June 4, 1968 N. W. EUREY 3,386,609

RETRACTABLE COVER FOR STORAGE RECEPTACLES

Filed June 17, 1966

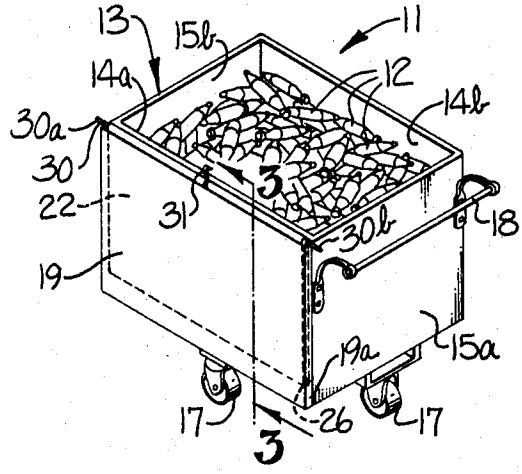


Fig-1

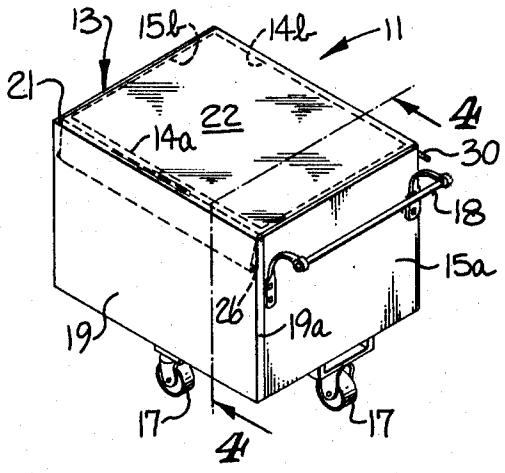


Fig-2

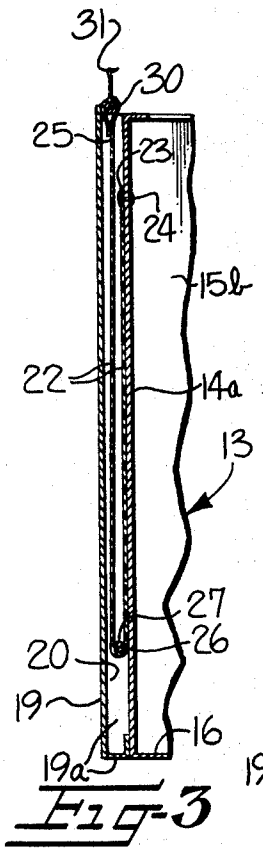


Fig-3

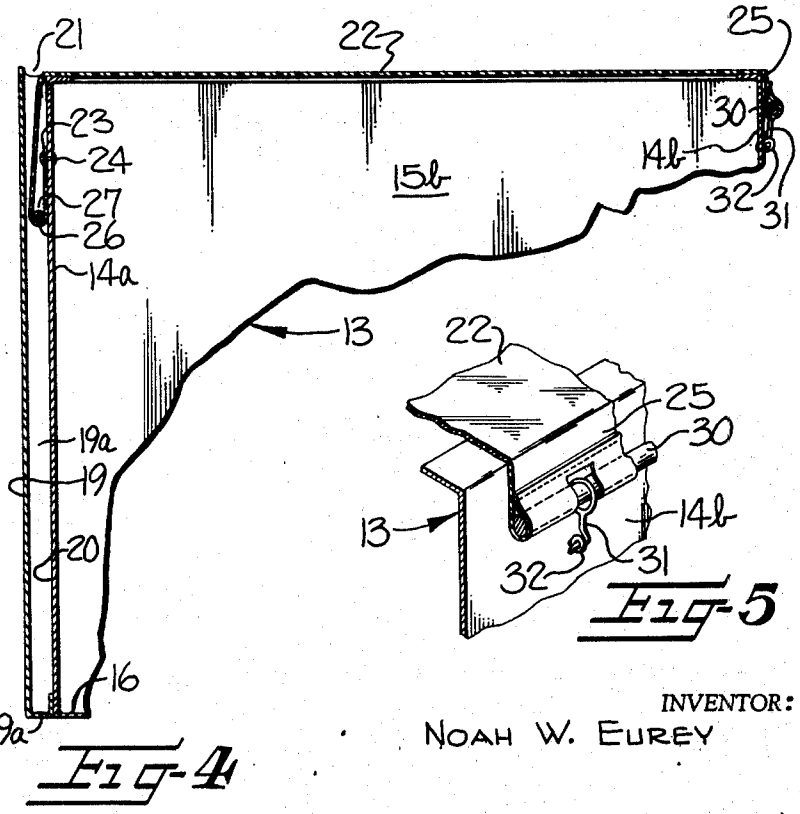


Fig-4

Fig-5

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United States Patent Office 3,386,609 Patented June 4, 1968

3,386,609

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Filed June 17, 1966, Ser. No. 558,493
9 Claims. (Cl. 220—24)

This invention relates to protective covers for storage receptacles such as bins, trucks and the like, and more particularly to retractable covers for portable bobbin trucks used in textile mills to store and transport yarn-containing bobbins from one operation in the mill to another.

