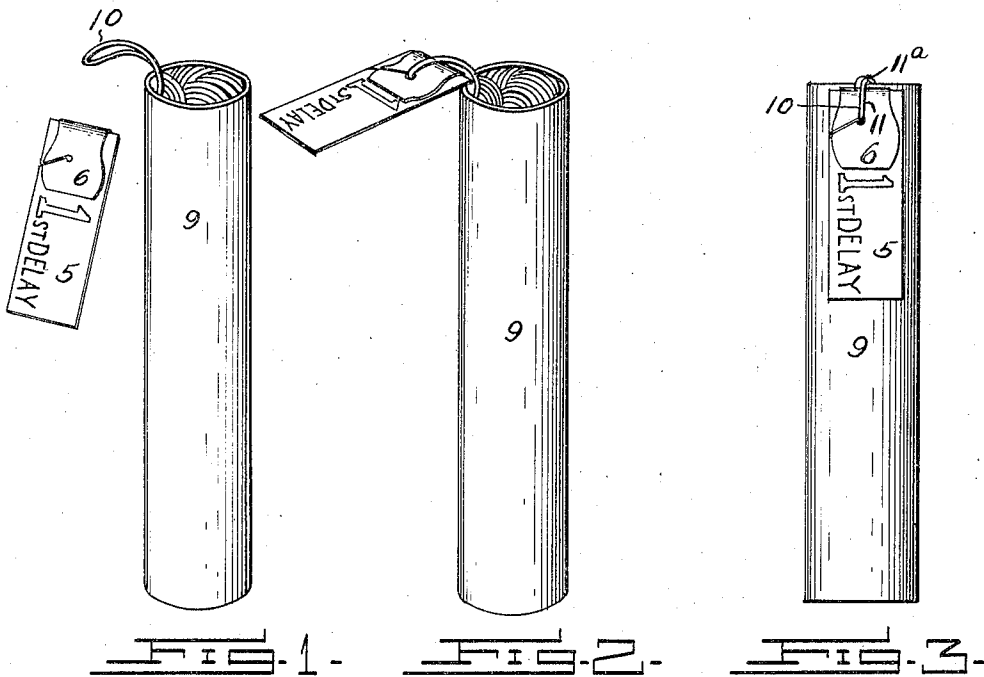
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IDENTIFICATION TAG

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IDENTIFICATION TAG

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The object of the present invention is to provide an identification tag adapted to be easily and quickly applied to a strand such as a cord or wire. While this identification tag embodies features adapting it for general use, it is of particular utility as a marker or identification means for delay action electric detonators or blasting caps.

In the accompanying drawing, in which like characters of reference designate corresponding parts throughout the several views:

Fig. 1 is a perspective view of a detonator assembly with the tag separated from the detonator leg wire;

Fig. 2 is a like view with the tag applied to a loop of the leg wire;

Fig. 3 is a side view of the detonator assembly with the tag lying along and outside of the container tube of the assembly;

Fig. 4 is a front elevation of the tag; and

Fig. 5 is an edge elevation of the tag, but with the reinforcing tabs shown as made from two separate pieces instead of one piece, as in the other figures.

The tag of the present invention comprises a main body 5 consisting of a strip or web of ordinary cardboard, heavy paper or any other suitable material. In the particular embodiment shown the web carries a suitable reinforcing tab or tabs 6 adjacent one end thereof. While I have shown tabs upon both sides of the web 5 the use of a reinforcing tab upon one side of the web or strip, only, is in contemplation. The tabs 6 are substantially equal in width to the width of the web 5 so that they extend substantially from edge to edge of the strip. I also prefer to have these tabs extend to the adjacent end of the strip 5, though this is not essential. Both strip and tabs are traversed by a perforation 7 of a size to receive and preferably to snugly fit about a detonator leg wire. A slit 8 extends outwardly and downwardly from the opening 7 to the nearest edge of the tabs and strip. In this connection it is to be especially noticed that the opening 7 is eccentrically disposed with respect to the tabs. That is to say it lies materially nearer one edge of the strip 5, than the other. Thus any pull upon a strand or cord engaged in the opening 7, which would tend to tear off the end of the strip 5, is resisted by a width of material, materially greater than would be present if the opening 7 were centrally disposed with respect to the strip and tabs. This width of material is indicated by the dotted line *a*.

There are many lines of business in which it is

desirable to mark packages temporarily. For example, in the delivery department of department stores it is desirable to apply to packages (in addition to the main destination label upon the package) a tag which will indicate, for example, which truck of a fleet of trucks is to deliver a given package. It is therefore desirable to have a tag which will be sufficiently strong to resist easy dislodgement or tearing off but which, at the same time, can be quickly engaged with or disengaged from the string by which the package is tied. By moving the tag or string laterally with respect to each other the string may be introduced into the opening 7 through slit 8. Thus no threading of the strand or string through the opening 7, is required.

A tag of this character, having a slit extending downwardly and outwardly through both a reinforcing tab and the body of the tag and from a relatively small opening that is materially offset from the center of the tag toward that edge of the tag to which the slit extends, is of utility in identifying tags in general. It is of particular utility in conjunction with the marking of detonator packages such as that illustrated in the patent to David M. McFarland, No. 1,983,141, of December 4, 1934.

