Jan. 28, 1969 P. G. VENABLE 3,424,339

WIRE CONTAINER

Filed Feb. 20, 1967

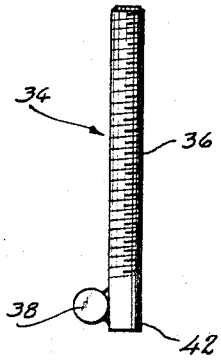


FIG. 4

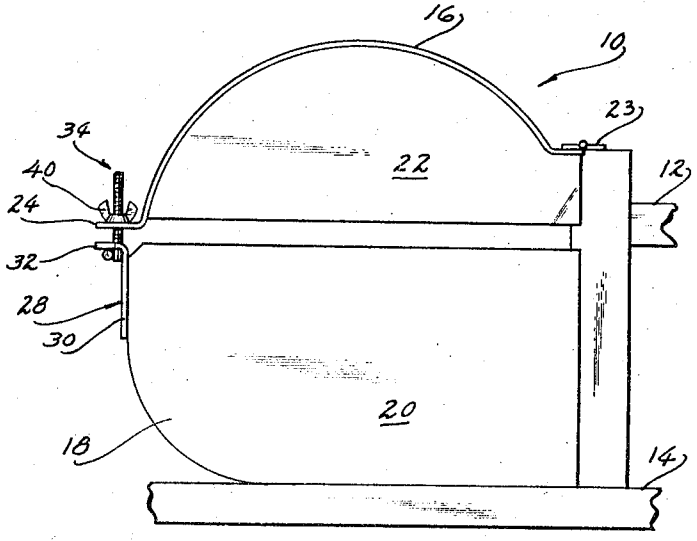


FIG. 1

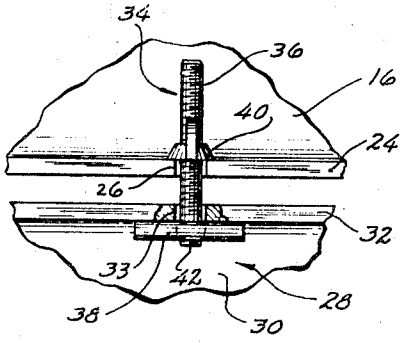


FIG. 3

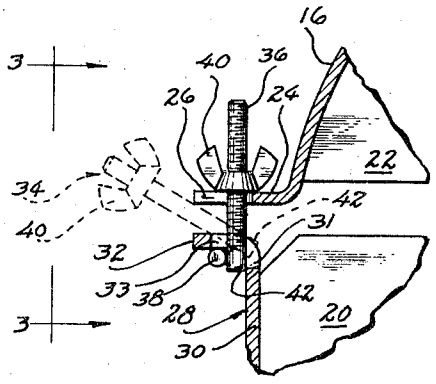


FIG. 2

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United States Patent Office 3,424,339
Patented Jan. 28, 1969

3,424,339

WIRE CONTAINER

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Filed Feb. 20, 1967, Ser. No. 617,271
U.S. Cl. 220—55 4 Claims
Int. Cl. B65d 1/22, 43/16; B65h 49/20

ABSTRACT OF THE DISCLOSURE

A wire container for a baler having a bottom portion and a hinged top portion with a latching mechanism for releasably holding the portions. The latching device incorporates an offset bolt for maximum rotational movement of the bolt with a minimum slot size in the bottom portion of the container.

BACKGROUND OF THE INVENTION

In the baling filed, wire and twine have been used to secure the compressed material and to retain this material in a desired shape. While wire was used extensively on stationary hay balers, twine has become increasingly advantageous for tying the compressed material in the mobile or pickup type balers. However, wire tying in balers provides certain advantages over twine, so the use of one over the other is a point usually considered from the standpoint of availability and choice. In recent years, both wire and twine have become available as a tying means for the compressed bales.