During periods in which the bobbins are stored in the bobbin trucks, various contaminants such as lint, fly, finish, etc. accumulate on the yarn from the textile operations in the area where the trucks are located. Quite often several different type yarns, such as rayon, cotton, nylon, and other synthetics, are processed in the same area of the mill. It is especially desirable to prevent contamination of the yarn in the bobbin trucks by a dissimilar type yarn because each type has different processing characteristics such as tensile strength, dye receptivity, etc. Therefore, any contamination of one type yarn with textile debris from another tends to result in broken yarn filaments and clogged machinery during processing and substandard finished and dyed textile goods.

Due to contamination of the yarn in the bobbin trucks, the trucks are generally provided with covers to protect the yarn therein. It has heretofore been a practice to protect the yarn by providing covers of a light weight, pliable material which can be thrown over the open tops of the trucks. Such cloth protectors are quite unwieldly to place over and remove from the bobbin trucks and also present a storage problem when not in use.

It is therefore an object of the present invention to provide a light weight cover for bobbin trucks which prevents contamination of yarn-filled bobbins placed therein and overcomes the disadvantages found in the prior art.

It is a further object of this invention to provide a retractable pliable cover for a bobbin truck and a cover storage chamber located on the truck in such a way that the cover is retractably received therein when not in use and can be easily withdrawn therefrom to cover the open tops of the trucks.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

FIGURE 1 is a perspective view of a textile bobbin truck incorporating the novel retractable top and storage chamber of the present invention, with the top shown in retracted or stored position;

FIGURE 2 is a perspective viwe of the bobbin truck of FIGURE 1, with the flexible top of the present invention shown covering the contents of the truck;

FIGURE 3 is a fragmentary sectional view of the bobbin truck shown in FIGURE 1 taken along line 3—3 thereof;

FIGURE 4 is a fragmentary sectional view of the bobbin truck shown in FIGURE 2 taken along line 4—4 thereof; and

FIGURE 5 is a fragmentary perspective view of the cover fastening means seen in FIGURE 4.

The object of the present invention are accomplished by providing an open top storage receptacle with a pliable cover, a cover storage chamber located on one side of the receptacle for retractably containing the cover in a folded condition therein when not in use, and means associated with the bight of the fold in the cover for biasing the cover for retraction into the chamber when the cover is drawn therefrom.

Referring now to the drawings, in FIGURE 1 is shown a storage receptacle or bobbin truck **11** adapted to contain a plurality of yarn-filled bobbins **12** therein. As is conventional, the bobbin truck **11** has a substantially rectangular housing **13** having substantially vertical, opposed sides **14***a*, **14***b* and **15***a*, **15***b*, and a bottom **16**. Wheels **17** are attached to bottom **16** and a handle **18** is provided on one side **15***a* of the housing to adapt the truck for transporting the bobbins. The truck may be made of any suitable material of sufficient strength to support the load.

An outer wall **19** is suitably attached to one side **14***a* of the housing by U-shaped flanges **19***a* which extend along the bottom and sides of the wall to space the wall from the side **14***a* and form therebetween a substantially vertically extending storage chamber **20** having an opening **21** adjacent the open top of the housing.

As seen in broken lines in FIGURE 1, a pliable cover **22** is disposed substantially vertically in the chamber in stored position. As better seen in FIGURE 3, a trailing end **23** of the cover is secured within the confines of the storage chamber, as by rivets **24**, near the upper end thereof. From its attachment, the cover **22** extends downwardly in chamber **20** to a point adjacent the bottom thereof where it is folded vertically back upon itself and extends upwardly in the chamber to terminate in a leading end **25** which extends from the opening **21** of the chamber. A weighted rod-like element **26** is located in the substantially horizontal bight **27** of the fold and acts as a biasing means for retractably urging the cover **22** into the chamber. Attached to the leading end **25** of the cover is an elongate member **30** which extends along the edge portion of the cover and acts as a reinforcing means for sustaining the full width of the cover and assists in uniform withdrawal of the cover from the chamber when covering the top of the housing.