These detonator packages have found widespread favor in the explosives field. Electric detonators or blasting caps, when supplied to the trade, have what are called leg wires attached to them. These leg wires are covered with insulating material and are of such a degree of stiffness that when bent they tend to retain the form into which they are bent, though they may easily be bent to any other form. Blasting caps are so very sensitive that great care has to be exercised in handling them. The McFarland package consists of a pasteboard tube 9 which serves to individually house a sensitive detonator and to hold the leg wires of the detonator in such a way that when the time of use arrives the leg wires may be quickly drawn out into the form of an elongated strand without kinking or tangling of the wires. It is frequently desired, when setting off a plurality of charges, electrically, to have the charges fired in succession rather than to have all of the charges fired simultaneously. To that end it is the practice to employ what are called delay action detonators. These detonators are of such nature as to delay the firing of the charge to a determined degree.

The tag of the present invention provides an element engageable with, and coacting in novel

fashion with one of the loops of the detonator leg wires in the following way:

One of the loops 10 of the detonators leg wire is pulled slightly out of the tube 9 and the tag is engaged with said loop by slipping the loop through the slit 8 and engaging it in the opening 7. If desired the material of the tag may be provided with a V shaped notch 8a at the mouth of the slit which functions to guide the loop into the slit. The loop 10 is then bent downwardly against the side of the tube 9 so that the outer run of the loop, indicated by 11, is caused to lie substantially horizontally over the upper ends of reinforcing tabs 6. If we were dealing with a freely flexible strand, such as a string, this disposition of the strand over the upper end of the tabs would have no particular utility; but when dealing with a wire which resists bending to a certain degree such arrangement of strand 11 tends to insure against displacement of the tag from the strand for the reason that, due to the downward angle of the slit 8, the strand cannot get out of the slit unless it can move downwardly with respect to the tag and it cannot move downwardly because of the overlying horizontal portion 11a of the loop. The extension of the tab 6 to the upper end of the tag stiffens the paper body 5 to a degree to prevent it from bending. Thus these tabs would exert a thrust between the bight portion of the loop where it passes through the opening 7, and the horizontal portion 11a, in any attempt to move the tag upwardly with respect to the bight portion and the bight portion cannot get out of the slit unless the tag does move upwardly with respect to the loop. Further this bending of the loop, sharply downward alongside the tube not only brings the strand 11 into the relation stated but it holds the tag, as a whole, closely against and in substantial parallelism with the side of the tube 9. Here it is not likely to catch in other objects. The increased width of the material along line a has the same utility when using the tag to mark delay action detonators, as has been set forth.

The tagging of detonators is one of the last of the operations when packing the same. Heretofore it has been necessary for the operator to remove the detonator from the tube 9 along with its bundle of leg wires, unwind two or three folds of the leg wire and lace the leg wire through the eyelet of the tag. By the device of the present invention all of this trouble, loss of time and materially increased danger, is avoided, because there is enough "give" to the folds of the leg wire to permit a short loop to be pulled out over the edge of the tube 9, without having to remove the detonator assembly from the tube. As before stated, the opening 7 is relatively small. It is preferably about $\frac{1}{8}$ of an inch in diameter. A width of $\frac{5}{8}$ inch for a tag used in connection with detonator assemblies has been found to be suitable. It will be seen that with these proportions the opening 7 occupies only about one-tenth of the width of the tags. In the case of a $\frac{1}{8}$ inch opening the tags could be made somewhat wider but even with the $\frac{5}{8}$ inch width tags the

$\frac{1}{8}$ inch opening would occupy only one-fifth of the width of the tag. By employing a relatively small opening and offsetting the opening as described the maximum amount of material is left along the line a.

I am aware of the fact that the telegraph companies employ tags consisting of simple strips of cardboard having quite a large opening in them to fit over the shanks of doorknobs and having a slit extending from the opening to the edge of the tag. However, a structure of this sort would be easily torn because the opening occupies nearly the entire width of the strip, no reinforcing tabs are employed and the opening is not offset to provide the increased width of material along the line of greatest strain in the manner described. Further, since there are no reinforcing tabs at all in the tags employed by the telegraph companies there could be no such coaction between the tag and the strand engaged therewith, as is described with respect to the portion 11a and the bight portion of the wire loop.

Having described my invention what I claim is:

1. In a means for identifying detonator assemblies, the combination with a package comprising a tubular container, a detonator assembly packaged therein comprising a detonator and a group of wire loops constituted by the leg wires of the detonator, the wire of said loops being of such a degree of stiffness as to retain the form into which a loop may be bent, an identification tag composed of a relatively light weight web and a reinforcing strip attached to said web, there being a hole formed through both web and strip adjacent one end of the tag and there being an outwardly and downwardly inclined slit formed through both web and strip and leading from said hole to the adjacent edge of the strip, the bight portion of the bend of one of the leg wire loops being engaged in the hole formed through the web and strip, by passage through said slit, and the wire of said loop being bent transversely of the tag to overlie the end of the reinforcing strip, whereby endwise movement of the tag with respect to the wire is resisted in both directions by the engagement of the wire in the hole of the tag and is additionally resisted by the portion of the loop which extends over the end of the said tag, said reinforcing strip extending to that end of the tag over which the wire loop extends.

2. In combination, a tag comprising a web and a reinforcing strip located adjacent one end of the web and extending substantially to the adjacent end of the web, but being narrower than the material of the web to leave a small width of the web projecting beyond the side of the reinforcing strip, there being a wire receiving opening formed transversely through both web and strip and there being a slit formed through both web and strip and leading from said opening to and through the projecting portion of the web, the material of the web being notched to form an enlarged mouth for the slit outwardly of the reinforcing strip.

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