

No. 894,054.

PATENTED JULY 21, 1908.

W. G. RICHARDS.  
PACKAGE BINDER.

APPLICATION FILED JAN. 20, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

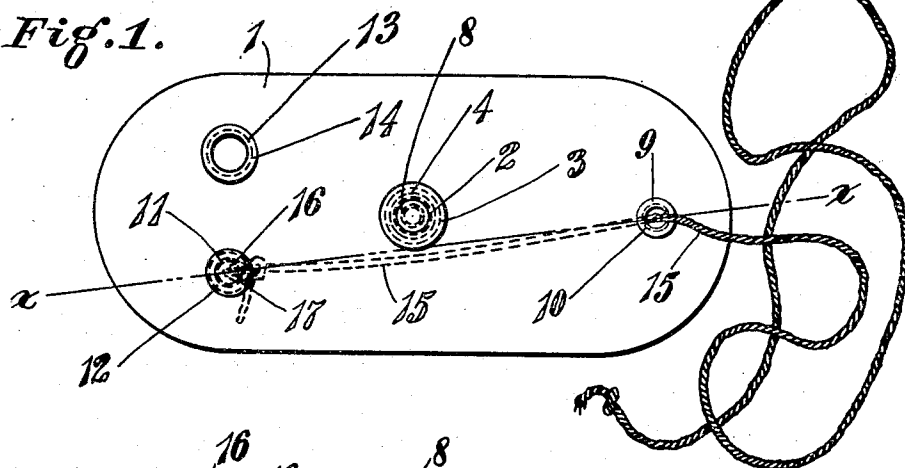


Fig. 2.

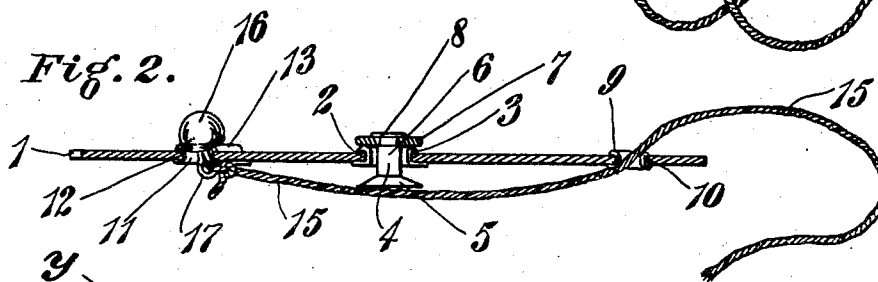
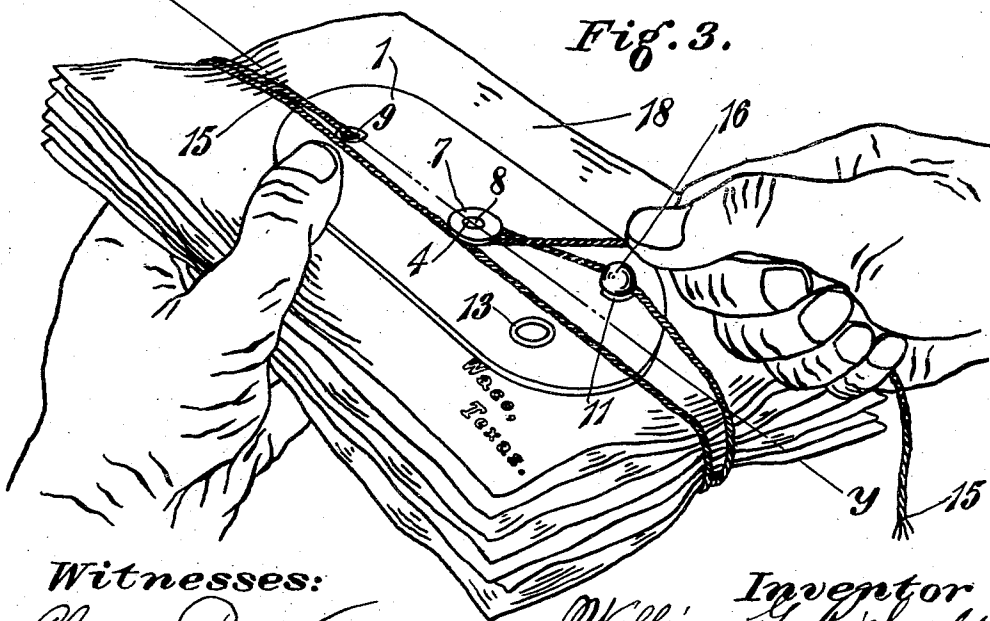


Fig. 3.