The main parts of the prior art containers for carrying baling wire or twine are the receptacle in which the coil or ball is placed, a removable cover, and a means for securing the cover on the receptacle. Such cover securing means have included snap type latches, spring-loaded locks, and bolts with securing nuts. A standard T-bolt, for instance, has been used to hold the cover and receptacle secure by means of a wing nut threaded on the shank of the bolt. While these latching or securing devices have generally been satisfactory, it is desirable to improve the means for securing the box cover in position. With making the present-day larger capacity machines smaller in size, and with the addition of more automatic devices, the individual components must also be designed to be smaller in size.

SUMMARY OF THE INVENTION

The present invention relates to a container for the tying means for hay balers, and more particularly, is an improved latching device for the container. The latching device includes a T-bolt structure wherein the head of the bolt is offset from the shank and a nut is threaded on the shank for releasably holding the cover of the container. The use of this modified T-bolt has definite advantages in that with the portion of the slots in the receptacle and the cover, this bolt allows the maximum amount of rotational movement while providing a minimum slot size in the receptacle for insertion and movement of the bolt.

The main object of the invention is to provide an improved container and latching device for a baler.

Another object is to provide a hinged cover for the container wherein maximum rotational movement of the bolt is available when opening the cover.

A further object is to provide a receptacle with a latching device insertable in a minimum size slot to achieve clearance when opening the cover.

Additional objects and advantages will become apparent from a reading of the following detailed description, taken together with the annexed drawings, in which:

FIGURE 1 is an elevational view of a container according to the present invention;

FIG. 2 is an enlarged view, partially in section, of a part of the container shown in FIG. 1 and showing the position of the latching device in solid lines when secured, and in dashed lines when the cover is to be opened;

FIG. 3 is a view taken along the line 3—3 of FIG. 2; and

FIG. 4 is an enlarged detailed view of the offset bolt.

As seen in FIG. 1, there is shown a container generally designated as **10**, the container being suitably supported from frame members **12** and **14** of a hay baler, not shown. Container **10** includes a top half or portion **16** and a bottom half or portion **18**, the top half being generally semi-circular in shape and the bottom half being generally dish-shaped. Of course, these portions could be designed in many shapes and sizes to accommodate coils of wire or balls of twine, depending upon the size and shape of the tying material. Additional containers with hinged top portions could be secured along frame member **14** and, in this case, the cover could be opened in a direction as suits the particular design. The width of the container could also vary, although it is generally deemed sufficient to have a container which holds at least two coils of wire in a side by side relationship. The container also includes side portions **20** and **22** so that the construction provides a closed unit for the wire. It is understood, of course, that there are two portions **20** and two portions **22** to complete the enclosure.

A hinge **23** is secured to top **16** at one end thereof and also secured to the frame of the baler. Whenever the top half is opened, it rotates or rocks on the hinge and the rotational movement of the cover is around the hinge. The bottom half of the container remains stationary with the frame of the baler. At the end of the top half opposite the hinge, the curved portion terminates in a generally flat or edge portion **24** which extends across the width of the container. FIG. 2 shows the flat portion on an enlarged scale and FIG. 3 shows a frontal view at which the operator may be stationed when opening or closing the container. As seen in FIGS. 2 and 3, flat portion **24** has a slot **26** extending from the edge and terminating short of the curved portion of the top half. There may be one or more of these slots located along the width of the container depending upon the number of latching points required.

The bottom half **18** includes a bracket or end panel **28** secured thereto as by riveting or welding and the bracket extends across the front or the width of the bottom half. End panel **28** includes a generally upright portion **30** and a lateral or horizontal portion **32**. The second portion **32** is in essence a lip along the front of the container. A slot **33** is formed in the scond portion, which slot extends around the bend into the first portion, this part of the slot being an extension **31** of slot **33**. The lip, of course, may include a plurality of these slots depending upon the width of the container. The slots **33** in lip portion **32**, and extensions **31** in upright **30**, correspond or match the slots in flat portion **24**. When the top and bottom of the container are secured, as shown in FIG. 2, edge portion **24** and the horizontal portion **32** are substantially parallel, however, these portions could be slightly curved to retain the bolt when tightening the nut.