In FIGURES 2 and 4, the cover **22** is shown in covering relation to the top of the housing. As seen, the dimensions of the pliable cover are sufficient to cover the open top of the housing and overlap the upper edge portion of the opposite side **14***b* of the housing. When the cover is being drawn to this position, the weighted rod-like element **26** rides in the bight **27** of the fold to a point adjacent but below the top opening of the storage chamber. The attachment point of the trailing end **23** is a sufficient distance below the top of the chamber **20** to insure that the element **26** does not ride out of the chamber when the cover is drawn therefrom.

If desired the cover may be secured in closed position by suitable fastening means shown as a hook **31** located on the leading end of the cover which engages an eyelet **32** on side **14***b* adjacent the top of the housing.

As can be seen in FIGURE 1, the member **30** attached to the leading edge of the cover is of sufficient length so that its ends **30***a*, **30***b* rest on the upper surfaces of the flanges **19***a* and prevent the leading end of the cover from being drawn into the chamber by the weight of the rod-like element **26** located in the bight of the fold.

In operation, the cover, in retracted or stored position within the chamber, may be grasped manually by its leading end and drawn across the open top of the housing. During movement of the cover across the housing opening, the weighted rod-like element **26** resting in the fold of the cover rides upwardly in the chamber **20** to a position below the top of the chamber (see FIGURE 4). When covering the top of the housing, a sufficient amount of the cover is withdrawn from the chamber so that the leading end **25** of the cover overlaps the top edge of the side wall **14***b*. The elongate member **30** is of sufficient weight so that

its weight and the frictional contact of the cover with the top edges of the sides **14***a* and **14***b* retain the cover in closed position against the biasing action of the weight of the rod-like element **26** in the storage chamber. If desired, the cover also can be fastened in closed position by means of the hook **31** and eyelet **32**.

To remove the cover from the top of the housing, the hook **31** is released from the eyelet **32** and the leading end **25** of the cover is manually lifted from engagement with the housing and preferably moved toward the storage chamber. The weight of the rod-like element **26** retractably draws the cover back into the chamber **20** and the cover may be manually guided during its movement into the chamber. The leading end **25** of the cover is prevented from entering the opening in the chamber by the ends **30***a*, **30***b* of the member **30**, which ends extend beyond the opening **21** of the chamber **20** and contact the flanges **19***a* of the wall **19**.

Although the cover may be made of any material suitable to protect the contents of the storage receptacle, it is preferably formed of transparent plastic sheet material such as polyethylene to enable the contents of the receptacle to be viewed for identification without removing the cover from the top of the housing.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

What is claimed is:

1. In a storage receptacle for textile bobbins and the like having a substantially rectangular, open top housing, the combination therewith of means positioned on one side of the housing defining a storage chamber having an opening adjacent the open top of said housing, a pliable cover normally occupying a retracted position within said chamber and withdrawable from said opening for covering the open top of said housing, and weight means in said chamber operatively connected to said cover and gravitationally biasing said cover toward said retracted position within said chamber when said cover is withdrawn therefrom.

2. A storage receptacle as defined in claim **1** including means associated with said cover for maintaining said cover over said open top in opposition to the biasing action of said weight means.

3. A storage receptacle as defined in claim **2** in which said means for maintaining said cover over said open top includes an elongate weighted member attached to a leading end portion of said cover.

4. A storage receptacle as defined in claim **3** including fastening means cooperating with the housing for securing said cover in covering relation over the housing.

5. A storage receptacle as defined in claim **1** in which said pliable cover has a substantially vertical fold therein and said weight means includes a rod-like element which rests in and is supported by the bight of said fold when the cover is in retracted position in the chamber as well as when the cover is withdrawn therefrom.

6. A storage receptacle as defined in claim **1** in which said pliable cover has a trailing end secured within said storage chamber and a leading end adjacent the opening in the chamber, said cover between said leading and trailing ends having a substantially vertical fold therein positioned within the chamber, said weight means comprising a rod-like element supported in the bight of said fold for vertical movement therewith when the cover is being withdrawn from the chamber, and an elongate weighted member attached to and extending along the leading end of the cover for reinforcing the cover and aiding in maintaining the cover over the open top of the housing.

7. A storage receptacle as defined in claim **6** wherein said means defining the storage chamber includes means cooperating with said elongate weighted member to prevent its passage into the chamber and to facilitate the grasping of the leading end attached thereto in withdrawing the cover from the chamber.

8. In a storage receptacle for textile bobbins and the like having a substantially rectangular open top housing, the combination therewith of means positioned on one side of the housing defining a storage chamber having an opening adjacent the open top of said housing, a pliable cover normally occupying a retracted position within said chamber and withdrawable from said opening for covering the open top of said housing, said cover having a substantially vertical fold therein located within said chamber and means associated with the bight of said fold biasing said cover toward said retracted position within said chamber when said cover is withdrawn therefrom.

9. A storage receptacle as defined in claim **8** in which said means associated with said bight includes a rod-like element which is supported by and movable with the bight of said fold.

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