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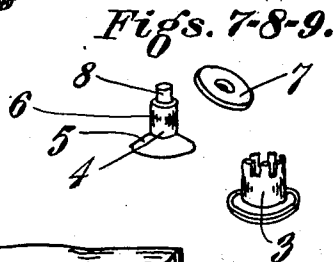
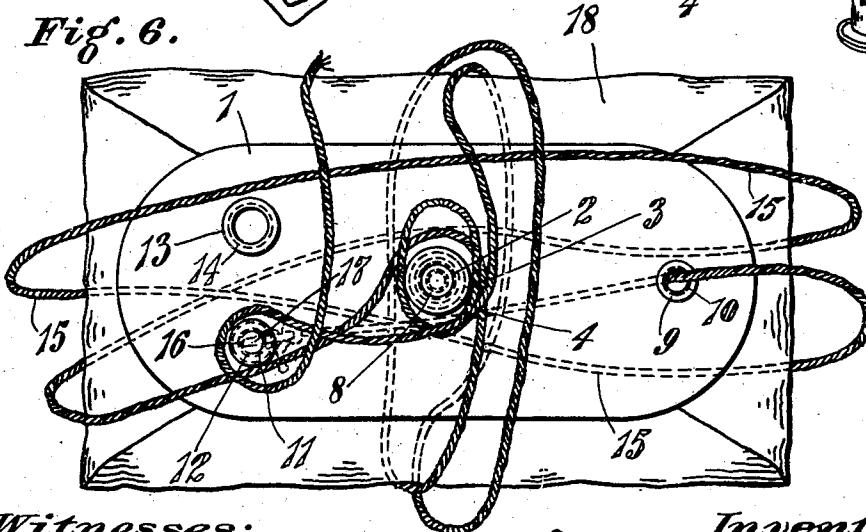
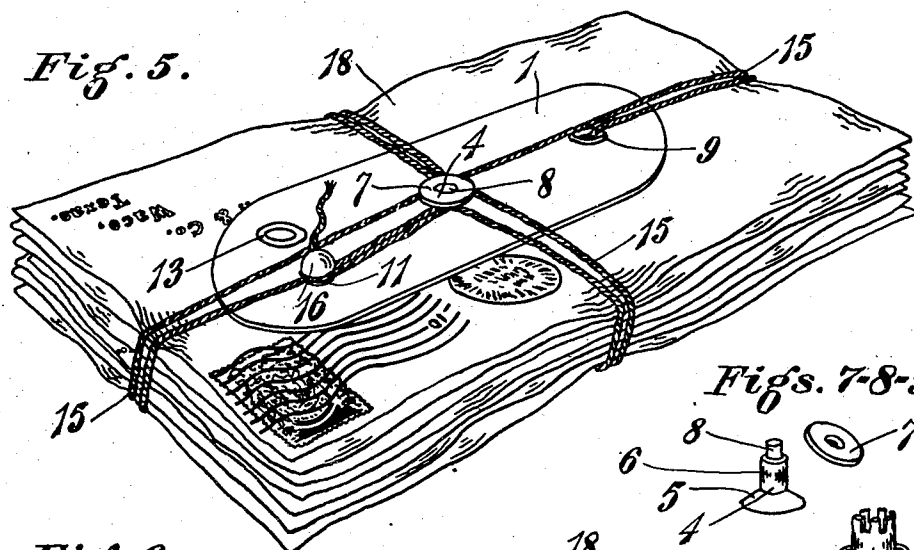
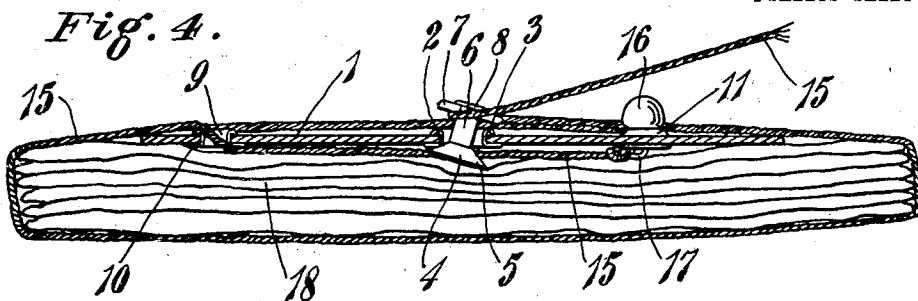
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2 SHEETS—SHEET 2.