A latching bolt designated as **34** is shown in position in FIGS. 2 and 3 and is shown in detail in FIG. 4. Bolt **34** includes a shank portion **36** and a head portion **38**, the shank being threaded for a part of its length. Portion **38** is secured to portion **36** as by welding to one side thereof as shown in FIG. 4.

This particular construction of the latching bolt provides an offset T-bolt, the function of which will now be described.

In the closed or secured position, the T-bolt is inserted

through slot **33** and into slot **26** and a wing nut **40** is threaded on shank **36**. When it is desired to open the container, nut **40** is moved upwardly on threaded shank **36** and the shank is moved to the position shown in dashed lines in FIG. 2. As the bolt is rotated out of slot **26** sufficiently such that the edge portion **24** clears the wing nut when the top half is opened on hinge **23**, the bottom portion **42** of shank **36** with attached head **38** moves toward portion **30**. This is by reason of the shank **36** contacting the edge defining the slot **33** in edge portion **32**, and the bottom portion **42** then extends into the slots **31** and **33**. The bottom portion **42** of shank **36**, as the bolt is being rotated, provides a lever action as the shank contacts the edge defining the slot **33**, and the head **38** is moved along the slot and portion **42** enters into the slot **33** and its extension **31**.

It is thus seen that the offset T-bolt allows maximum amount of rotational movement with a minimum size slot to achieve clearance for opening the cover. Also, without the feature of maximum bolt rotation, the bolt otherwise used would have to be appreciably longer, and therefore require more thread cutting, to provide clearance of the cover **22** past the loosened nut **40** on the other bolt mentioned. In some instances, it may be desirable to restrict the rotational movement of the cover and latching bolt. The bolt could be reversed in slot **33** so that head **38** would be adjacent portion **30** when the bolt is in the upright position. Herein shown and described is an improved latch and container for tying material by use of an offset bolt which bolt is rotated and extends into a minimum size slot. In many cases, the amount of space or material is limited and the offset bolt is especially useful in these areas where maximum movement is required. The bolt could also be used on flat material instead of the perpendicular portions as shown, however, the specific embodiment is for a container as described.

Other variations on the above described construction may occur to those skilled in the art and it is to be understood that all such variations are contemplated as being within the scope of the invention.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. In a wire container for a hay baler, a two-piece container hinged together along one side of said two pieces for opening and closing said container, said two pieces each having a slot extending therethrough and with said slots being aligned together in the closed position of said container, a bolt shank extending through said aligned slots and a nut on said bolt shank and a bolt head on one end of said bolt shank, for securing said container closed, one of said slots extending through the edge of one of said two pieces for rotation of said bolt shank in the other of said slots and out of and free of said one slot, the other of said slots being fully confined in the other of said two pieces, the improvement comprising said other slot having a slot extension continuous with said other slot, and on one side of said bolt shank, said bolt head extending across said other slot on the side thereof opposite said one slot and being offset on said bolt shank and only on the side of said bolt shank opposite said one side, said one end of said bolt shank being narrower than said slot extension to be received in said slot extension upon rotation of said bolt shank whereby only a minimum length of said bolt shank and only a minimum angle of rotation are required to remove said bolt shank from said one slot when said nut is loosened and said two pieces are slightly opened.

2. The subject matter of claim **1**, wherein said bolt head and said bolt shank form a T-shaped bolt with the cross bar constituting said bolt head extending along said opposite side of said bolt shank.

3. The subject matter of claim **1**, wherein said slots are disposed in parallel planes when said container is closed, and said slot extension is angularly disposed relative to and off from said other slot and extends in the direction away from said one slot.

4. The subject matter of claim **3**, wherein said other of said two pieces includes an angled portion and with said other slot being disposed in one part of said angled portion and with said slot extension being disposed in another part of said angled portion.

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U.S. Cl. X.R.

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