*Witnesses:*  
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# UNITED STATES PATENT OFFICE.

WILLIAM G. RICHARDS, OF HILLSBORO, OHIO.

## PACKAGE-BINDER.

No. 894,054.

Specification of Letters Patent.

Patented July 21, 1908.

Application filed January 20, 1908. Serial No. 411,576.

*To all whom it may concern:*

Be it known that I, WILLIAM G. RICHARDS, a citizen of the United States, residing at Hillsboro, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Package-Binders, of which the following is a specification.

My invention relates to means for binding packages, and the object is to dispense with the tying of a knot on each package where a large number of packages must be made up, and is especially applicable for use in binding packages of letters in the process of distribution in the mail service or in any other service where a large number of packages must be made up temporarily and where it is desirable that the binding of the package, as well as its loosening, may involve a minimum amount of labor and waste of material.

My invention consists in a stay, preferably broad and flat, to which is suitably attached one end of a cord, and having a perforation through which the cord passes, and a headed stud on the stay around which the cord may be passed in binding the package and in securing the other end of the cord after the binding is completed.

My invention also consists in the details of construction and arrangement of parts as will hereinafter be more fully described and claimed.

In the drawings: Figure 1 is a plan view of a device embodying my invention. Fig. 2 is a section on a line corresponding to  $x-x$  of Fig. 1, the part of the stay in the region of the stud 4, as well as the eyelet 3 being broken away to more clearly illustrate the construction of those parts. Fig. 3 is a perspective view showing the method of manipulating my invention. Fig. 4 is a section on a line corresponding to  $y-y$  of Fig. 3. Fig. 5 is a perspective view showing a package bound as I prefer to bind it with my improved device. Fig. 6 is a plan view representing the cord as passed loosely around a package in order to illustrate one manner of using my invention. Figs. 7, 8 and 9 are detail perspective views of the stud, the head for the stud and the eyelet through which the stud passes, respectively.

My improved package binder is constructed with the stay 1, which is preferably of oblong shape with rounded ends, near the center of which is an opening 2, and, as the stay is generally composed of a comparatively soft material such as paper, an eyelet

3 is secured in the opening 2, and through this eyelet 3 a stud 4 passes and has the preferably integrally formed head 5 on one end, while on the other end of its shank 6 a head 7 is secured, preferably by forming a shoulder on the shank 6 against which the head 7 may bear, and then riveting over the end of the stud, as at 8. The shank 6 of the stud 4 is of sufficient length to allow the stud to move endwise, while the difference between the interior diameter of the eyelet 3 and the diameter of the shank 6 of the stud 4 is such that the stud is allowed lateral movement as well, within the eyelet. Near one end of the stay 1 an additional, preferably smaller, eyelet 9 is secured in an opening 10 in the stay 1, while near the opposite end of the stay 1 another eyelet 11, similar to the eyelet 9, is secured in an opening 12 in the stay, this opening preferably being at one side of the center line of the stay, while preferably at about the same distance on the other side of the center line of the stay, an eyelet 13 is secured in an opening 14 in the stay 1. This eyelet 13 secured in the opening 14 is merely for the purpose of hanging up the device when not in use, or may be used for the same purpose when it is on a package, thus constituting means for hanging up the package. A cord 15 is passed down through the eyelet 11 and passes along the under side of the stay 1 and upward through the eyelet 9; and on the end of this cord, remaining above the eyelet 11, is the button 16 to which the cord 15 is attached by tying it through the eye 17 on the button 16. This button 16 is of larger diameter than the interior diameter of the eyelet 11, and consequently will not pass therethrough, but constitutes a holding means for the end of the cord 15. The eye 17 on the button 16, however, is sufficiently smaller than the interior diameter of the eyelet 11 to allow it to play therein, and consequently to allow the button 16 to yield and permit the passage of cord thereunder in the use of the device.

In using the device, as illustrated in the drawings, the stay 1 is placed on the package to be bound, the package being held in place on the package by the thumb of the left hand. The cord 15 passing out through the outlet 9, is carried lengthwise over the end of the stay 1 and down over the end of the package, such as the package of letters 18, then under and up around the other end of

the package and over the stay lengthwise thereof and around the package again lengthwise, when it is brought onto the stay and around the side of the button 16 away from the stud 4, then around the stud 4, under its head 7, from the side toward the button 16, when the cord may be pulled tight, and binding under the head 7 of the stud 4, will hold the strands of the cord, passing around the package lengthwise, tight, during the completion of the operation. The stage of the operation to which the above description has led, is clearly represented in Fig. 3 of the drawings. The binding of the package is completed by passing the cord laterally from the stud 4 around the package, crossing over the section of cord which passes from the button 16 to the stud 4. Preferably the cord is passed twice laterally around the package, and when it passes the stud 4 it is carried under the head 7, and coming into frictional contact with the other parts of the cord which are under the head 7, will tend to remain in tightened position, relieving the manipulator of the necessity of attention to maintaining each strand tight, as in the ordinary process of tying a package. When the cord has been thus passed laterally around the package, it is taken around the stud 4 under the head 7 a number of times, which fastening in itself is enough to hold the free part of the cord, and secure the binding of the package; but I prefer then, in addition, to pass the cord around under the button 16. The frictional contact of the cord with itself under the button 16 and with the strand, which has been passed under the button 16 in the process of wrapping, will insure the securing of the free part of the cord and effectively prevent the undoing of the package, except by taking hold of the cord and unwrapping it from the button 16, from the stud 4 and from the package.

The purpose of allowing the stud 4 to have end-play within the eyelet 3 is to permit the cord to be passed under the head 7 of the stud 4, while the purpose of allowing lateral play of the stud within the eyelet 3 is to permit the stud 4 to tilt slightly in passing the cord around it, as is best illustrated in Fig. 4, and which tilting occurs at the stage of the process illustrated in Fig. 3 of the drawings. This tilting of the stud is opposed by the contact of its head 5 with the surface of the package, and when the cord is drawn under the head 7 of the stud 4 in the further operation of binding the package, this tilting of the stud 4 causes a pressure of the head 7 on the part of the cord thus passing under the head, and tends to hold the cord more securely against its other parts under the head, thus increasing the frictional contact and consequently the efficiency of operation of the stud to maintain the strands tight, which adds to

the convenience of use of the device. The eye 17 of the button 16 is allowed play in the eyelet 11 also, for the purpose of allowing the cord to be passed under the button 16, and this button 16 is also tilted similar to the tilting of the stud 4, so that its action is similar to that of the stud 4. The tilting of the button 16 is due to the pull of the cord 15 on the eye 17. While the use of the button 16 for additionally securing the free part of the cord in the completion of the binding of the package, is desirable, it will be understood that its function in holding the free end of the cord is substantially the same as that of the stud 4, although it combines with this function the primary function of attaching the cord 15 to the stay 1, ready for use. It will be understood that the cord 15, however, may be attached in any suitable manner to the stay 1, so long as it is so applied to the stay as to tend to hold the stay down upon the package at both ends when the device is used for binding the package. As the device is illustrated and above described, the stay is thus held down, due to the fact that the cord passes downward through the eyelet 11 and draws down on the end of the stay in which the eyelet 11 is located, and, this cord 15 passing upward through the eyelet 9 and over the other end of the stay 1 in which the eyelet 9 is located, tends to hold that end of the stay down upon the package as well. It will also be understood that the cord 15 may be passed around the package only once either lengthwise or laterally instead of as herein illustrated and described, in which case the first strand around the package lengthwise thereof would preferably pass the button 16 on the side away from the stud 4, and would be carried around the stud 4 under the head 7, as is the second strand according to the illustration in Fig. 3 of the drawing. The passing of the cord thus on the side of the button 16 away from the stud 4 is not considered essential, but improves the operation of the device in that it serves to steady the stay during the operation of binding, and the presence of the cord under the button 16 is useful in making frictional contact with the part of the cord passing around under the button 16 at the completion of the operation.

I prefer to construct the stay 1 of press-board of suitable size and thickness to form a proper reinforcement for a thin package, while the eyelets, as well as the stud 4 and its head 7, are constructed of metal. For use as a package binder for letters the size and proportion to the letters to be bound, as illustrated in the drawings, is preferred, but it will be understood that the size and shape of the stay 1, as well as the manner of wrapping the cord around the package

and other details of construction may be varied according to the choice of individuals or to adapt my device for use under different circumstances, so long as the variation does not involve departure from the scope and spirit of the following claims:

1. In a package binder, a stay having openings therein, a cord passing through one of said openings and held by engaging means within another of said openings, and a stud secured in the stay adapted to act as a guide and holding means for the cord, substantially as and for the purposes specified.

2. In a package binder, a stay having two openings therein, a cord passing through one of the openings and along the under side of the stay and held by engaging means within the other of said openings, a stud passing through a third opening in the stay and having a head above and a head below the stay whereby it is prevented from leaving the opening in the stay, said stud being adapted to form a guide and holding means for the cord, substantially as and for the purposes specified.

3. In a package binder, a stay having two openings therein, a cord passing through one of the openings and along the under side of the stay and held by engaging means within the other opening, and a stud passing through a third opening in the stay and having a head above and a head below the stay adapted to prevent it from leaving the opening, and having a shank of less diameter than the diameter of the opening, whereby said stud is allowed lateral play within the opening and is adapted to act as a guide and holding means for the cord, substantially as and for the purposes specified.

4. In a package binder, a stay having two openings therein, a cord passing through one of the openings and along the under side of the stay and held by engaging means within the other opening, a stud passing through a third opening in the stay and having a head above and a head below the stay, whereby it is prevented from leaving the opening, and having a shank of less diameter than the diameter of the opening, and of greater length than the thickness of the stay, whereby the stud is allowed lateral play and endwise play within the opening, and is adapted to form a guide and holding means for the cord, substantially as and for the purposes specified.

5. In a package binder, a stay having two openings therein, a cord passing through one of said openings and along the under side of the stay, a button having an eye passing downward through the other of said openings, the button being of larger diameter than the opening and thus maintained on the upper side of the stay, and said cord being attached to the eye of the button, a stud passing through a third opening disposed intermediate of the above mentioned two openings, said stud having a head above and a head below the stay, whereby it is prevented from leaving the third opening, and having a shank of less diameter than the opening, whereby it is permitted lateral play within the opening, and of greater length than the thickness of the stay, whereby it is permitted endwise play within the opening, said stud being adapted to form a guide and holding means for the cord and said button being adapted to form an additional guide and holding means for the cord and said openings being reinforced by eyelets, substantially as and for the purposes specified.

6. In a package binder, a stay having openings therein, a cord passing through one of the openings and held by engaging means within another of said openings, and a stud loosely mounted in a third one of said openings having a head above and a head below the stay, whereby it is prevented from leaving the opening and whereby it is adapted to form a guide and holding means for the cord, substantially as and for the purposes specified.

7. In a package binder, a stay having an opening therein, a stud passing loosely through the opening and having a head above and a head below the stay, and a cord secured to the stay and passing around the under side thereof and upward through another opening in the stay, said stud being adapted to form a guide and holding means for the cord and having a shank connecting the heads thereof and said shank having a shoulder against which one of said heads may bear and be secured to the shank, substantially as and for the purposes specified.

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Witnesses:

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